

INDEX OF PLANS

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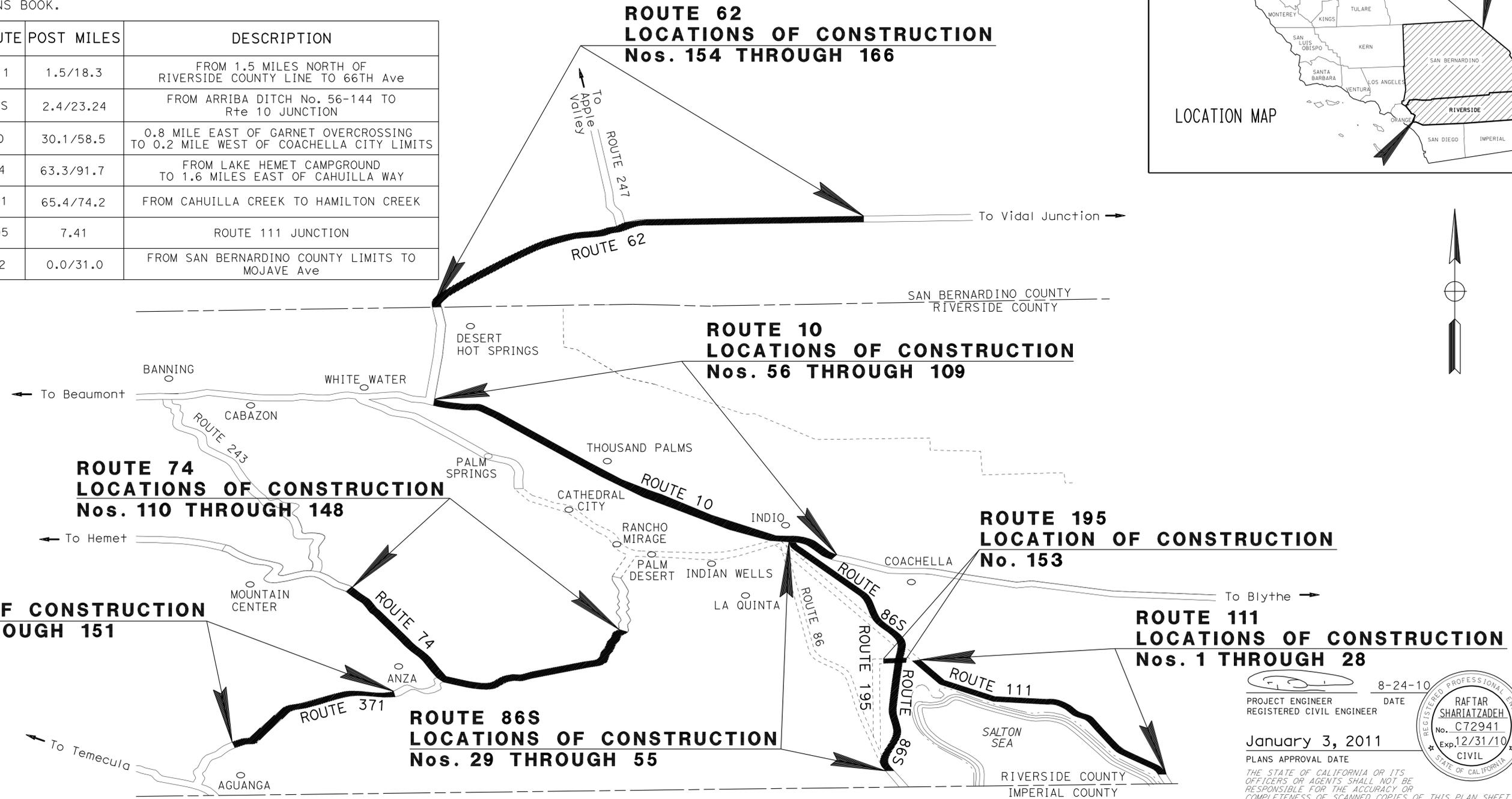
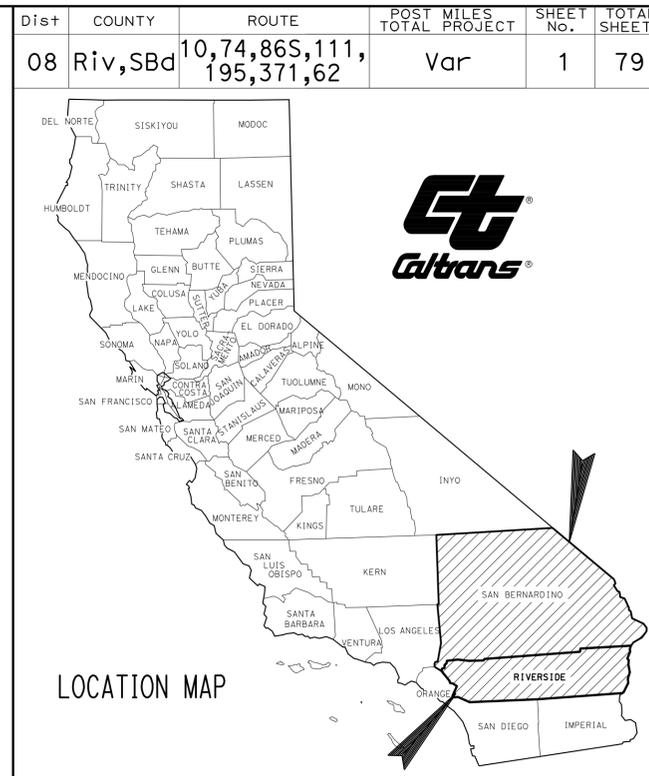
STRUCTURE PLANS

64-79	TRANSITION ANCHOR BLOCKS
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THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

LOCATIONS	Co	ROUTE	POST MILES	DESCRIPTION
1 THROUGH 28	Riv	111	1.5/18.3	FROM 1.5 MILES NORTH OF RIVERSIDE COUNTY LINE TO 66TH Ave
29 THROUGH 55	Riv	86S	2.4/23.24	FROM ARRIBA DITCH No. 56-144 TO Rte 10 JUNCTION
56 THROUGH 109	Riv	10	30.1/58.5	0.8 MILE EAST OF GARNET OVERCROSSING TO 0.2 MILE WEST OF COACHELLA CITY LIMITS
110 THROUGH 148	Riv	74	63.3/91.7	FROM LAKE HEMET CAMPGROUND TO 1.6 MILES EAST OF CAHUILLA WAY
149 THROUGH 151	Riv	371	65.4/74.2	FROM CAHUILLA CREEK TO HAMILTON CREEK
153	Riv	195	7.41	ROUTE 111 JUNCTION
154 THROUGH 166	Sbd	62	0.0/31.0	FROM SAN BERNARDINO COUNTY LIMITS TO MOJAVE Ave

STATE OF CALIFORNIA **ACHSSTPG-000C(341)E**
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN RIVERSIDE AND SAN BERNARDINO COUNTIES
AT VARIOUS LOCATIONS
 TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006



PROJECT MANAGER
DANIEL CIACCHELLA

DESIGN ENGINEER
WARRAN POWERS



PROJECT ENGINEER DATE 8-24-10
 REGISTERED CIVIL ENGINEER

January 3, 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.

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

NO SCALE

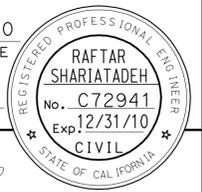


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CONTRACT No. **08-478104**
 PROJECT ID **080000761**

CU 08222 EA 478101

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	2	79
			8-24-10	DATE	
			1-3-11	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>					

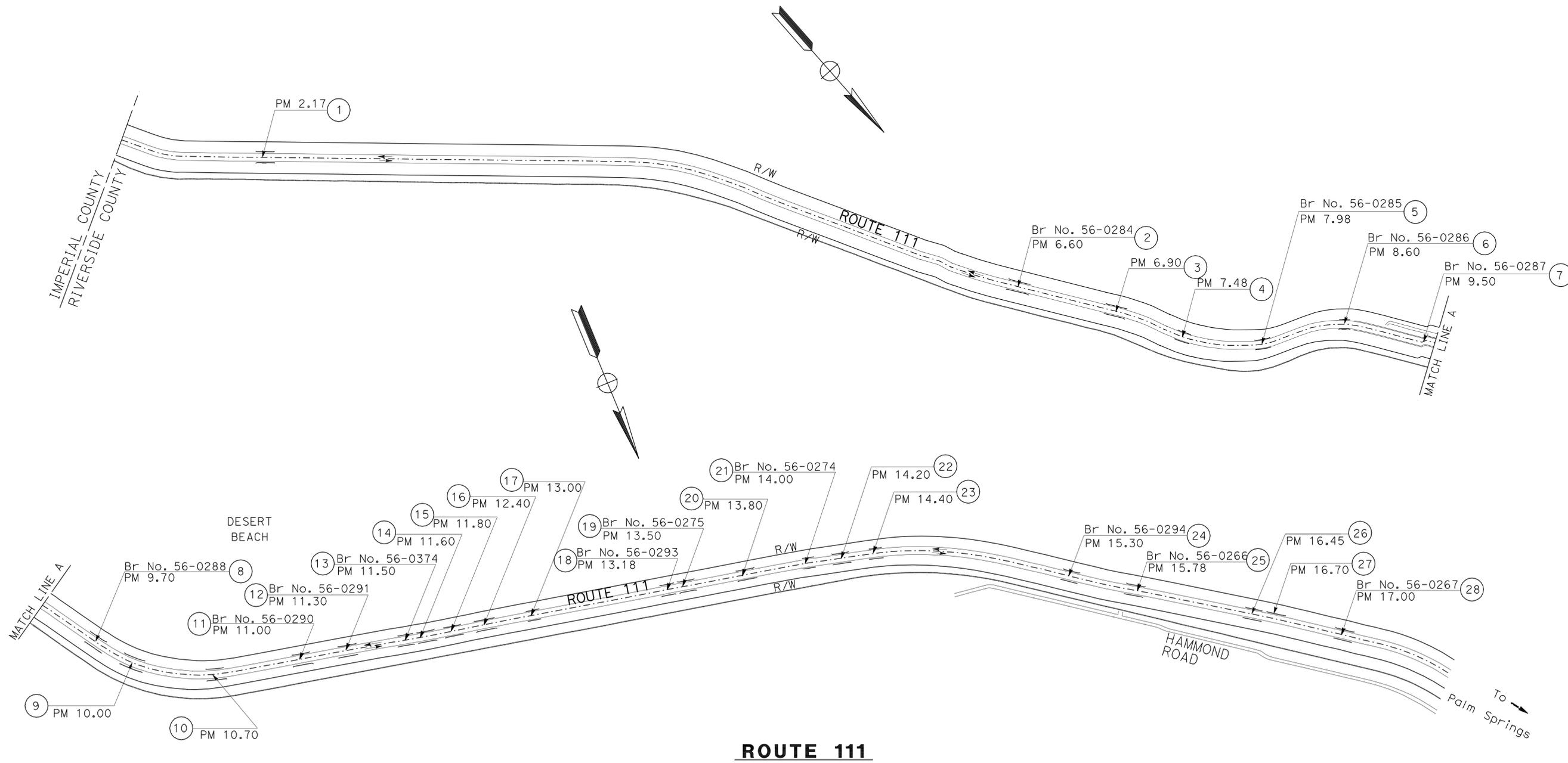


NOTES:

- LAYOUT SHOWN IS FOR IDENTIFICATION ONLY.
- THE ENGINEER SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIALS.
- EXISTING UTILITY FACILITIES ARE NOT SHOWN ON PLANS.
- FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

⊗ XX LOCATION NUMBER OF MBGR



ROUTE 111

**LOCATIONS OF CONSTRUCTION
NO SCALE
LC-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	MUSTAPHA RAOUF
CALCULATED/DESIGNED BY	CHECKED BY
WARRAN POWERS	RAFTAR SHARIATZADEH
REVISOR	DATE
REVISOR	DATE
REVISOR	DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10, 74, 86S, 111, 195, 371, 62	Var	4	79

REGISTERED CIVIL ENGINEER	DATE
1-3-11	8-24-10
PLANS APPROVAL DATE	

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



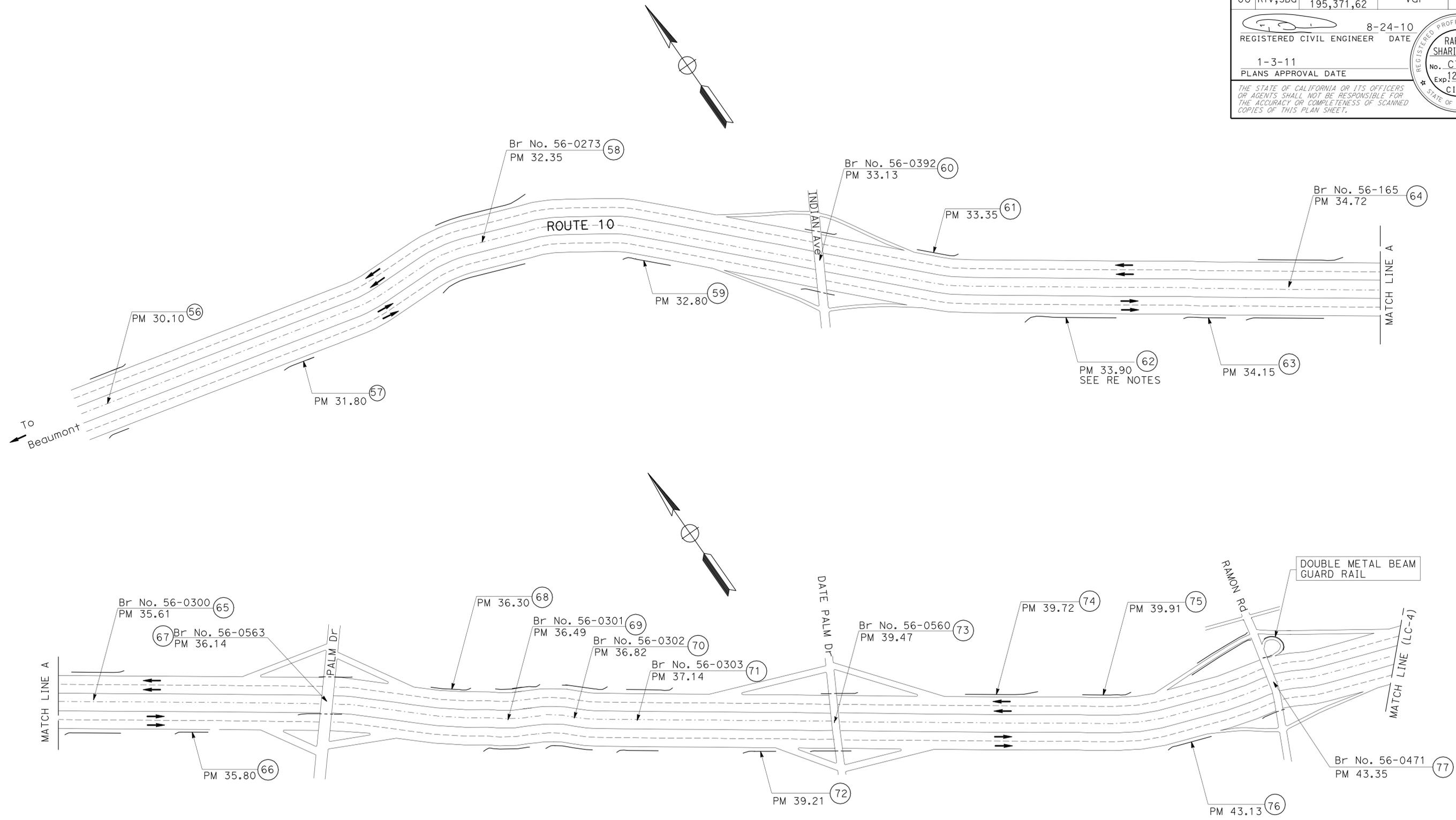
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR
MUSTAPHA RAOUF

CALCULATED, DESIGNED BY
CHECKED BY

WARRAN POWERS
RAFTAR SHARIATZADEH

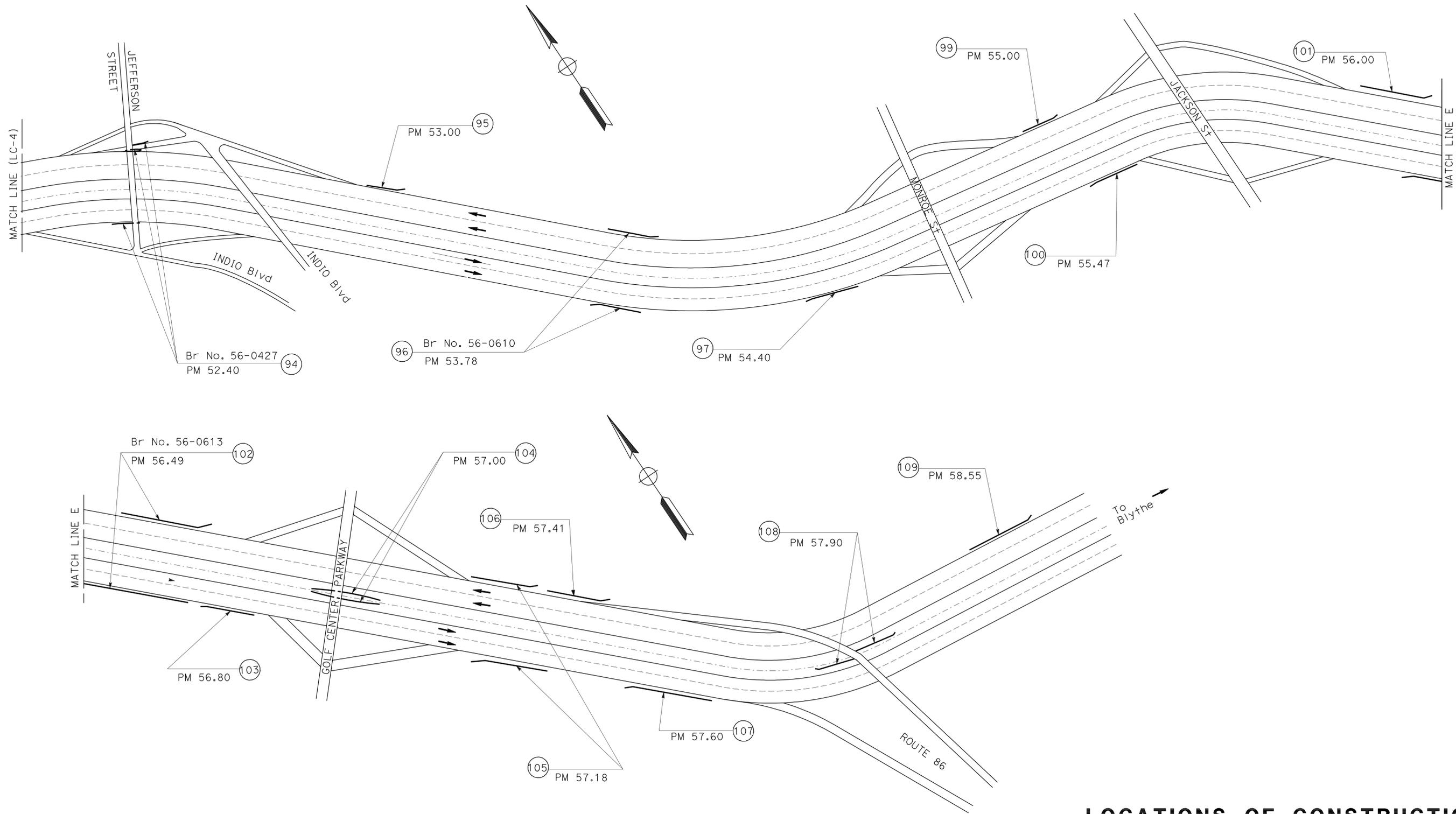
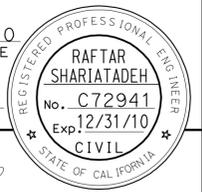
REVISED BY
DATE REVISED



ROUTE 10

**LOCATIONS OF CONSTRUCTION
NO SCALE
LC-3**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10, 74, 86S, 111, 195, 371, 62	Var	6	79
			8-24-10	DATE	
			1-3-11	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>					



ROUTE 10

**LOCATIONS OF CONSTRUCTION
NO SCALE
LC-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	MUSTAPHA RAOUF
CALCULATED/DESIGNED BY	CHECKED BY
WARRAN POWERS	RAFTAR SHARIATZADEH
REVISOR BY	DATE REVISOR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR
 MUSTAPHA RAOUF

CALCULATED/DESIGNED BY
 CHECKED BY

WARRAN POWERS
 RAFTAR SHARIATZADEH

REVISED BY
 DATE REVISED

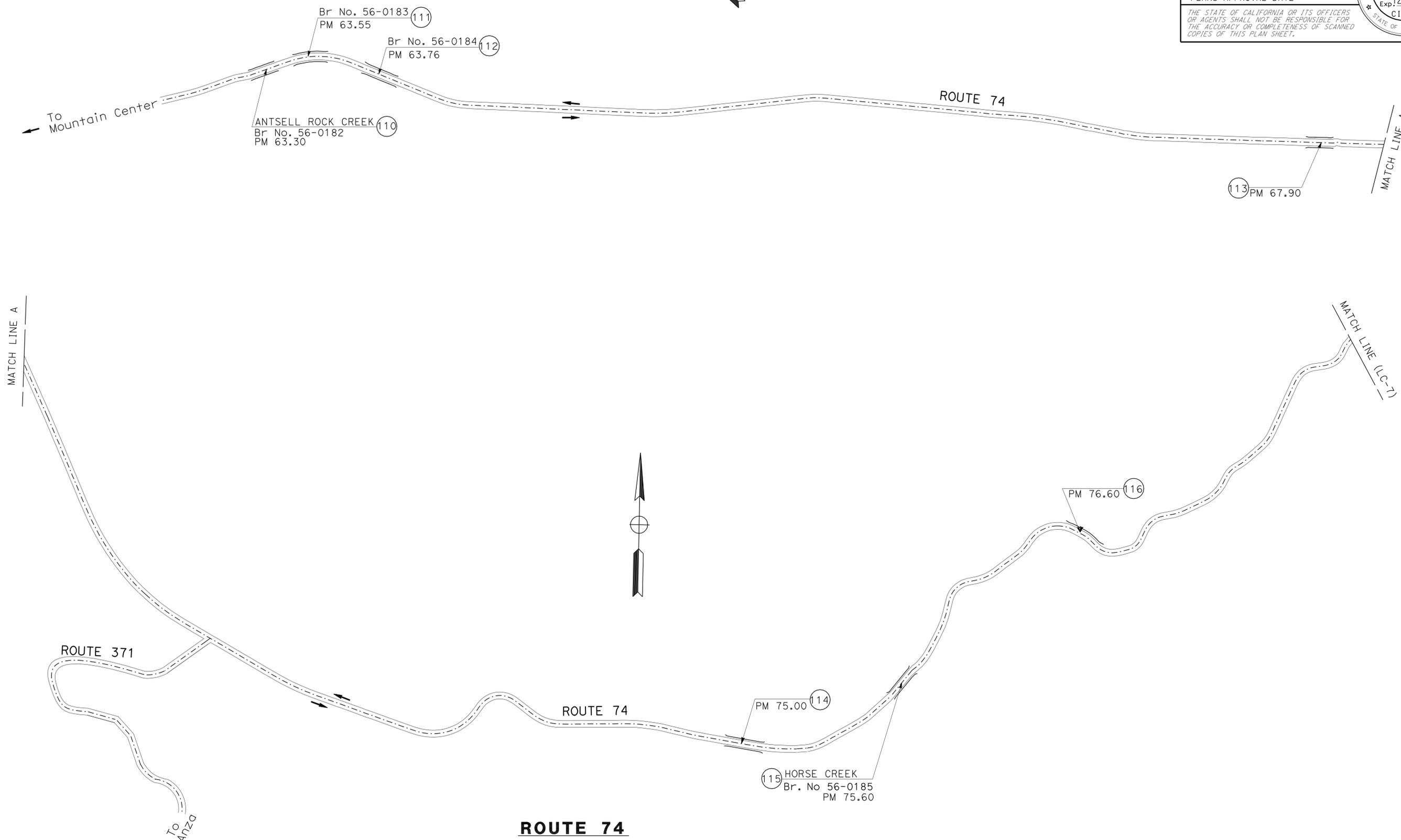
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	7	79

8-24-10
 REGISTERED CIVIL ENGINEER DATE

1-3-11
 PLANS APPROVAL DATE

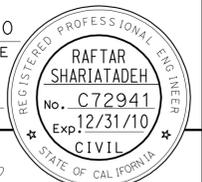
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
 RAFTAR SHARIATZADEH
 No. C72941
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA

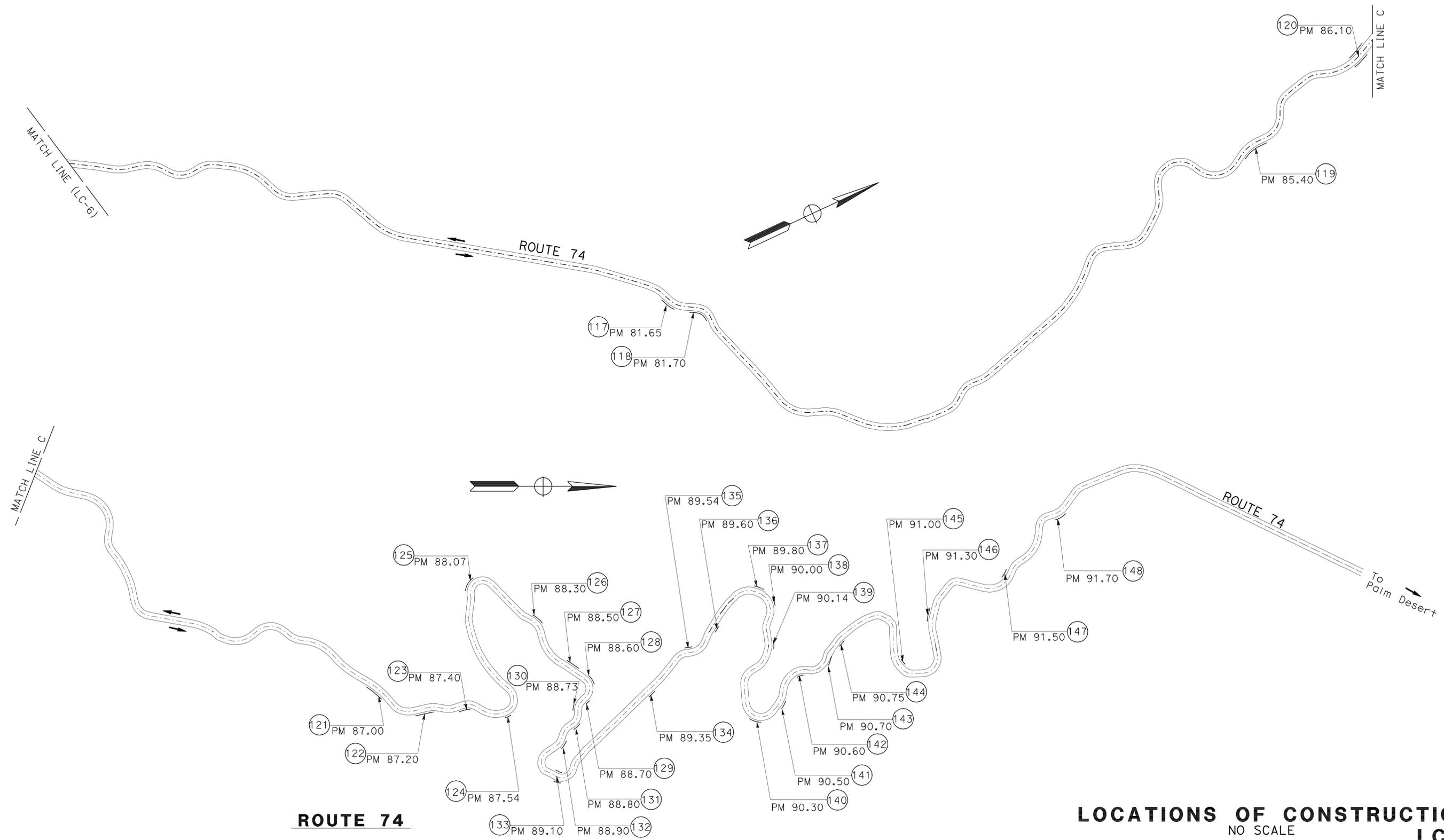


LOCATIONS OF CONSTRUCTION
 NO SCALE
LC-6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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			8-24-10	REGISTERED CIVIL ENGINEER DATE	
			1-3-11	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>					



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	WARRANT POWERS	REVISED BY
Caltrans	MUSTAPHA RAOUF	CHECKED BY	RAFTAR SHARIATZADEH	DATE REVISED
DESIGN				



ROUTE 74

LOCATIONS OF CONSTRUCTION
NO SCALE
LC-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

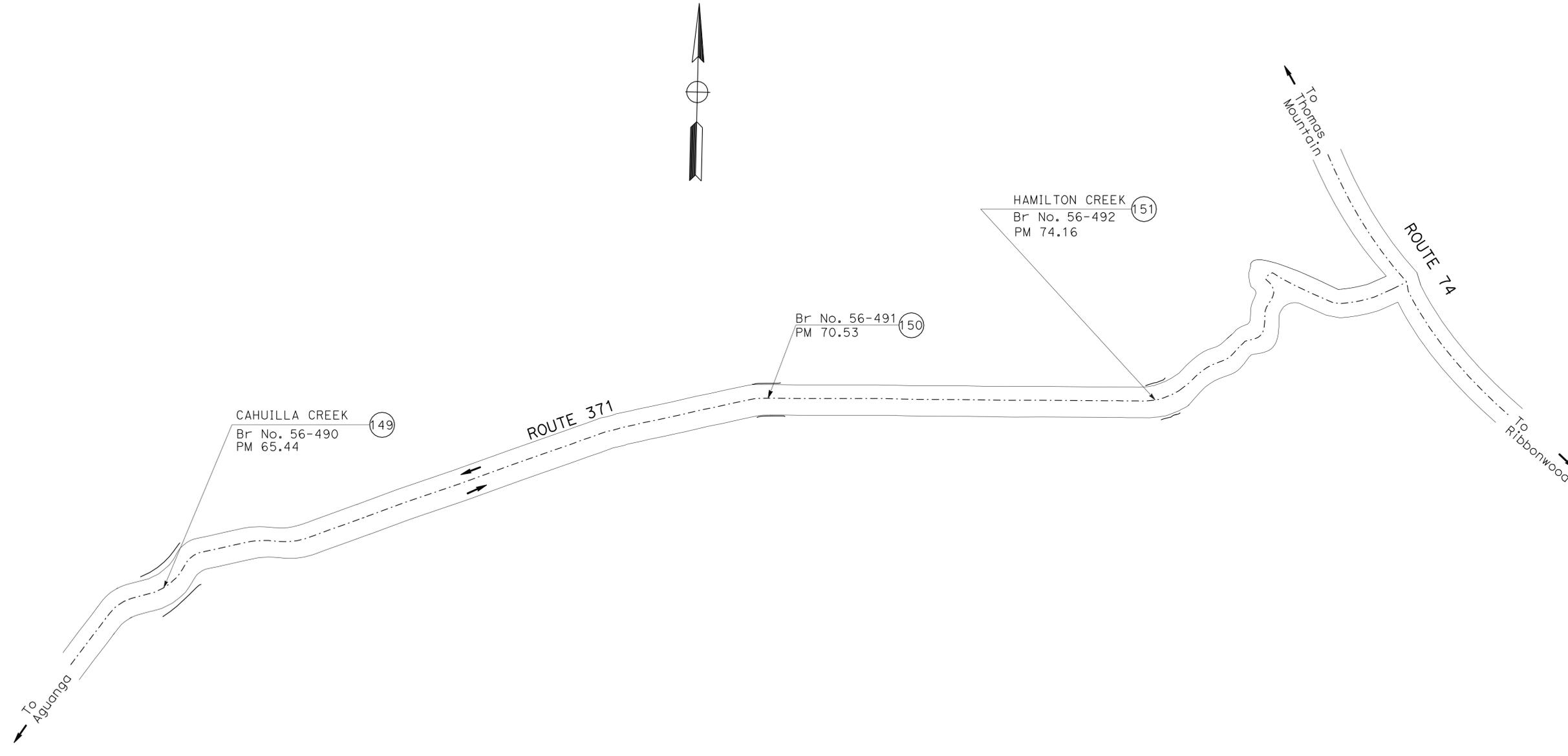
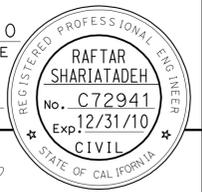
FUNCTIONAL SUPERVISOR
 MUSTAPHA RAOUF

CALCULATED, DESIGNED BY
 CHECKED BY

WARRAN POWERS
 RAFTAR SHARIATZADEH

REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	9	79
REGISTERED CIVIL ENGINEER			DATE	8-24-10	
PLANS APPROVAL DATE			1-3-11		
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.					



ROUTE 371

LOCATIONS OF CONSTRUCTION
 NO SCALE
LC-8

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR
 MUSTAPHA RAOUF

CALCULATED/DESIGNED BY
 CHECKED BY

WARRAN POWERS
 RAFTAR SHARIATZADEH

REVISED BY
 DATE REVISED

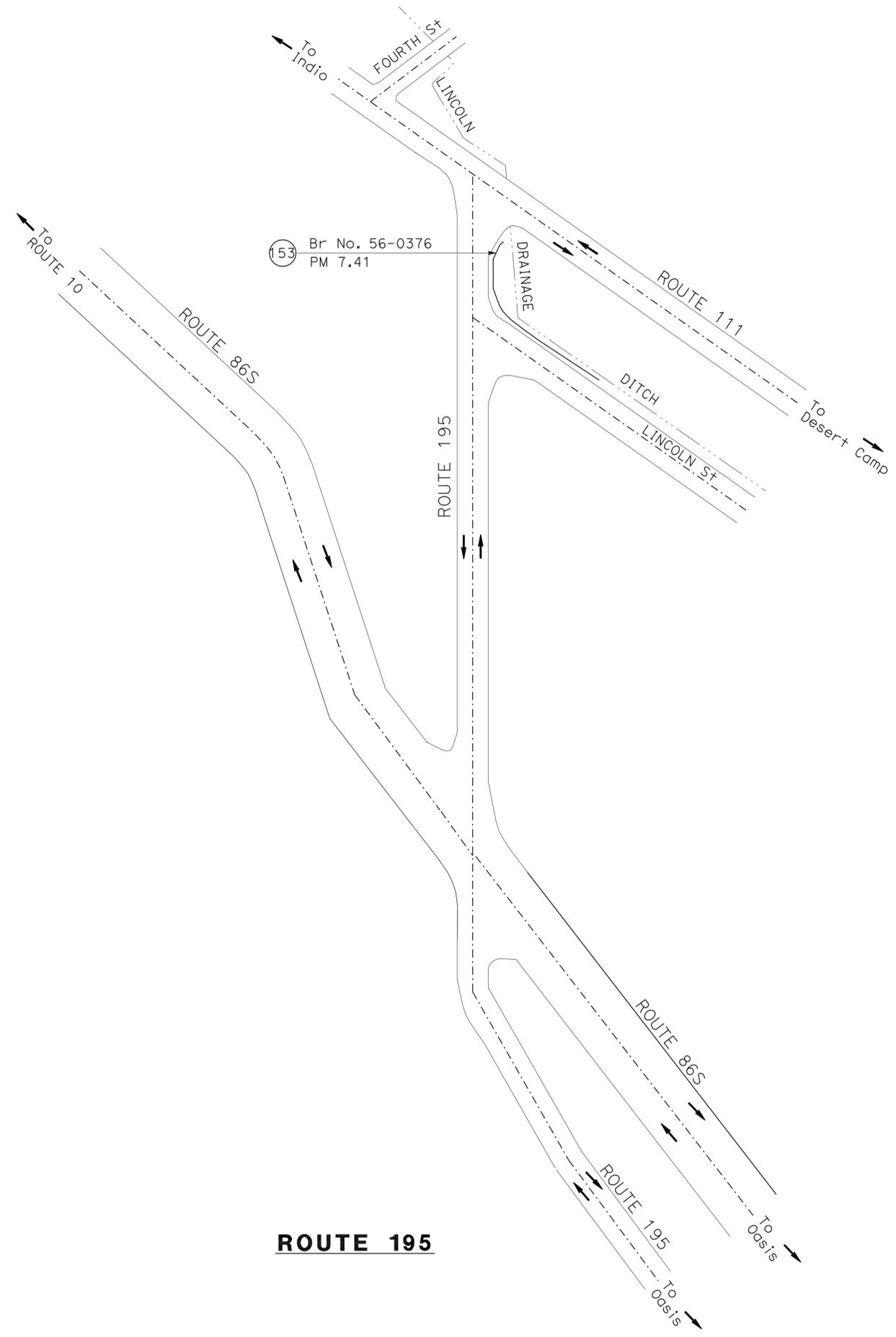
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8-24-10
 REGISTERED CIVIL ENGINEER DATE

1-3-11
 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.

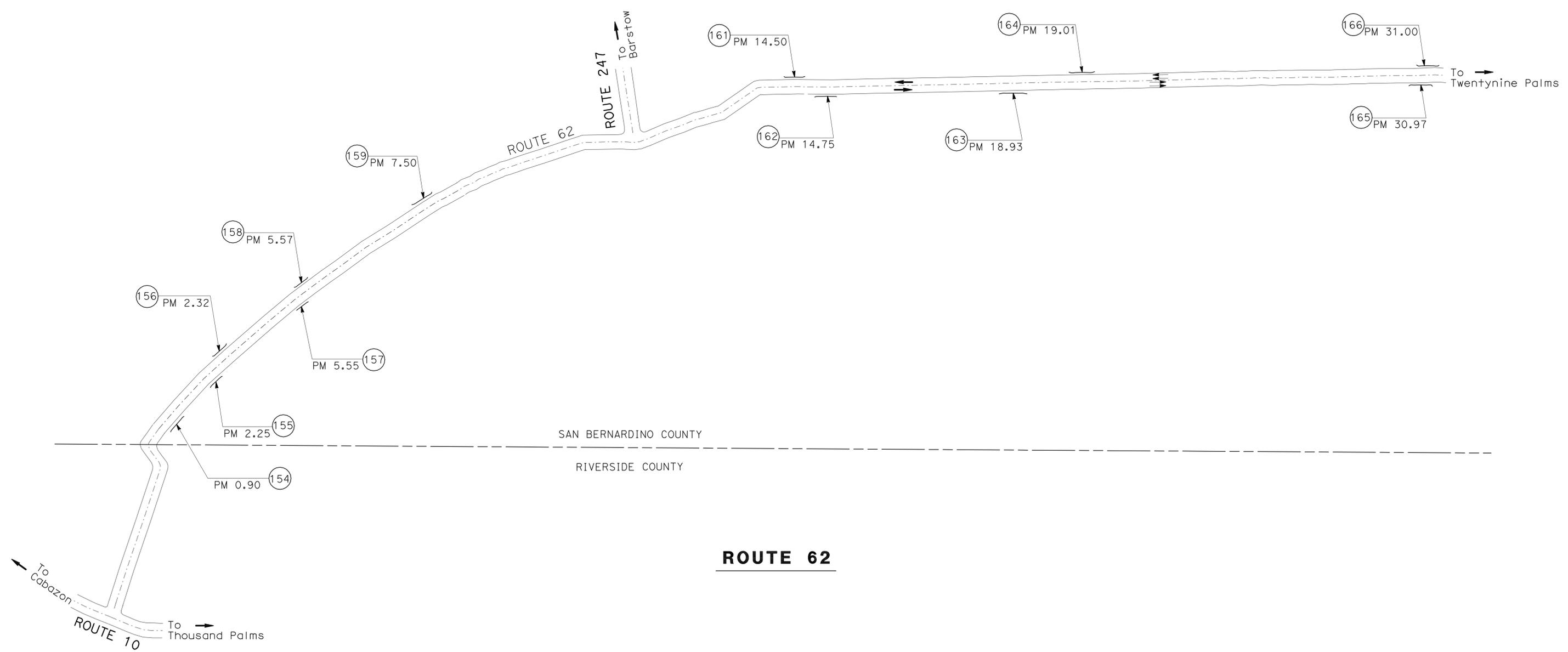
REGISTERED PROFESSIONAL ENGINEER
 RAFTAR SHARIATZADEH
 No. C72941
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA



LOCATIONS OF CONSTRUCTION
 NO SCALE
LC-9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	11	79
			8-24-10 REGISTERED CIVIL ENGINEER DATE		
1-3-11 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>					

WARRANT POWERS					
RAFTAR SHARIATZADEH					
CALCULATED/DESIGNED BY					
CHECKED BY					
FUNCTIONAL SUPERVISOR					
MUSTAPHA RAOUF					
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION					
Caltrans	Caltrans	Caltrans	Caltrans	Caltrans	Caltrans
DESIGN	DESIGN	DESIGN	DESIGN	DESIGN	DESIGN



LOCATION OF CONSTRUCTION
NO SCALE
LC-10

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

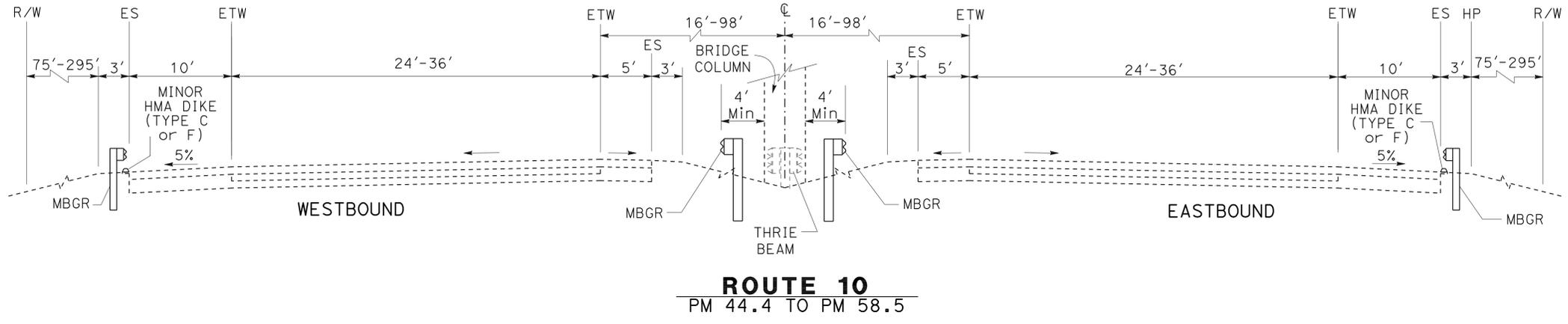
FUNCTIONAL SUPERVISOR
 MUSTAPHA RAOUF

CALCULATED/DESIGNED BY
 CHECKED BY

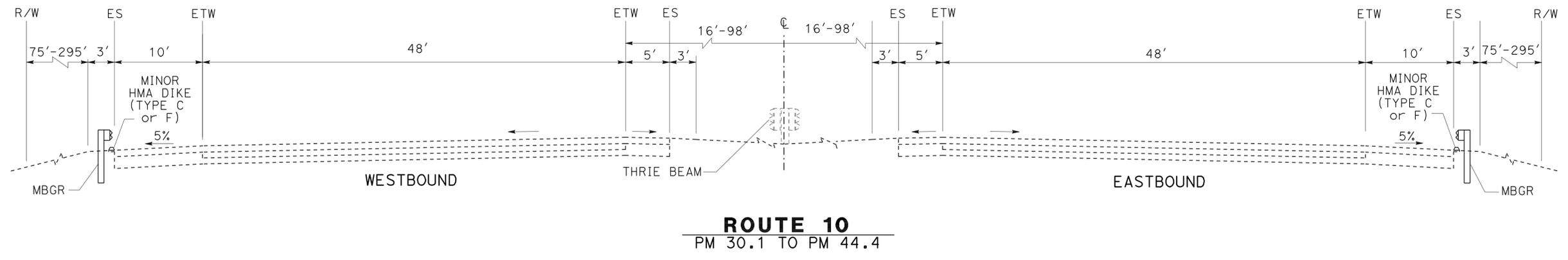
WARRAN POWERS
 RAFTAR SHARIATZADEH

REVISED BY
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	10, 74, 86S, 111, 195, 371, 62	Var	12	79
REGISTERED CIVIL ENGINEER			DATE	8-24-10	
PLANS APPROVAL DATE			1-3-11		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



ROUTE 10
 PM 44.4 TO PM 58.5

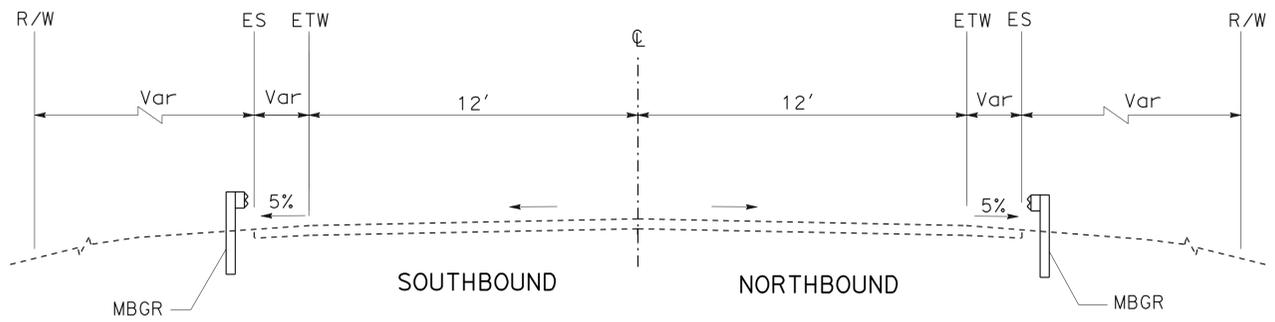
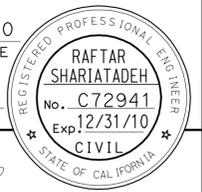


ROUTE 10
 PM 30.1 TO PM 44.4

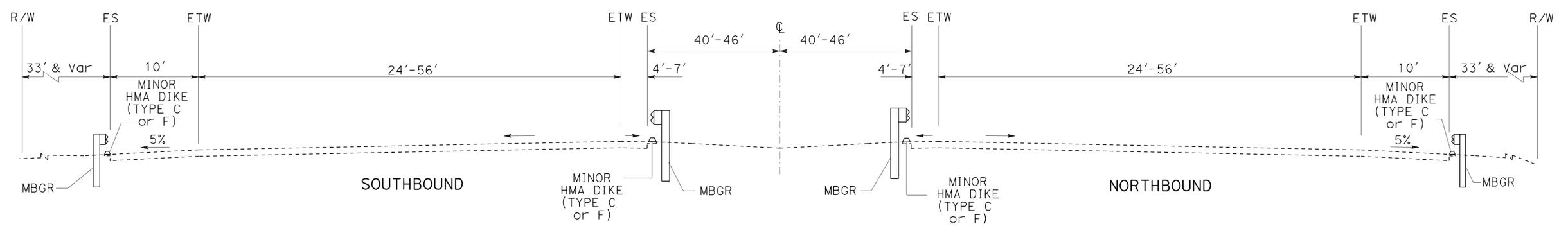
TYPICAL CROSS SECTIONS

X-1

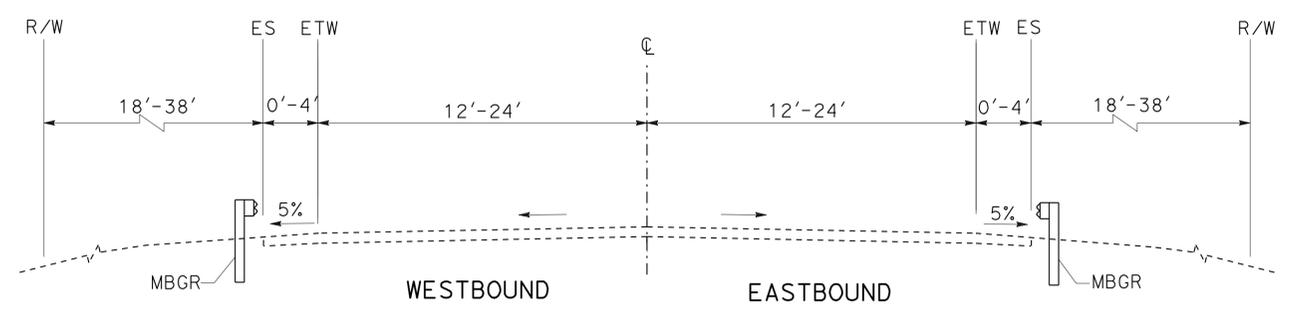
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	13	79
			8-24-10	DATE	
REGISTERED CIVIL ENGINEER			No. C72941		
1-3-11			Exp. 12/31/10		
PLANS APPROVAL DATE			CIVIL		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



ROUTE 111
PM 1.5 TO PM 18.3



ROUTE 86S
PM 2.4 TO PM 23.2



ROUTE 74
PM 63.3 TO PM 91.7

TYPICAL CROSS SECTIONS
NO SCALE
X-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

REVISOR BY DATE

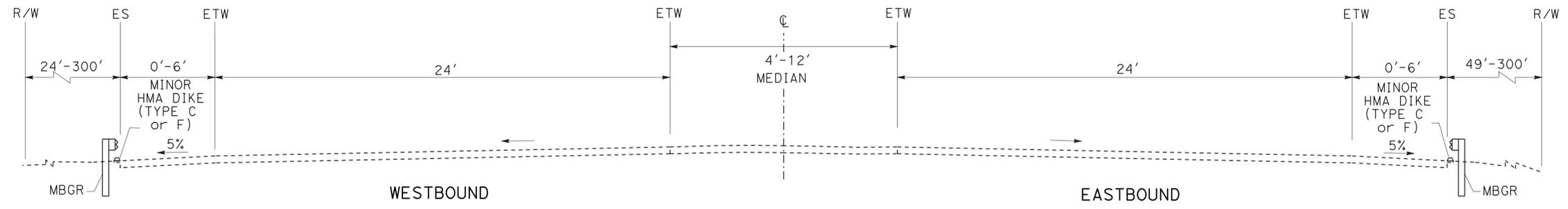
WARRAN POWERS
RAFTAR SHARIATZADEH

CALCULATED/DESIGNED BY CHECKED BY

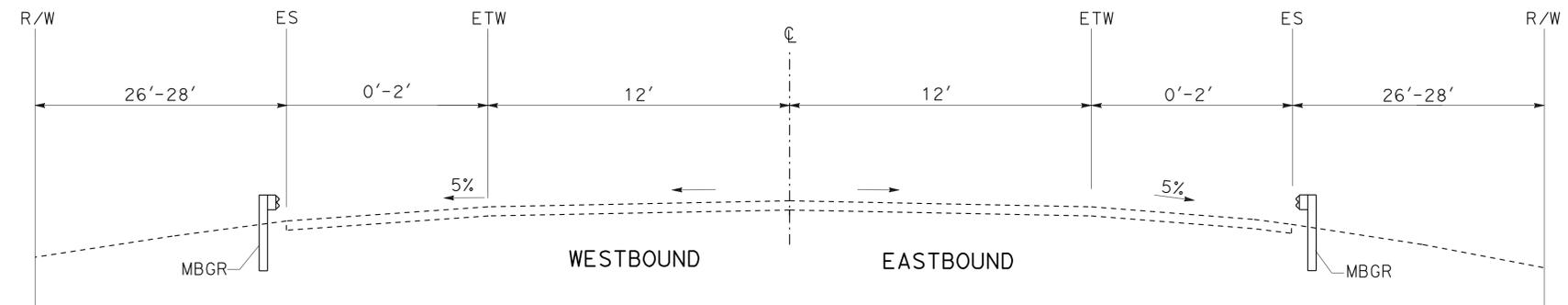
FUNCTIONAL SUPERVISOR
MUSTAPHA RAOUF

DESIGN

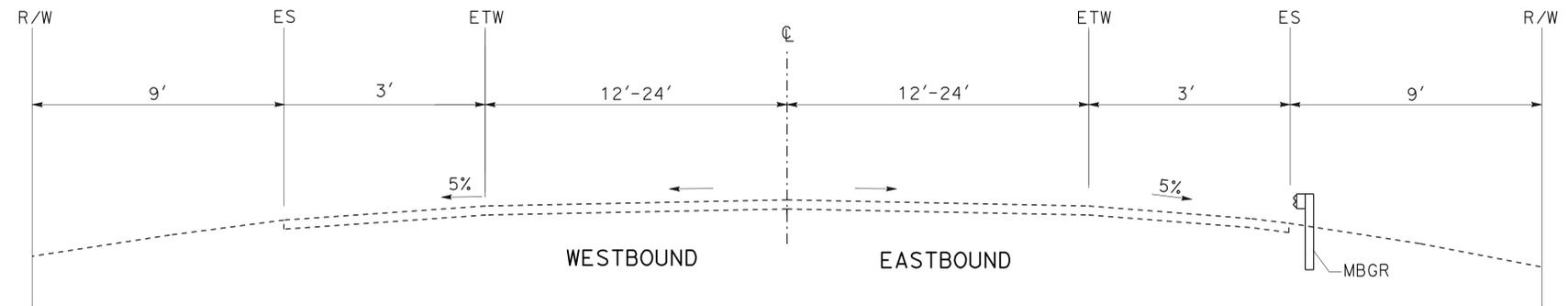
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	14	79
			8-24-10	REGISTERED CIVIL ENGINEER DATE	
			1-3-11	PLANS APPROVAL DATE	
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ROUTE 62
PM 0.0 TO PM 31.0



ROUTE 371
PM 65.4 TO PM 74.2



ROUTE 195
PM 7.41

TYPICAL CROSS SECTIONS
X-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

REVISOR BY
DATE

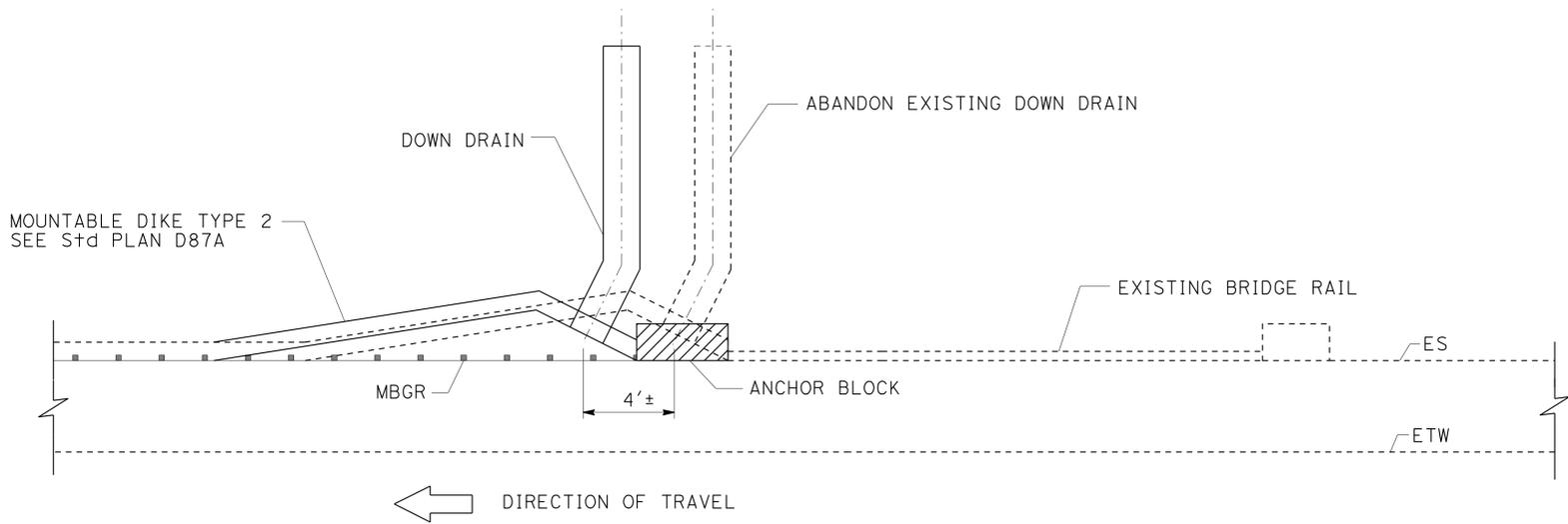
WARRANT POWERS
RAFTAR SHARIATZADEH

CALCULATED/DESIGNED BY
CHECKED BY

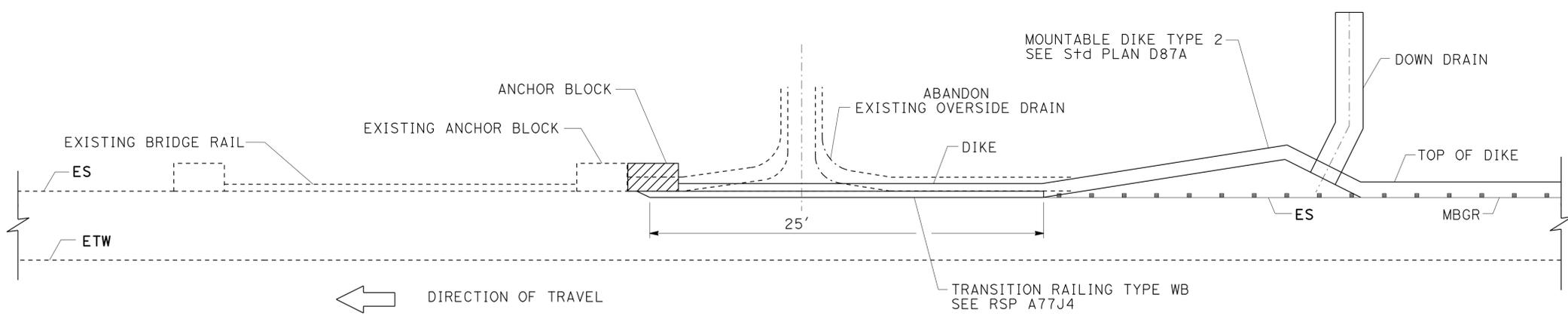
FUNCTIONAL SUPERVISOR
MUSTAPHA RAOUF

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	15	79
			8-24-10	DATE	
			1-3-11	PLANS APPROVAL DATE	
REGISTERED CIVIL ENGINEER RAFTAR SHARIATZADEH No. C72941 Exp. 12/31/10 CIVIL STATE OF CALIFORNIA					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTE:
LOCATION OF NEW DOWN DRAIN TO BE CONFIRMED BY THE ENGINEER.



CASE 1

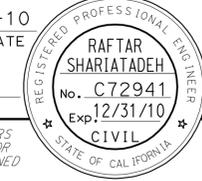


CASE 2

TYPICAL DRAINAGE RELOCATION

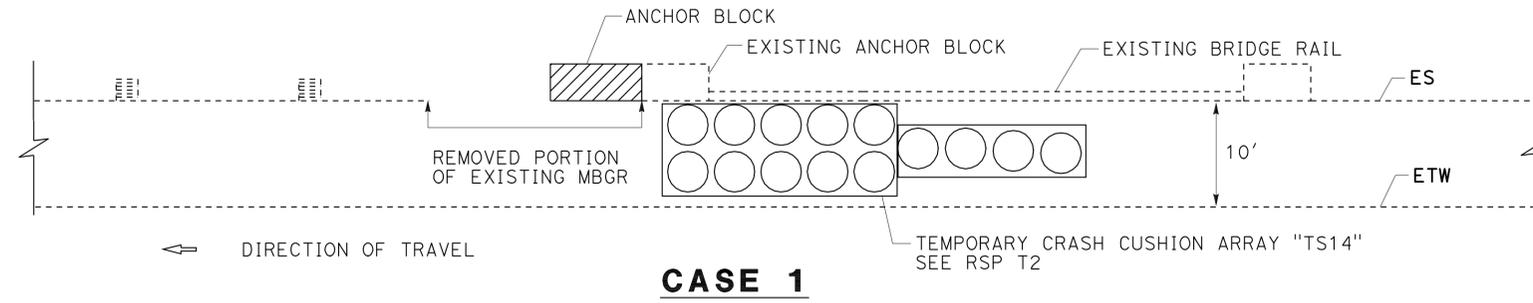
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR
 MUSTAPHA RAOUF
 CALCULATED/DESIGNED BY
 CHECKED BY
 WARRAN POWERS
 RAFTAR SHARIATZADEH
 REVISED BY
 DATE REVISED

CONSTRUCTION DETAILS
NO SCALE
C-1

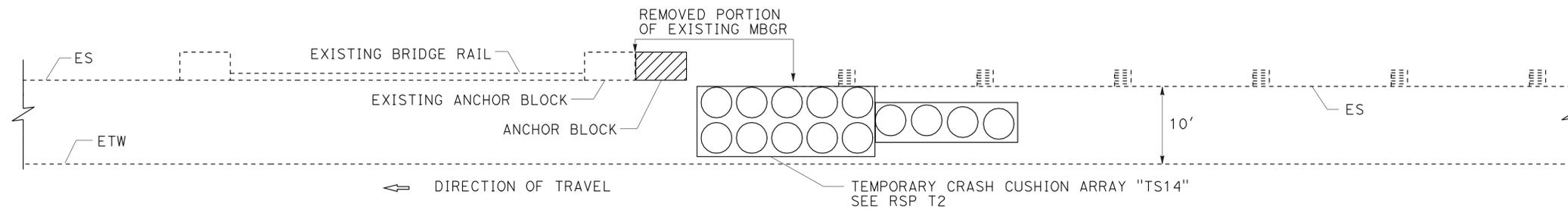
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111, 195,371,62	Var	16	79
			8-24-10	DATE	
REGISTERED CIVIL ENGINEER			DATE		
1-3-11			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
					

NOTE:

LOCATION OF CRASH CUSHION TO BE CONFIRMED BY THE ENGINEER

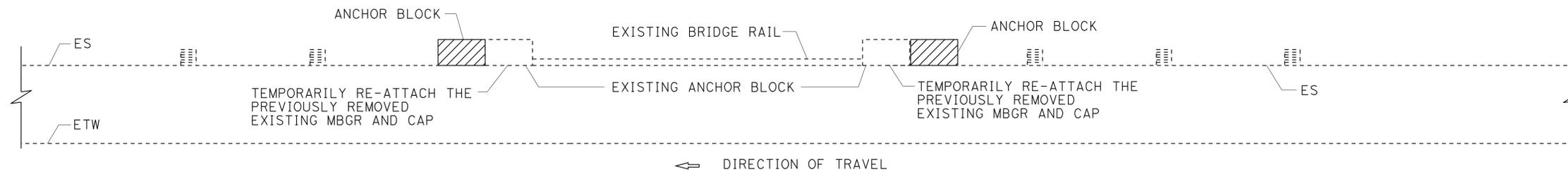


CASE 1

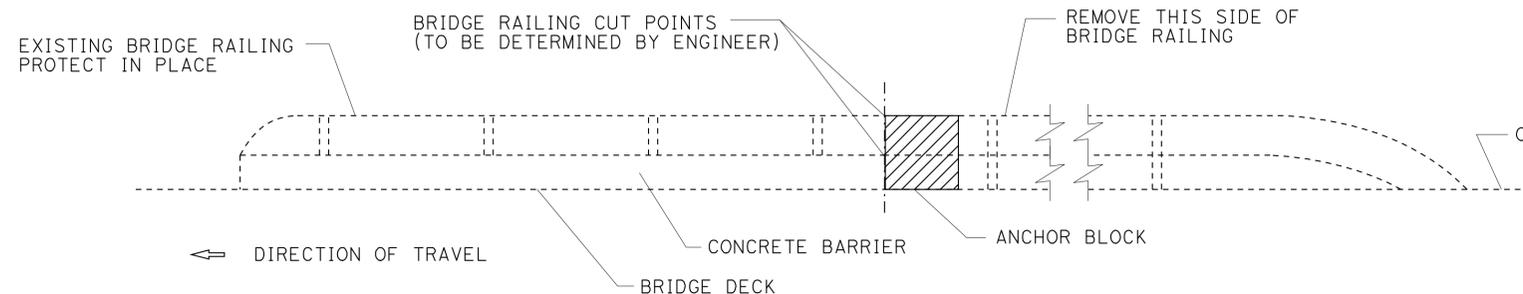


CASE 2

TEMPORARY CRASH CUSHION DETAILS



TEMPORARY RE-ATTACHMENT OF EXISTING METAL BEAM GAURD RAIL DETAILS



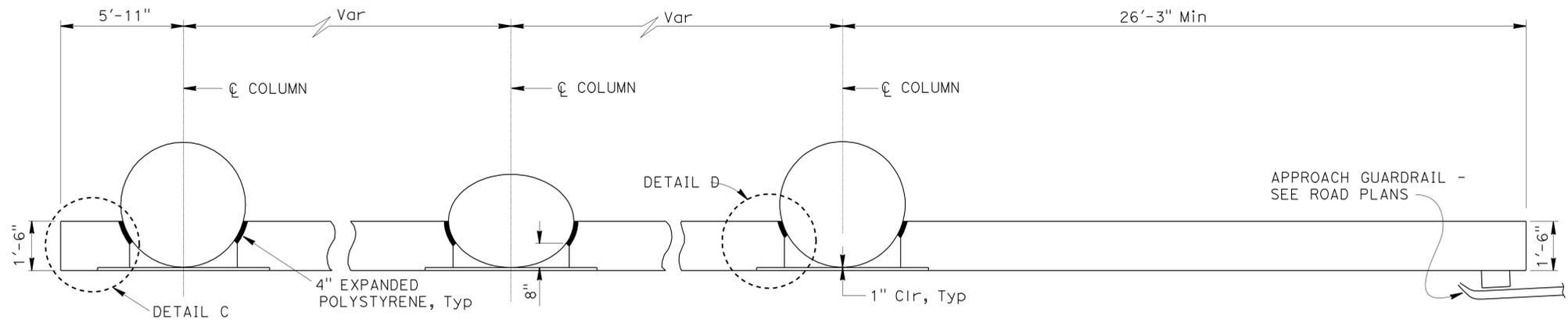
BRIDGE RAILING REMOVAL DETAILS

CONSTRUCTION DETAILS

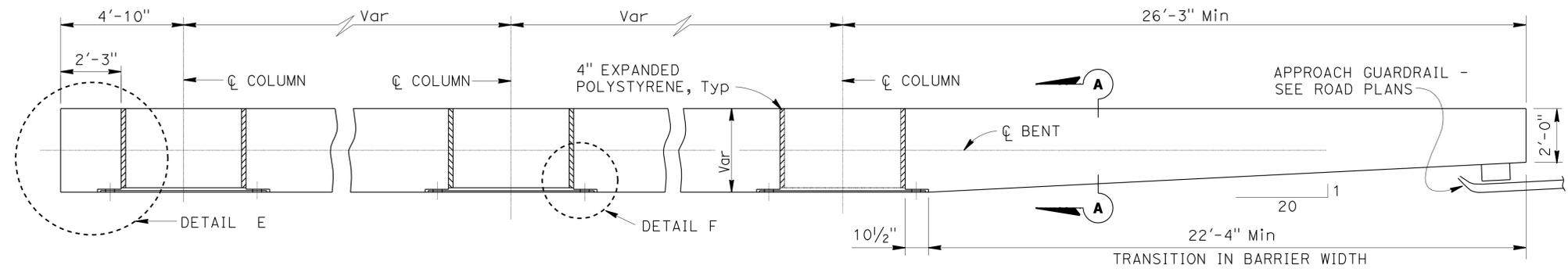
C-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	MUSTAPHA RAOUF
CALCULATED/DESIGNED BY	CHECKED BY
WARRANT POWERS	RAFTAR SHARIATZADEH
REVISED BY	DATE
REVISOR	DATE

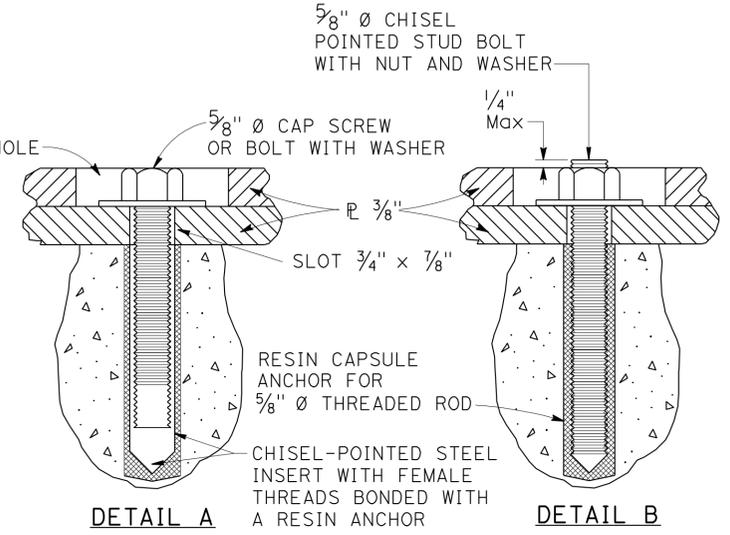
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111, 195,371,62	Var	17	79
REGISTERED CIVIL ENGINEER			DATE	8-24-10	
PLANS APPROVAL DATE			1-3-11		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



PLAN-CIRCULAR COLUMNS



PLAN-RECTANGULAR COLUMNS



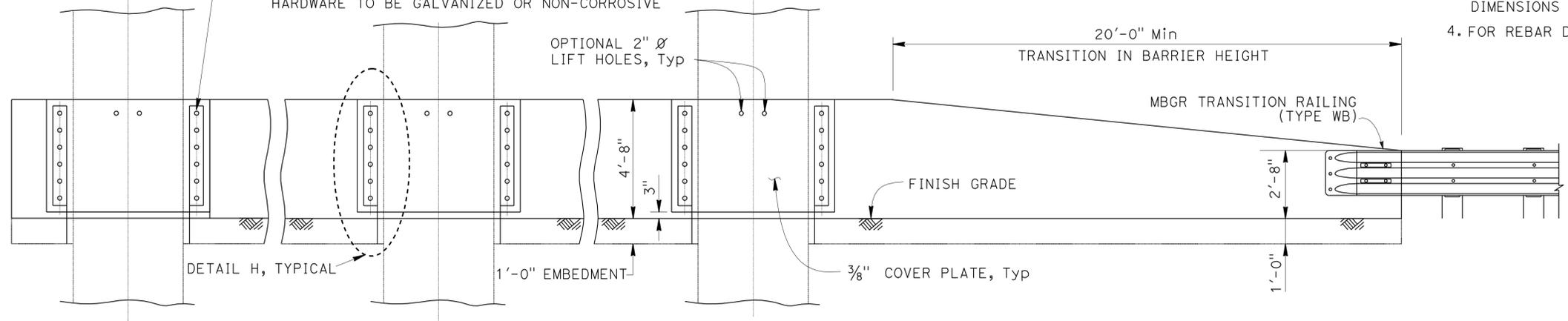
ALTERNATIVE ANCHORAGE

SEE NOTES 1 AND 2

NOTES:

1. RESIN CAPSULE ANCHORAGE IS SUBJECT TO APPROVAL OF THE ENGINEER. INSTALLATION PROCEDURES SHALL COMPLY WITH MANUFACTURER'S INSTRUCTIONS.
2. DETAIL B SIMILAR TO DETAIL A EXCEPT FOR ANCHORAGE DEVICES.
3. THE CONTRACTOR SHALL VERIFY ALL CONTROLLED FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIALS.
4. FOR REBAR DETAIL, REFER TO SHEET C-4.

5/8" Ø SLEEVE NUT ANCHORAGE (SEE DETAIL D) OR RESIN CAPSULE ANCHORAGE (SEE ALTERNATIVE ANCHORAGE). A TOTAL OF 12 ANCHORAGE UNITS REQUIRED PER PLATE. ALL MATERIAL PLATES TO BE GALVANIZED AFTER FABRICATION. HARDWARE TO BE GALVANIZED OR NON-CORROSIVE



ELEVATION

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: MUSTAPHA RAOUF
 CALCULATED/DESIGNED BY: WARRAN POWERS
 CHECKED BY: RAFTAR SHARIATZADEH
 REVISED BY: WARRAN POWERS
 DATE REVISD: RAFTAR SHARIATZADEH

CONSTRUCTION DETAILS
NO SCALE
C-3

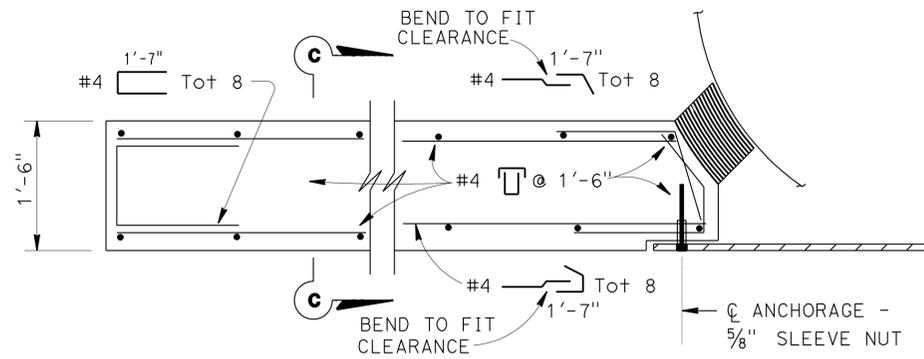
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111, 195,371,62	Var	18	79

8-24-10
REGISTERED CIVIL ENGINEER DATE

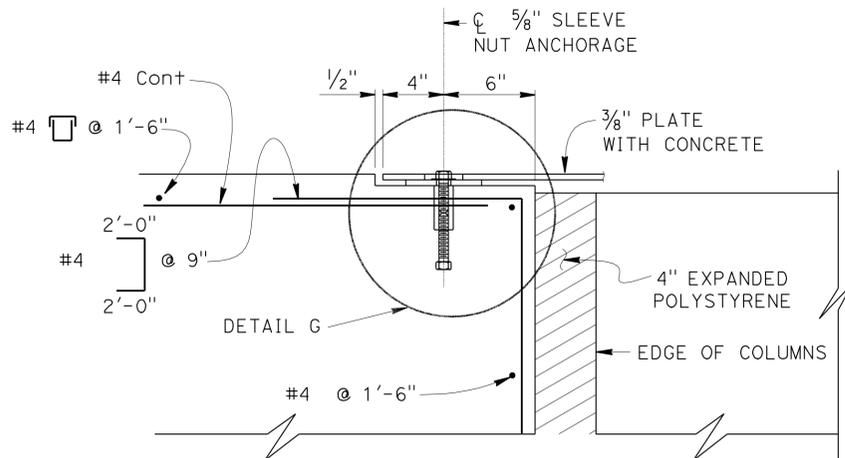
1-3-11
PLANS APPROVAL DATE

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.

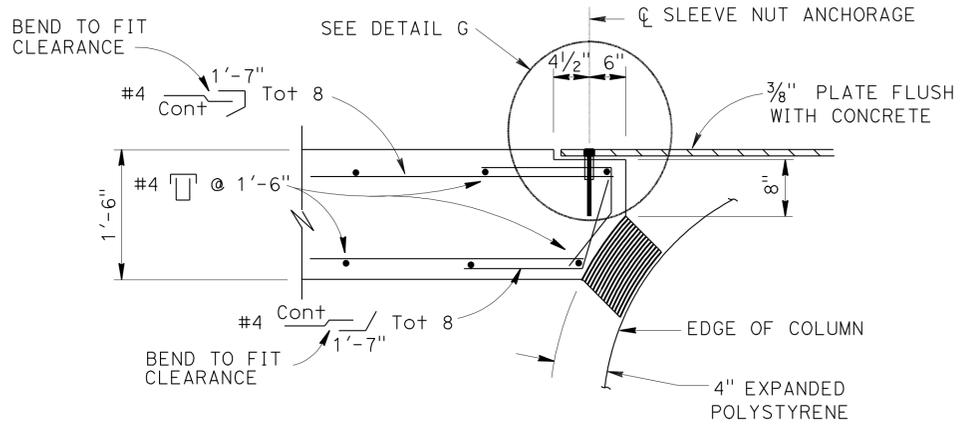
REGISTERED PROFESSIONAL ENGINEER
RAFTAR SHARIATZADEH
No. C72941
Exp. 12/31/10
CIVIL
STATE OF CALIFORNIA



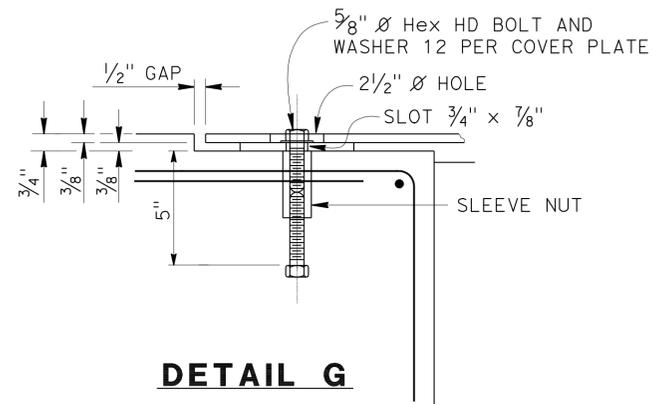
DETAIL C



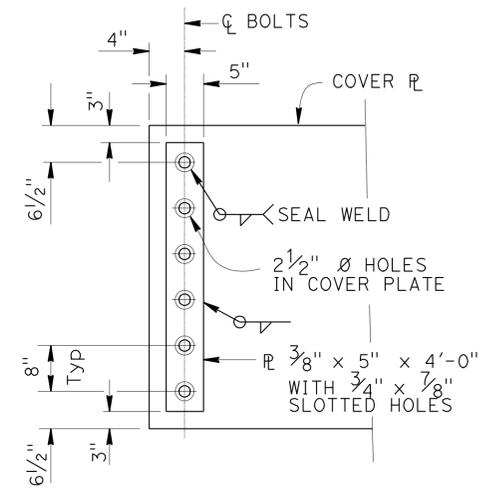
DETAIL F



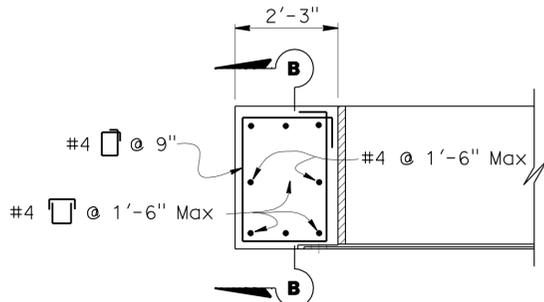
DETAIL D



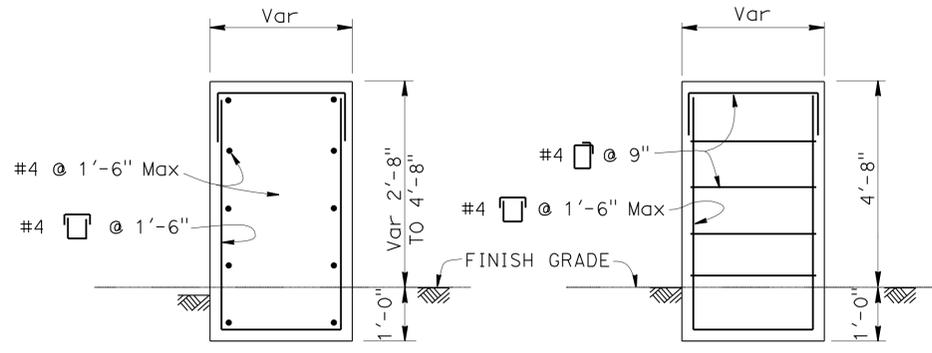
DETAIL G



DETAIL H

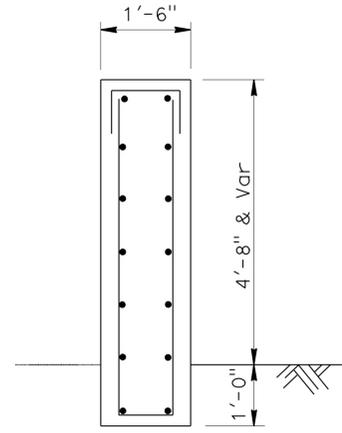


DETAIL E



SECTION A-A

SECTION B-B



SECTION C-C

CONSTRUCTION DETAILS
NO SCALE
C-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN
FUNCTIONAL SUPERVISOR: MUSTAPHA RAOUF
WARRAN POWERS
RAFTAR SHARIATZADEH
CALCULATED/DESIGNED BY: [Blank]
CHECKED BY: [Blank]
REVISED BY: [Blank]
DATE REVISED: [Blank]

NOTES:

1. LOCATIONS OF CONSTRUCTION AREA SIGNS, AND PCMS ARE APPROXIMATE. EXACT LOCATIONS OF THE CONSTRUCTION AREA SIGNS AND PCMS WILL BE DETERMINED BY THE ENGINEER.
2. CONTRACTOR SHALL MAINTAIN AND PROVIDE TRAFFIC ACCESS TO LOCAL BUSINESSES.
3. REFER TO STANDARD PLANS T10, T11, T13, AND T14 FOR TRAFFIC CONTROL REQUIREMENTS.

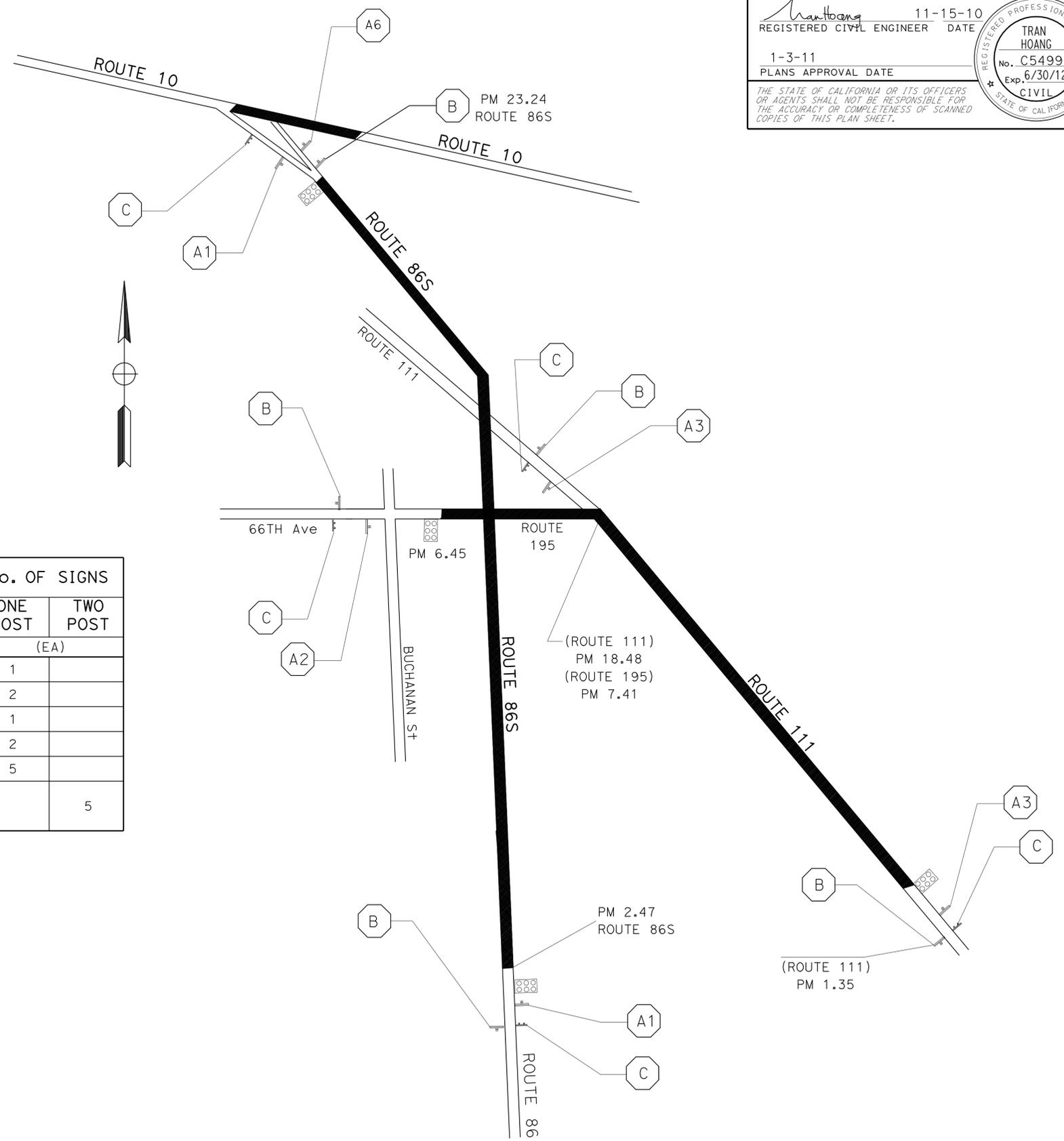
LEGEND:

- CONSTRUCTION AREA
- ⊥ CONSTRUCTION AREA SIGN (ONE POST)
- ⊥ CONSTRUCTION AREA SIGN (TWO POST)
- ⊗ CONSTRUCTION AREA SIGN LETTER
- ▣ PORTABLE CHANGEABLE MESSAGE SIGN(PCMS)

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS ROUTES 86S, 111 AND 195

SIGN No.	SIGN CODE	PANEL SIZE (In X In)	SIGN MESSAGE	No. OF POST(S) AND SIZE	No. OF SIGNS	
					ONE POST	TWO POST
A6	W20-1	48 X 48	ROAD WORK AHEAD	1 - 6" X 6"	1	
A1	G20-1	48 X 48	ROAD WORK NEXT 23 MILES	1 - 6" X 6"	2	
A2	G20-1	48 X 48	ROAD WORK NEXT 19 MILES	1 - 6" X 6"	1	
A3	G20-1	48 X 48	ROAD WORK NEXT 17 MILES	1 - 6" X 6"	2	
B	G20-2	48 X 24	END ROAD WORK	1 - 4" X 6"	5	
C	C40(CA)	72 X 36	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONE	2 - 4" X 6"		5

PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
(EA)
4



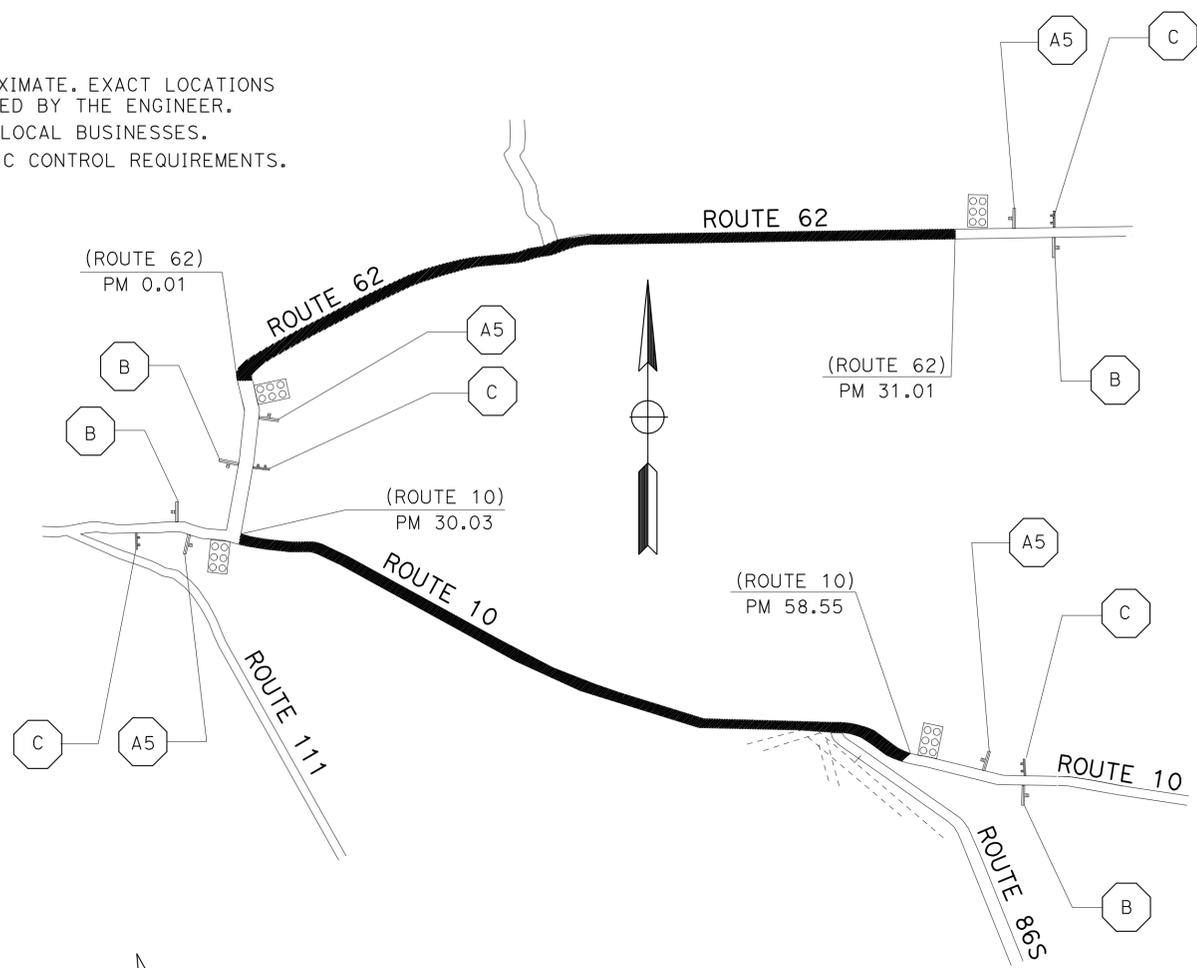
CONSTRUCTION AREA SIGNS
NO SCALE
CS-1

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGNS ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 LARRY SARTORI
 FUNCTIONAL SUPERVISOR
 CHECKED BY
 DARYUSH NAMI
 TRAN HOANG
 REVISED BY
 DATE

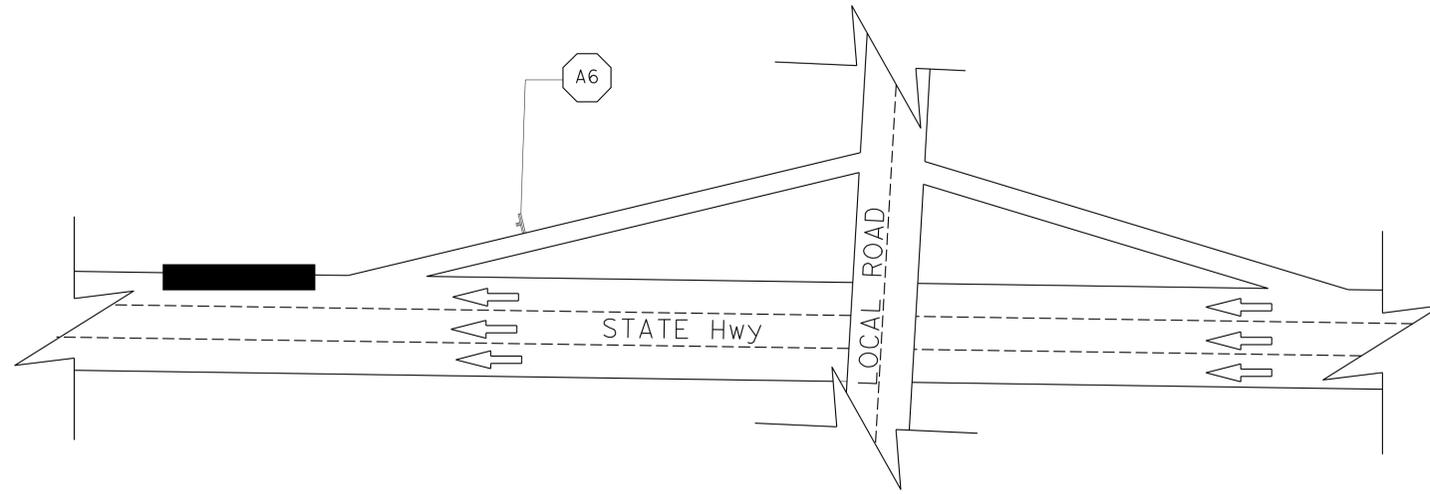
NOTES:

1. LOCATIONS OF CONSTRUCTION AREA SIGNS, AND PCMS ARE APPROXIMATE. EXACT LOCATIONS OF THE CONSTRUCTION AREA SIGNS AND PCMS WILL BE DETERMINED BY THE ENGINEER.
2. CONTRACTOR SHALL MAINTAIN AND PROVIDE TRAFFIC ACCESS TO LOCAL BUSINESSES.
3. REFER TO STANDARD PLANS T10, T11, T13, AND T14 FOR TRAFFIC CONTROL REQUIREMENTS.
4. * DENOTES FOR PORTABLE CONSTRUCTION AREA SIGNS.



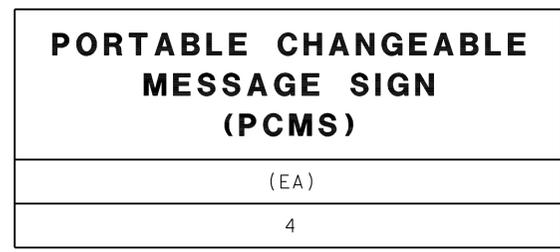
STATIONARY MOUNTED CONSTRUCTION AREA SIGNS ROUTES 10 and 62

SIGN No.	SIGN CODE	PANEL SIZE (In X In)	SIGN MESSAGE	No. OF POST(S) AND SIZE	No. OF SIGNS	
					ONE POST	TWO POST
A5	G20-1	48 X 48	ROAD WORK NEXT 30 MILES	1 - 6" X 6"	4	
A6	W20-1	48 X 48	ROAD WORK AHEAD	1 - 6" X 6"	28*	
B	G20-2	36 X 18	END ROAD WORK	1 - 4" X 4"	4	
C	C40(CA)	72 X 36	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONE	2 - 4" X 6"		4



TYPICAL SIGNING AT ENTRANCE AND EXIT RAMPS ON STATE HIGHWAY

* SEE NOTES



CONSTRUCTION AREA SIGNS

NO SCALE

CS-2

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGNS ONLY.



USERNAME => frmmguje
DGN FILE => 8478101a002.dgn

CU 08381

EA 478101

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR LARRY SARTORI
 CALCULATED/DESIGNED BY CHECKED BY
 DARYUSH NAMI TRAN HOANG
 REVISED BY DATE REVISED
 x
 x
 x
 x
 x

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111, 195,371,62	Var	21	79

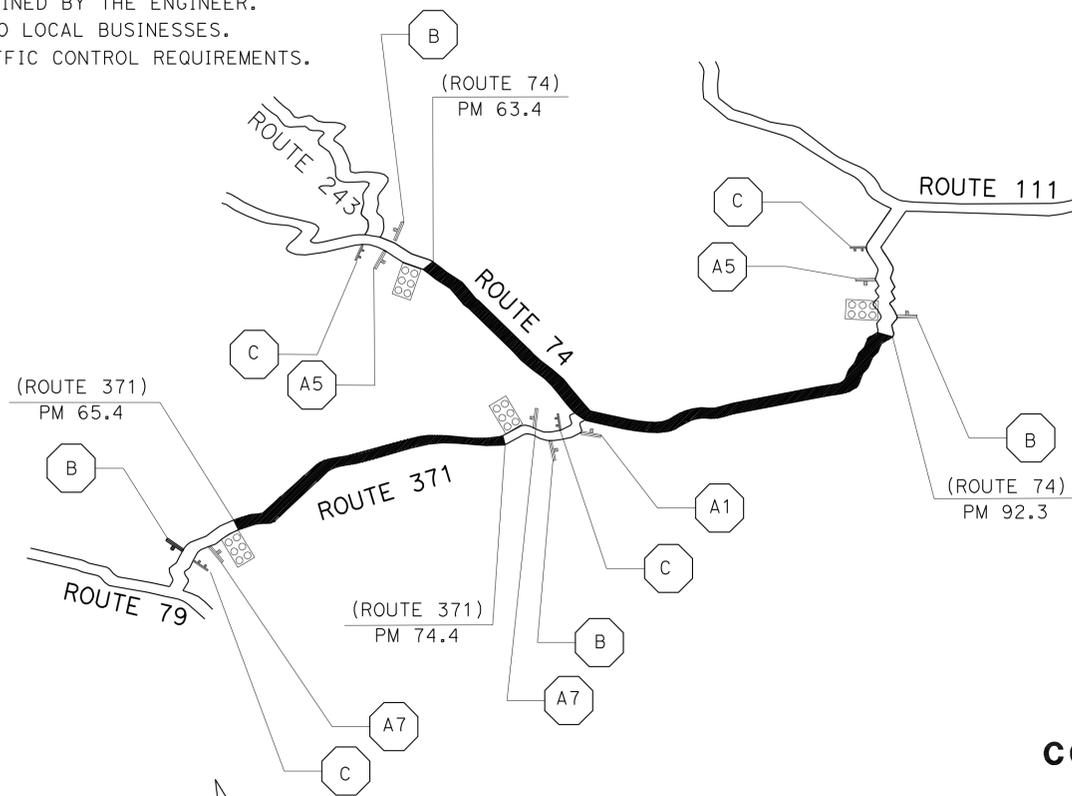
11-15-10
 REGISTERED CIVIL ENGINEER DATE
 1-3-11
 PLANS APPROVAL DATE

TRAN HOANG
 No. C54996
 Exp. 6/30/12
 CIVIL

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

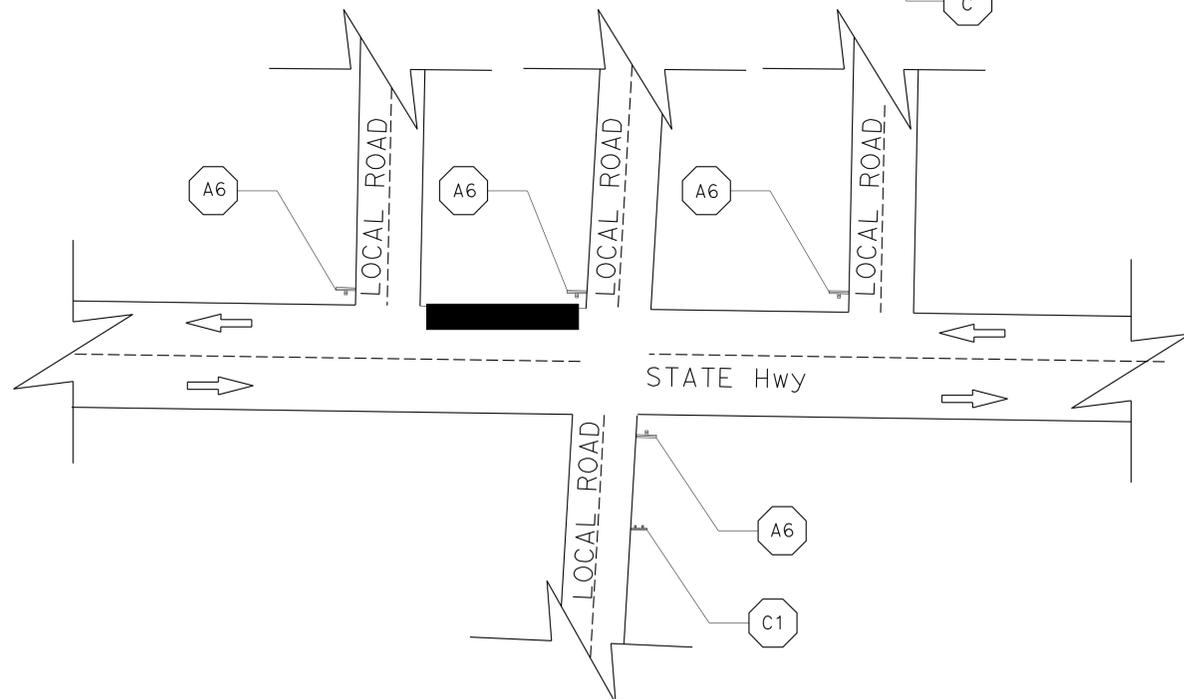
NOTES:

1. LOCATIONS OF CONSTRUCTION AREA SIGNS, AND PCMS ARE APPROXIMATE. EXACT LOCATIONS OF THE CONSTRUCTION AREA SIGNS AND PCMS WILL BE DETERMINED BY THE ENGINEER.
2. CONTRACTOR SHALL MAINTAIN AND PROVIDE TRAFFIC ACCESS TO LOCAL BUSINESSES.
3. REFER TO STANDARD PLANS T10, T11, T13, AND T14 FOR TRAFFIC CONTROL REQUIREMENTS.
4. * DENOTES FOR PORTABLE CONSTRUCTION AREA SIGNS.



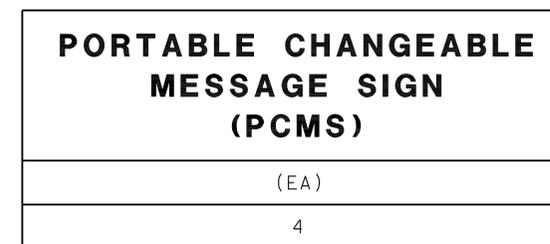
STATIONARY MOUNTED CONSTRUCTION AREA SIGNS ROUTES 74 AND 371

SIGN No.	SIGN CODE	PANEL SIZE (In X In)	SIGN MESSAGE	No. OF POST(S) AND SIZE	No. OF SIGNS	
					ONE POST	TWO POST
(A1)	G20-1	48 X 48	ROAD WORK NEXT 23 MILES	1 - 6" X 6"	1	
(A5)	G20-1	48 X 48	ROAD WORK NEXT 30 MILES	1 - 6" X 6"	2	
(A6)	W20-1	48 X 48	ROAD WORK AHEAD	1 - 6" X 6"	8*	
(A7)	G20-1	48 X 48	ROAD WORK NEXT 9 MILES	1 - 6" X 6"	2	
(B)	G20-2	36 X 18	END ROAD WORK	1 - 4" X 4"	4	
(C)	C40(CA)	72 X 36	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONE	2 - 4" X 6"		4



TYPICAL SIGNING AT LOCAL ROADS AND STATE HIGHWAY

* SEE NOTES



CONSTRUCTION AREA SIGNS

NO SCALE

CS-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 LARRY SARTORI
 FUNCTIONAL SUPERVISOR
 CHECKED BY
 TRAN HOANG
 DARYUSH NAMI
 REVISED BY
 DATE REVIS

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGNS ONLY.

RELATIVE BORDER SCALE IS IN INCHES



USERNAME => frmguye
DGN FILE => 8478101a003.dgn

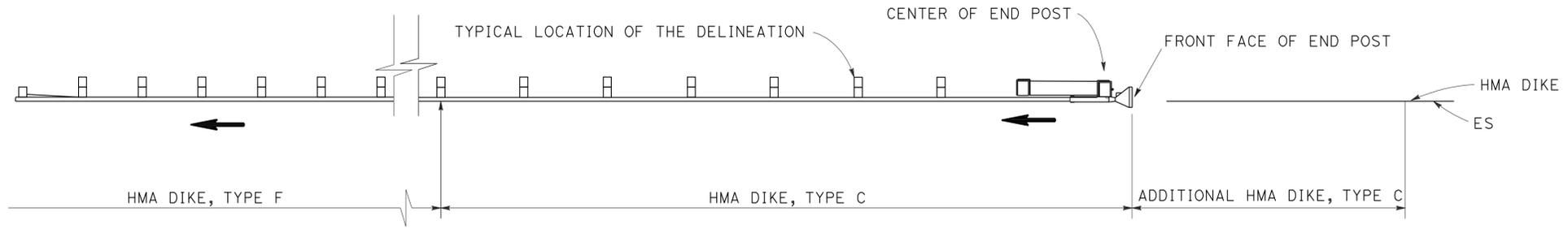
CU 08381

EA 478101

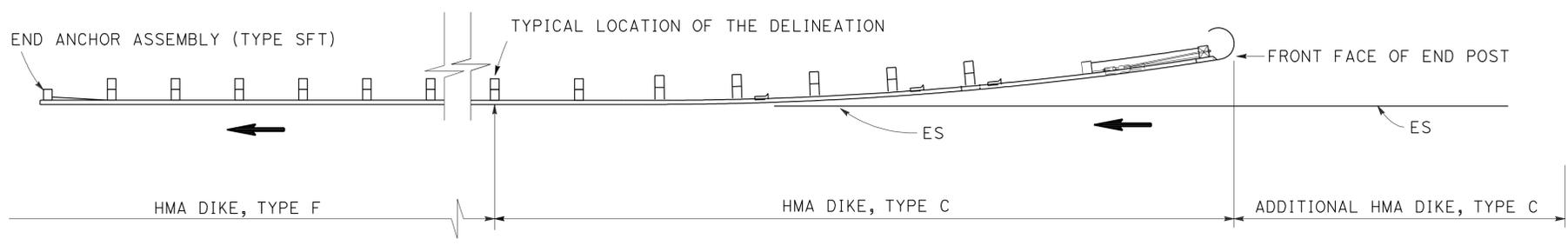
BORDER LAST REVISED 4/11/2008

LAST REVISION DATE PLOTTED => 05-JAN-2011
 11-15-10 TIME PLOTTED => 10:43

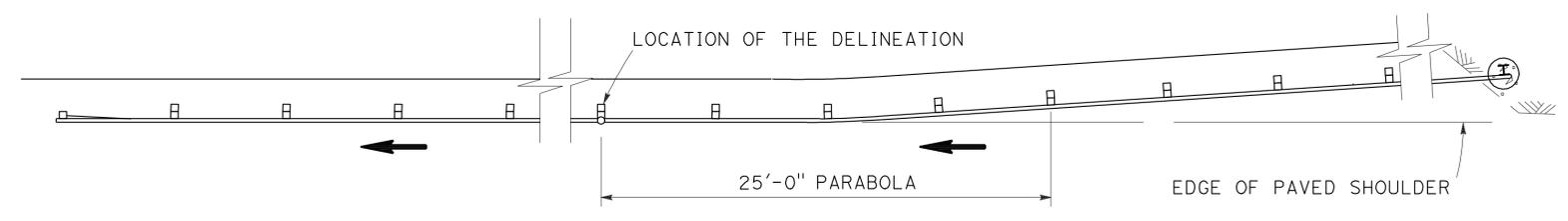
- NOTES:**
- SEE STANDARD PLAN A73B FOR METAL POST DETAILS.
 - DIRECTION OF ADJACENT TRAFFIC →



METAL BEAM GUARD RAILING TYPE 11A LAYOUT



METAL BEAM GUARD RAILING TYPE 11B LAYOUT



METAL BEAM GUARD RAILING TYPE 11C LAYOUT

RESET QUANTITIES

ROUTE	MILEPOST MARKERS	BRIDGE MARKERS
	EA	EA
ROUTE 10		25
ROUTE 62		14
ROUTE 74	7	12
ROUTE 86S		16
ROUTE 111		34
ROUTE 195		1
ROUTE 371		5
SUB TOTAL	7	107
TOTAL	7	107

QUANTITIES

ROUTE	DELINEATORS (CLASS II)		GUARD RAILING DELINEATORS
	TYPE G	TYPE F	
	EA	EA	EA
ROUTE 10	19	76	69
ROUTE 62		14	14
ROUTE 74		176	60
ROUTE 86S	95	194	36
ROUTE 111	6	114	87
ROUTE 195		7	3
ROUTE 371		13	11
SUB TOTAL	120	594	280
TOTAL	714		280

TABLE I - DELINEATORS

TYPE	RETROREFLECTIVE SHEETING	
	FRONT	BACK
F	WHITE	NONE
G	YELLOW	NONE

PAVEMENT DELINEATION PLAN AND QUANTITIES

NO SCALE

PDQ-1

THIS PLAN IS ACCURATE FOR PAVEMENT DELINEATION AND QUANTITIES ONLY.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 LARRY SARTORI
 FUNCTIONAL SUPERVISOR
 CHECKED BY
 DESIGNED BY
 TRAN HOANG
 DARYUSH NAMI
 DATE REVISION
 REVISION DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	23	79

8-24-10
REGISTERED CIVIL ENGINEER DATE

1-3-11
PLANS APPROVAL DATE

RAFTAR SHARIATADEH
No. C72941
Exp. 12/31/10
CIVIL

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

NOTES:

- FOR CURB AND GUTTER CHECK WITH THE ENGINEER.
- ALL CURVED MBGR TO BE BENT PRIOR TO GALVANIZING.

LEGEND:

- (O) OUTSIDE SHOULDER
- (M) MEDIAN
- (R) RAMP
- (N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

ROADWAY QUANTITY ROUTE 111

LOCATION No.	POSTMILE	NORTH BOUND	SOUTH BOUND	POSITION	BRIDGE No.	ALTERNATIVE FLARED TERMINAL SYSTEM		TRANSITION RAILING (TYPE WB)		METAL BEAM GUARD RAIL (WOOD POST)	REMOVE METAL BEAM GUARDRAILING	REMARKS
						EA	LF	EA	LF			
1	2.17	X	O			2				75	144	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	2.17	X	O			2				75	144	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
2	6.60	X	O		56-0284R	2		2			122	
	6.60	X	O		56-0284L	2		2			122	
3	6.90	X	O			2				75	170	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	6.90	X	O			2				75	170	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
4	7.48	X	O			2					140	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	7.48	X	O			2					140	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
5	7.98	X	O		56-0285R	2		2			124	
	7.98	X	O		56-0285L	2		2			126	
6	8.60	X	O		56-0286R	2		2	25	25	126	
	8.60	X	O		56-0286L	2		2	25	25	126	
7	9.50	X	O		56-0287R	2		2			126	
	9.50	X	O		56-0287L	2		2			126	
8	9.70	X	O		56-0288R	2		2			126	
	9.70	X	O		56-0288L	2		2			126	
9	10.25	X	O			2				75	134	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	10.25	X	O			2				75	138	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
10	10.70	X	O			2			87.5		162	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	10.70	X	O			2			87.5		162	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
11	11.00	X	O		56-0290R	2			25		162	
	11.00	X	O		56-0290L	2			25		112	
12	11.20	X	O		56-0291R	2		2	25		120	
	11.20	X	O		56-0291L	2		2	25		120	
13	11.50	X	O		56-0374R	2		2			122	
	11.50	X	O		56-0374L	2		2			122	
14	11.60	X	O			2				75	138	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	11.60	X	O			2				75	138	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
15	11.80	X	O			2				75	138	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	11.80	X	O			2			87.5		151	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
16	12.40	X	O			2				75	140	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	12.40	X	O			2			62.5		128	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
17	13.00	X	O			2				62.5	140	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	13.00	X	O			2			62.5		130	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
18	13.18	X	O		56-0293R	2		2			130	
	13.18	X	O		56-0293L	2		2			134	
19	13.50	X	O		56-0275R	2		2			134	
	13.50	X	O		56-0275L	2		2			134	
20	13.80	X	O			2				62.5	145	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	13.80	X	O			2				62.5	145	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
21	14.00	X	O		56-0274R	2		2			130	
	14.00	X	O		56-0274L	2		2			130	
22	14.20	X	O			2				75	142	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	14.20	X	O			2				62.5	148	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
23	14.40	X	O			2				75	150	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	14.40	X	O			2				62.5	144	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
24	15.30	X	O		56-0294R	2		2			148	
	15.30	X	O		56-0294L	2		2			141	
25	15.78	X	O		56-0266R	2		2			144	
	15.78	X	O		56-0266L	2		2			140	
26	16.45	X	O			2				75	141	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
	16.45	X	O			2				75	140	INSTALL CONTINUOUS MBGR, SEE S+d PLAN A77G4 TYPE 16E LAYOUT
27	16.70	X	O			2					144	
	17.00	X	O		56-0267R	2		2			150	
28	17.00	X	O		56-0267L	2		2			100	
					SUBTOTAL	110		52		1900	7529	

SUMMARY OF QUANTITIES Q-1



ROADWAY QUANTITY ROUTE 86S

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111, 195,371,62	Var	24	79

8-24-10
REGISTERED CIVIL ENGINEER DATE

1-3-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
RAFTAR SHARIATADEH
 No. C72941
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA

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

LOCATION No.	POSTMILE	NORTH BOUND	SOUTH BOUND	POSITION	BRIDGE No.	ALTERNATIVE FLARED TERMINAL SYSTEM		ALTERNATIVE INLINE TERMINAL SYSTEM	CRASH CUSHION (TYPE CAT)	TERMINAL ANCHOR ASSEMBLY (TYPE SFT)	TRANSITION RAILING (TYPE WB)	PLACE ASPHALT CONCRETE DIKE (TYPE F)	PLACE ASPHALT CONCRETE DIKE (TYPE C)	MINOR HOT MIX ASPHALT	METAL BEAM GUARD RAIL (WOOD POST)	REMOVE ASPHALT CONCRETE DIKE	REMOVE METAL BEAM GUARDRAILING	REMARKS	
						EA	LF												
29	2.47	X		O	56-0774R	1											65		
	2.47	X		M	56-0774R				1						300		115	S+D PLAN A77F3	
	2.47		X	M	56-0774L				1						300		115	S+D PLAN A77F3	
	2.47		X	O	56-0774L	1											65		
30	2.50	X		O	56-0775R			1									65		
	2.50	X		M	56-0775R				1						300		115	S+D PLAN A77F3	
	2.50		X	M	56-0775L				1						300		115	S+D PLAN A77F3	
	2.50		X	O	56-0775L	1											65		
31	2.99	X		O	56-0776R	1											65		
	2.99	X		M	56-0776R				1						350		115	S+D PLAN A77F3	
	2.99		X	M	56-0776L				1						350		115	S+D PLAN A77F3	
	2.99		X	O	56-0776L	1											65		
32	3.05	X		O	56-0778R	2									175		242		
	4.30	X		O	56-0778R	1											65		
33	4.30	X		M	56-0778R				1						350		115	S+D PLAN A77F3	
	4.30		X	M	56-0778L				1						350		115	S+D PLAN A77F3	
	4.30		X	O	56-0778L	1											65		
34	4.60	X		M					1						350		137	S+D PLAN A77F3	
	4.60		X	M					1						350		137	S+D PLAN A77F3	
35	5.50	X		O		1									225		255		
	5.50	X		M		1									350		346	CURVED SECTIONS TO BE BENT PRIOR TO GALVANIZING.	
	5.50		X	O		2									175		242		
36	6.45	X		O														INSTALL TO THE TRAILING END OF MBGR.	
37	7.00	X		O		1									75		102		
38	7.09	X		O		1									75		102		
39	7.59	X		O		2									138		204		
	7.59		X	O		1									138	152	167		
40	9.30	X		O	56-0777R	1				1		152		40	9	713	550	770	
	9.30	X		M	56-0777R				1						350		113	S+D PLAN A77F3	
	9.30	X		O	56-0777R				1						975		990	INSTALL END CAP TYPE 'A' AT DEPARTURE END OF BRIDGE	
	9.30		X	O	56-0777L	1								458	3	1513	458	1565	
	9.30		X	M	56-0777L				1						350		113	S+D PLAN A77F3	
	9.30		X	O	56-0777L				1			1090		13	1050	1090	1065	INSTALL END CAP TYPE 'A' AT DEPARTURE END OF BRIDGE	
41	11.16	X		O		1											65	PROTECT PULL BOX IN PLACE	
42	11.50	X		O		1									162.5		190		
43	11.69	X		O		1									187.5		214		
44	12.03	X		O	56-0758R	1						555		7	500	555	555		
	12.03	X		M	56-0758R				1						300		100	S+D PLAN A77F3	
	12.03	X		O	56-0758R				1						1250		1275	INSTALL END CAP TYPE 'A' AT DEPARTURE END OF BRIDGE	
	12.03		X	O	56-0758L				1			875		11	650	875	875	INSTALL END CAP TYPE 'A' AT DEPARTURE END OF BRIDGE	
	12.03		X	M	56-0758L				1						300		105	S+D PLAN A77F3	
	12.03		X	O	56-0758L	1						860		10	837.5	860	900	PROTECT MANHOLE IN PLACE	
45	14.60	X		O		1									37.5		64	PROTECT BRIDGE COLUMN, USE S+D PLAN A77G1	
46	15.54	X		M					2		2				700		206		
	18.77	X		O	56-0759R	1											65		
47	18.77	X		M	56-0759R				1						350		103	S+D PLAN A77F3	
	18.77		X	M	56-0759L				1						350		103	S+D PLAN A77F3	
	18.77		X	O	56-0759L	1											65		
48	19.06	X		O		1									125		155		
	19.10	X		O		1									137.5		164		
49	19.10	X		O		1									125		155		
	19.14	X		O		1									175		203		
50	20.45	X		O		1									175		203		
	20.45		X	O		1									137.5		166		
51	20.50	X		O		1									175		208		
	20.50		X	O		1									150		183		
52	21.09	X		O		1									50		76		
53	21.50	X		O		2									115		65	CONSTRUCT CONTINUOUS MBGR SEE S+D PLAN A77G4	
54	22.16	X		O	56-0760R				1			300		4	375	300	450	INSTALL DIKE TO DRAIN INLET	
	22.16	X		O	56-0760R							215		3	450	215	475	INSTALL END CAP TYPE 'A' AT DEPARTURE END OF BRIDGE	
	22.16	X		M	56-0760R				1						350		102	S+D PLAN A77F3	
	22.16	X		R		1									462.5		500		
	22.16	X		R		1								740	5	712.5	740	742	
	22.16		X	O	56-0760L				1			400		5	325	400	400		
	22.16		X	M	56-0760L				1						350		103	S+D PLAN A77F3	
	22.16		X	O	56-0760L				1			445		5	425	445	445	INSTALL END CAP TYPE 'A' AT DEPARTURE END OF BRIDGE	
55	22.94	X		O	56-0620R				1			75		1	0	75	50	FOR CUTTING CONTINUOUS BRIDGE RAILING, SEE SHEET C-2	
	22.94	X		M	56-0620R	1									37.5		90	FOR CUTTING CONTINUOUS BRIDGE RAILING, SEE SHEET C-2	
SUBTOTAL						42	4	20	21	34	5680	1238	78	20117	6715	17810			

SUMMARY OF QUANTITIES Q-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN

WARRANT POWERS RAFTAR SHARIATZADEH
 CALCULATED/DESIGNED BY CHECKED BY
 FUNCTIONAL SUPERVISOR MUSTAPHA RAOUF

REVISOR BY DATE REVISOR
 REVISIONS

RELATIVE BORDER SCALE 0 1 2 3 IS IN INCHES

USERNAME => trlim
DGN FILE => 847810pa002.dgn

CU 08222 EA 478101

LAST REVISION DATE PLOTTED => 05-JAN-2011 08-11-10 TIME PLOTTED => 13:47

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	25	79

8-24-10
REGISTERED CIVIL ENGINEER DATE

1-3-11
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
RAFTAR SHARIATZADEH
 No. C72941
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA

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

ROADWAY QUANTITY ROUTE 10

LOCATION No.	POSTMILE	EAST BOUND	WEST BOUND	POSITION	BRIDGE No.	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE INLINE TERMINAL SYSTEM	CRASH CUSHION (TYPE CAT)	TERMINAL ANCHOR ASSEMBLY (TYPE CA)	TERMINAL ANCHOR ASSEMBLY (TYPE SFT)	TRANSITION RAILING (TYPE WB)	PLACE ASPHALT CONCRETE DIKE (TYPE F)	PLACE ASPHALT CONCRETE DIKE (TYPE C)	MINOR HOT MIX ASPHALT	METAL BEAM GUARD RAIL (WOOD POST)	REMOVE ASPHALT CONCRETE DIKE	REMOVE METAL BEAM GUARDRAILING	REMARKS
						EA	EA	EA	EA	EA	EA	LF	LF	TN	LF	LF	LF	
56	30.10	X	O			1				1					37.5		75	
	30.10	X	O			1									87.5		116	
57	31.80	X	O			1				1					50		76	
	32.35	X	O		56-0273R	1					1				0		63	
58	32.35	X	O		56-0273L	1					1				62.5		113	
59	32.80	X	O			1				1			140	0.97	75	140	110	
60	33.13	X	O		56-0392R	1									75		102	
	33.13	X	O		56-0392L	1									62.5		100	
61	33.35	X	O			1				1					162.5		197	
62	33.90	X	O			1				1					125		151	COMBINED TWO MBGRs TO PROTECT SIGN POST AND SERVICE BOX
63	34.15	X	O			1					1				75		126	
	34.72	X	O		56-165R	1					1				50		101	
64	34.72	X	O		56-165L	1					1				75		126	
	35.61	X	O		56-0300R	1					1				50		103	
65	35.61	X	O		56-0300L	1					1				137.5		188	
	35.80	X	O			1									37.5		75	
66	36.14	X	O		56-0563R	1				1					87.5		114	
	36.14	X	O		56-0563L	1					1				87.5		115	
68	36.30	X	O			1					1				62.5		88	
	36.49	X	O		56-0301R	1					1				0		64	
69	36.49	X	O		56-0301L	1					1				100		151	
	36.82	X	O		56-0302R	1					1				100		160	
70	36.82	X	O		56-0302L	1					1				87.5		150	
	37.14	X	O		56-0303R	1					1				37.5		91	
71	37.14	X	O		56-0303L	1					1				75		127	
72	39.21	X	O			1				1					37.5		75	
	39.40	X	O		56-0560R	1					1				137.5		164	USE TYPE 16B LAYOUT OF S+d PLAN A77G3
73	39.40	X	O		56-0560L	1					1				150		177	USE TYPE 16B LAYOUT OF S+d PLAN A77G3
74	39.72	X	O			1				1					37.5		75	
75	39.94	X	O			1					1				62.5		88	
76	43.13	X	O			1					1				37.5		75	
	43.35	X	O		56-0471R	1					1				212.5		250	
	43.35	X	O		56-0471L	1					1		140	0.97	112.5	140	140	
77	43.35	X	R			1					1	200		1.39	162.5	200	200	ON-RAMP AFTER BRIDGE (RIGHT SIDE)
	43.35	X	R			1					1				187.5		220	ON-RAMP (LEFT SIDE) WITH NO DIKE
	43.35	X	R			1			1			220	50	2.99	412.5	220	270	LOOP TYPE ON-RAMP Exist DOUBLE MBGR
78	43.64	X	O			1				1					37.5		74	
79	44.30	X	R			1									1225		1254	USE END CAP TYPE A (S+d PLAN A77B1).
	44.30	X	R			1									387.5		420	CURVED SECTIONS TO BE BENT PRIOR TO GALVANIZING.
	44.74	X	R							1		188		2.26	350	188	344	ON-RAMP (RIGHT SIDE), USE END CAP TYPE A, (S+d PLAN A77B1)
	44.74	X	R							1					450		447	ON-RAMP (LEFT SIDE), USE END CAP TYPE A (S+d PLAN A77B1), SEE NOTE 1
80	44.74	X	R			1					1				212.5		241	ON-RAMP (LEFT SIDE) SEE NOTE 1
	44.74	X	R							1					1313		1301	ON-RAMP (RIGHT SIDE), USE END CAP TYPE A (S+d PLAN A77B1)
	44.74	X	R			1				1					562.5		600	OFF-RAMP (LEFT SIDE), SEE NOTE 1
	44.74	X	R										310	2.15	637.5	100	683	OFF-RAMP (RIGHT SIDE), SEE NOTE 1
81	44.81	X	O			1					1				537.5		575	
82	46.36	X	O			1					1				37.5		74	
83	46.58	X	O			1					1				37.5		75	
84	46.66	X	O			1					1				37.5		100	EXTEND MBGR TO PROTECT NEXT COLUMN, USE END CAP (TYPE A) AT DEPARTURE
85	46.37	X	O					1							75		65	REPLACE DOUBLE MBGR, INSTALL END CAP (TYPE A) ON BOTH SIDES OF BARRIER
86	46.92	X	O			1					1						196	SEE STANDARD PLAN A77J3
	47.13	X	R			1					1				437.5		467	OFF-RAMP (RIGHT SIDE)
87	47.13	X	R			1					1	80		0.55	262.5	80	293	OFF-RAMP (LEFT SIDE)
	47.13	X	R			1					1				512.5		549	ON-RAMP (RIGHT SIDE) AFTER BRIDGE
	47.13	X	R			1					1				162.5		193	Exist AT LOOP TYPE ON-RAMP
88	47.21	X	O			1					1				37.5		74	
89	48.54	X	O			1					1				50		76	
90	50.17	X	O			1					1				37.5		74	
SUBTOTAL						52	1	1	1	35	15	828	500	11.28	10750	1068	12791	

SUMMARY OF QUANTITIES Q-3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	26	79

8-24-10
 REGISTERED CIVIL ENGINEER DATE

1-3-11
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 RAFTAR SHARIATZADEH
 No. C72941
 Exp. 12/31/10
 CIVIL
 STATE OF CALIFORNIA

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

ROADWAY QUANTITY ROUTE 10

LOCATION No.	POSTMILE	EAST BOUND	WEST BOUND	POSITION	BRIDGE No.											REMARKS			
						EA	LF	LF		TN	LF	LF							
91	50.31	X	R			1											337.5	365	OFF-RAMP, 1 DD (RIGHT SIDE), USE END CAP TYPE A, (Std PLAN A77B1)
	50.31	X	R				1										325	368	OFF-RAMP (LEFT SIDE), USE END CAP TYPE A, SEE Std PLAN A77B1
	50.31	X	R							1							412.5	404	ON-RAMP (LEFT SIDE) USE END CAP TYPE B AT APPROACH
	50.31	X	R														300	296	ON-RAMP (RIGHT SIDE) USE END CAP TYPE B AT APPROACH
92	50.69	X	O			1											37.5	75	
	52.06	X	O			1											25	51	
94	52.34	X	O		56-0427R												112.5	101	PROTECT OC COLUMN, RECONSTRUCT MBGR WITH CORRECT OFF-SET
	52.34	X	O		SQ. COLUMN			14	1								325	79	SEE STANDARD PLAN A77G2
	52.34	X	O		56-0427L												37.5	65	
95	53.04	X	O			1											25	52	
	53.78	X	O		56-0610R	1							1				0	65	
96	53.89	X	O		56-0610L	1							1				0	65	
	54.40	X	O			1											12.5	50	
99	55.00	X	O			1											25	52	
	55.47	X	O			1											25	52	
100	56.00	X	O			1											25	52	
	56.49	X	O		56-0613R												237.5	302	FOR CUTTING CONTINUOUS BRIDGE RAILING, SEE SHEET C-2
102	56.62	X	O		56-0613L												0	50	FOR CUTTING CONTINUOUS BRIDGE RAILING, SEE SHEET C-2
	56.80	X	O														0	52	
103	57.00	X	M														450	52	
	57.00	X	M														450	52	
104	57.18	X	O			1											25	52	
	57.18	X	O			1											25	52	
106	57.41	X	O			1											25	52	
	57.60	X	O			1											25	52	
107	57.90	X	O			1											37.5	63	USE BARRIER TYPE 60, FOR DETAILS SEE SHEET C-3 & C-4
	57.90	X	M			1											37.5	63	
108	58.55	X	O			1											25	54	
SUBTOTAL						18	4	14	3								3362.5	3088	

**SUMMARY OF QUANTITIES
 Q-4**



WARRAN POWERS
 RAFTAR SHARIATZADEH

CALCULATED BY
 DESIGNED BY
 CHECKED BY

FUNCTIONAL SUPERVISOR
 MUSTAPHA RAOUF

REVISED BY
 DATE REVISED

REVISIONS

REVISIONS

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ROADWAY QUANTITY ROUTE 74

LOCATION No.	POSTMILE	EASTBOUND	WESTBOUND	POSITION	BRIDGE No.	ALTERNATIVE FLARED TERMINAL SYSTEM		ALTERNATIVE INLINE TERMINAL SYSTEM		BURIED POST ANCHOR	TRANSITION RAILING (TYPE WB)	METAL BEAM GUARD RAIL (STEEL POST)	REMOVE METAL BEAM GUARDRAILING	REMARKS
						EA	EA	EA	EA					
110	63.30	X		O	56-0182R	2						125		
	63.30		X	O	56-0182L	2						125		
111	63.55	X		O	56-0183R	2						124		
	63.55		X	O	56-0183L	2						126		
112	63.76	X		O	56-0184R	2						122		
	63.76		X	O	56-0184L	2						122		
113	67.90	X		O		2						75	150	
	67.90		X	O		2						75	150	
114	75.00	X		O		2						76		
	75.00		X	O		2						76		
115	75.60	X		O	56-0185R	2				2	50	170		
	75.60		X	O	56-0185L	2				2		124		
116	76.60	X		O		1						200	246	Buried End at Approach
117	81.65	X		O		1		1				200	248	Buried End at Approach
118	81.70	X		O		1	1					275	351	
119	85.40	X		O		1		1				162.5	190	Buried End at Approach
120	86.10	X		O		1		1				325	355	Buried End at Approach
121	87.00	X		O				2				362.5	390	
122	87.20	X		O			1					325	380	Buried End at Approach
123	87.40	X		O		1		1				575	615	Buried End at Approach
124	87.50	X		O		2						150	213	
125	88.10		X	O		2						487.5	561	
126	88.30	X		O								250	240	
127	88.50	X		O		1		1				450	478	Buried End at Approach
128	88.60	X		O		1		1				575	610	Buried End at Departure
129	88.70	X		O		2						287.5	357	
130	88.73	X		O		1		1				75	102	Buried End at Departure
131	88.80	X		O				1				200	146	Buried End at Departure
132	88.90	X		O				1				250	166	Buried End at Approach
133	89.10	X		O				2				475	547	Buried End at Approach & Departure
134	89.40	X		O		1		1				400	432	Buried End at Approach
135	89.50	X		O				2				237.5	230	Buried End at Approach & Departure
136	89.60	X		O		1		1				600	630	Buried End at Approach
137	89.80	X		O				2				387.5	378	
138	90.00	X		O				2				350	350	Buried End at Departure
139	90.10	X		O		2						312.5	380	
140	90.30	X		O				2				475	475	Buried End at Departure
141	90.50	X		O		1			1			175	202	
142	90.60	X		O		2						150	215	
143	90.70	X		O		2						62.5	126	
144	90.80	X		O		2						125	191	
145	91.00	X		O		2						637.5	710	
146	91.30	X		O		2						225	297	
147	91.50	X		O										
148	91.70	X		O		2						600	672	
SUBTOTAL						56	2	26	16	10562.5	12973			

ROADWAY QUANTITY ROUTE 371

LOCATION No.	POSTMILE	EAST BOUND	WEST BOUND	POSITION	BRIDGE No.	ALTERNATIVE FLARED TERMINAL SYSTEM		BURIED POST ANCHOR	TRANSITION RAILING (TYPE WB)	METAL BEAM GUARD RAIL (WOOD POST)	REMOVE METAL BEAM GUARDRAILING	REMARKS
						EA	EA					
149	65.40	X		O		1		1		25	115	
	65.40		X	O		2				25	130	
150	70.53	X		O		2				50	203	Replace 1 Down drain at same locations.
	70.53		X	O		2					115	
151	74.16	X		O		2				125	200	
	74.16		X	O		2						
SUBTOTAL						11	1	10	225	943		

SUMMARY OF QUANTITIES Q-5

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	27	79

8-24-10
 REGISTERED CIVIL ENGINEER DATE

1-3-11
 PLANS APPROVAL DATE

RAFTAR SHARIATZADEH
 No. C72941
 Exp. 12/31/10
 CIVIL

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

FUNCTIONAL SUPERVISOR
MUSTAPHA RAOUF

WARRAN POWERS
RAFTAR SHARIATZADEH

CALCULATED/DESIGNED BY
CHECKED BY

REVISOR BY
DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	28	79

8-24-10
 REGISTERED CIVIL ENGINEER DATE

1-3-11
 PLANS APPROVAL DATE

RAFTAR SHARIATZADEH
 No. C72941
 Exp. 12/31/10
 CIVIL

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ROADWAY QUANTITY ROUTE 195

LOCATION No.	POSTMILE	EAST BOUND	WEST BOUND	POSITION	BRIDGE No.	ALTERNATIVE FLARED TERMINAL SYSTEM				REMARKS	
						EA	EA	LF	LF		
152	6.45	X		O							LOCATION REMOVED, THIS PORTION OF SR-195 WAS RELINQUISHED
153	6.45	X		O							LOCATION REMOVED, THIS PORTION OF SR-195 WAS RELINQUISHED
153	7.41	X		O	56-0376	1	1	37.5	91		REMOVE AND REPLACE MBGR, TRANSITION RAILING
SUBTOTAL						1	1	37.5	91		

ROADWAY QUANTITY ROUTE 62

LOCATION No.	POSTMILE	EAST BOUND	WEST BOUND	POSITION	BRIDGE No.	ALTERNATIVE FLARED TERMINAL SYSTEM														REMARKS
						EA	EA	EA	EA	LF	LF	LF	LF	TN	LF	LF	LF	LF	LF	
154	0.90	X		O															ALL LOCATIONS ON ROUTE 62 ARE IN SAN BERNARDINO COUNTY	
	0.88			O															ADJUST MBGR TO STANDARD	
155	2.25	X		O		2													REMOVE AND REPLACE MBGR	
156	2.32	X		O		1													REMOVE AND REPLACE MBGR	
157	5.55	X		O		2													REMOVE AND REPLACE MBGR	
158	5.57	X		O		1	1													
159	7.50	X		O		1		1		75	37.5	1.16	75		102	102			DO NOT BLOCK DRIVEWAY	
160	8.10																		LOCATION DELETED. WORK WILL BE DONE BY PROJECT 08-OK8801.	
161	14.50	X		O		1													REMOVE AND REPLACE MBGR, PROTECT ELECTRICAL POLE	
162	14.75	X		O															REPLACE (ADJUST) MBGR TO STANDARD	
163	18.93	X		O	54-1054R	1				1									REMOVAL OF PCC CURB TO BE PAID FOR BY CONTINGENCY	
164	19.01	X		O	54-1054L	1				1									MINOR GRADING NEEDED. DETERMINE IF ANY CURB IS PRESENT.	
165	30.97	X		O	54-0880R	1					60	0.42							REMOVAL OF PCC CURB TO BE PAID FOR BY CONTINGENCY	
166	31.00	X		O	54-0880L	1					60	0.42							REMOVAL OF PCC CURB TO BE PAID FOR BY CONTINGENCY	
SUBTOTAL						12	1	2	4	75	157.5	2	187.5	25	102	694	518			

TOTAL ROADWAY QUANTITIES

	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE INLINE TERMINAL SYSTEM	BURIED POST ANCHOR	REMOVE CRASH CUSHION (SAND FILLED)	CRASH CUSHION (TYPE CAT)	TERMINAL ANCHOR ASSEMBLY (TYPE CA)	TERMINAL ANCHOR ASSEMBLY (TYPE SFT)	TRANSITION RAILING (TYPE WB)	PLACE HMA DIKE (TYPE F)	PLACE HMA DIKE (TYPE C)	MINOR HOT MIX ASPHALT	METAL BEAM GUARD RAIL (WOOD POST)	METAL BEAM GUARD RAIL (STEEL POST)	REMOVE ASPHALT CONCRETE DIKE	REMOVE METAL BEAM GUARDRAILING	RECONSTRUCT METAL BEAM GUARDRAILING	REMOVE CRASH CUSHION (SAND FILLED)
	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	TN	LF	LF	LF	LF	LF	LF
GRAND TOTAL	302	12	27	14	24	1	79	137	6583	1895.5	91.9	36581	10590	7885	55919	518	14

SUMMARY OF QUANTITIES Q-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR
 MUSTAPHA RAOUF

CALCULATED/DESIGNED BY
 CHECKED BY

WARRAN POWERS
 RAFTAR SHARIATZADEH

REVISED BY
 DATE REVISED

NOTES:

1. DOWNDRAIN (DD) RELOCATION IS BASED ON ENGINEER'S DISCRETION.
2. FOR RELOCATION DETAILS OF DOWN DRAIN SYSTEM, SEE SHEET C-1.

LEGEND:

- OSD: OVER SIDE DRAIN
- DD : DOWN DRAIN
- R : RAMP
- O : OUTSIDE SHOULDER

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	29	79

8-24-10
 REGISTERED CIVIL ENGINEER DATE

1-3-11
 PLANS APPROVAL DATE

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DRAINAGE QUANTITY

ROUTE	LOCATION No.	POSTMILE	EAST BOUND	WEST BOUND	POSITION OUTSIDE RAMP	Exist DRAINAGE SYS DOWN DRAIN (DD) OVERSIDE DRAIN (OSD)	12" CORRUGATED STEEL PIPE DOWNDRAIN (LF)	REMARKS
10	91	50.31	X		R	DD	12	REMOVE AND REPLACE NEW LOCATION AT THE DISCRETION OF THE ENGINEER
371	150	70.53	X		O	DD	12	REMOVE AND REPLACE NEW LOCATION AT THE DISCRETION OF THE ENGINEER
62	159	7.50		X	O	OSD	12	REMOVE AND REPLACE NEW LOCATION AT THE DISCRETION OF THE ENGINEER
TOTAL							36	

**SUMMARY OF QUANTITIES
 Q-7**

LAST REVISION | DATE PLOTTED => 11-JAN-2011
 08-11-10 TIME PLOTTED => 12:47

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	30	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

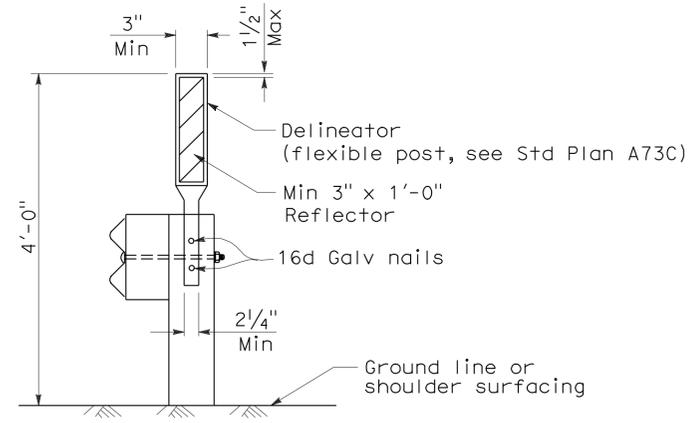
June 6, 2008
PLANS APPROVAL DATE

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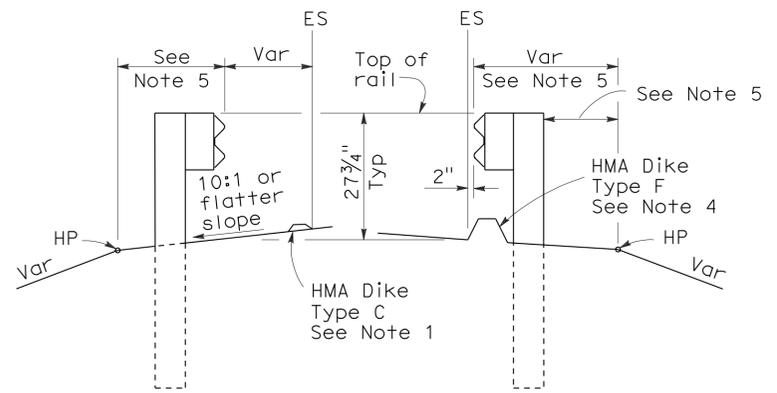
To accompany plans dated 1-3-11

NOTES:

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



GUARD RAILING DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**

NO SCALE

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

REVISED STANDARD PLAN RSP A77C4

2006 REVISED STANDARD PLAN RSP A77C4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	31	79

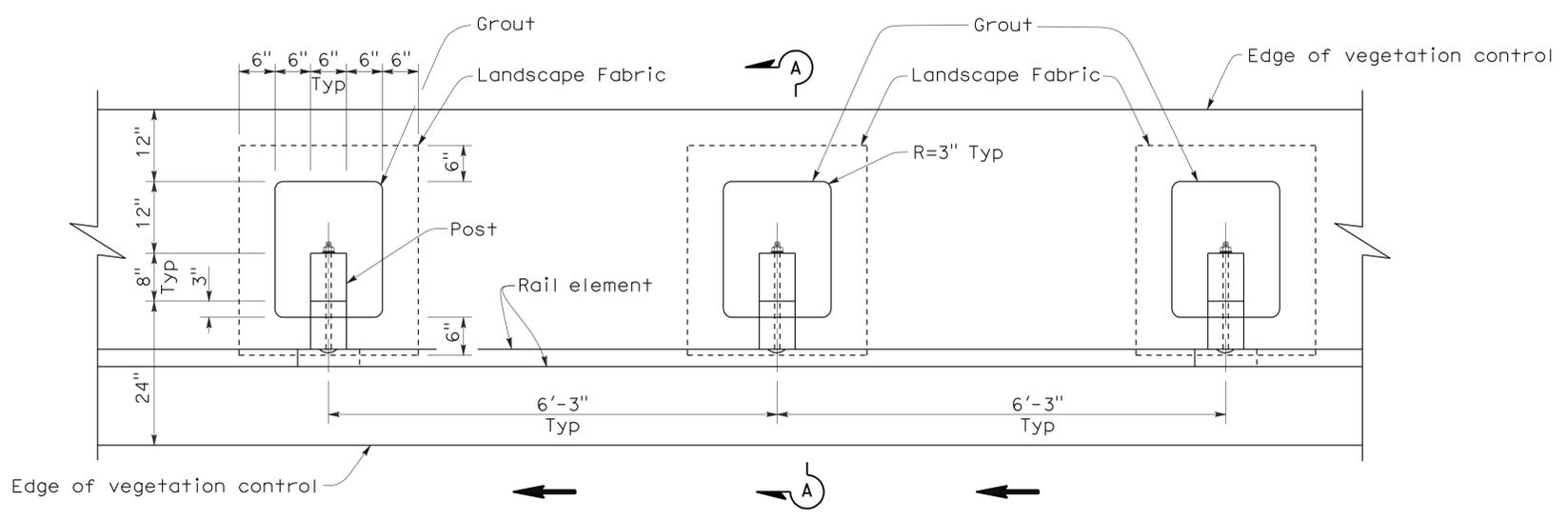
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

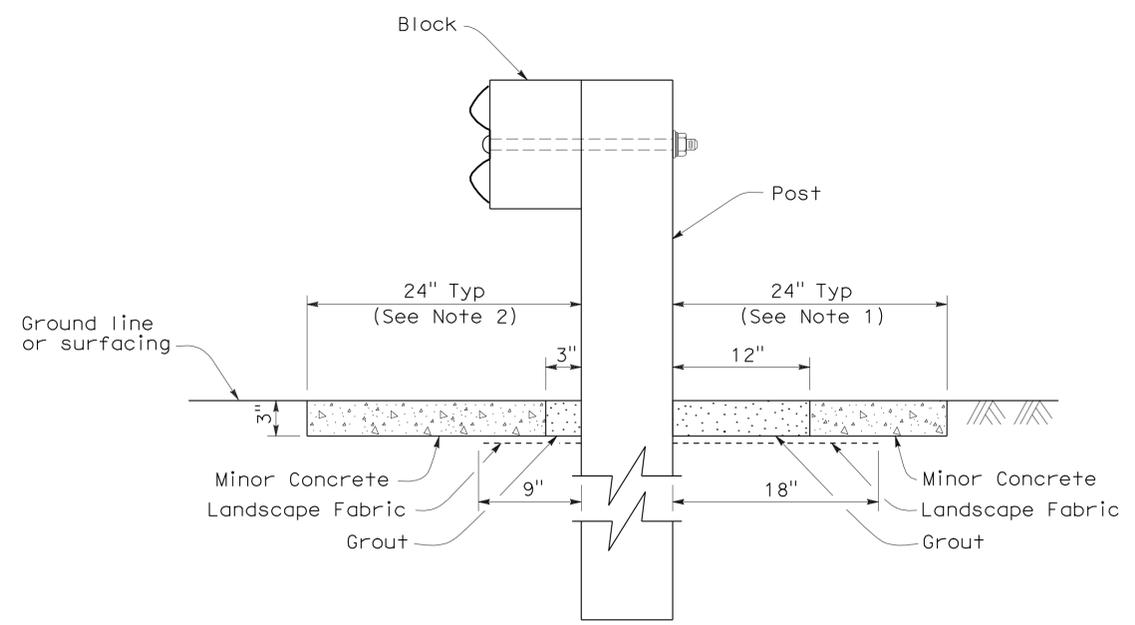
Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

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To accompany plans dated 1-3-11



PLAN



SECTION A-A

NOTES:

1. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
3. Direction of adjacent traffic indicated by ← .

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION**

NO SCALE

NSP A77C5 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C5

2006 NEW STANDARD PLAN NSP A77C5

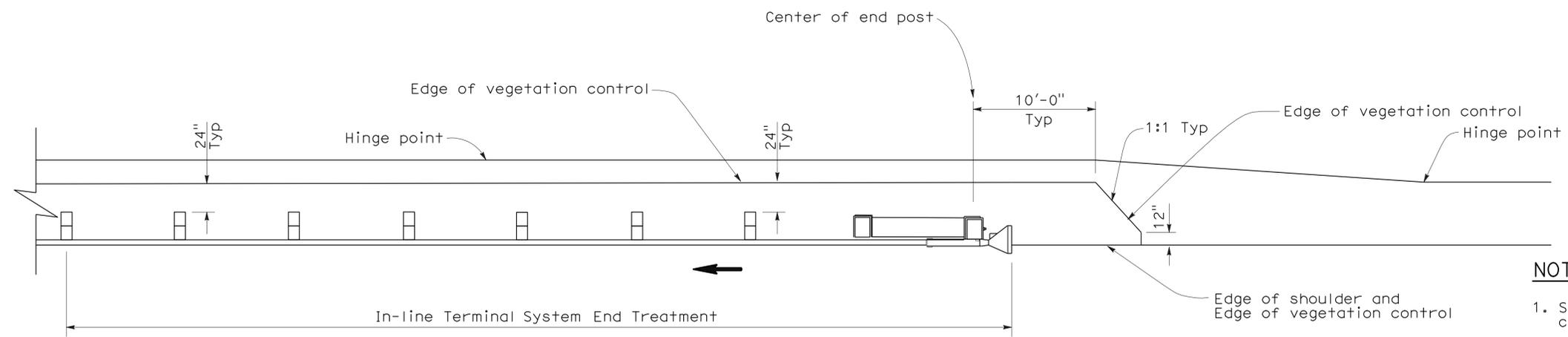
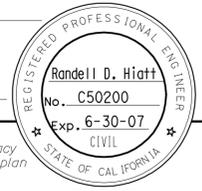
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	32	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

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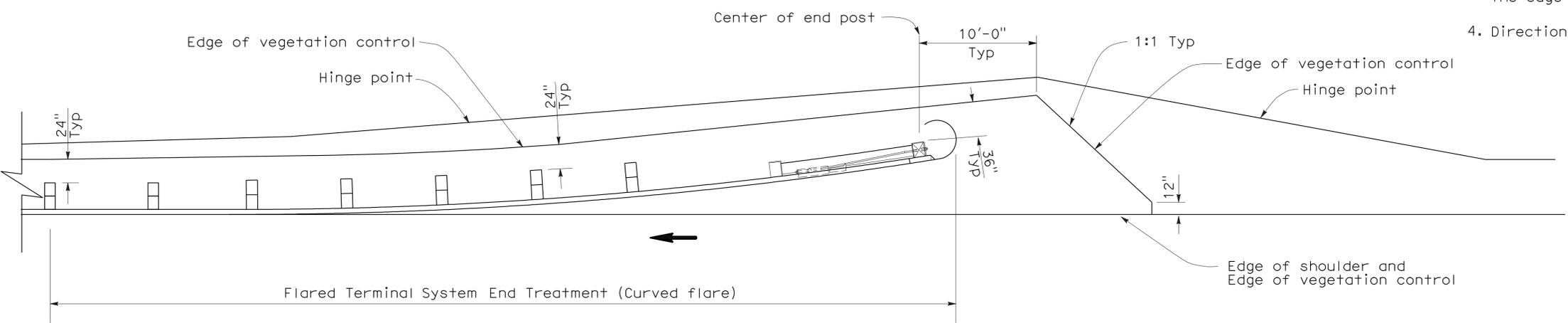
To accompany plans dated 1-3-11



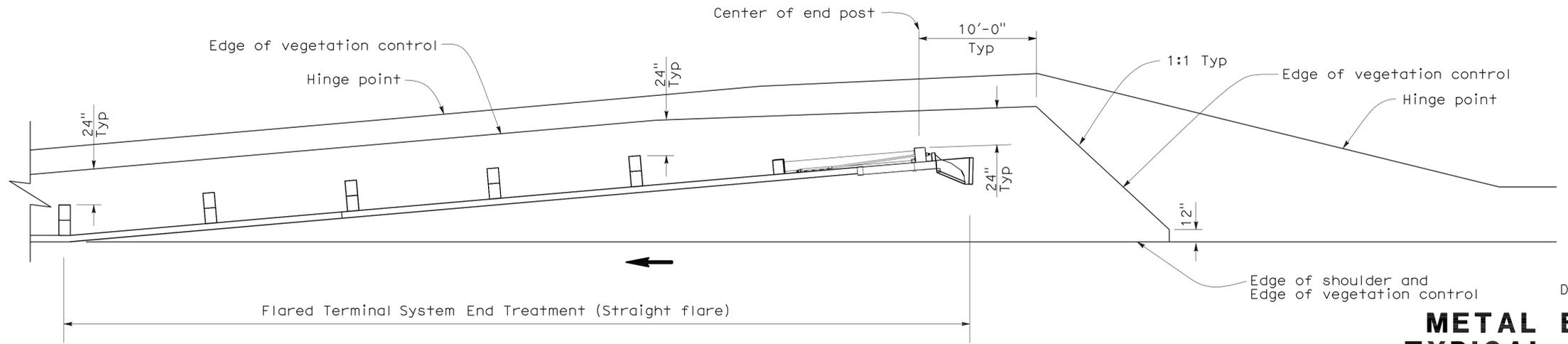
PLAN

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. Direction of adjacent traffic indicated by ←.



PLAN



PLAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
FOR TERMINAL SYSTEM END TREATMENTS**

NO SCALE

NSP A77C6 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP A77C6

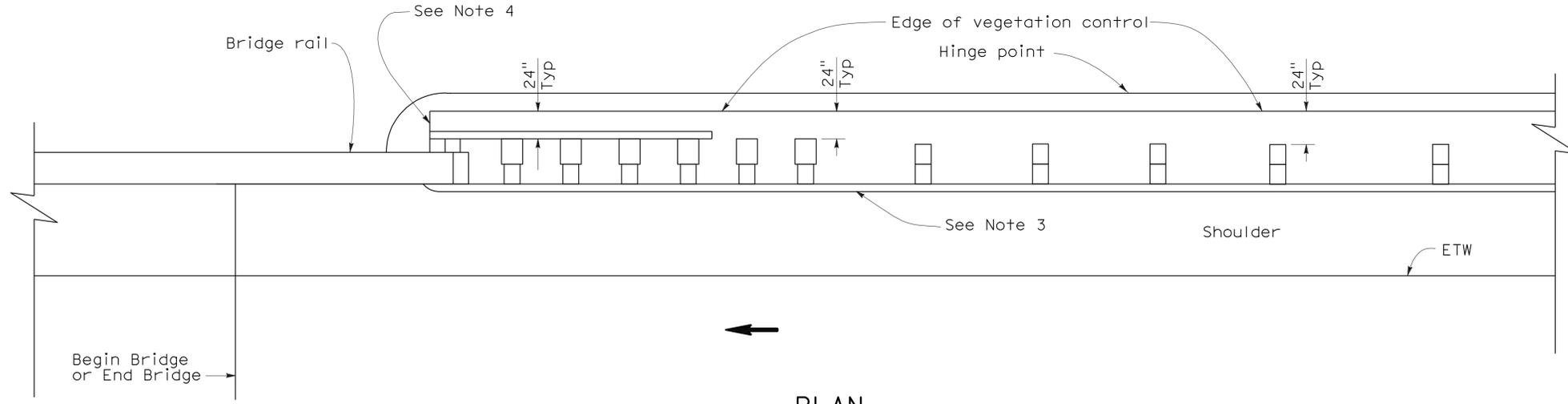
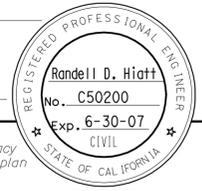
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	33	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

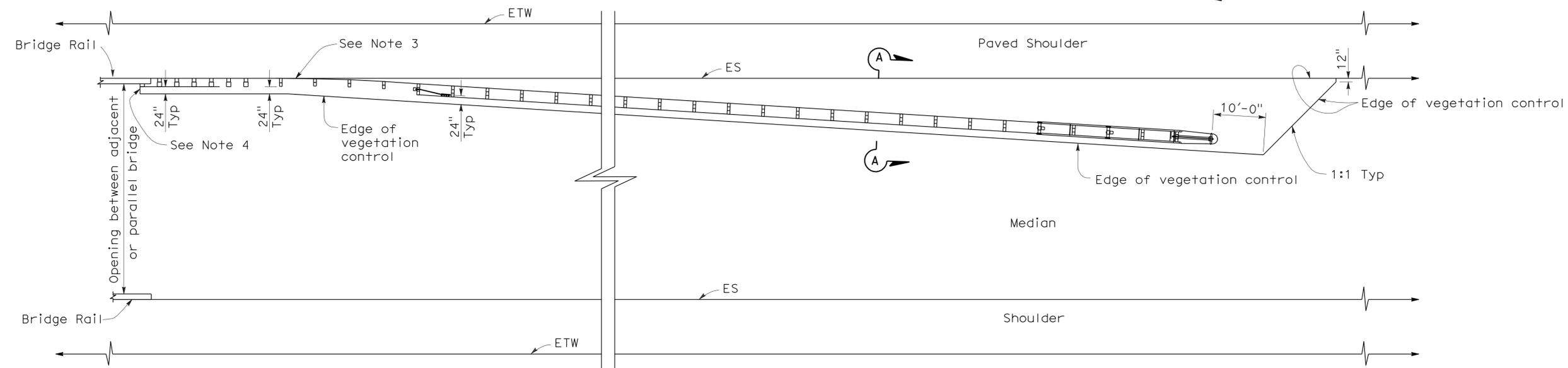
October 20, 2006
PLANS APPROVAL DATE

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To accompany plans dated 1-3-11



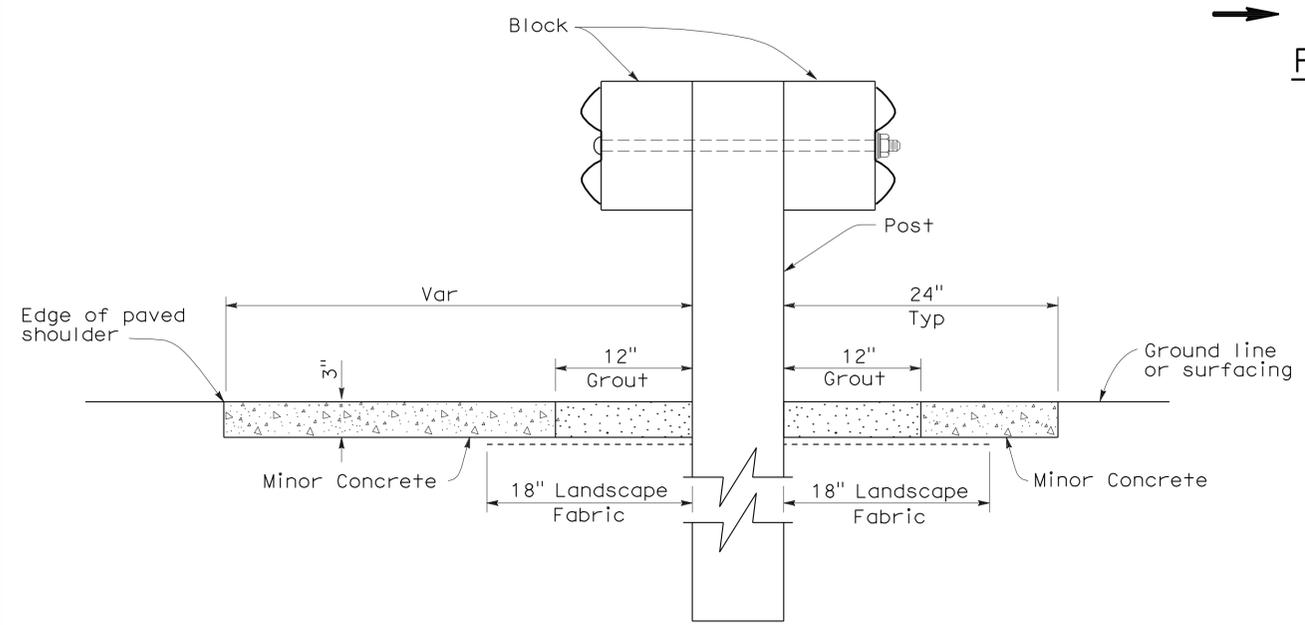
PLAN



PLAN

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. End vegetation control at end of backside rail element.
5. Direction of adjacent traffic indicated by ←.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
AT STRUCTURE APPROACH
AND DEPARTURE**

NO SCALE
NSP A77C7 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP A77C7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111, 195,371,62	Var	34	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

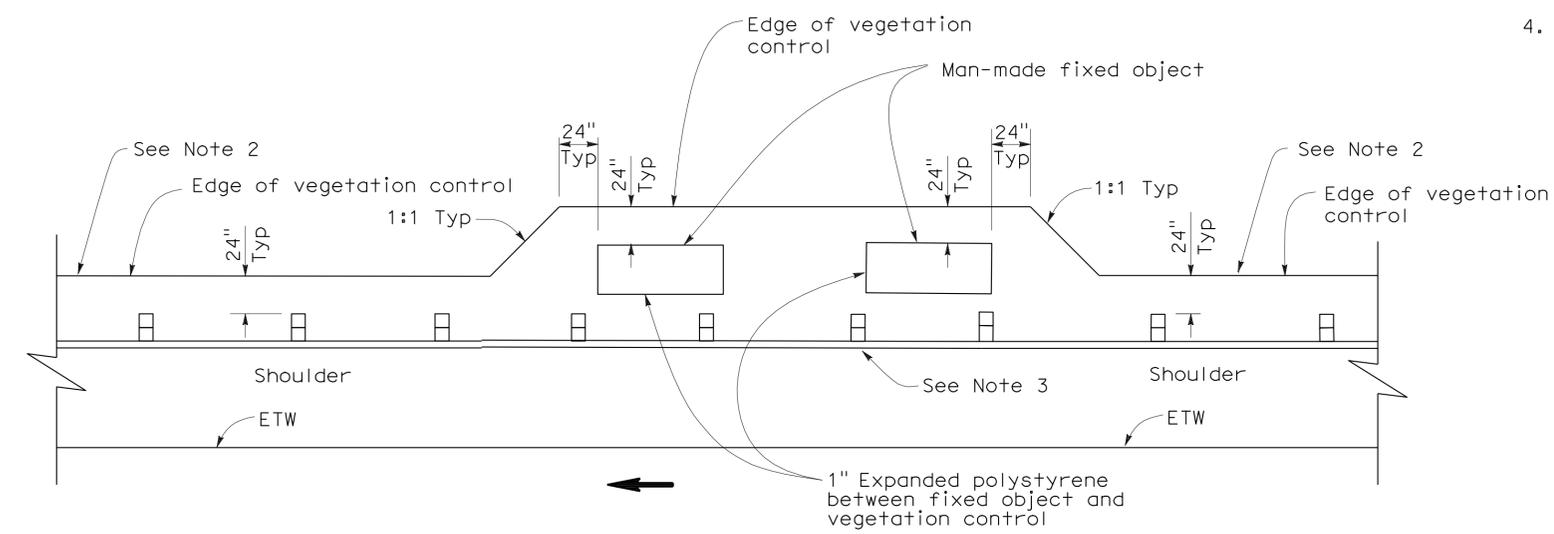
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 1-3-11

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. Direction of adjacent traffic indicated by ←.



PLAN
FIXED OBJECT(S) ON SHOULDER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE
NSP A77C8 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C8

2006 NEW STANDARD PLAN NSP A77C8

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
3. Direction of adjacent traffic indicated by ←.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	35	79

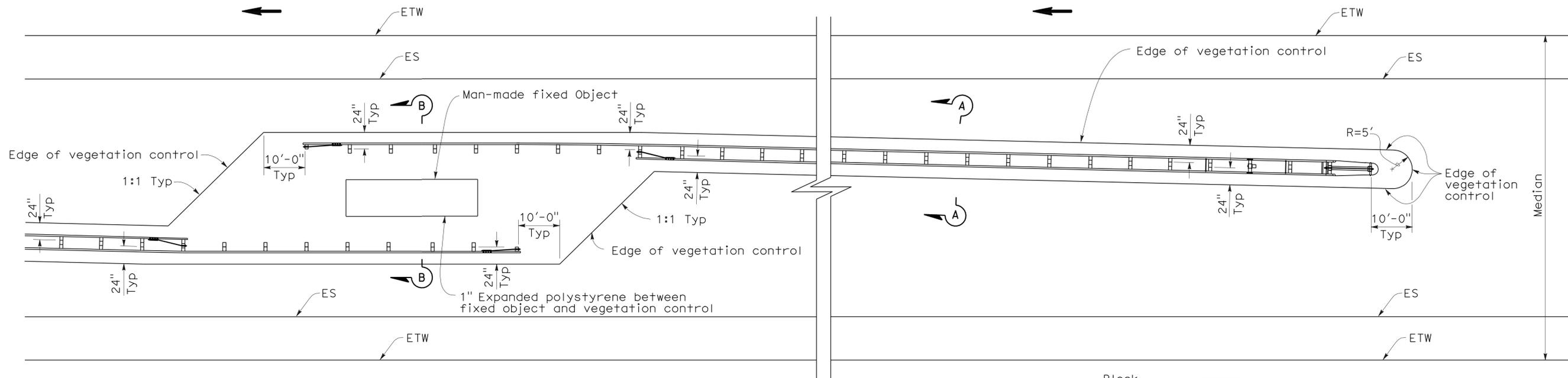
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

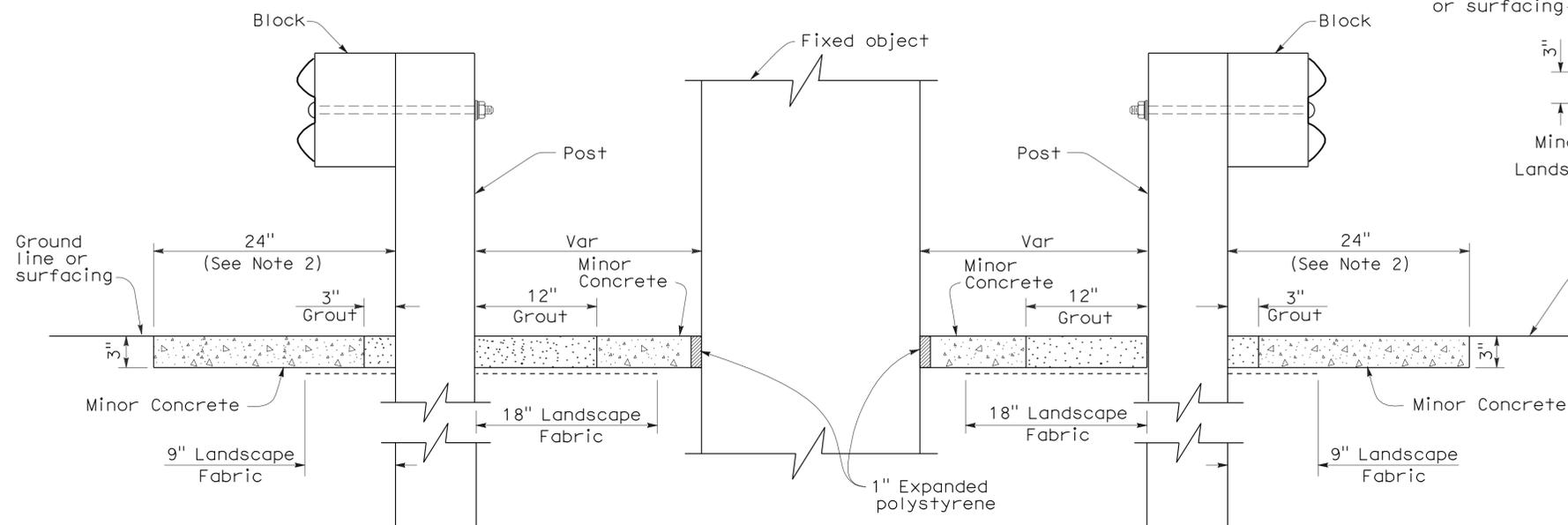
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To accompany plans dated 1-3-11

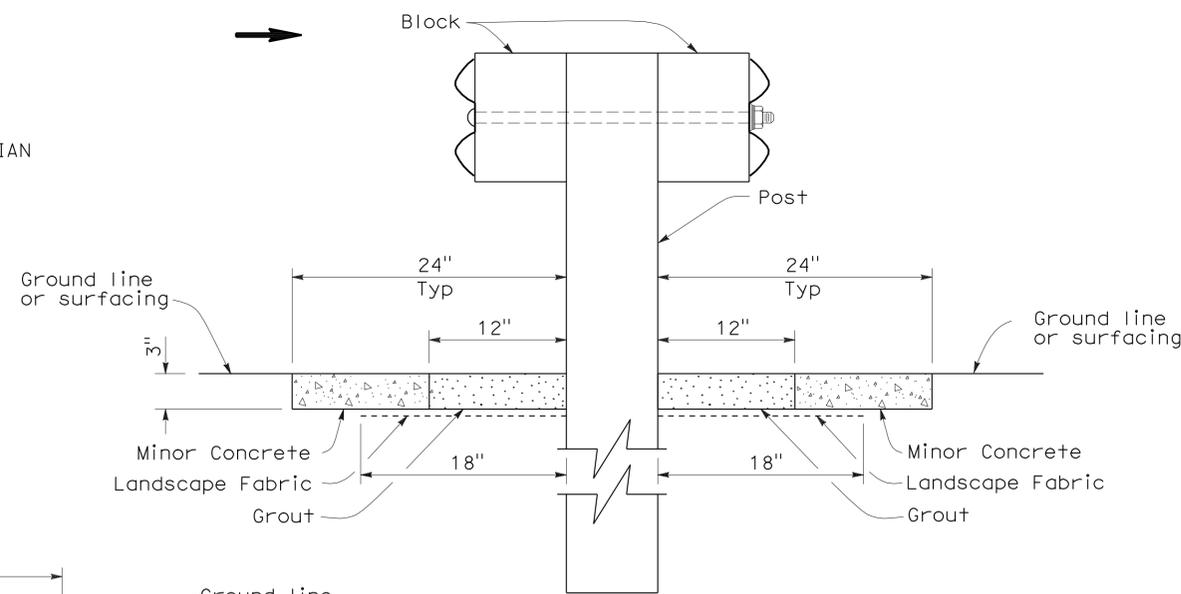


PLAN

FIXED OBJECT(S) IN MEDIAN



SECTION B-B



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE
NSP A77C9 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
3. Direction of adjacent traffic indicated by ←.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	36	79

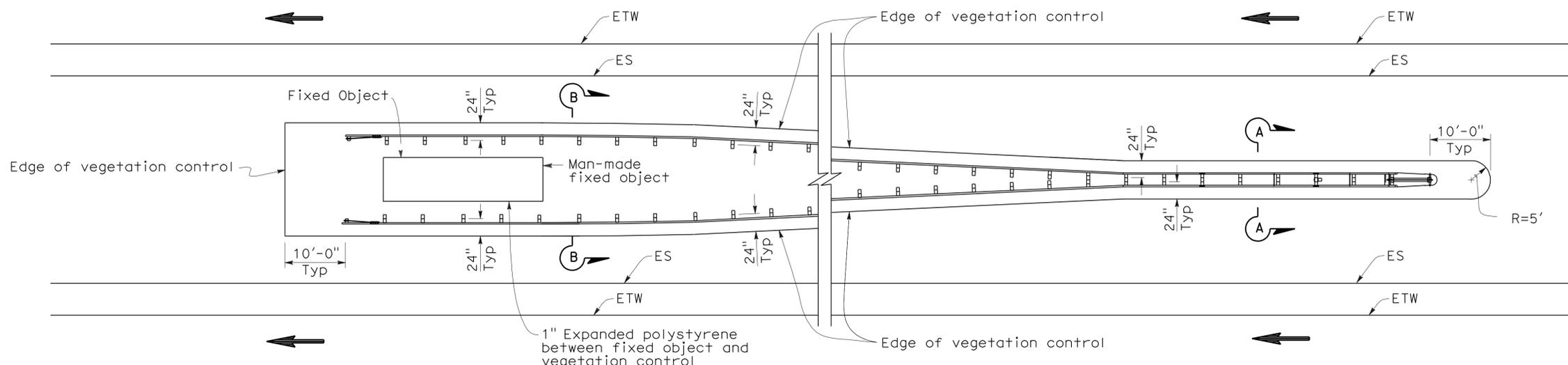
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

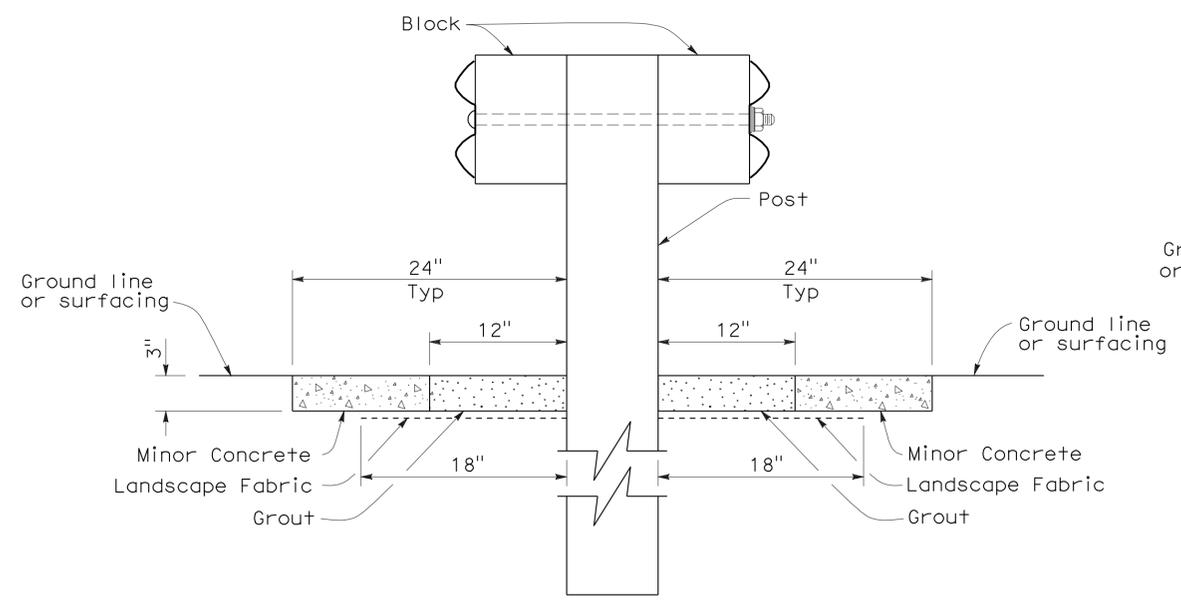
Randell D. Hiatt
No. C50200
Exp. 6-30-07
CIVIL
STATE OF CALIFORNIA

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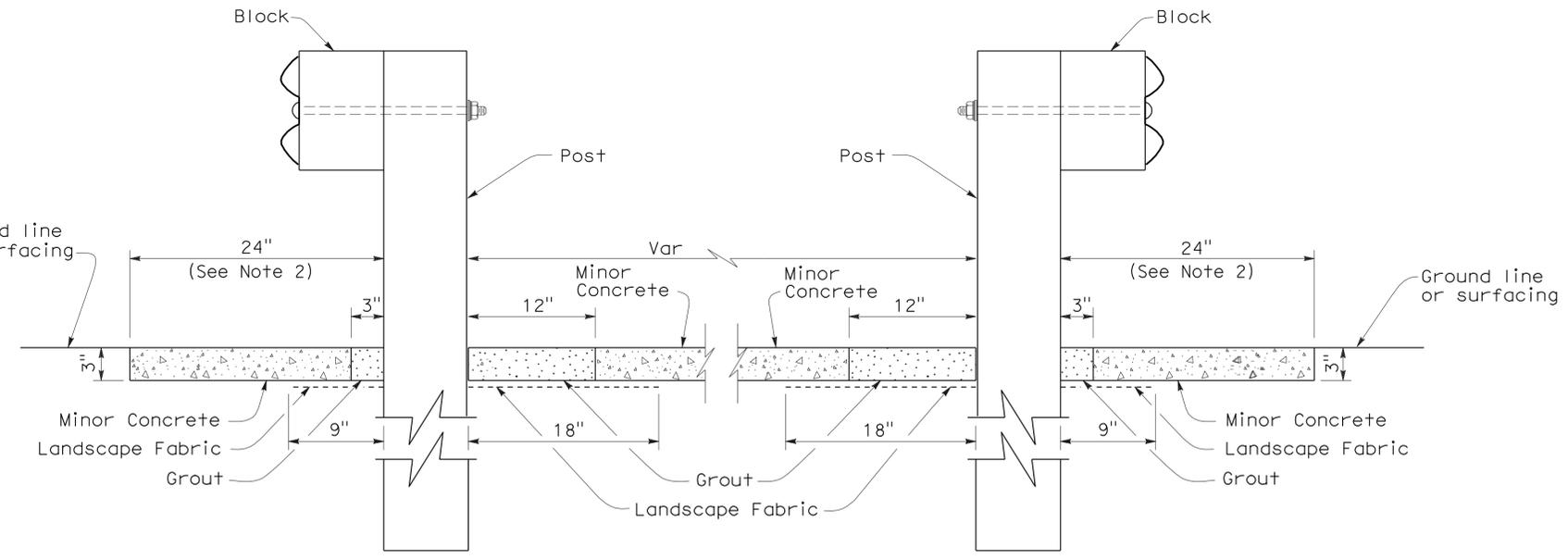
To accompany plans dated 1-3-11



PLAN
FIXED OBJECT(S) BETWEEN SEPARATE ROADBEDS
(ONE-WAY TRAFFIC)



SECTION A-A



SECTION B-B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
AT FIXED OBJECT**

NO SCALE

NSP A77C10 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP A77C10

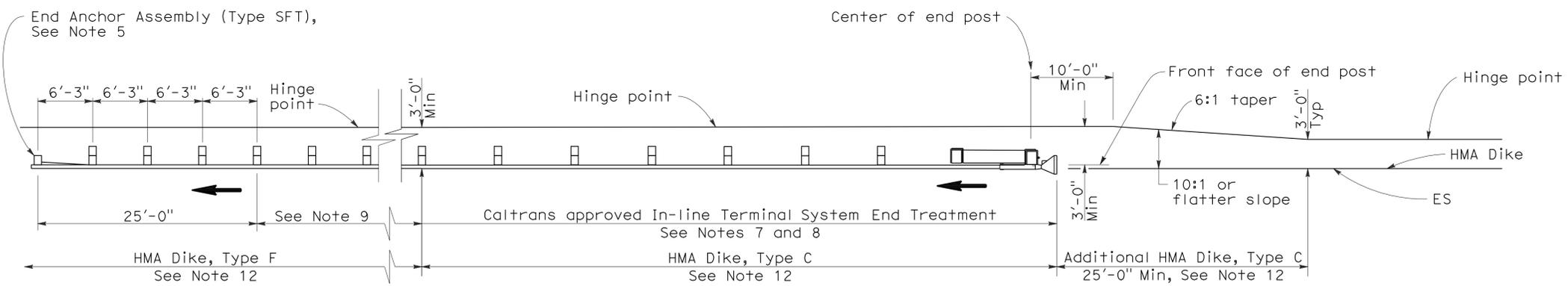
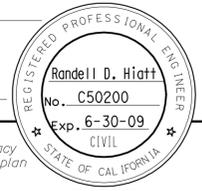
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	37	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

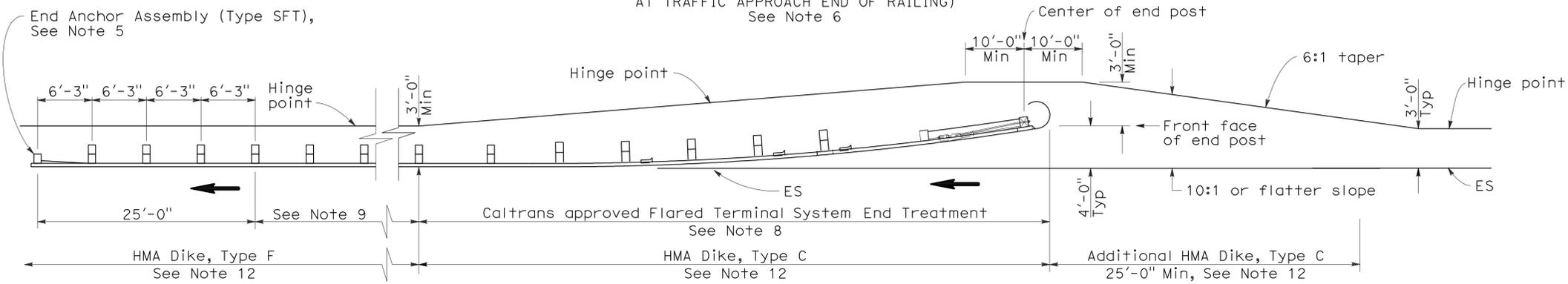
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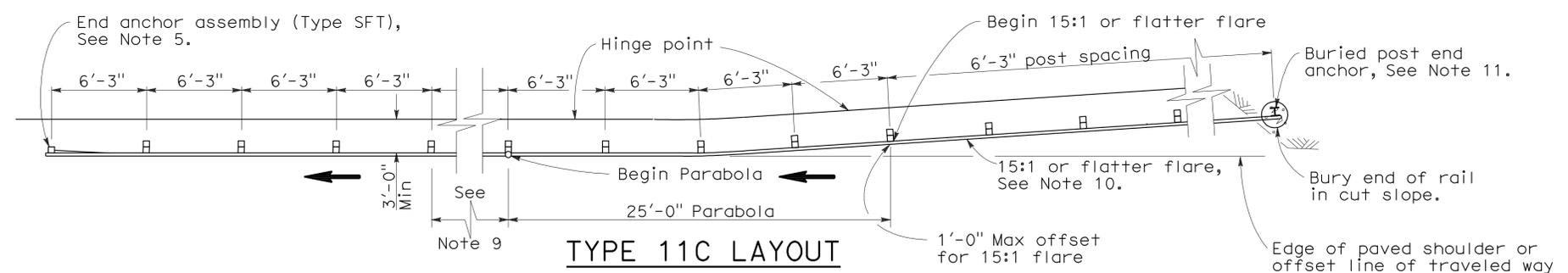
TYPE 11A LAYOUT

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



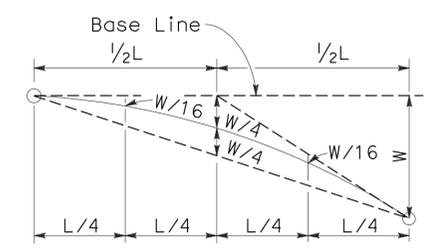
TYPE 11B LAYOUT

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

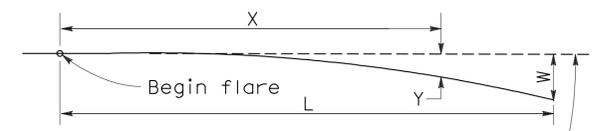


TYPE 11C LAYOUT

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



TYPICAL PARABOLIC LAYOUT

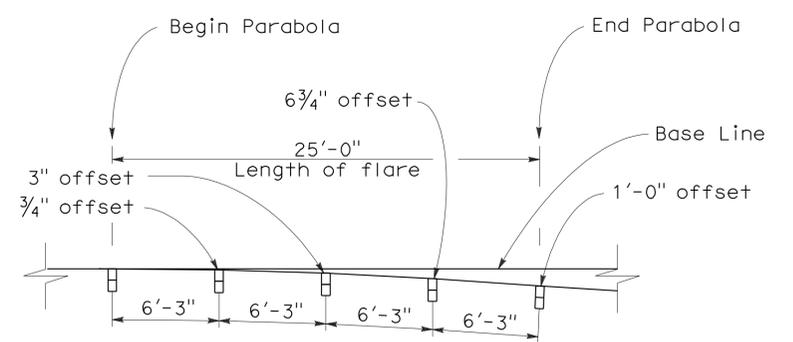


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

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 \rightarrow .
- 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

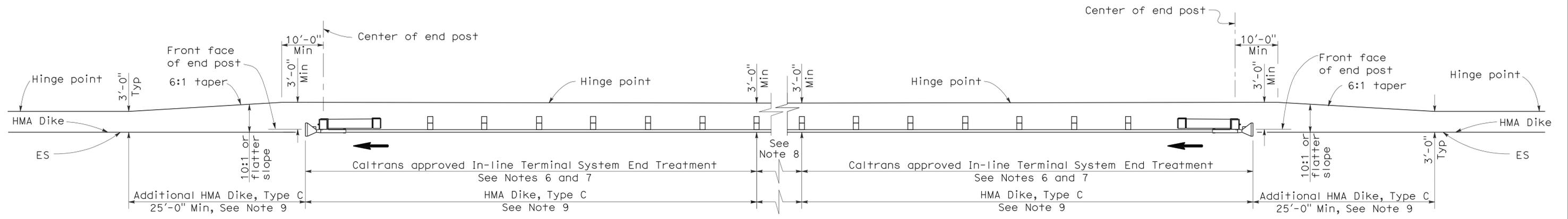
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	38	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

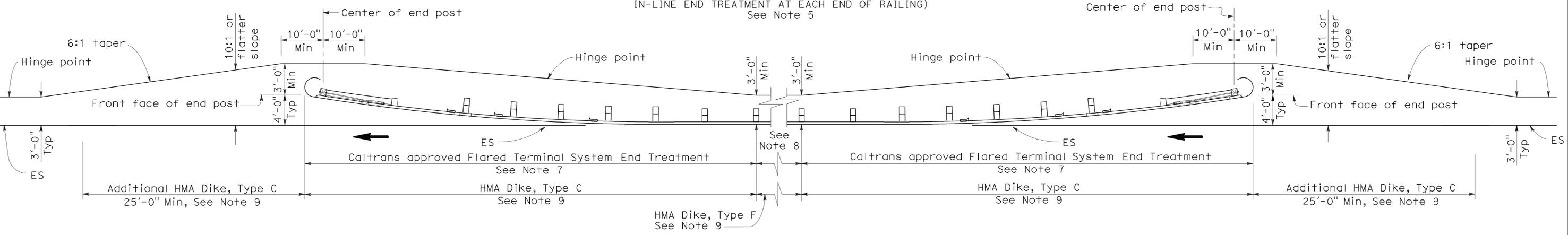
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To accompany plans dated 1-3-11



TYPE 11D LAYOUT

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



TYPE 11E LAYOUT

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE
RSP A77E2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E2
DATED MAY 1, 2006 - PAGE 49 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77E2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	39	79

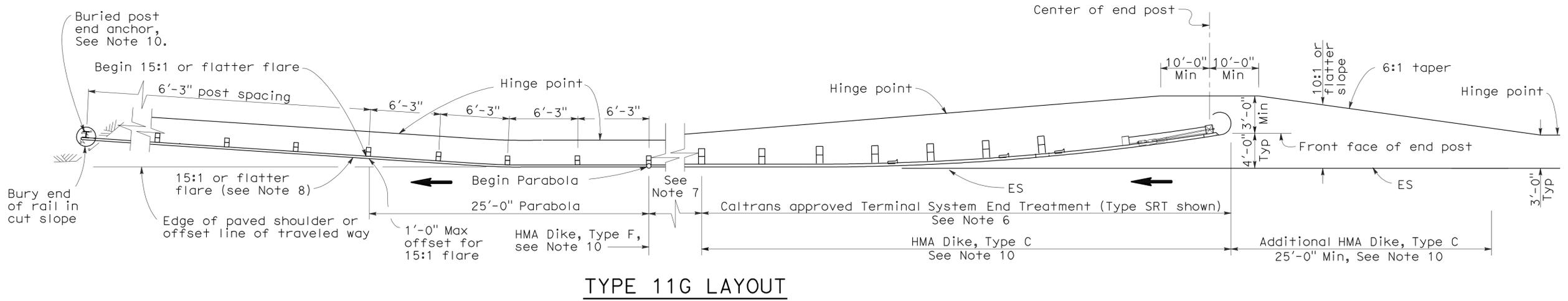
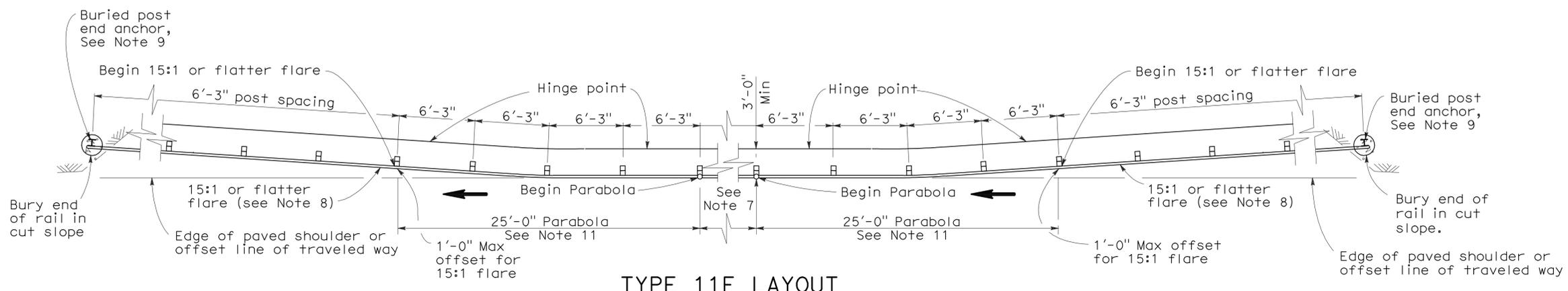
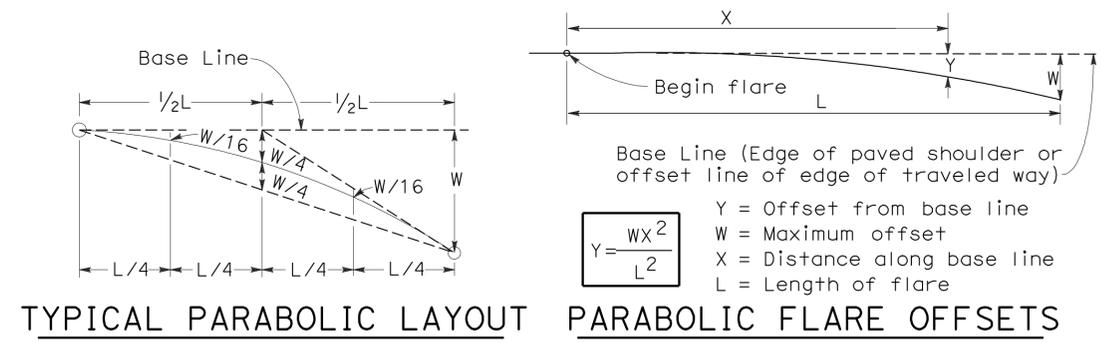
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

To accompany plans dated 1-3-11



NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

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

REVISED STANDARD PLAN RSP A77E3

2006 REVISED STANDARD PLAN RSP A77E3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111, 195,371,62	Var	40	79

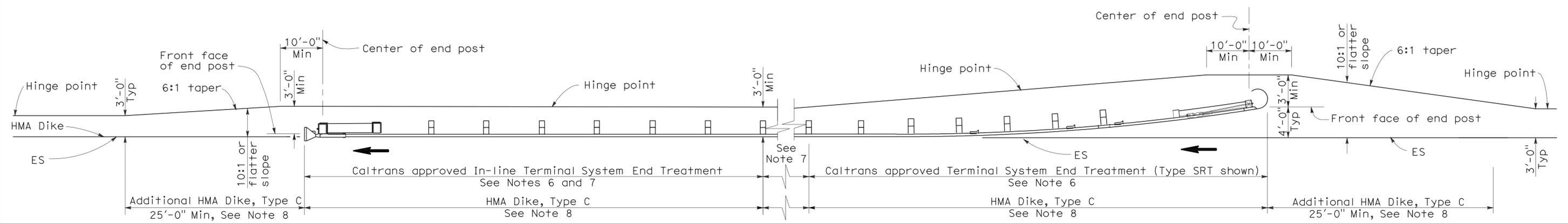
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

To accompany plans dated 1-3-11



TYPE 11H LAYOUT

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

NOTES:

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

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

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

REVISED STANDARD PLAN RSP A77E4

2006 REVISED STANDARD PLAN RSP A77E4

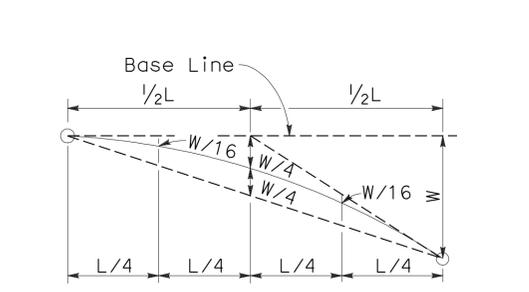
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	41	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

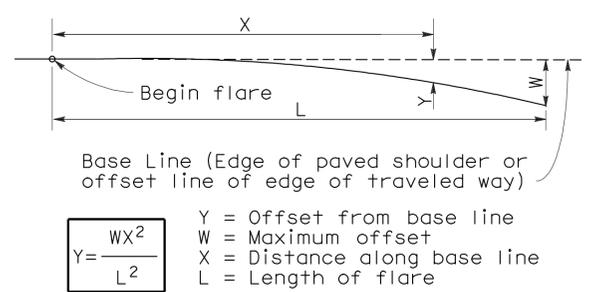
June 6, 2008
PLANS APPROVAL DATE

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Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA



TYPICAL PARABOLIC LAYOUT

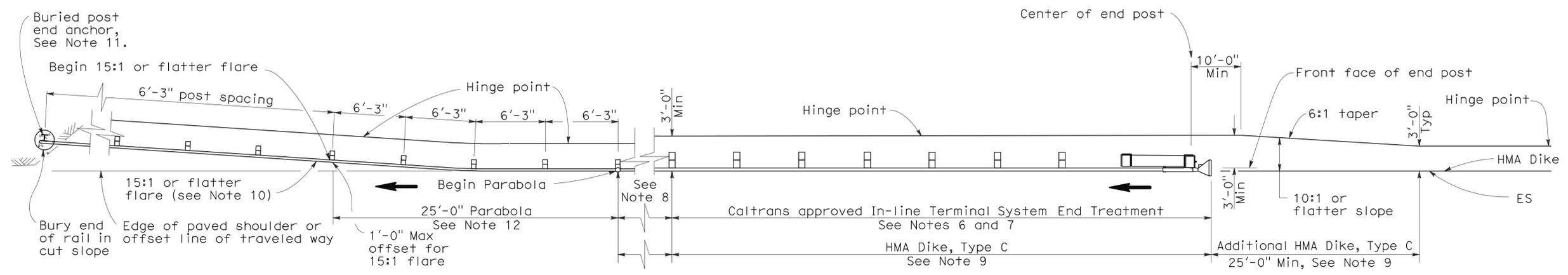


PARABOLIC FLARE OFFSETS

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

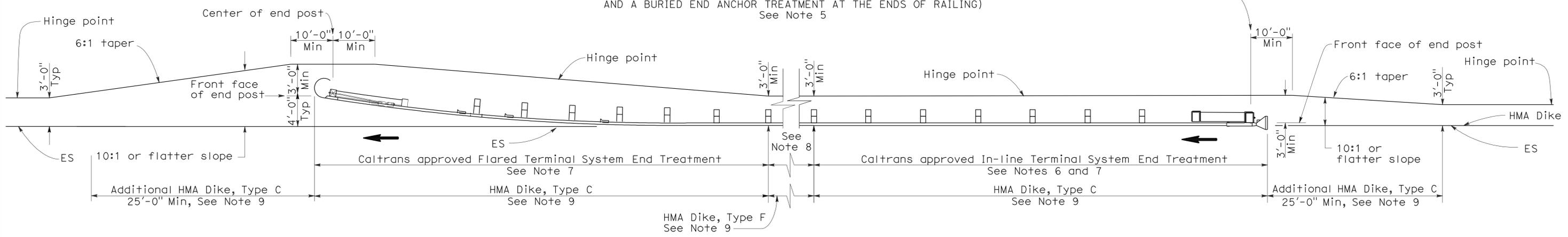
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

To accompany plans dated 1-3-11



TYPE 11I LAYOUT

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



TYPE 11J LAYOUT

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

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

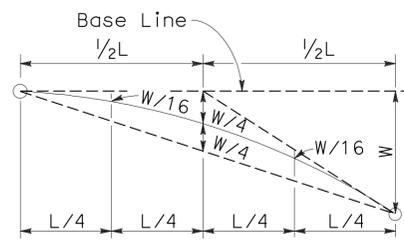
REVISED STANDARD PLAN RSP A77E5

2006 REVISED STANDARD PLAN RSP A77E5

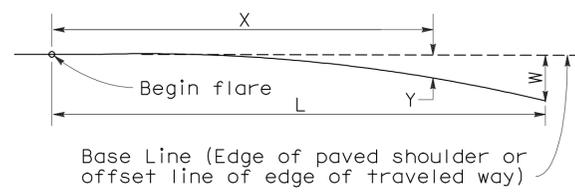
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	42	79

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 June 6, 2008
 PLANS APPROVAL DATE
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2006 REVISED STANDARD PLAN RSP A77E6



TYPICAL PARABOLIC LAYOUT

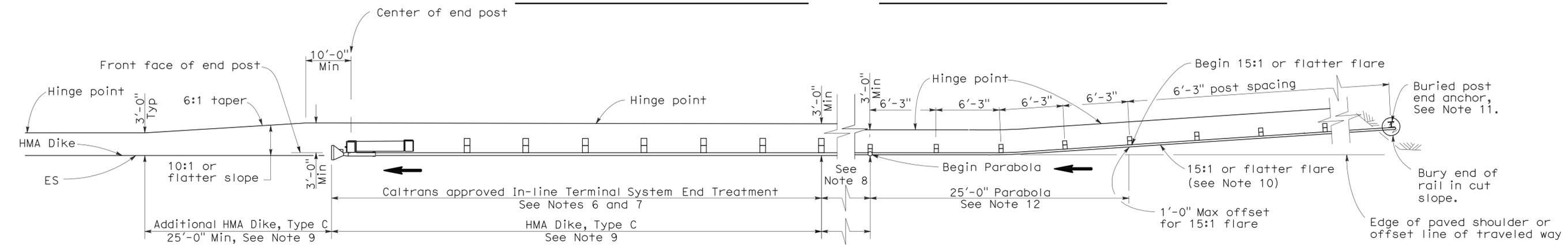


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

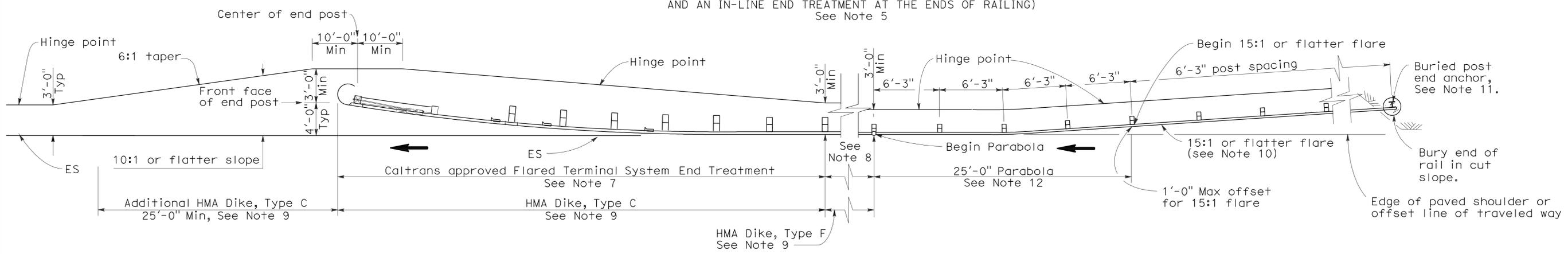
PARABOLIC FLARE OFFSETS

To accompany plans dated 1-3-11



TYPE 11K LAYOUT

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



TYPE 11L LAYOUT

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

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	43	79

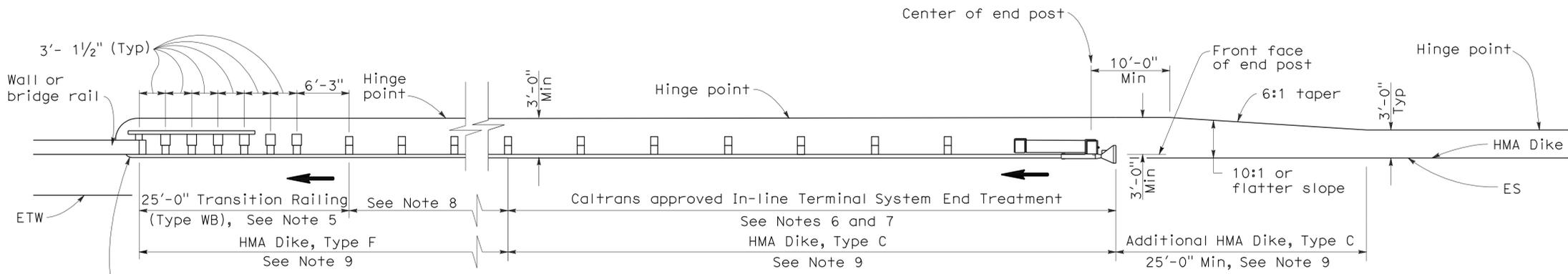
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

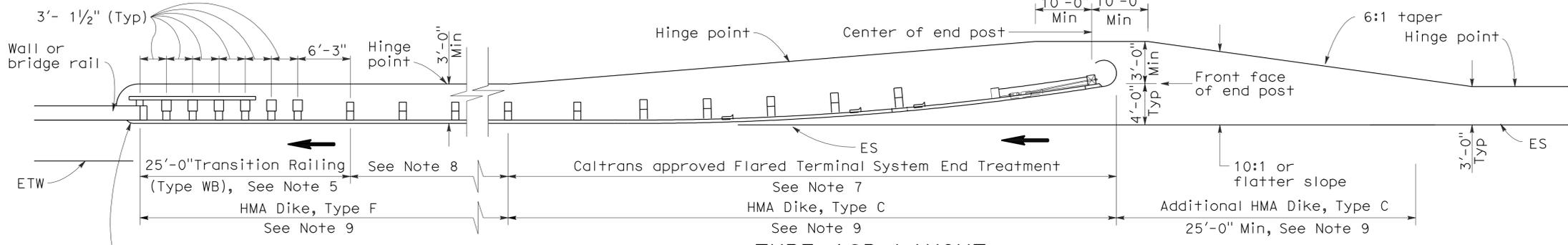
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To accompany plans dated 1-3-11



TYPE 12A LAYOUT

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



TYPE 12B LAYOUT

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

NOTES:

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

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

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77F1

2006 REVISED STANDARD PLAN RSP A77F1

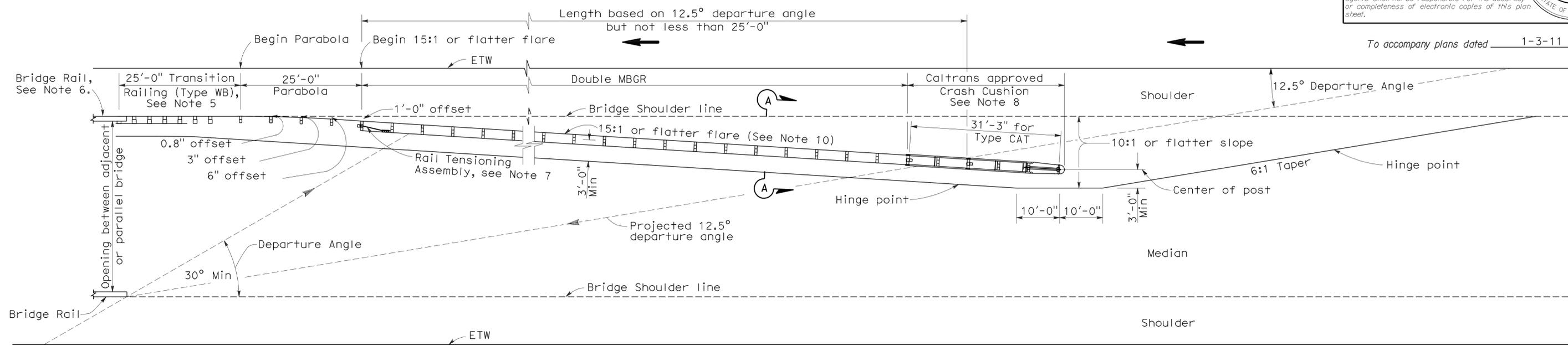
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	44	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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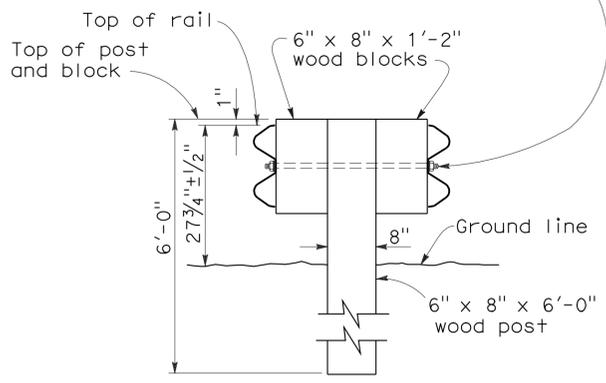


To accompany plans dated 1-3-11

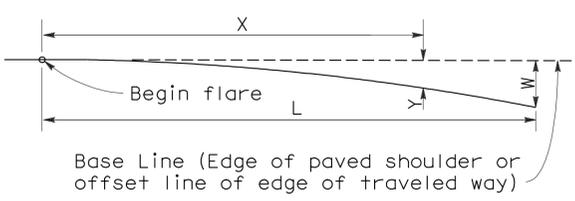
TYPE 12E LAYOUT

See Note 10

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



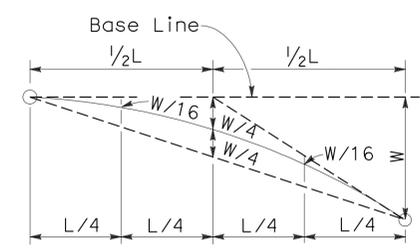
SECTION A-A
TYPICAL DOUBLE METAL BEAM GUARD RAILING



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

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

PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details, see Standard Plan A77J4.
- For additional details of a typical connection to bridge rail, see Connection Detail AA on Revised Standard Plan RSP A77J1.
- For Rail Tensioning Assembly details, see Standard Plan A77H2.
- The type of Crash Cushion to be used will be shown on the Project Plans.
- Type 12E Layout is typically used left of approaching traffic at the end of each structure on multilane freeways or expressways where a median type barrier is not constructed between separated roadbeds.
- The 15:1 or flatter flare is measured off of the edge of traveled way.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH

NO SCALE

RSP A77F3 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F3
DATED MAY 1, 2006 - PAGE 56 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77F3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	45	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

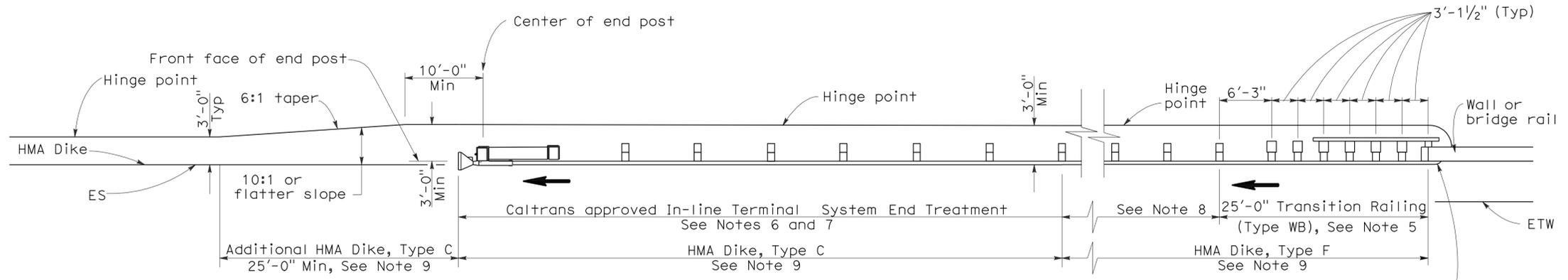
June 6, 2008
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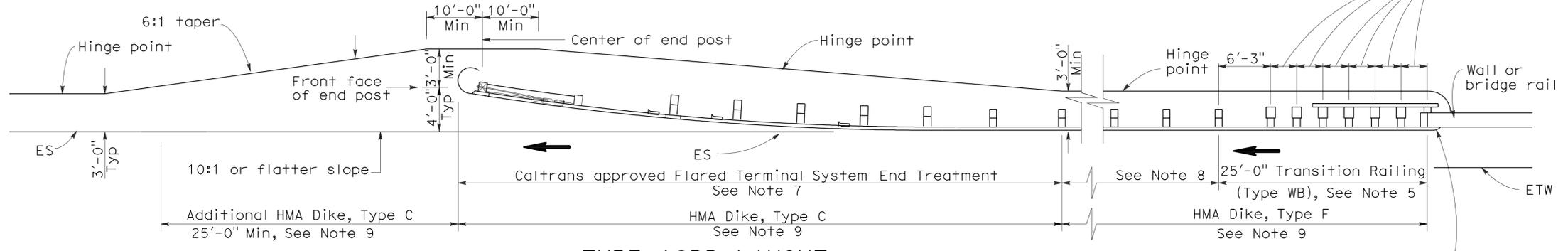
To accompany plans dated 1-3-11

2006 REVISED STANDARD PLAN RSP A77F4



TYPE 12AA LAYOUT

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



TYPE 12BB LAYOUT

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

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- For Transition Railing (Type WB) details for Types 12AA and 12BB Layouts, see Standard Plan A77J4.
- In-line Terminal System Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatments.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12AA or Type 12BB Layouts are typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
- For additional details of typical connections to bridge rail, see Connection Detail CC on Revised Standard Plan RSP A77J2 and Connection Detail HH on Standard Plans A77k2.

STATE OF CALIFORNIA
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**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE DEPARTURE**

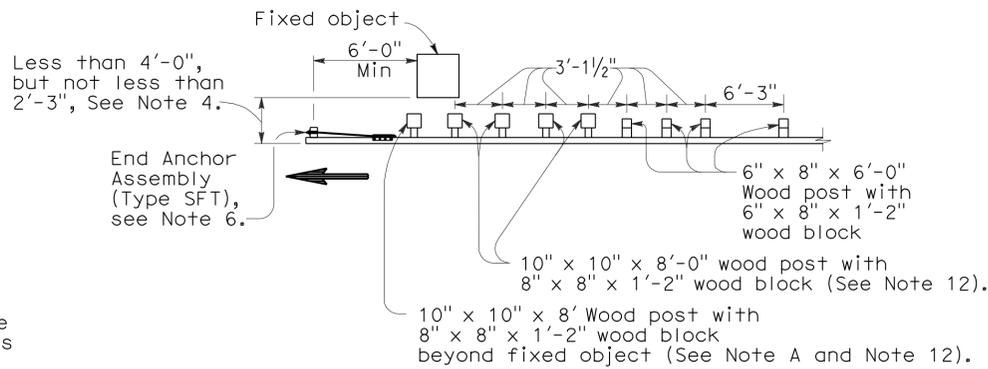
NO SCALE

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

REVISED STANDARD PLAN RSP A77F4

NOTES:

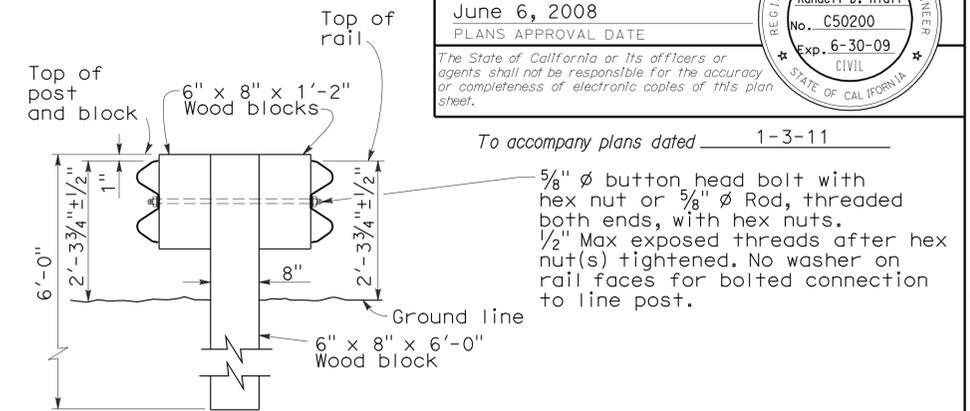
- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts,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



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

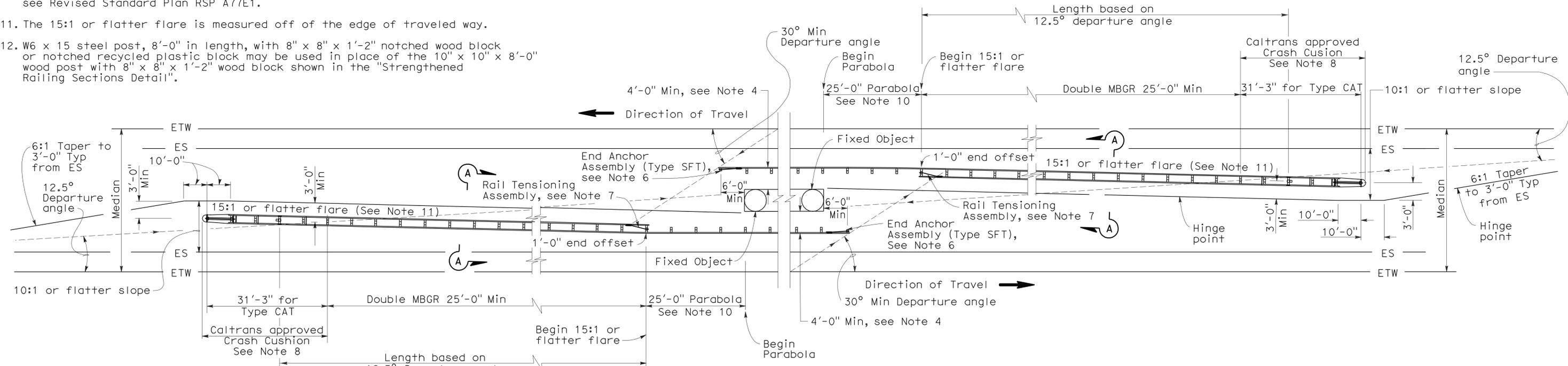
STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

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



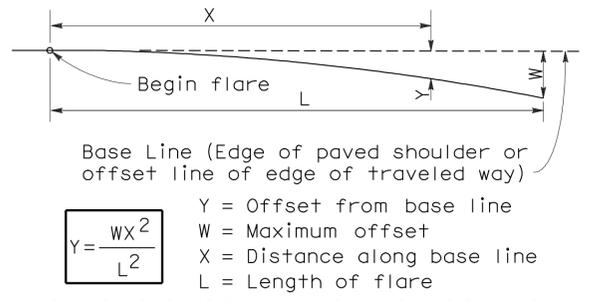
SECTION A-A TYPICAL DOUBLE METAL BEAM GUARD RAILING

To accompany plans dated 1-3-11

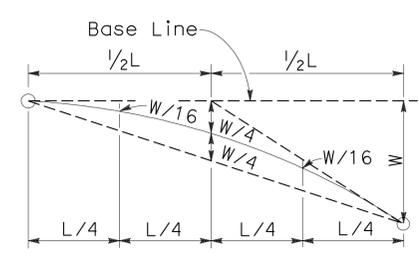


TYPE 14A LAYOUT

See Note 9



PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77G1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111, 195,371,62	Var	46	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

2006 REVISED STANDARD PLAN RSP A77G1

NOTES:

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

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

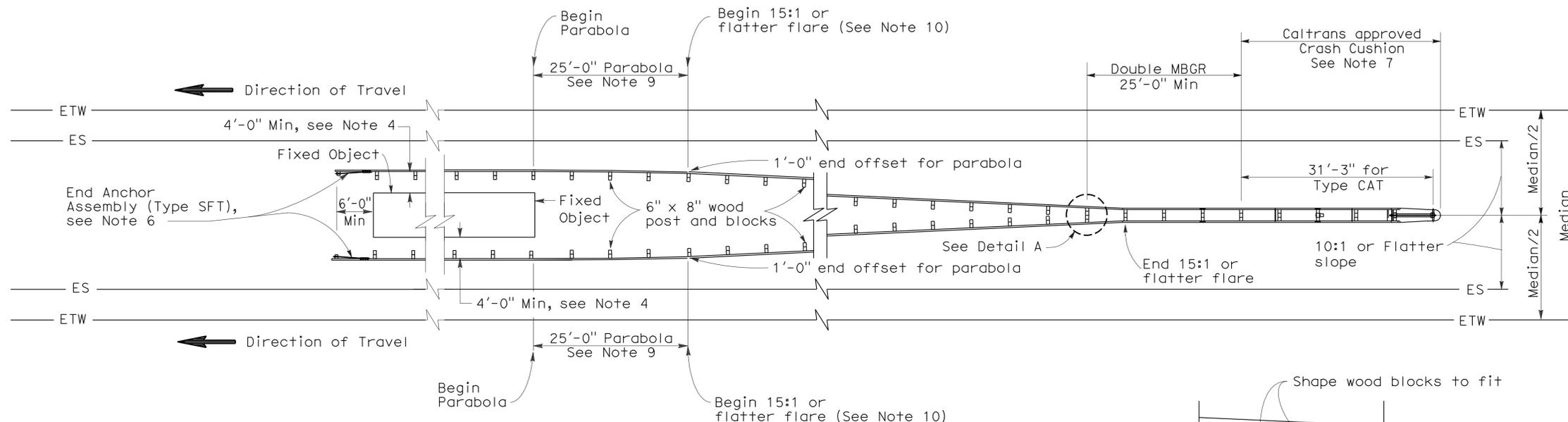
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	47	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

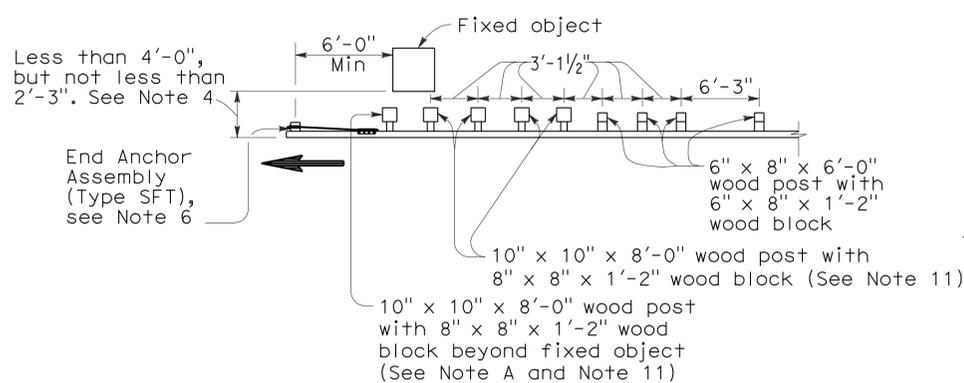
June 6, 2008
PLANS APPROVAL DATE

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To accompany plans dated 1-3-11



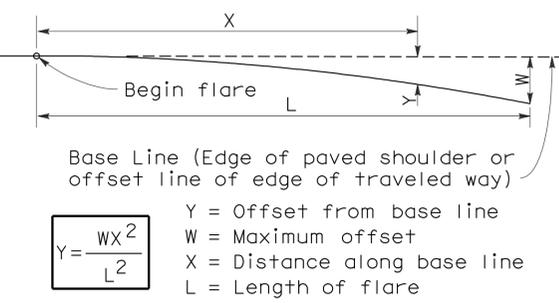
TYPE 15A LAYOUT
See Note 9



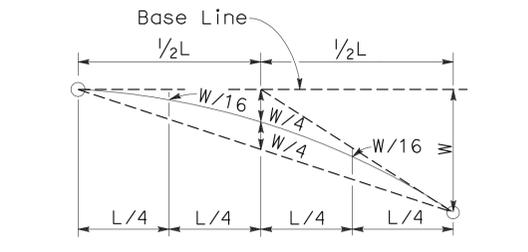
NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1 1/2" center to center spacing are to be used between fixed objects.

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

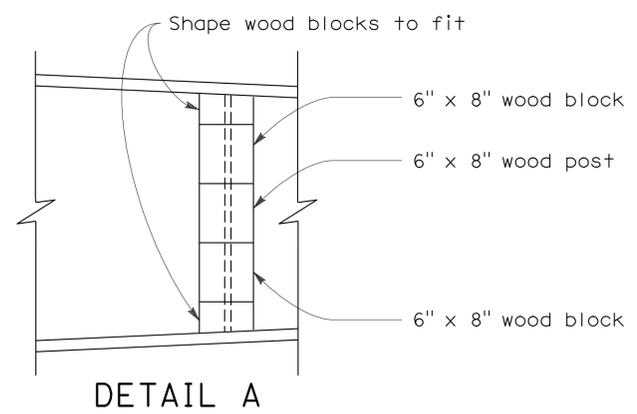
Use strengthened railing sections with Type 15A layout where minimum clearance between the face of the guard railing and the fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.



PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT



DETAIL A

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

2006 REVISED STANDARD PLAN RSP A77G2

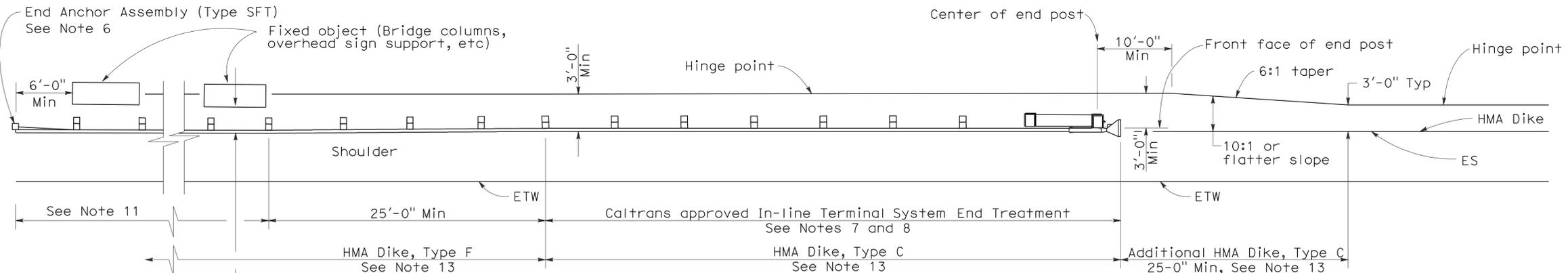
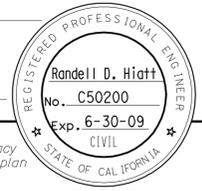
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	48	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

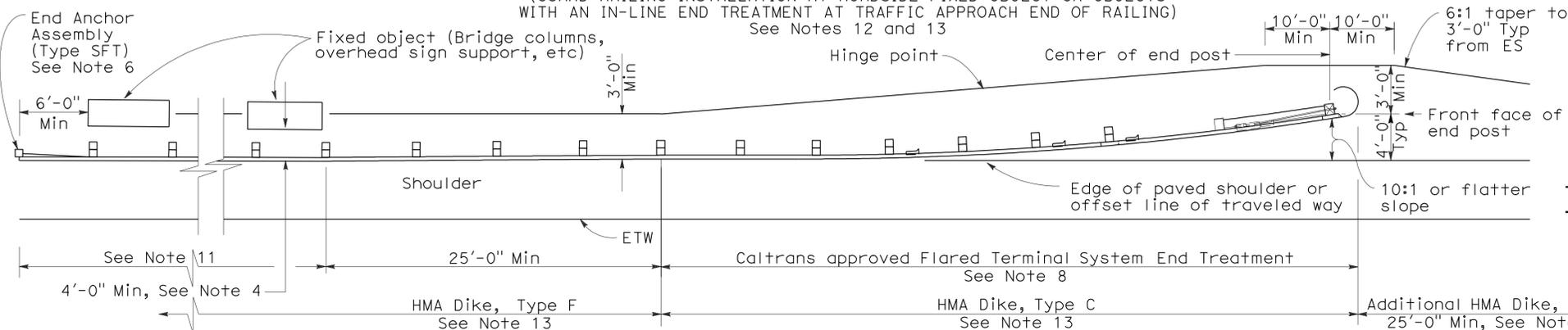
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To accompany plans dated 1-3-11



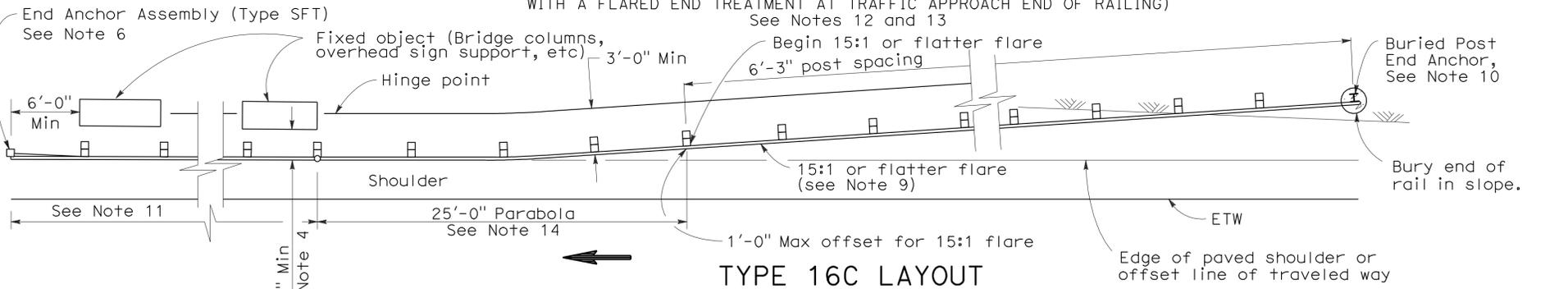
TYPE 16A LAYOUT

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



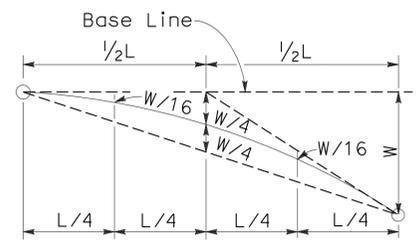
TYPE 16B LAYOUT

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

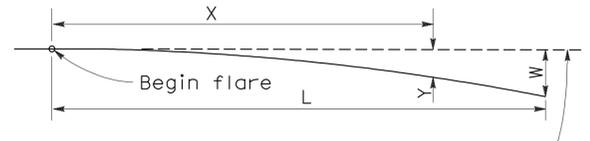


TYPE 16C LAYOUT

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



TYPICAL PARABOLIC LAYOUT

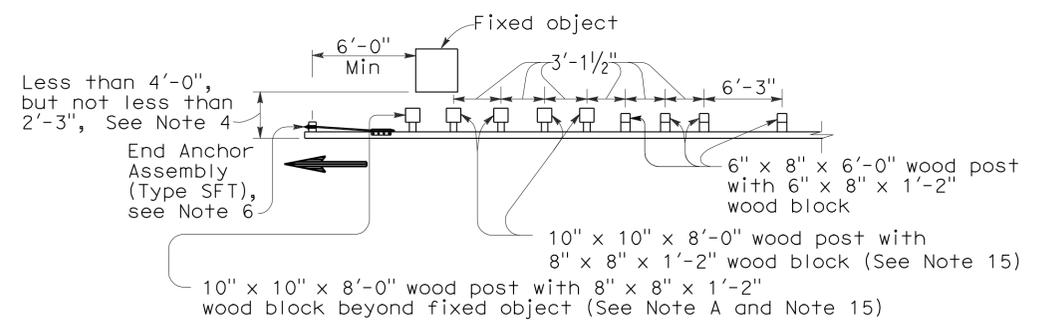


Base Line (Edge of paved shoulder or offset line of edge of traveled way)
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by →.
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system to be used will be shown on the Project Plans.
- The 15:1 or flatter flare used with Type 16C Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the Buried Post End Anchor used with Type 16C Layout, see Standard Plan A77I2.
- As site conditions dictate, construct additional guard railing to shield fixed object(s). Additional guard railing length equal to multiples of 12'-6". Post spacing at 6'-3" except as specified in Note 4.
- Layout Types 16A, 16B or 16C are typically used where guard railing is recommended to shield roadside fixed object(s) and a crashworthy end treatment is required for only one direction of traffic.
- Where placement of dike is required with guard railing, see Revised Standard Plan RSP A77C4 for dike positioning details.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic blocks may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".



NOTE A:

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

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

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

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77G3

2006 REVISED STANDARD PLAN RSP A77G3

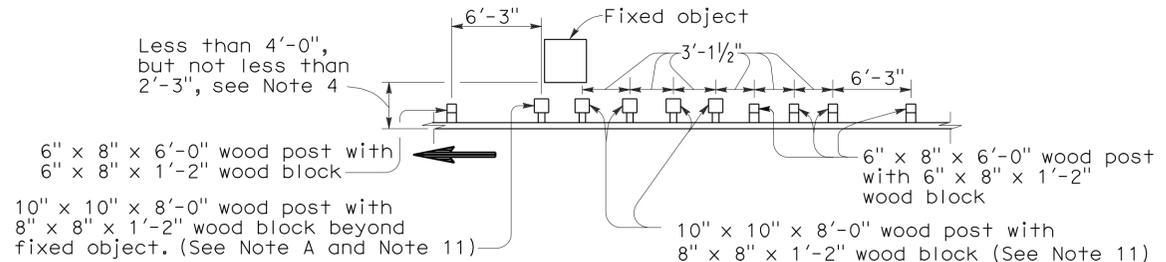
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	49	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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STATE OF CALIFORNIA

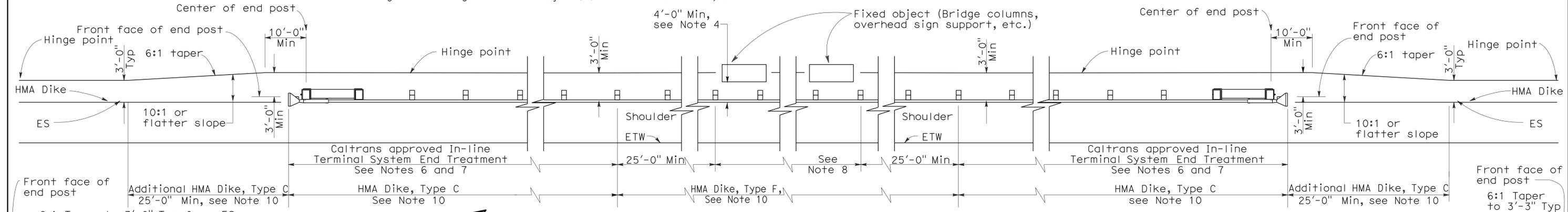


NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed object(s).

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

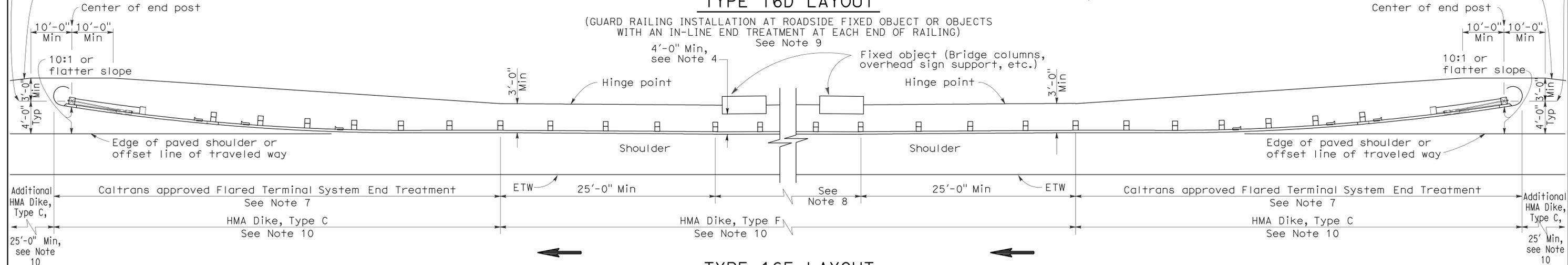
Use strengthened railing sections with Layout Types 16D or 16E where minimum clearance between the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3". See Note 4.

To accompany plans dated 1-3-11



TYPE 16D LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH AN IN-LINE END TREATMENT AT EACH END OF RAILING)



TYPE 16E LAYOUT

(GUARD RAILING INSTALLATION AT ROADSIDE FIXED OBJECT OR OBJECTS WITH A FLARED END TREATMENT AT EACH END OF RAILING)

NOTES:

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

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

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

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

RSP A77G4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G4
DATED MAY 1, 2006 - PAGE 62 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G4

2006 REVISED STANDARD PLAN RSP A77G4

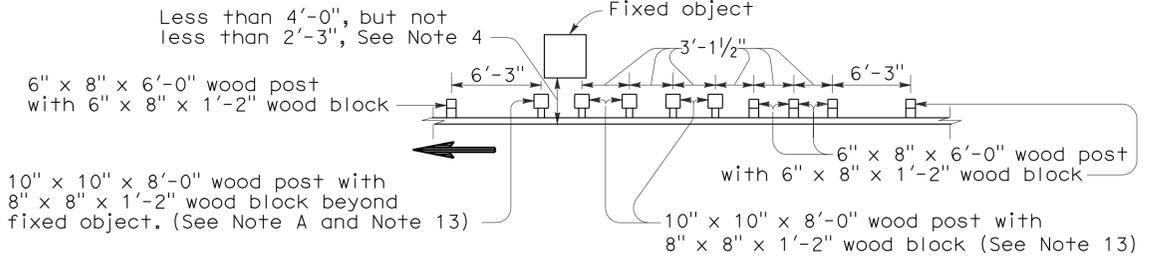
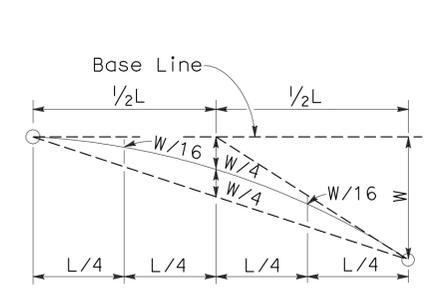
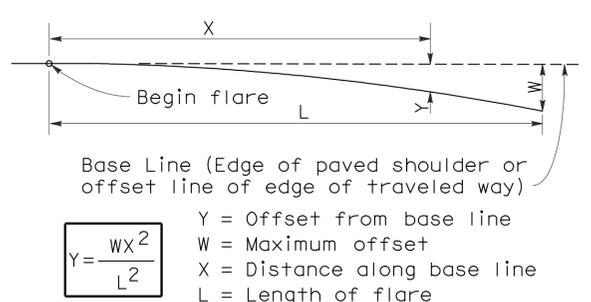
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111, 195,371,62	Var	50	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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To accompany plans dated 1-3-11



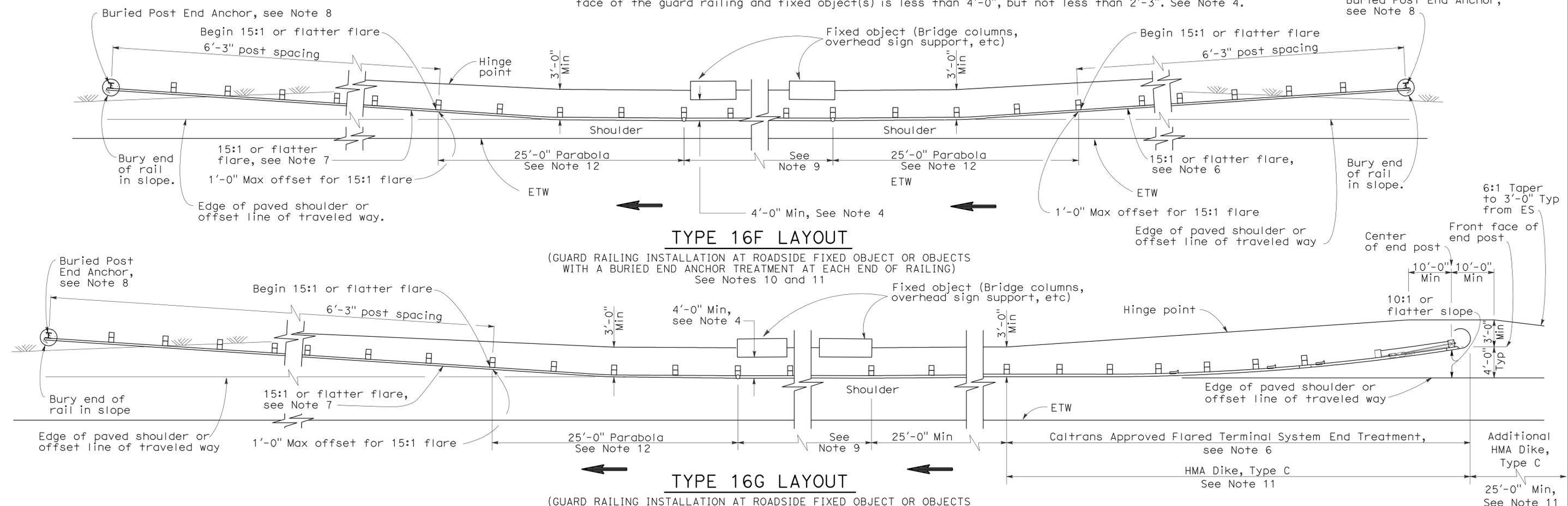
NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed object(s).

PARABOLIC FLARE OFFSETS

TYPICAL PARABOLIC LAYOUT

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

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



NOTES:

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

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

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
ROADSIDE FIXED OBJECTS**

NO SCALE

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

REVISED STANDARD PLAN RSP A77G5

2006 REVISED STANDARD PLAN RSP A77G5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111, 195,371,62	Var	51	79

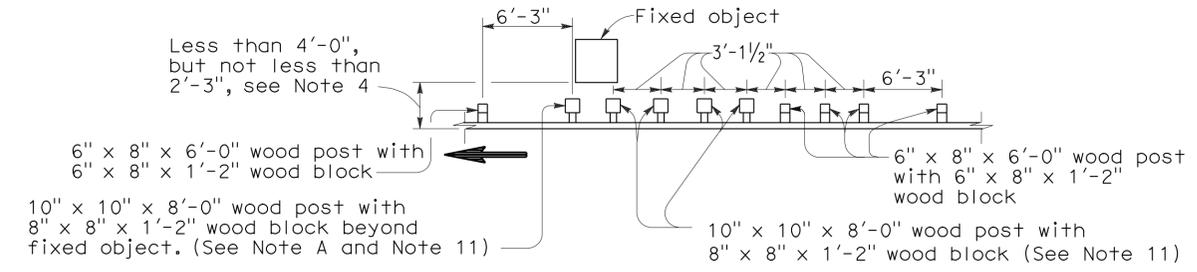
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
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CIVIL
STATE OF CALIFORNIA

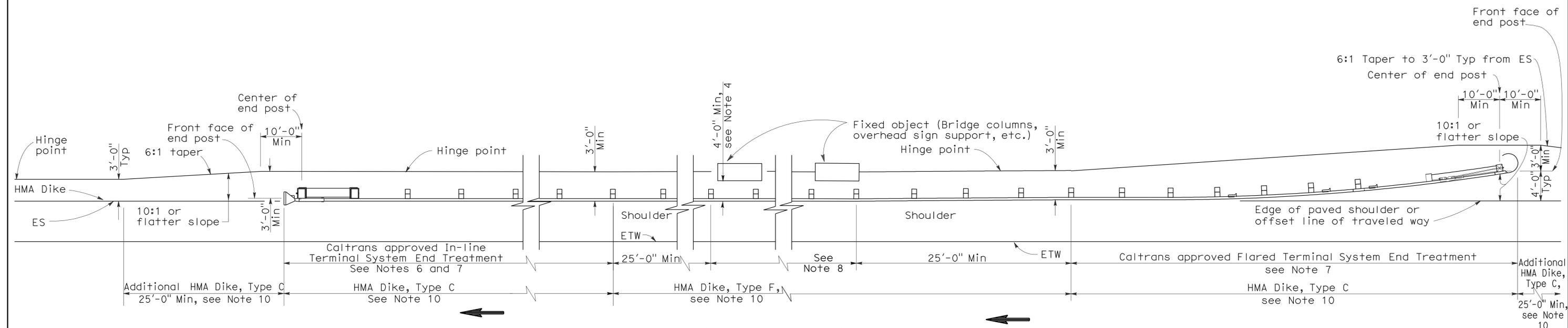
To accompany plans dated 1-3-11



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

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

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



TYPE 16H LAYOUT

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

NOTES:

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

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

METAL BEAM GUARD RAILING TYPICAL LAYOUTS FOR ROADSIDE FIXED OBJECTS

NO SCALE

RSP A77G6 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G6
DATED MAY 1, 2006 - PAGE 64 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G6

2006 REVISED STANDARD PLAN RSP A77G6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	52	79

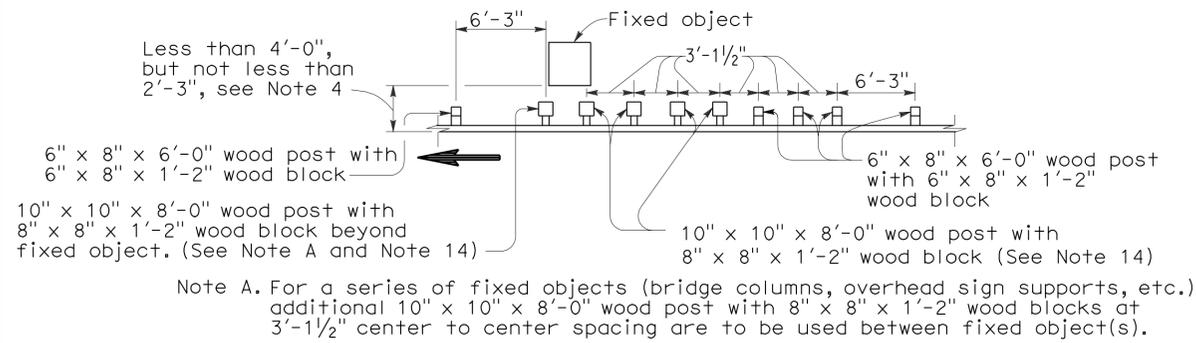
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

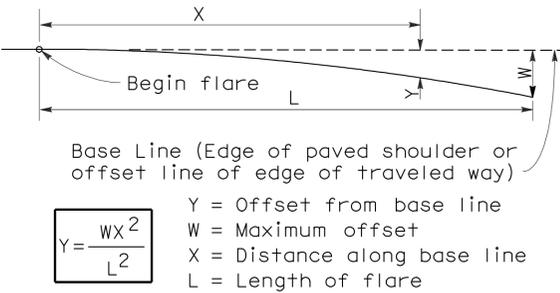
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To accompany plans dated 1-3-11

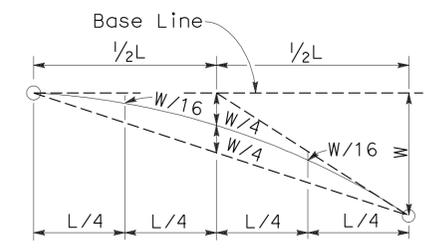
2006 REVISED STANDARD PLAN RSP A77G7



STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

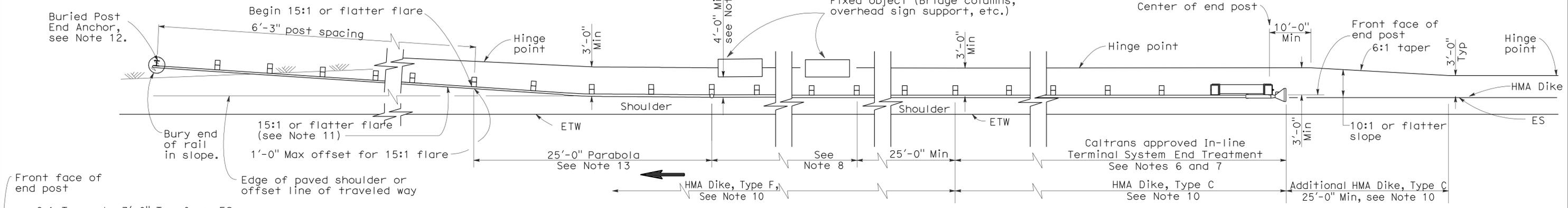


PARABOLIC FLARE OFFSETS



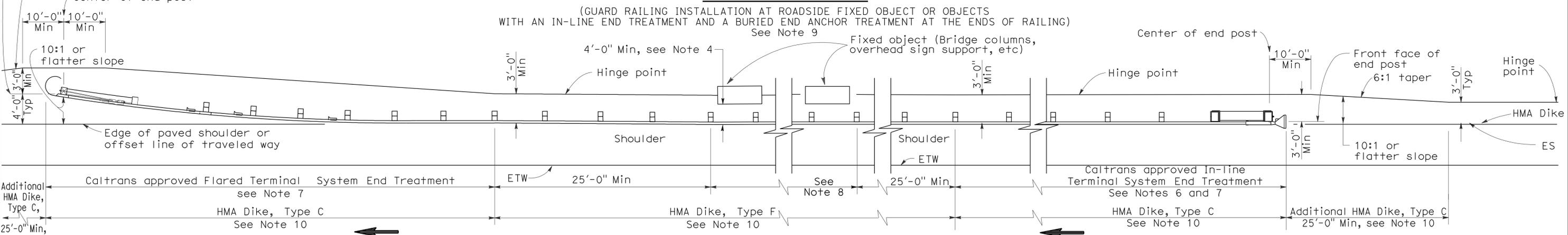
TYPICAL PARABOLIC LAYOUT

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



TYPE 16I LAYOUT

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



TYPE 16J LAYOUT

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

NOTES:

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

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

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

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

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

REVISED STANDARD PLAN RSP A77G7

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	53	79

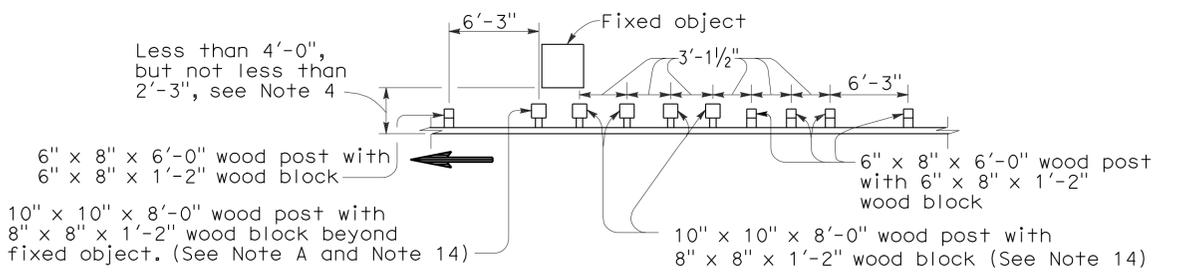
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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To accompany plans dated 1-3-11

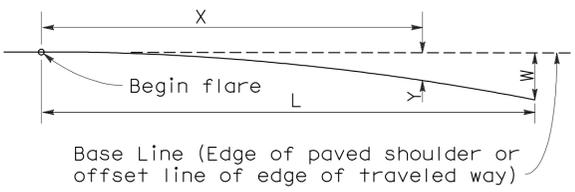
2006 REVISED STANDARD PLAN RSP A77G8



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

STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

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

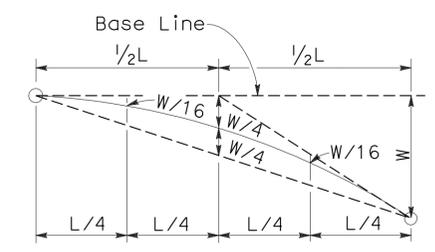


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

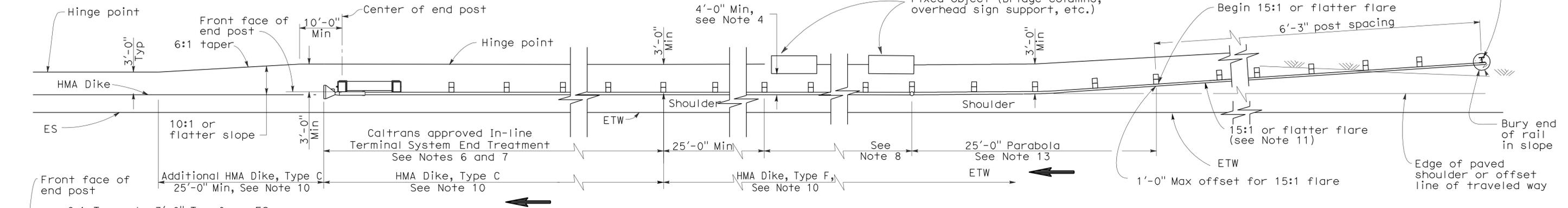
Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

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

PARABOLIC FLARE OFFSETS

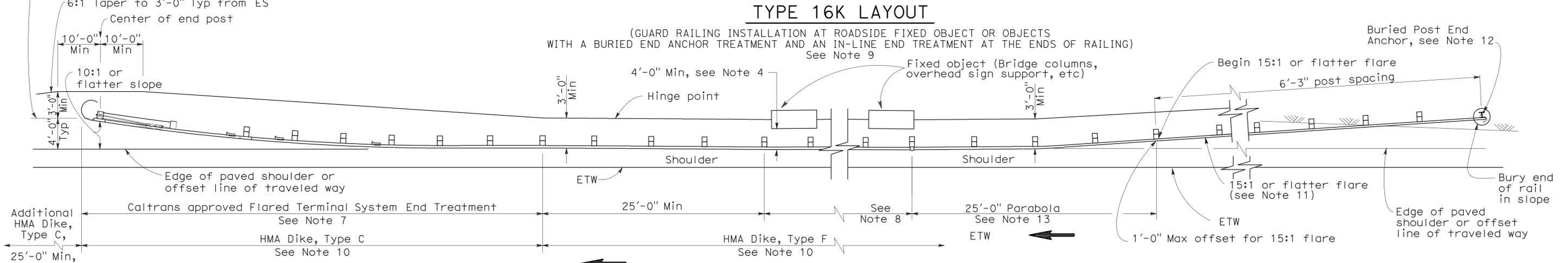


TYPICAL PARABOLIC LAYOUT



TYPE 16K LAYOUT

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



TYPE 16L LAYOUT

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

NOTES:

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

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

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

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

NO SCALE
RSP A77G8 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77G8
DATED MAY 1, 2006 - PAGE 66 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G8

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	54	79

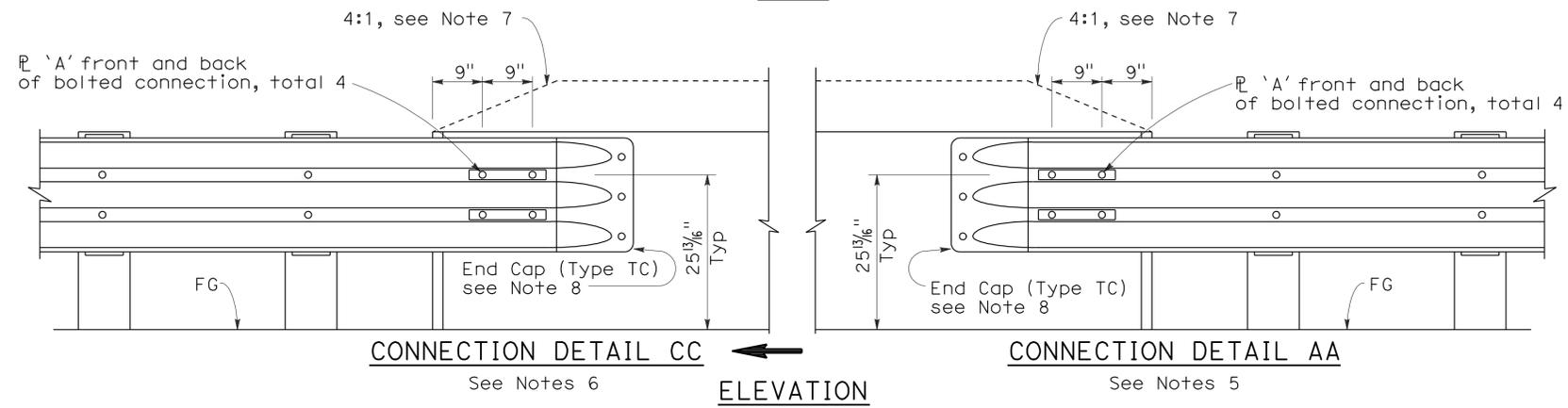
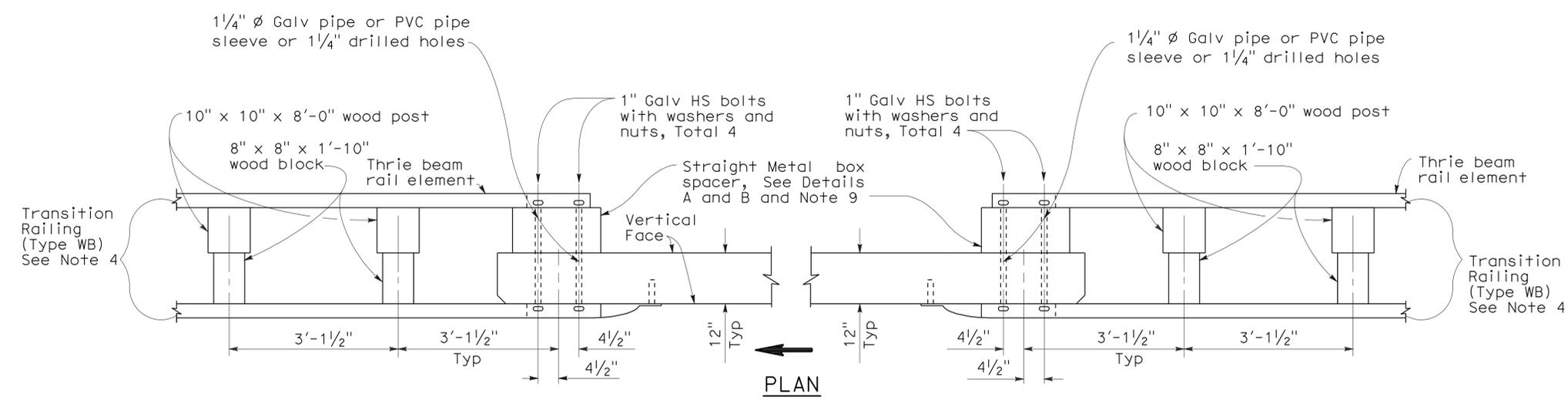
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

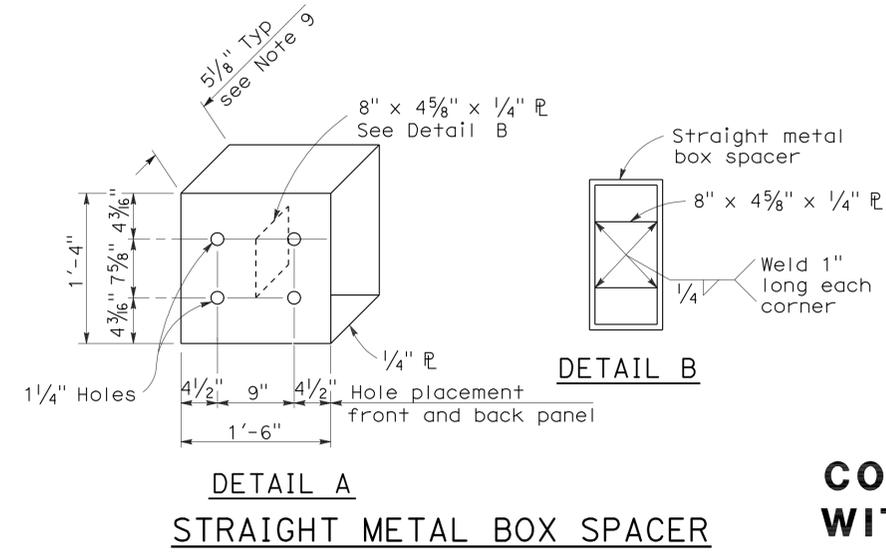
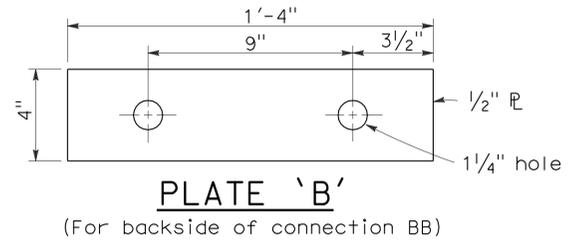
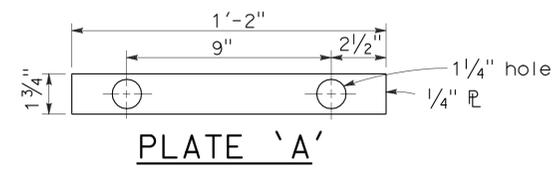
To accompany plans dated 1-3-11



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

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



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

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

REVISED STANDARD PLAN RSP A77J2

2006 REVISED STANDARD PLAN RSP A77J2

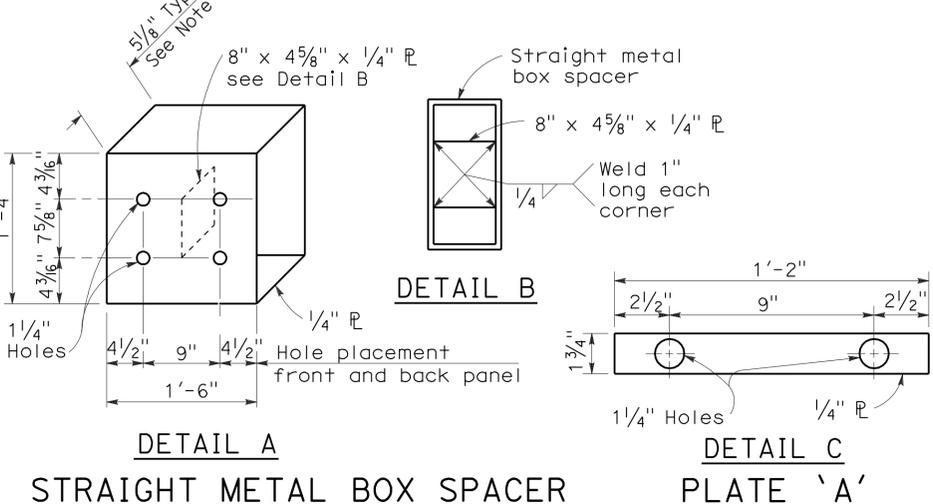
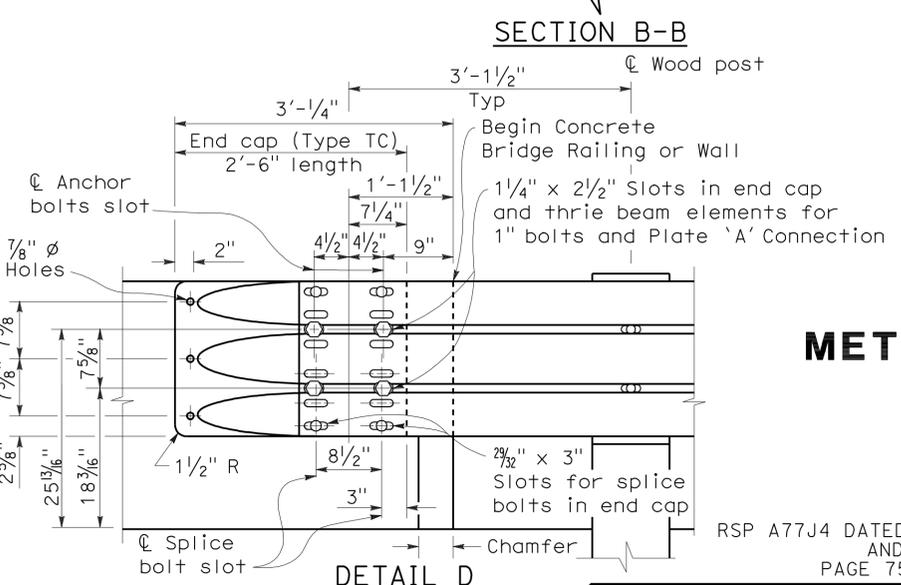
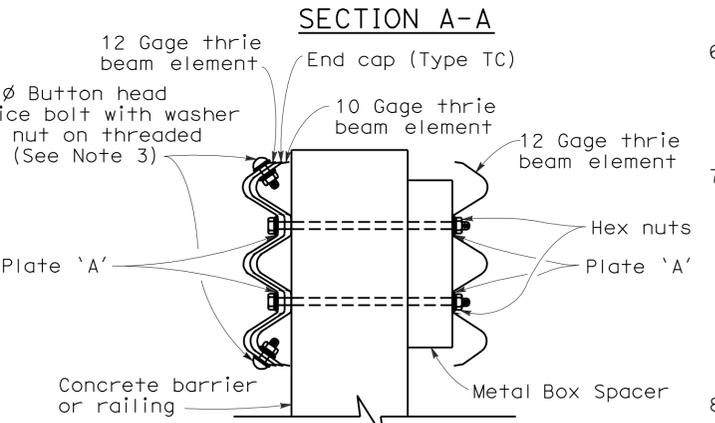
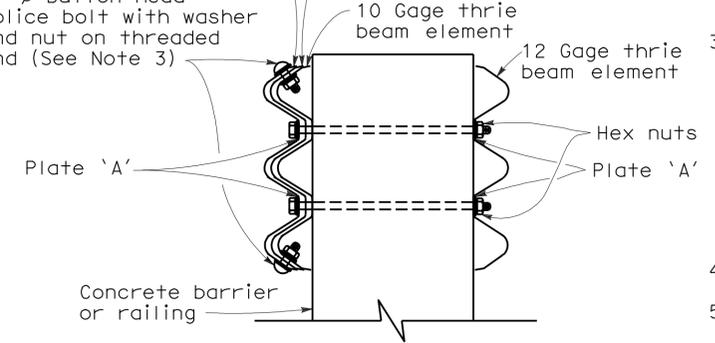
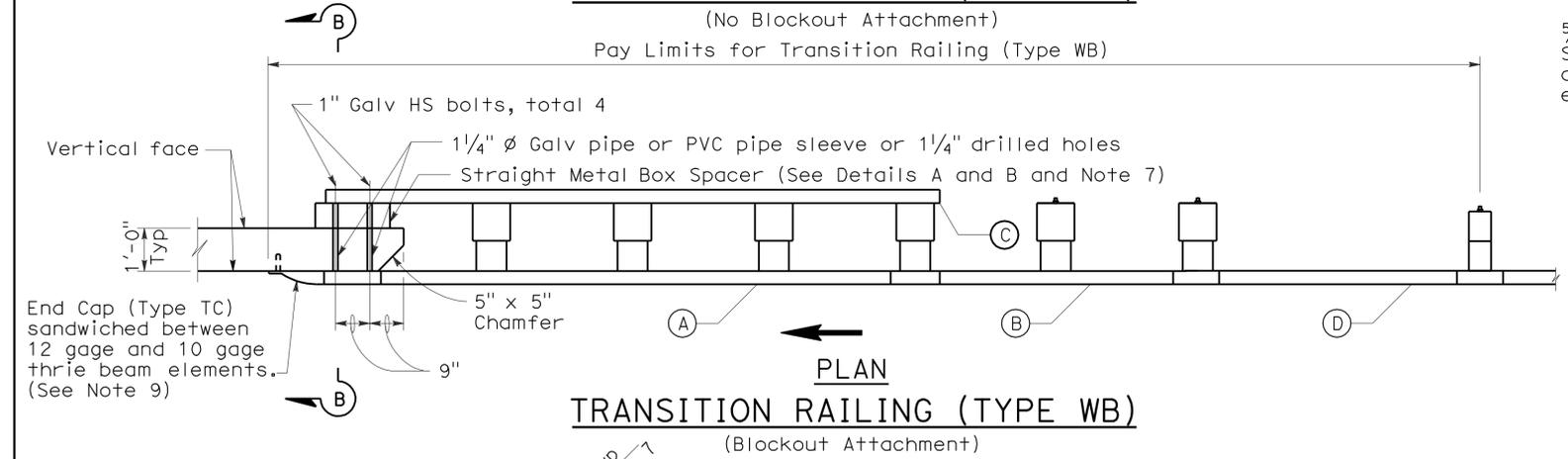
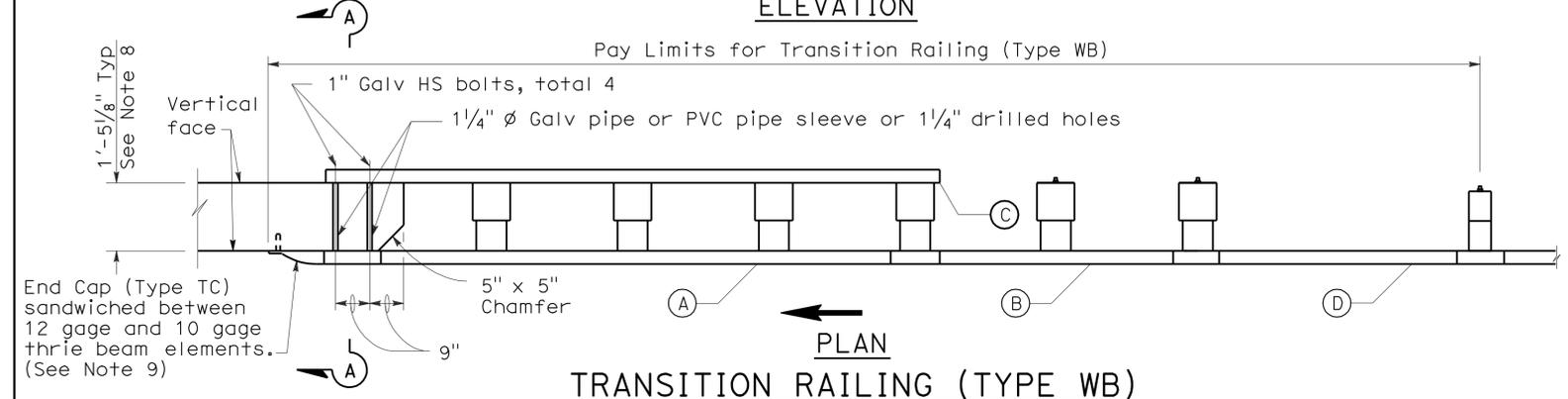
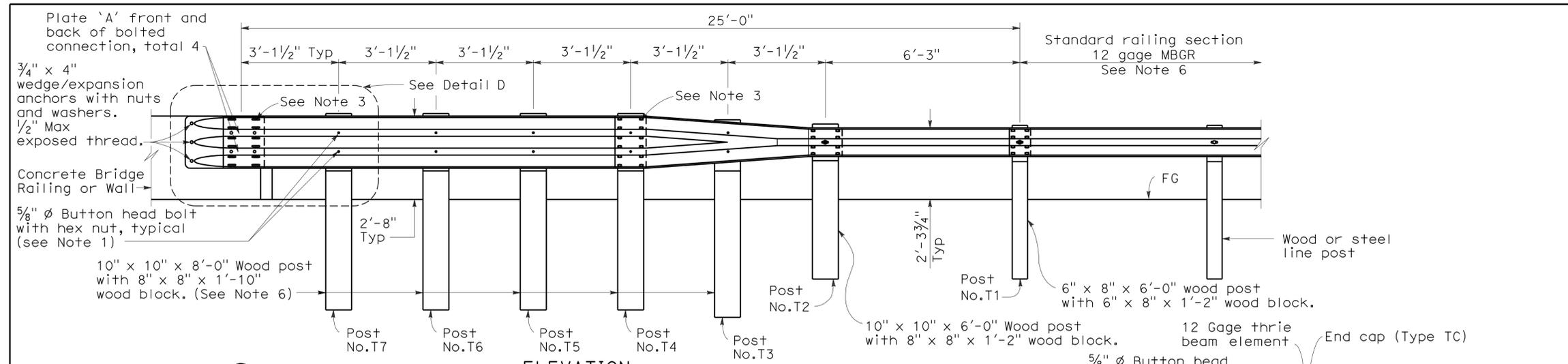
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	55	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 5, 2009
PLANS APPROVAL DATE

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- 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

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

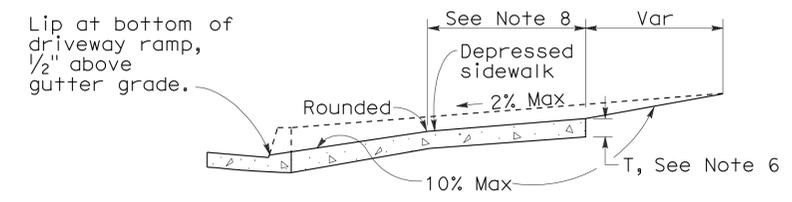
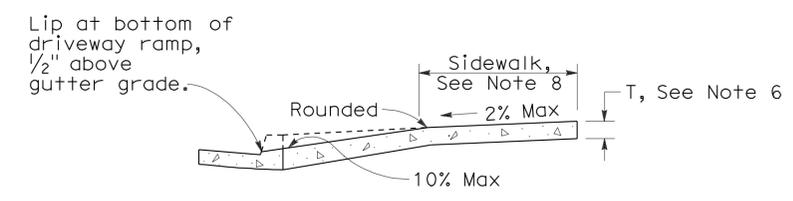
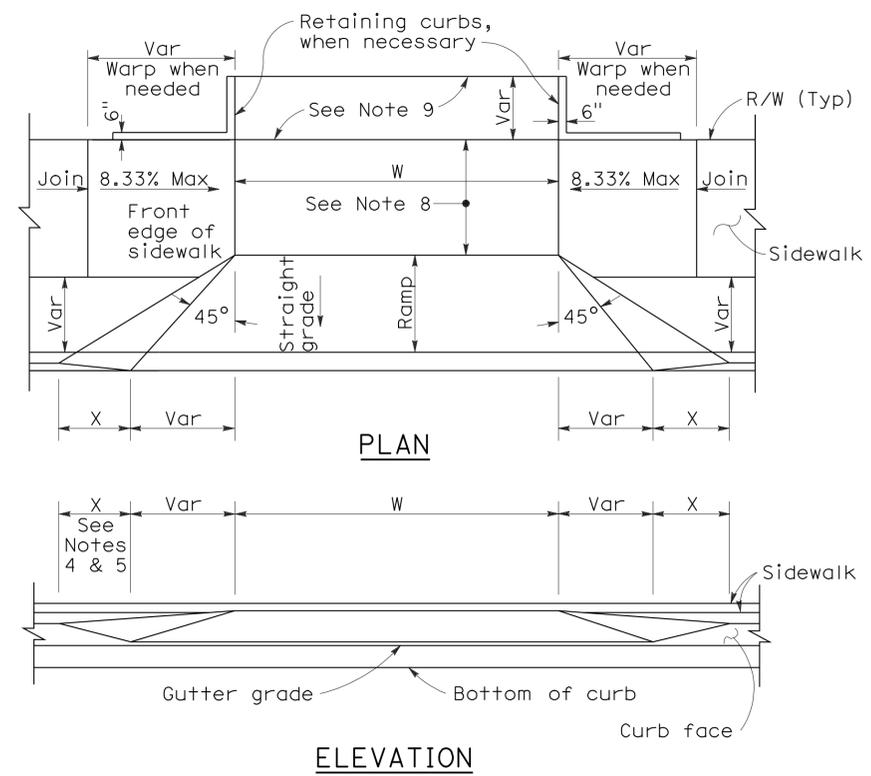
**METAL BEAM GUARD RAILING
TRANSITION RAILING
(TYPE WB)**

NO SCALE

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

REVISED STANDARD PLAN RSP A77J4

2006 REVISED STANDARD PLAN RSP A77J4



SECTIONS

CURB QUANTITIES

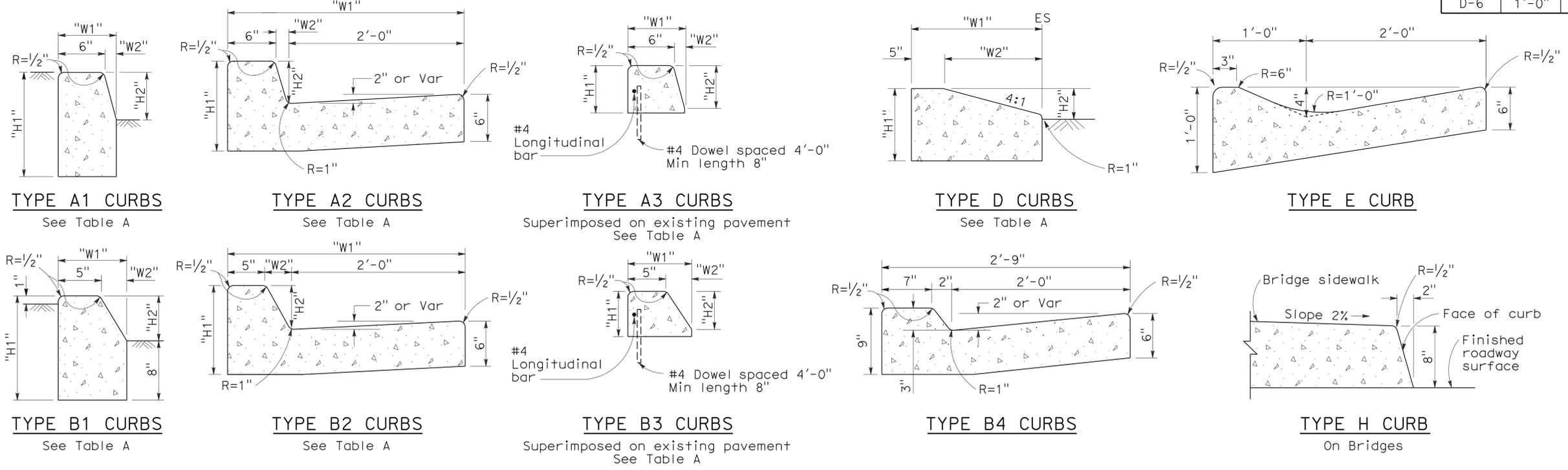
TYPE	CUBIC YARDS PER LINEAR FOOT
A1-6	0.02585
A1-8	0.03084
A2-6	0.05903
A2-8	0.06379
A3-6	0.01036
A3-8	0.01435
B1-4	0.02185
B1-6	0.02930
B2-4	0.05515
B2-6	0.06171
B3-4	0.00641
B3-6	0.01074
B4	0.05709
D-4	0.04083
D-6	0.06804
E	0.06661

TABLE A

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

To accompany plans dated 1-3-11

DRIVEWAYS



NOTES:

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

CURBS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CURBS AND DRIVEWAYS

NO SCALE

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	57	79

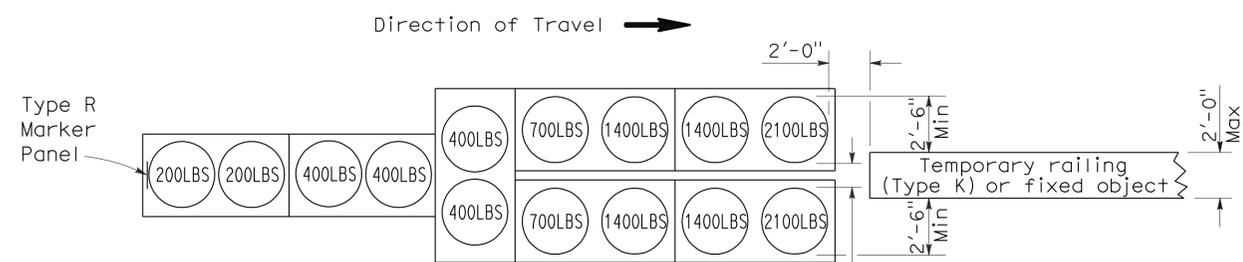
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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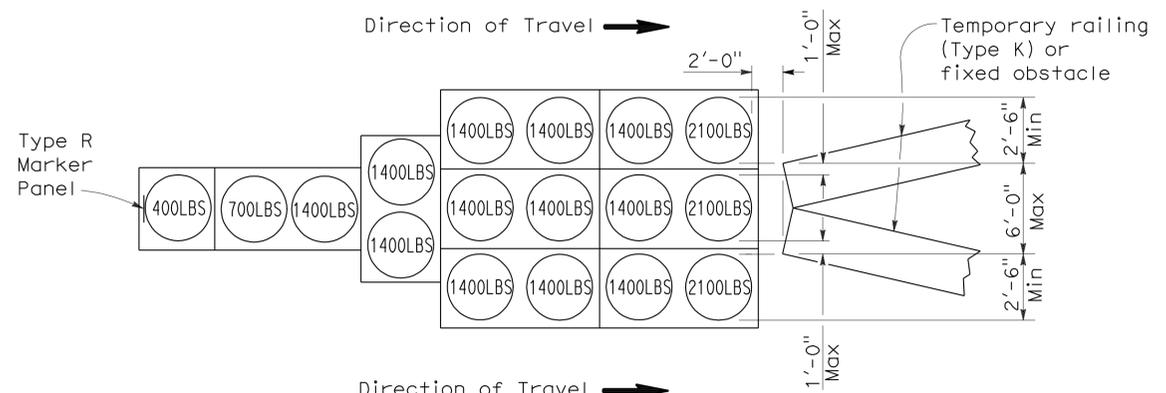
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 1-3-11



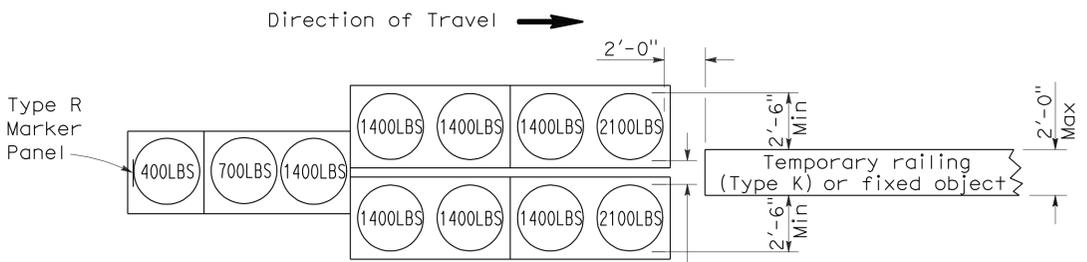
ARRAY 'TU14'

Approach speed 45 mph or more



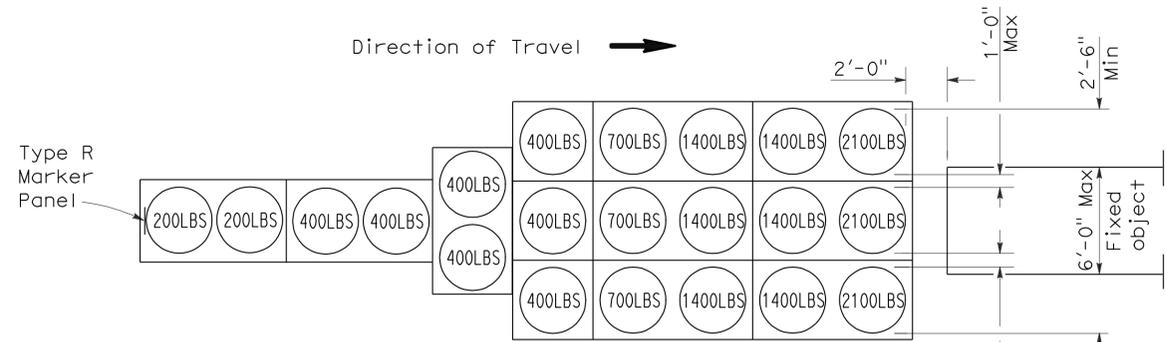
ARRAY 'TU17'

Approach speed less than 45 mph



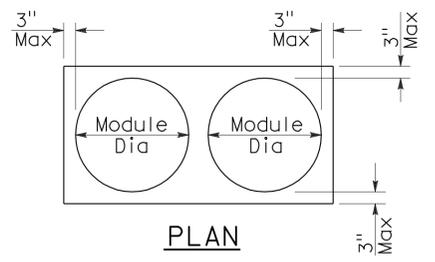
ARRAY 'TU11'

Approach speed less than 45 mph

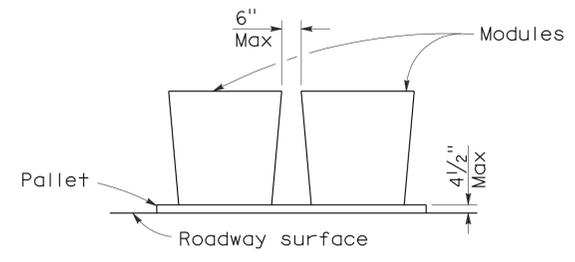


ARRAY 'TU21'

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

2006 REVISED STANDARD PLAN RSP T1A

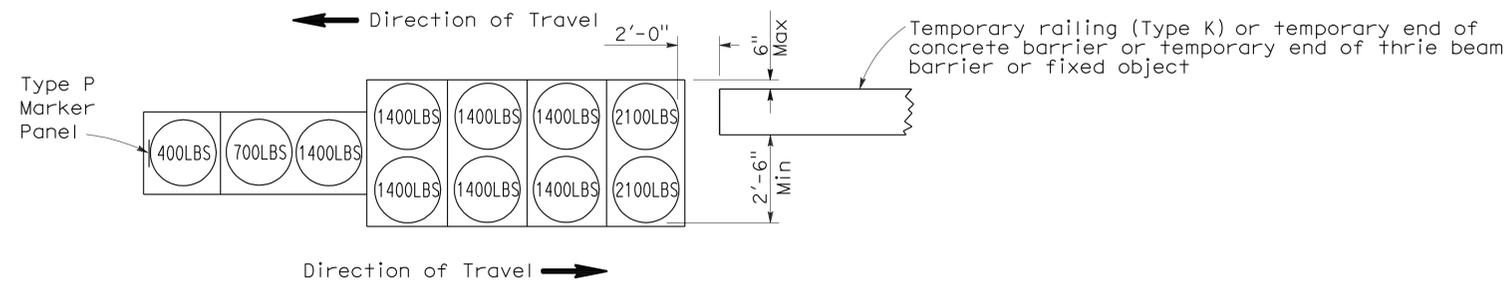
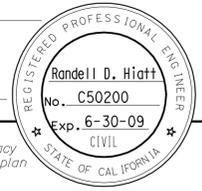
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111, 195,371,62	Var	58	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

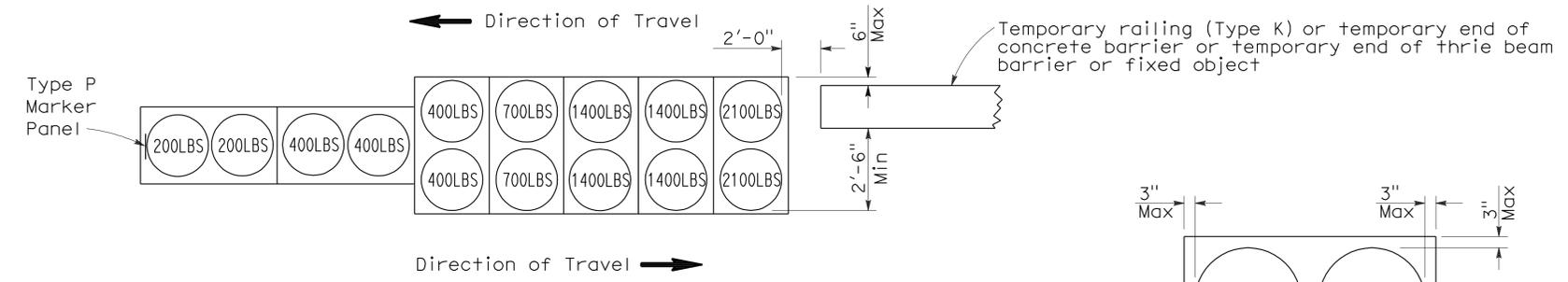
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 1-3-11



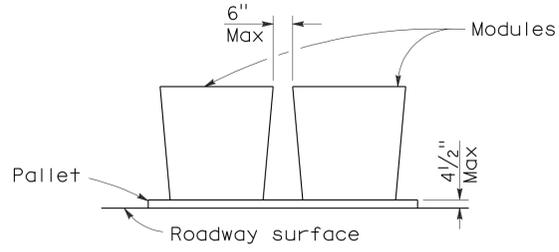
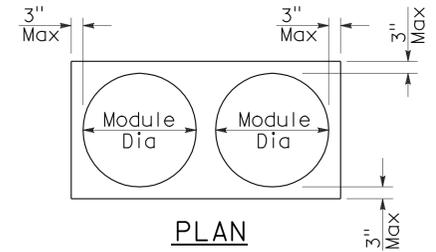
ARRAY 'TB11'

Approach speed less than 45 mph



ARRAY 'TB14'

Approach speed 45 mph or more



CRASH CUSHION PALLET DETAIL
See Note 7

NOTES:

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

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

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

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

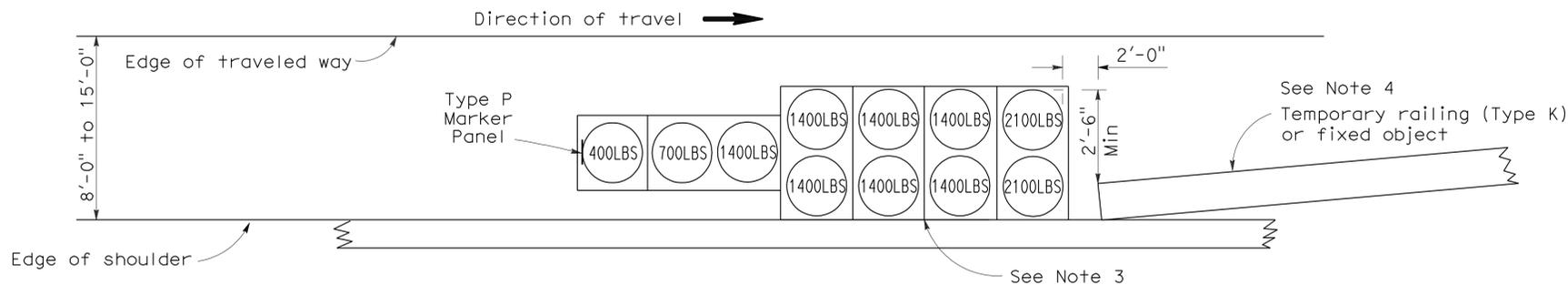
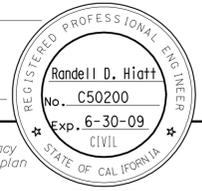
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111, 195,371,62	Var	59	79

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

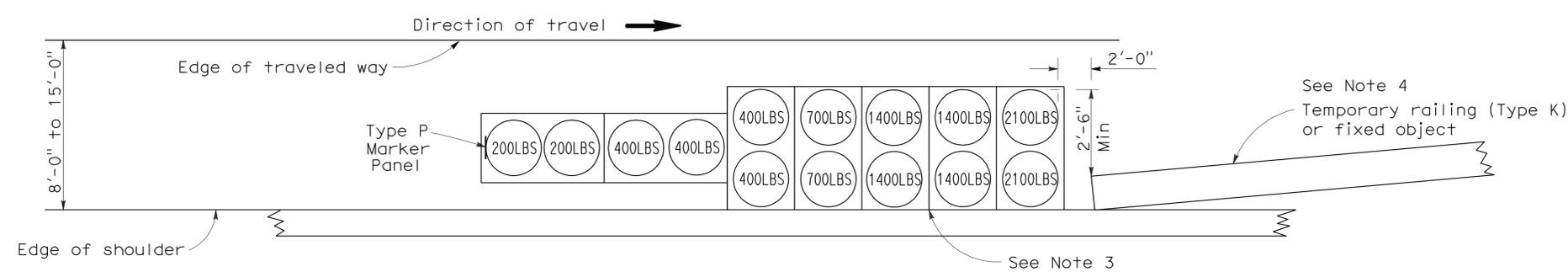
June 6, 2008
PLANS APPROVAL DATE

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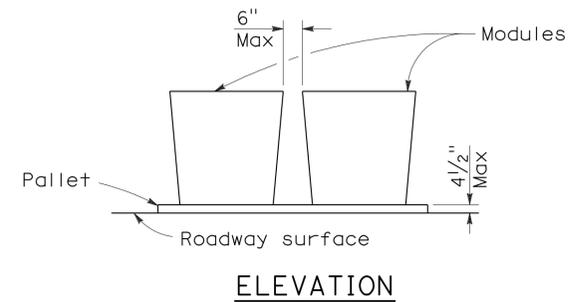
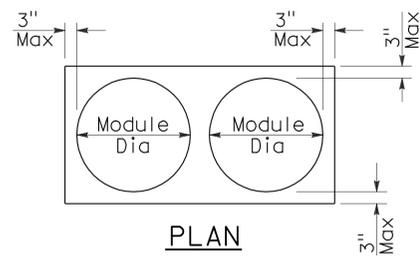
To accompany plans dated 1-3-11



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)**

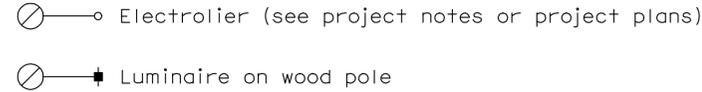
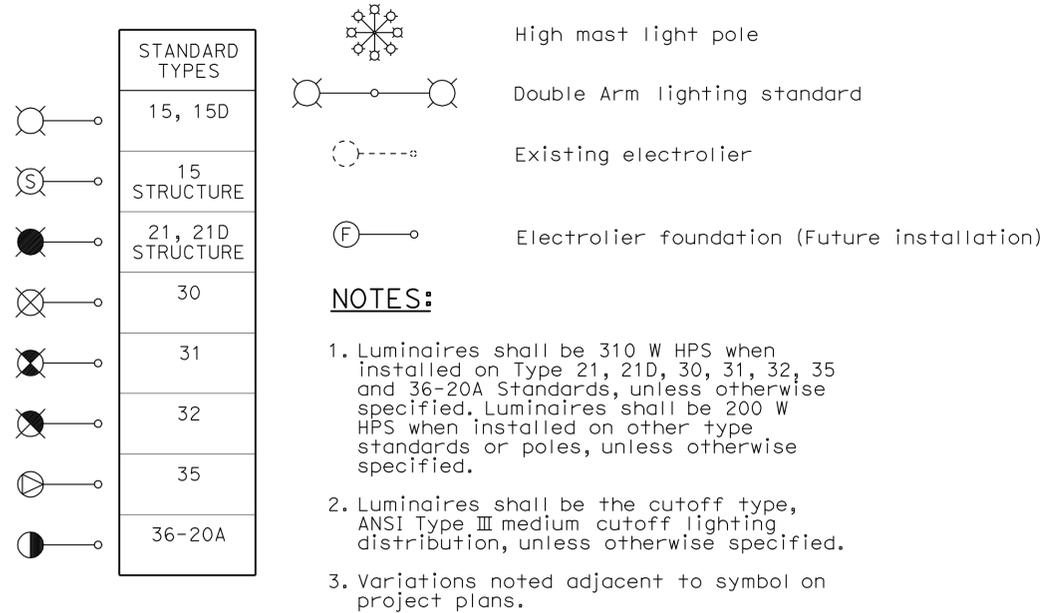
NO SCALE

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

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

ELECTROLIERS



STANDARD NOTES:

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

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	60	79

Jeffery G. McRae
REGISTERED ELECTRICAL ENGINEER

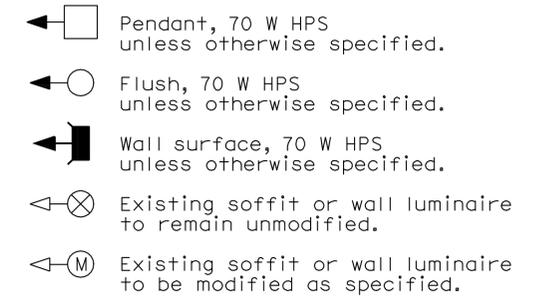
October 5, 2007
PLANS APPROVAL DATE

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

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To accompany plans dated 1-3-11

SOFFIT AND WALL MOUNTED LUMINAIRES



NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1A

2006 REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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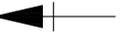
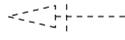
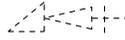
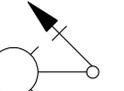
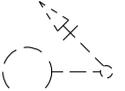
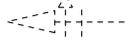
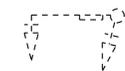
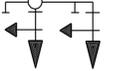
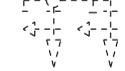
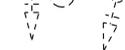
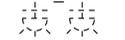
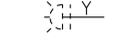
Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

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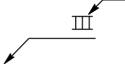
CONDUIT

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

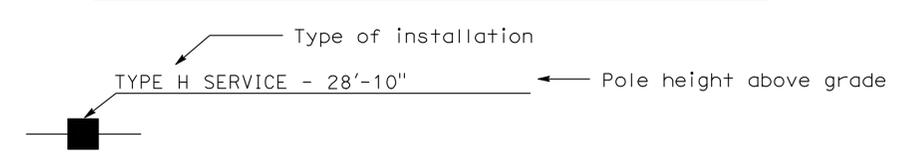
SIGNAL EQUIPMENT

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

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

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

SIGNAL EQUIPMENT Cont

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

NOTES:

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

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

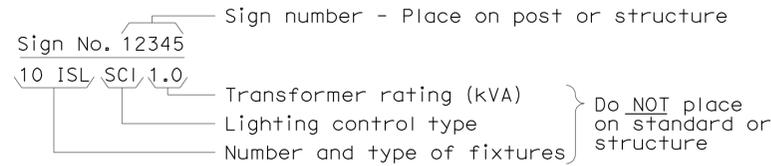
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

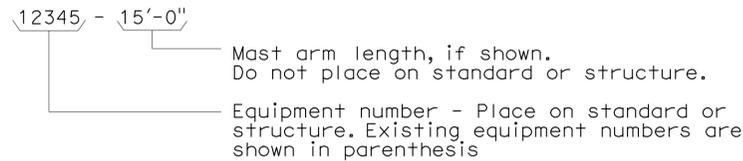
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

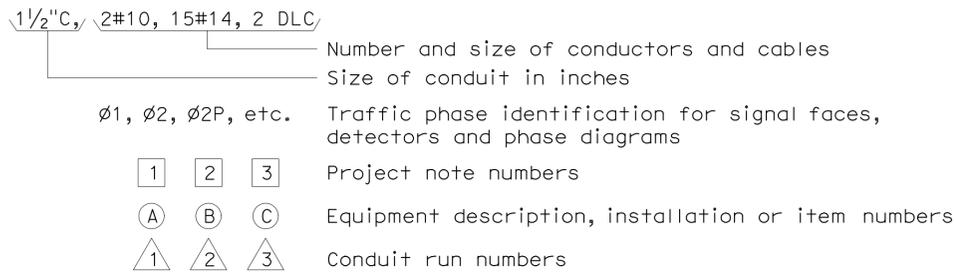
ILLUMINATED SIGN IDENTIFICATION NUMBER:



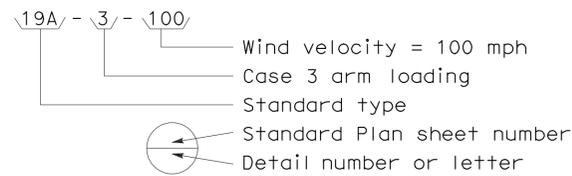
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



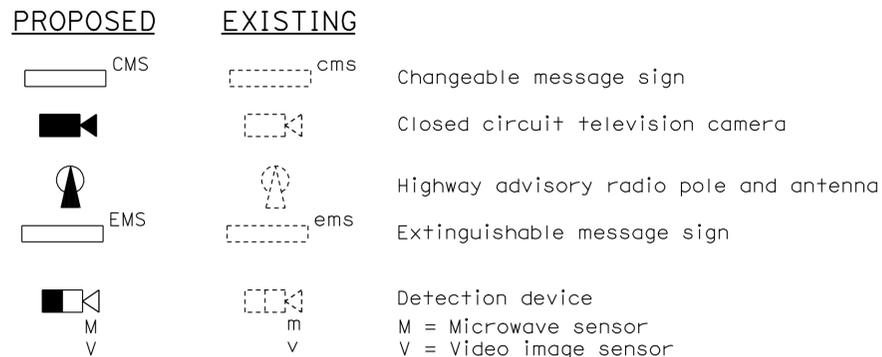
CONDUIT AND CONDUCTOR IDENTIFICATION:



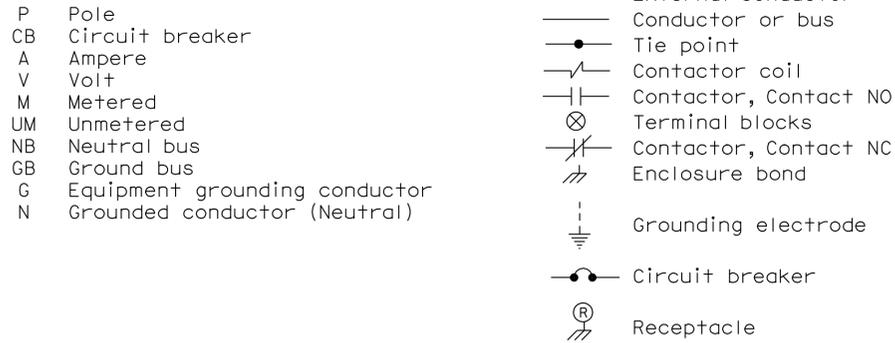
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



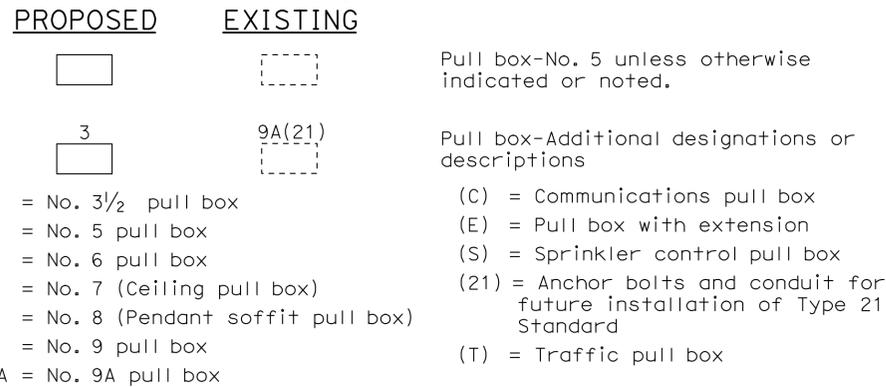
MISCELLANEOUS EQUIPMENT



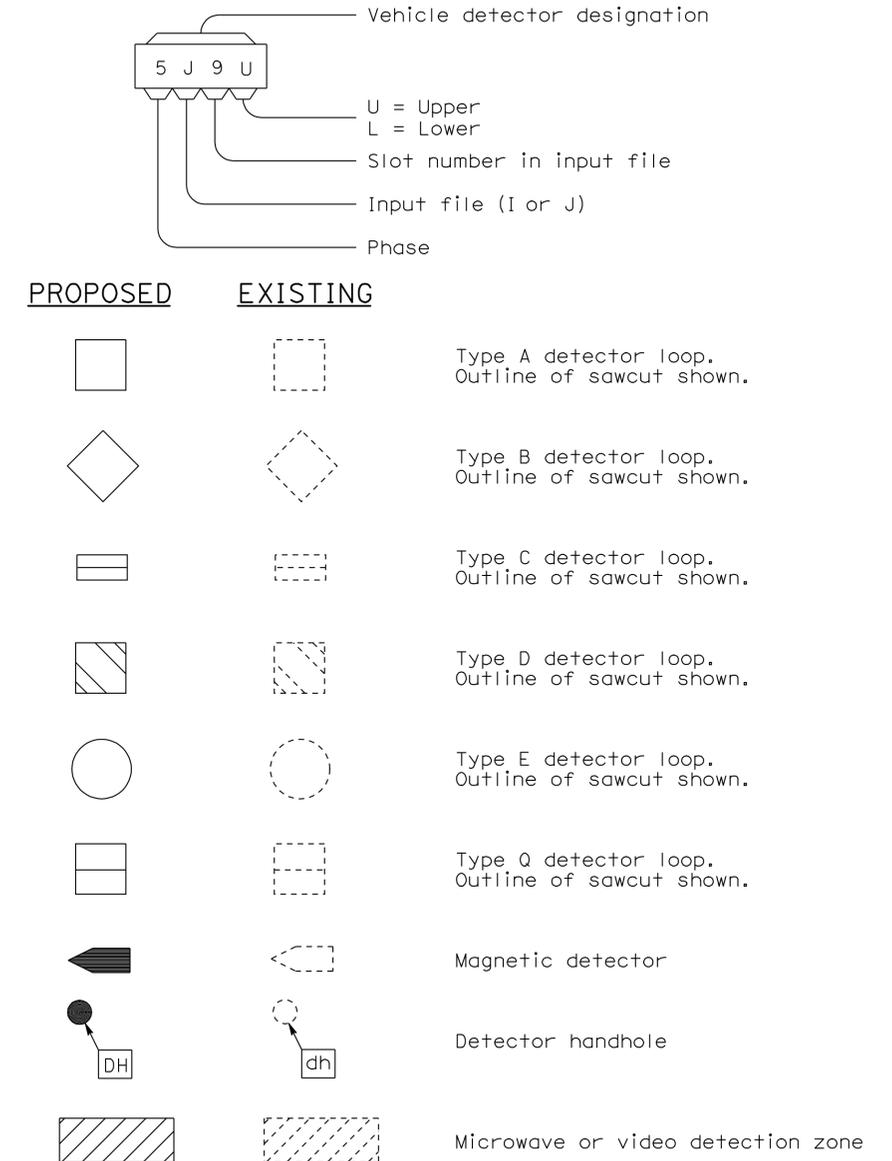
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SYMBOLS AND ABBREVIATIONS)

NO SCALE

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

2006 REVISED STANDARD PLAN RSP ES-1C

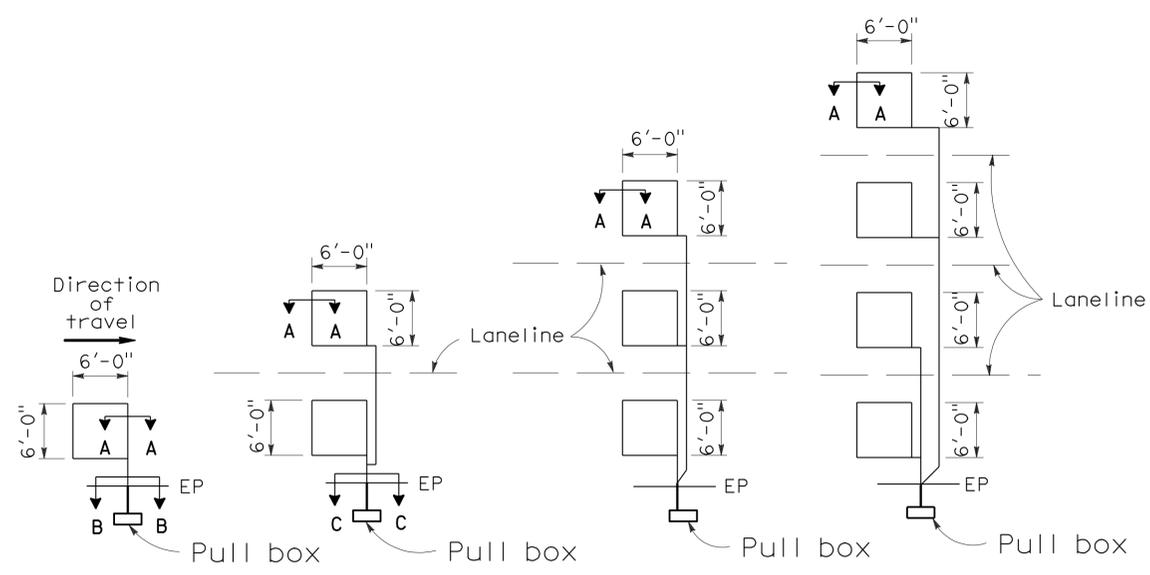
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	Riv, SBd	10,74,86S,111,195,371,62	Var	63	79

REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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2006 REVISED STANDARD PLAN RSP ES-5A

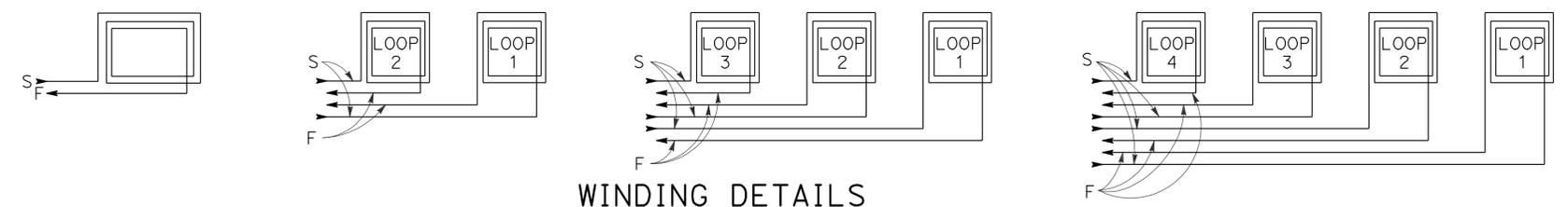
LOOP INSTALLATION PROCEDURE

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



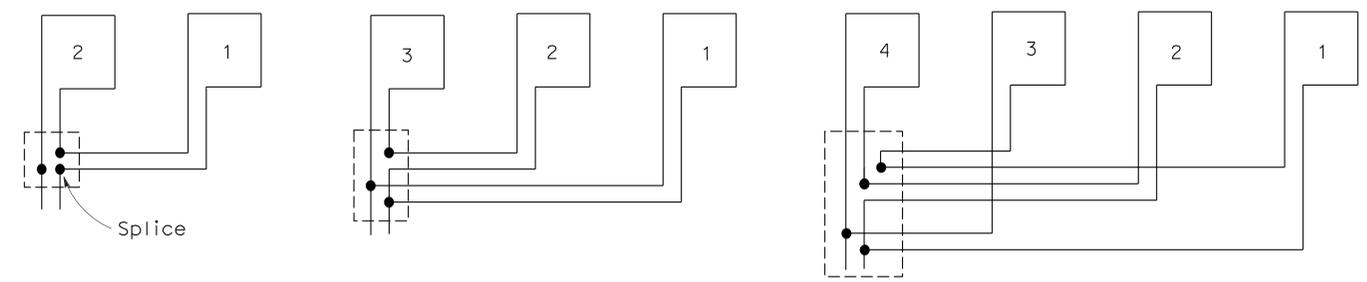
TYPE 1A INSTALLATION TYPE 2A INSTALLATION TYPE 3A INSTALLATION TYPE 4A INSTALLATION
SAWCUT DETAILS

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



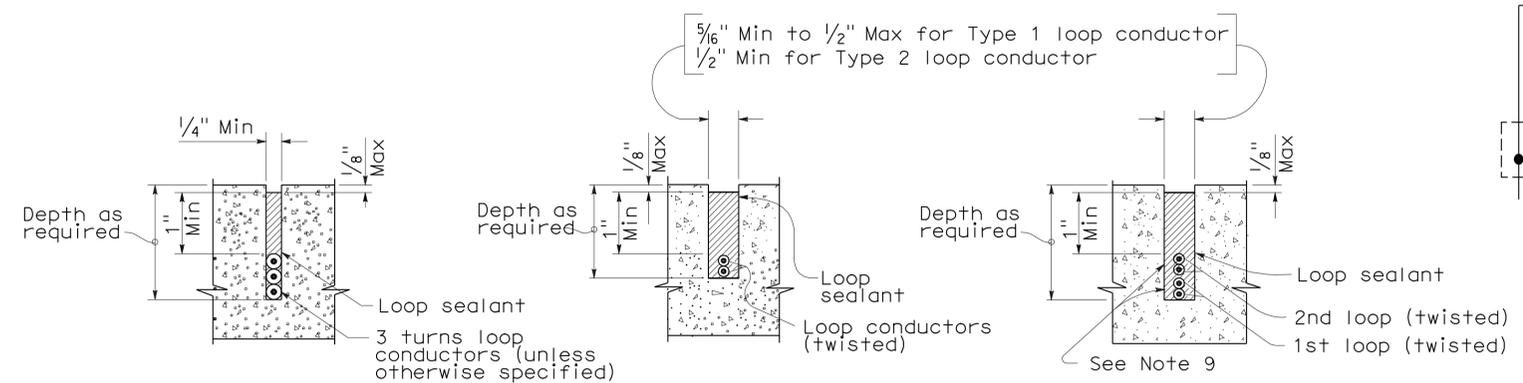
WINDING DETAILS

See Notes 6 and 7



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)



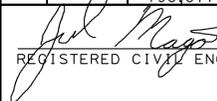
SECTION A-A SECTION B-B SECTION C-C
SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR

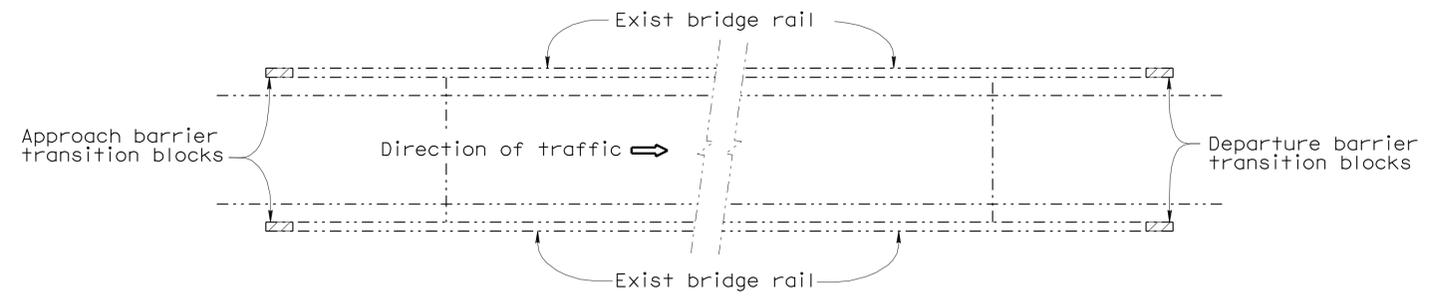
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (DETECTORS)**

NO SCALE

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

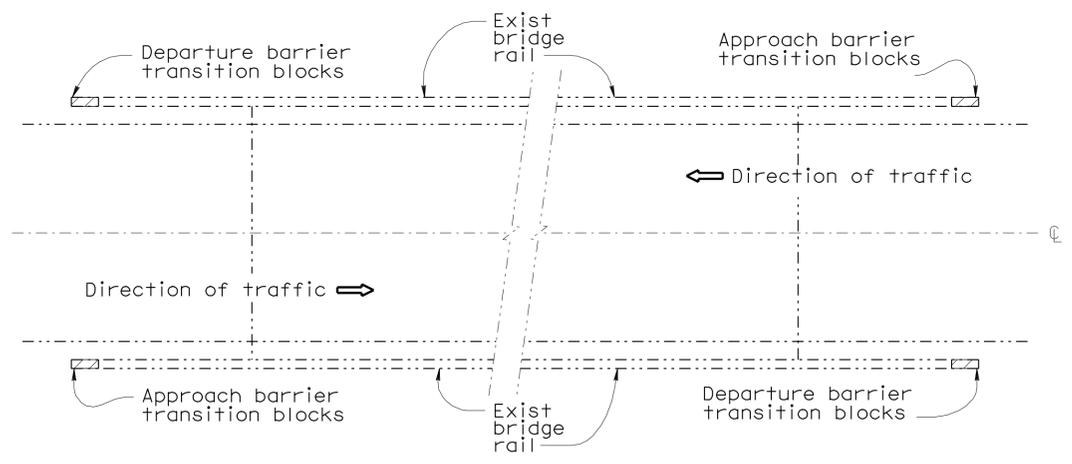
REVISED STANDARD PLAN RSP ES-5A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10,74,865,111, 195,371,62	Var	64	79
 REGISTERED CIVIL ENGINEER			8-2-10	DATE	
1-3-11 PLANS APPROVAL DATE					
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**ONE WAY BRIDGES
(PLAN A)**
NO SCALE

Note:
For MBGR see ROADWAY PLANS



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

Note:
See "Roadway Plans" for work locations.

INDEX TO PLANS

Sheet No.	Title
1.	General Plan
2.	Type 1 Barrier (Case 1 and 2)
3.	Type 8 Barrier (Case 1)
4.	Type 8 Barrier (Case 2)
5.	Type 9 Barrier (Case 1)
6.	Type 9 Barrier (Case 2)
7 & 8.	Type 11 Barrier
9.	Type 15 Bridge Railing
10.	Type 25 Barrier (Case 1)
11.	Type 25 Barrier (Case 2)
12.	Type 27 (Mod) Barrier
13.	Type 30 Barrier
14-16.	Culvert Concrete Barrier (Cases 1 and 2)

STANDARD PLANS DATED MAY 2006

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

TRANSITION ANCHOR BLOCKS	BRIDGE No. VARIOUS
STRUCTURE EXCAVATION (BRIDGE)	202 CY
STRUCTURE BACKFILL (BRIDGE)	145 CY
STRUCTURAL CONCRETE (BARRIER TRANSITION BLOCK)	135 CY
DRILL AND BOND DOWEL	762 LF
BAR REINFORCING STEEL (BRIDGE)	23,009 LB

JAMES SAGAR
DESIGN ENGINEER

DESIGN	BY J Magana	CHECKED Yu Song	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE
DETAILS	BY H Nguyen	CHECKED J Magana	LAYOUT	BY J Magana
QUANTITIES	BY J Magana	CHECKED Yu Song	SPECIFICATIONS	BY K Ellingson
			PLANS AND SPECS COMPARED	BY K Ellingson

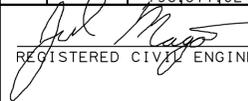
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

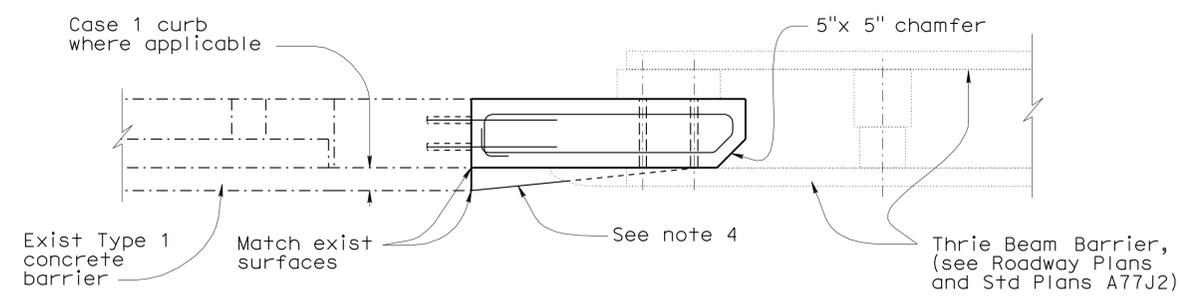
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO.	Varies
POST MILE	Varies

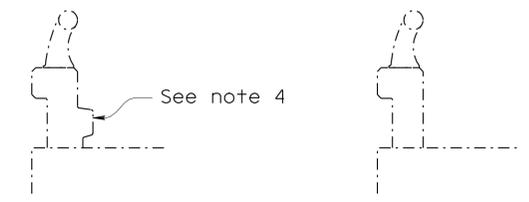
**TRANSITION ANCHOR BLOCKS
GENERAL PLAN**

TIME PLOTTED => 10:42 USERNAME => hrt1chf DATE PLOTTED => 05-JAN-2011

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10,74,865,111, 195,371,62	Var	65	79
 REGISTERED CIVIL ENGINEER			8-2-10	DATE	
1-3-11 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.					

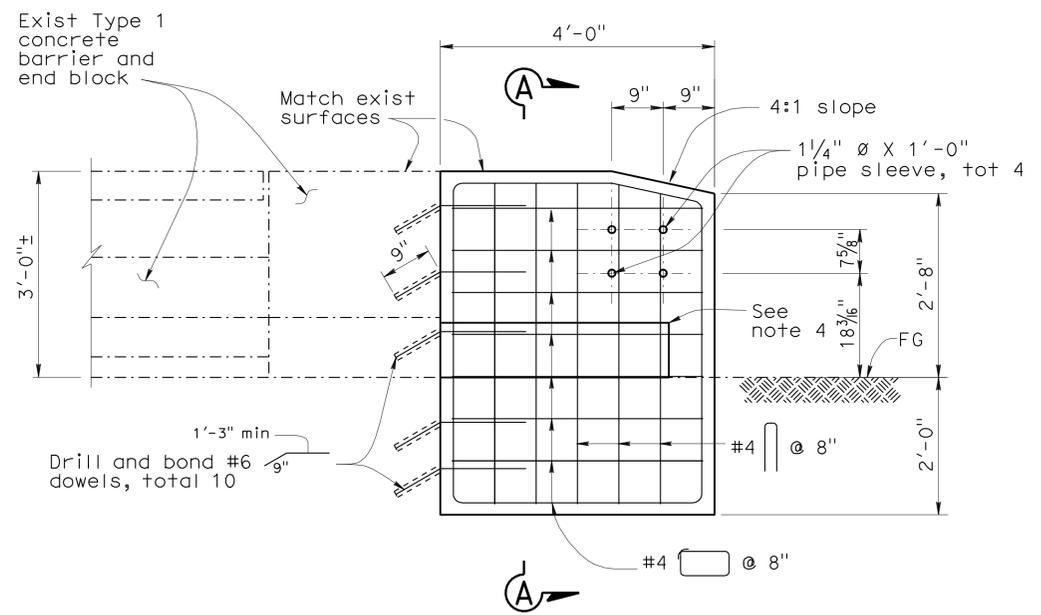


PLAN
NO SCALE

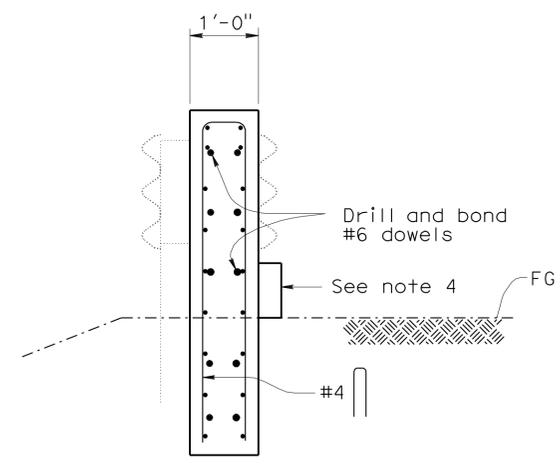


CASE 1 **CASE 2**

TYPICAL SECTION EXISTING TYPE 1 BARRIER RAIL
NO SCALE



ELEVATION
NO SCALE



SECTION A-A
NO SCALE

Notes:

- For identification of Plan A or Plan B, see General Plan (GP).
- For limits of excavation and backfill see Standard Plans May 2006 A62C, Section E-E.
- See Roadway Plans for work locations.
- If existing barrier rail is similar to Case 1, transition curb 10:1 until flush with vert face of transition block. If exist barrier rail is similar to Case 2, construct only transition block, (w/out curb transition).
- Mortar fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.
- Existing barrier heights vary. Where exist barrier height is more than 2'-8", transition barrier height to 2'-8" @ 4:1 slope.

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

Legend:
 ----- Indicates existing structure
 _____ Indicates new construction

LOCATION TABLE OF TYPE 1 BARRIER TRANSITION BLOCK APPLICATIONS

Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of Connections (WB)		GP Type	Case
					Approach End	Departure End		
56-0273 R/L	Garnet Creek	10	32.35	EB WB	1 1		A	2

DESIGN	BY J. Magana	CHECKED Yu Song
DETAILS	BY H. Nguyen	CHECKED J. Magana
QUANTITIES	BY J. Magana	CHECKED Yu Song

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

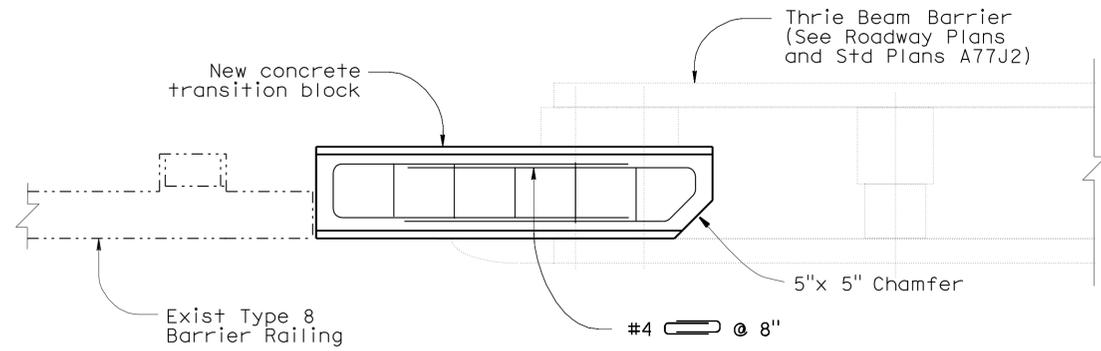
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

TYPE 1 BARRIER (CASE 1 AND CASE 2)
TRANSITION ANCHOR BLOCK DETAILS

USERNAME => hpright DATE PLOTTED => 05-JAN-2011 TIME PLOTTED => 10:42

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10, 74, 86S, 111, 195, 371, 62	Var	66	79

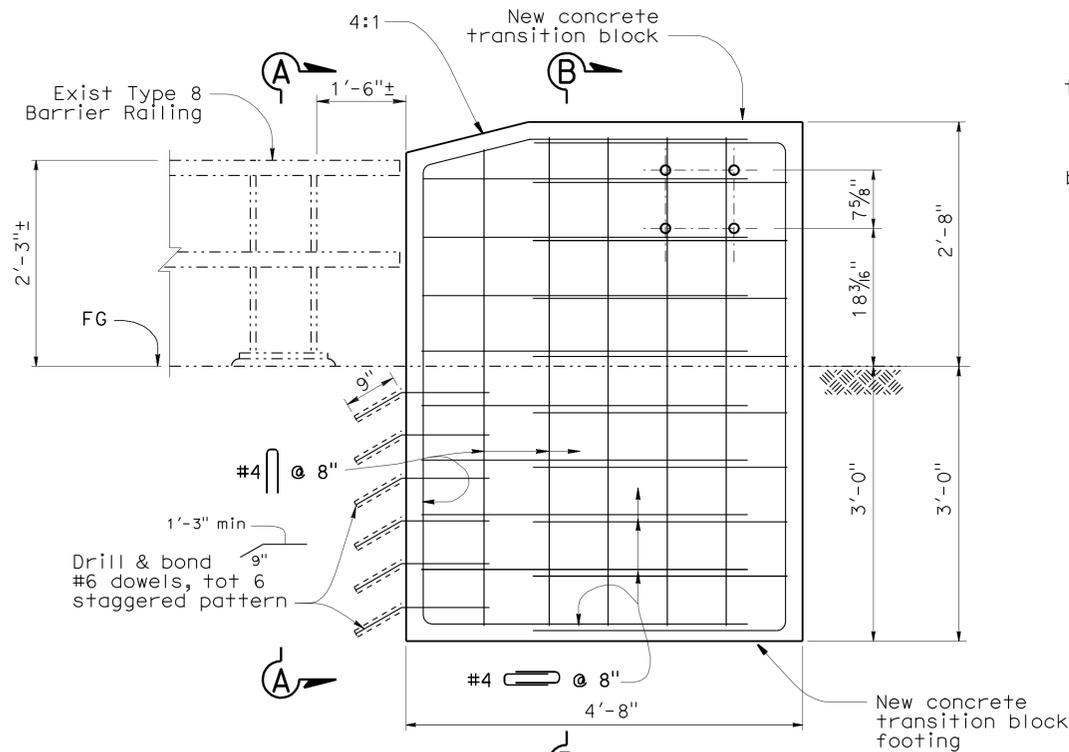
REGISTERED CIVIL ENGINEER DATE 8-2-10
 PLANS APPROVAL DATE 1-3-11
 No. C61500
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



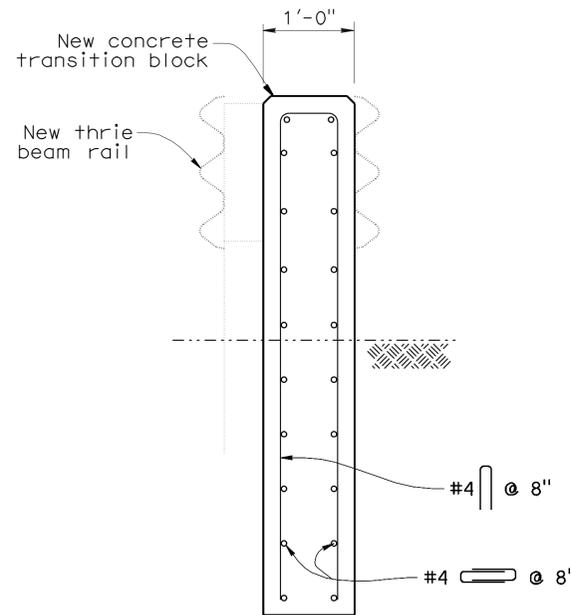
PLAN
NO SCALE

LOCATION TABLE OF TYPE 8 BARRIER TRANSITION BLOCK APPLICATIONS

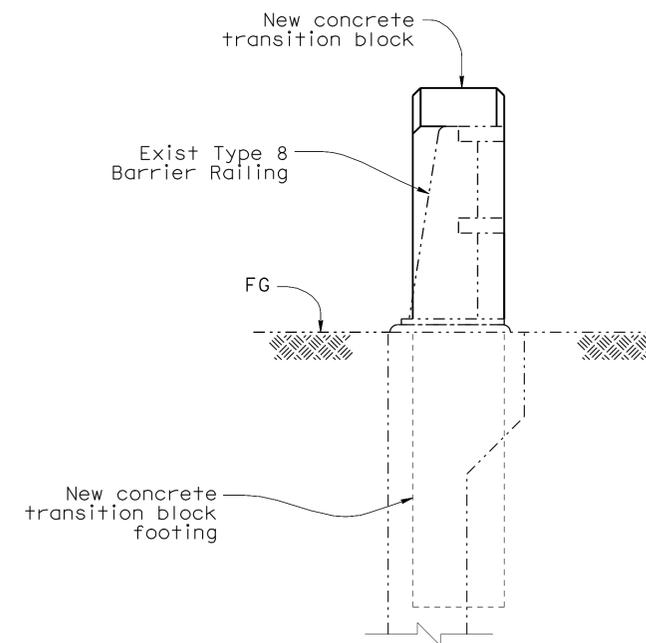
Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of Connections (WB)		GP Type
					Approach End	Departure End	
56-0165 R/L	Mission Creek	10	34.73	EB	1		A
			WB	1			
56-0300	Ramon Wash		35.61	EB	1		B
			WB	1			
56-0301	Salvia Wash		36.49	EB	1		
			WB	1			
56-0302	Edom Wash	36.82	EB	1			
		WB	1				
56-0303	Willow Wash	37.14	EB	1			
		WB	1				



ELEVATION
NO SCALE



SECTION B-B
NO SCALE



SECTION A-A
NO SCALE

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

Legend:
 ----- Indicates existing structure
 _____ Indicates new construction

NOTES:

- For identification of Plan A or Plan B, see General Plan (GP).
- For limits of excavation and backfill see Standard Plans May 2006 A62c, Section E-E.
- See Roadway Plans for work locations.
- Mortar fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.
- Existing barrier heights vary. Where exist barrier height is less than 2'-8", transition barrier height to 2'-8" @ 4:1 slope.

DESIGN	BY J Magana	CHECKED Yu Song
DETAILS	BY H Nguyen	CHECKED J Magana
QUANTITIES	BY J Magana	CHECKED Yu Song

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGNS BRANCH

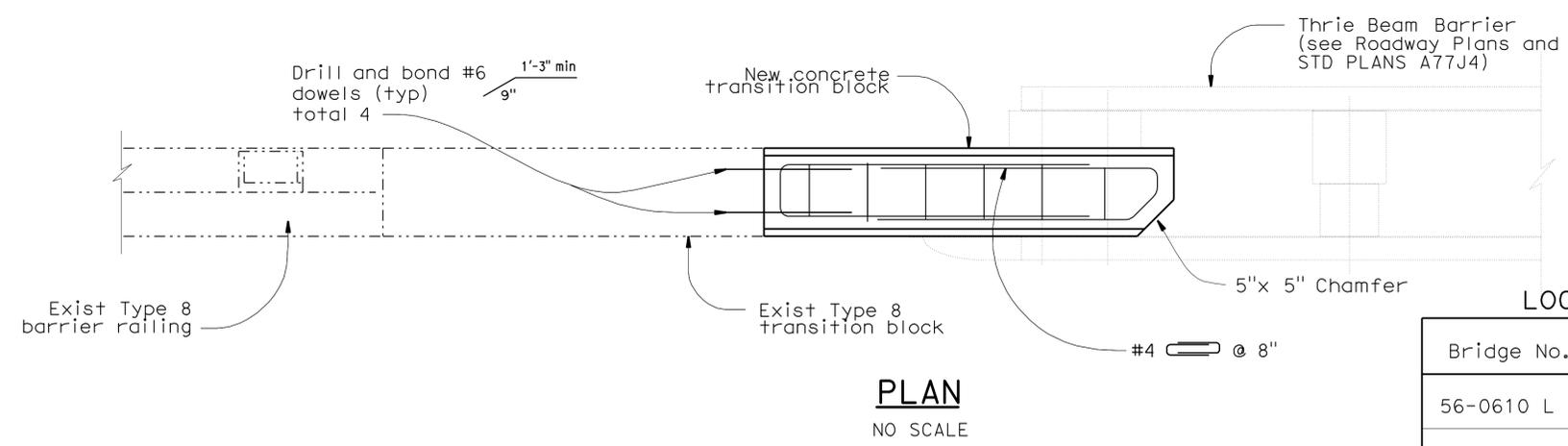
BRIDGE NO.	Varies
POST MILE	Varies

TYPE 8 BARRIER (CASE 1)
TRANSITION ANCHOR BLOCK DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv. Sbd	10, 74, 86S, 111, 195, 371, 62	Var	67	79

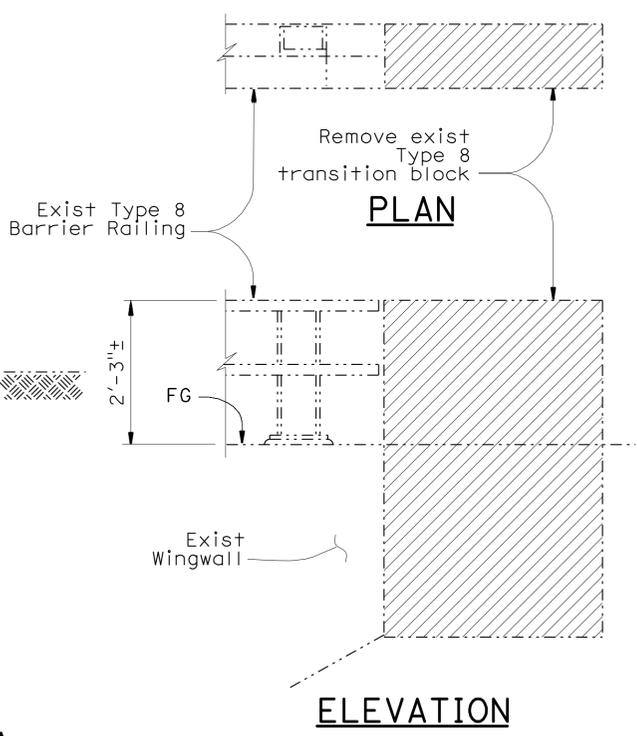
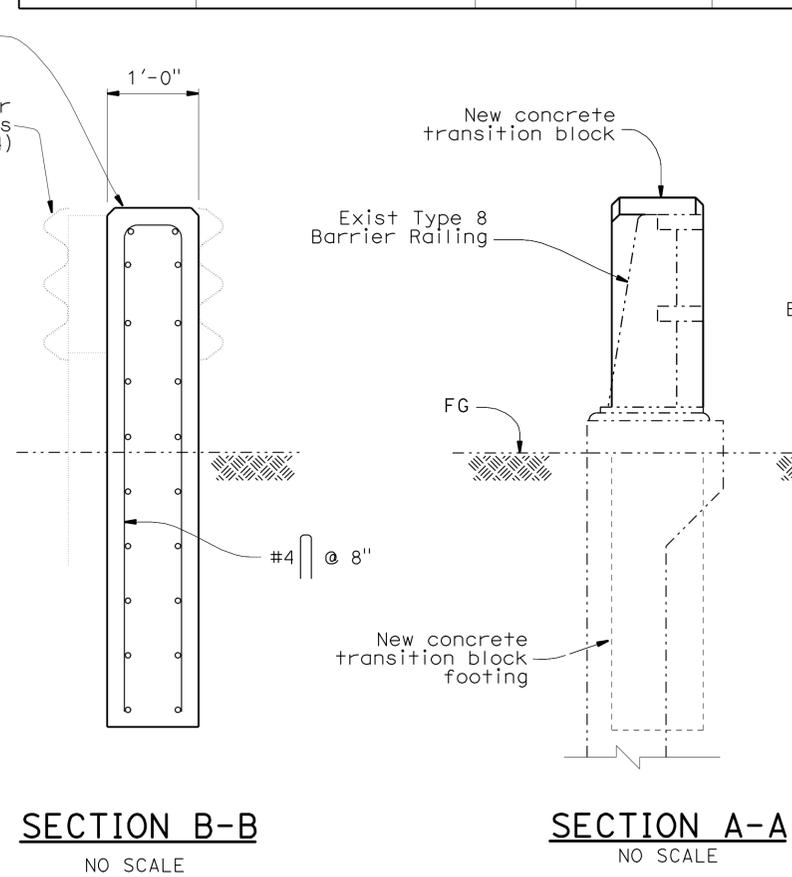
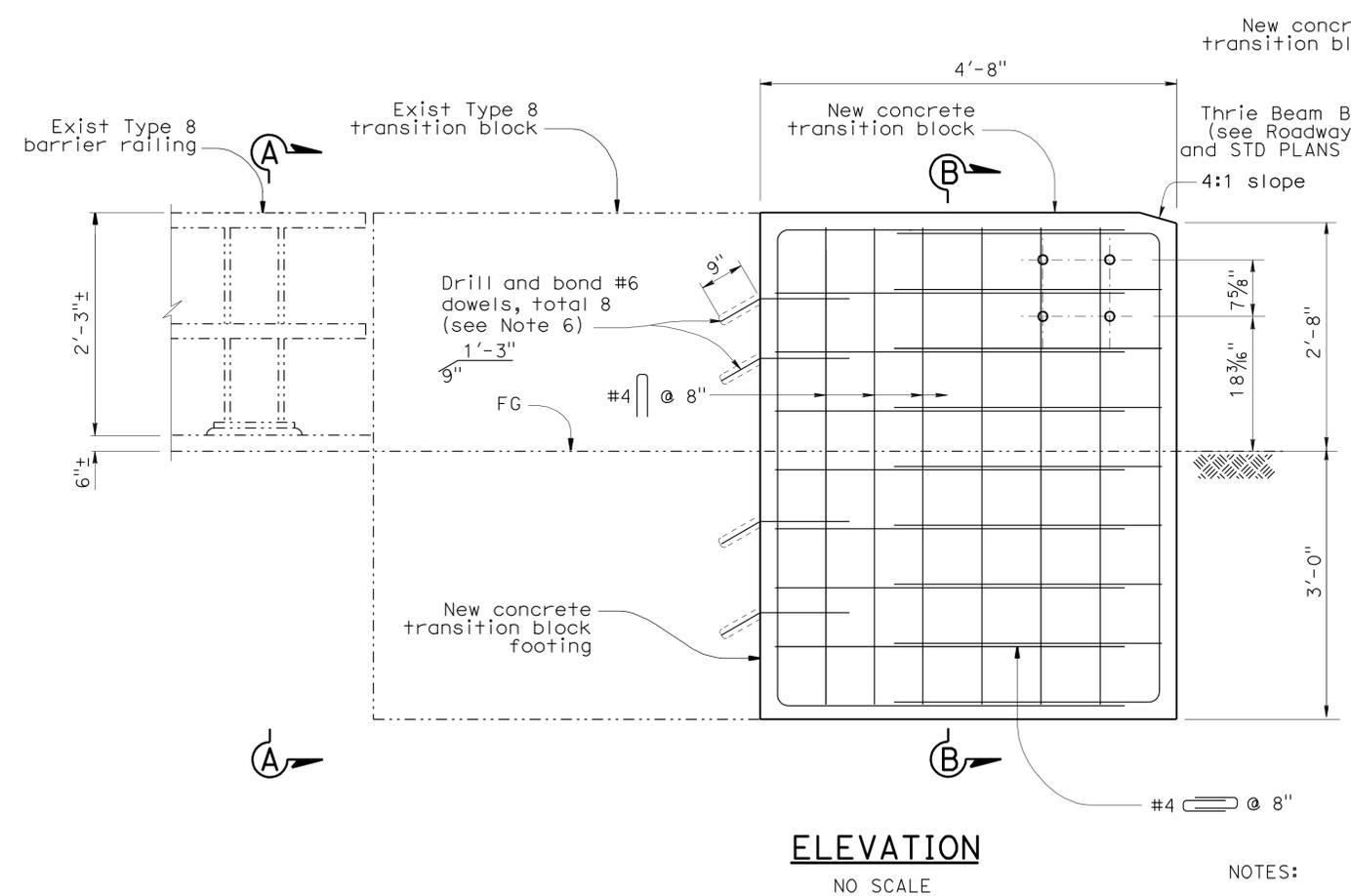
REGISTERED CIVIL ENGINEER DATE 8-2-10
 1-3-11
 PLANS APPROVAL DATE
 No. C61500
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

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LOCATION TABLE OF TYPE 8 BARRIER TRANSITION BLOCK APPLICATIONS

Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of Connections (WB)		GP Type
					Approach End	Departure End	
56-0610 L	Thousand Palms Wash	10	53.80	WB	1		A
* 56-0610 R	Thousand Palms Wash		53.80	EB	1		A



* CONCRETE REMOVAL
 NO SCALE
 NOTE: Right approach only

- NOTES:
- For identification of Plan A or Plan B, see General Plan (GP).
 - For limits of excavation and backfill see Standard Plans May 2006 A62c, Section E-E.
 - See Roadway Plans for work locations.
 - Mortar fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.
 - Existing barrier heights vary. Where exist barrier height is more than 2'-8", transition barrier height to 2'-8" @ 4:1 slope.
 - Where existing transition block is to be removed, drill & bond #6 dowels, tot 6 in a staggered pattern into exist wingwall, similar to Type 8 Barrier (Case 1).

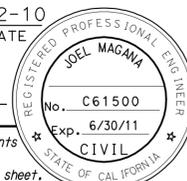
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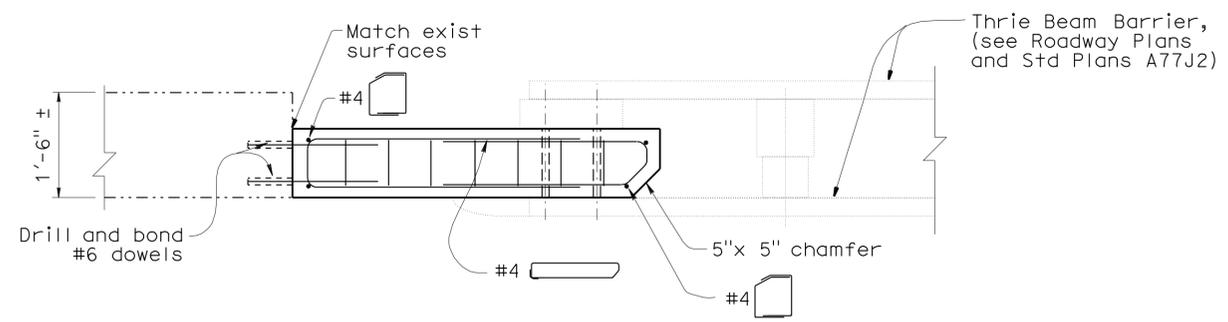
Indicates concrete removal
 Indicates existing structure
 Indicates new construction

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

DESIGN	BY J Magana	CHECKED Yu Song	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGNS BRANCH	BRIDGE NO.	TYPE 8 BARRIER (CASE 2) TRANSITION ANCHOR BLOCK DETAILS
DETAILS	BY H Nguyen	CHECKED J Magana			Varies	
QUANTITIES	BY J Magana	CHECKED Yu Song			Varies	

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 10-25-05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 CU 08 EA 478101 DISREGARD PRINTS BEARING EARLIER REVISION DATES 10/5/09 SHEET 4 OF 16

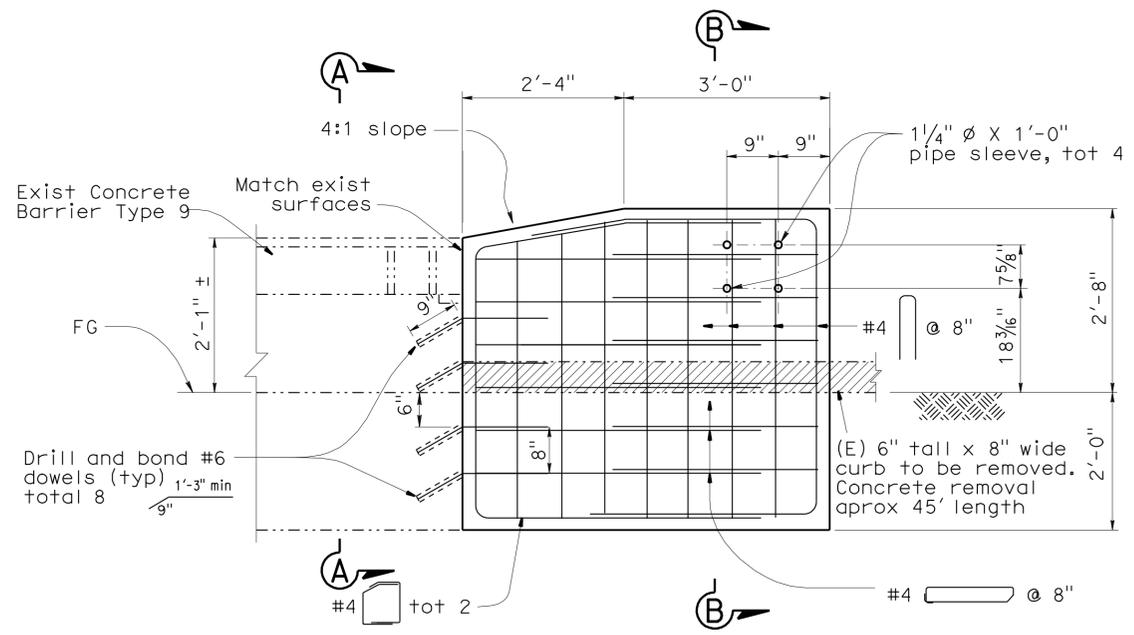
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10, 74, 86S, 111, 195, 371, 62	Var	68	79
 REGISTERED CIVIL ENGINEER DATE 8-2-10					
PLANS APPROVAL DATE 1-3-11					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



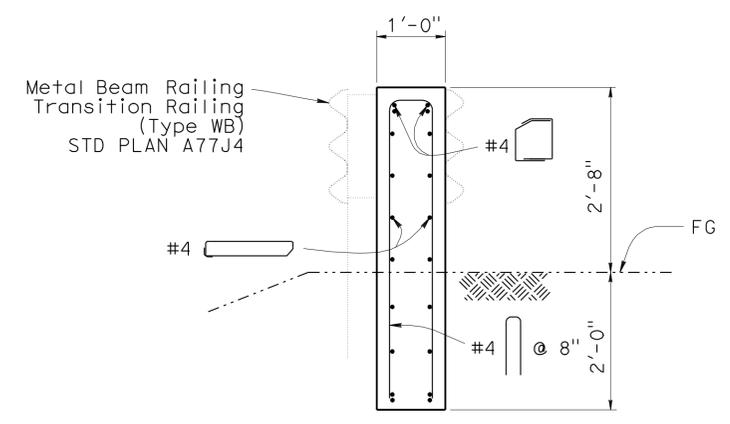
PLAN
NO SCALE

LOCATION TABLE OF TYPE 9 BARRIER TRANSITION BLOCK APPLICATIONS

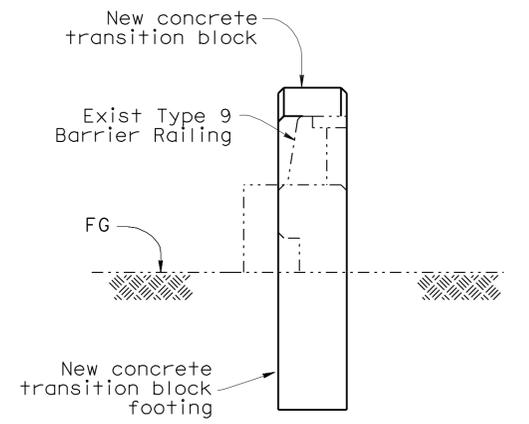
Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of Connections (WB)		GP Type
					Approach End	Departure End	
54-0880	29 Palms Flood Channel	62	30.99	EB WB	1 1		B



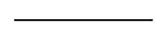
ELEVATION
NO SCALE



SECTION B-B
NO SCALE



SECTION A-A
NO SCALE

- Legend:
-  Indicates concrete removal
 -  Indicates existing structure
 -  Indicates new construction

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

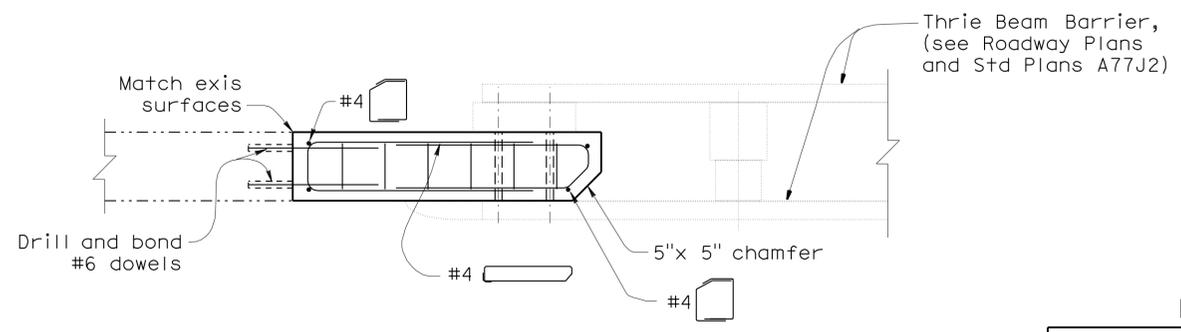
- NOTES:
- For identification of Plan A or Plan B, see General Plan (GP).
 - For limits of excavation and backfill see Standard Plans May 2006 A62c, Section E-E.
 - See Roadway Plans for work locations.
 - Mortar fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.
 - Existing barrier heights vary. Where exist barrier height is less than 2'-8", transition barrier height to 2'-8" @ 4:1 slope.

DESIGN BY J Magana CHECKED Yu Song DETAILS BY H Nguyen CHECKED J Magana QUANTITIES BY J Magana CHECKED Yu Song	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO. 54-0880	TYPE 9 BARRIER (CASE 1) TRANSITION ANCHOR BLOCK DETAILS
			POST MILE 30.99	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			CU 08 EA 478101	REVISION DATES DISREGARD PRINTS BEARING EARLIER REVISION DATES
			03/26/10	SHEET 5 OF 16

USERNAME => hrr1ght DATE PLOTTED => 05-JAN-2011 TIME PLOTTED => 10:43

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
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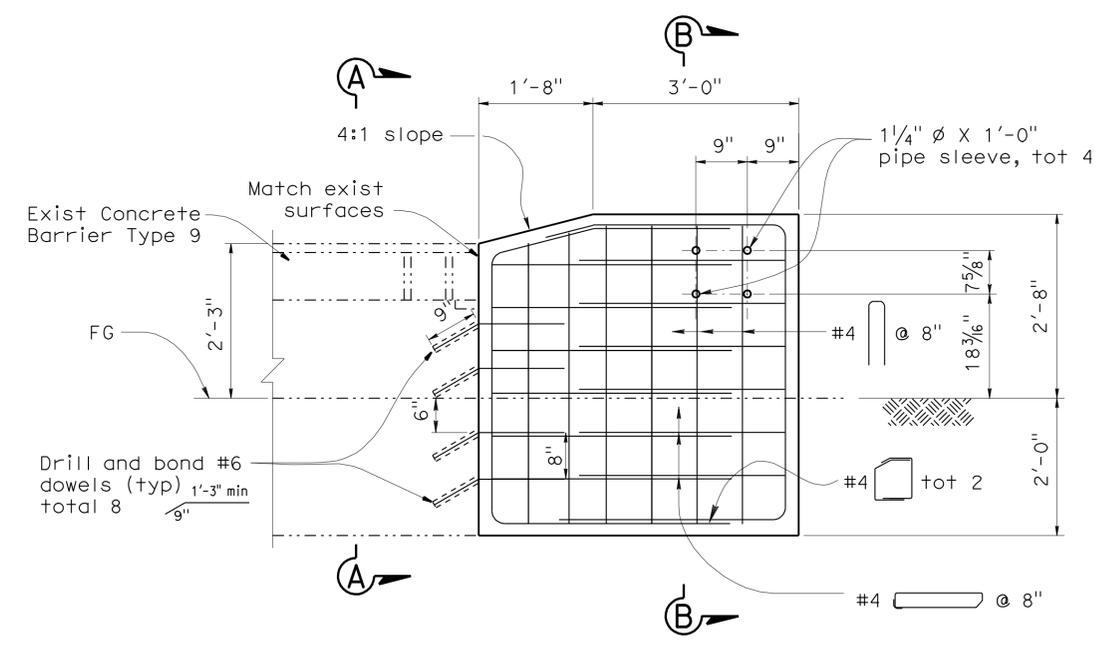
REGISTERED CIVIL ENGINEER DATE 8-2-10
 PLANS APPROVAL DATE 1-3-11
 No. C61500
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA
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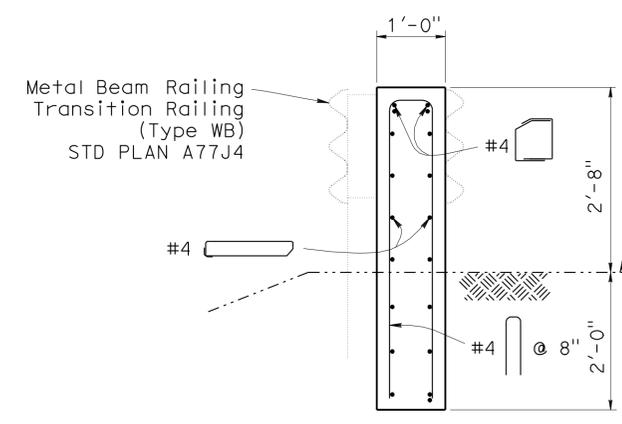
PLAN
NO SCALE

LOCATION TABLE OF TYPE 9 BARRIER TRANSITION BLOCK APPLICATIONS

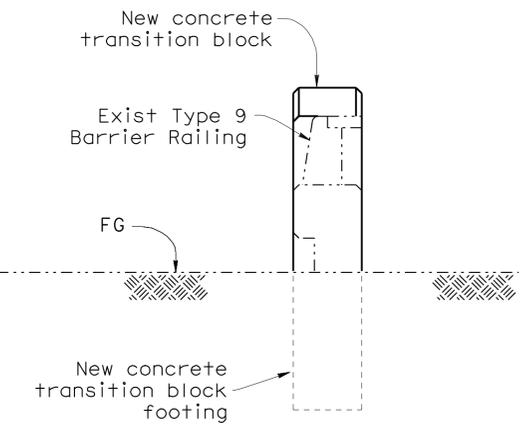
Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of Connections (WB)		GP Type
					Approach End	Departure End	
56-0613 R/L	44 th Ave UC	10	56.57	EB WB	1 1		A
56-0620 G	Rte 86S/10 Sep	86S	22.94	NB	2		A



ELEVATION
NO SCALE



SECTION B-B
NO SCALE



SECTION A-A
NO SCALE

Legend:
 ----- Indicates existing structure
 _____ Indicates new construction

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

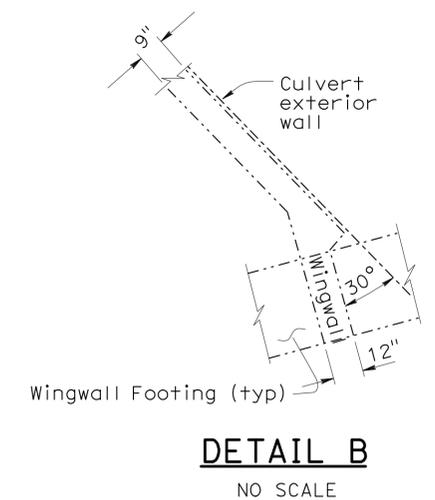
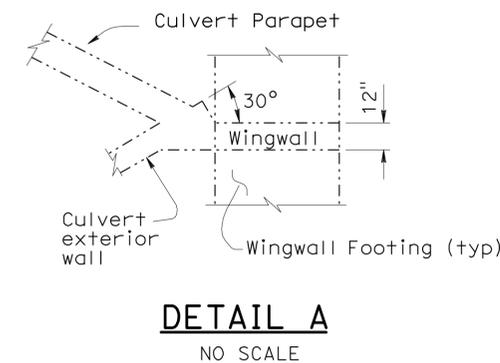
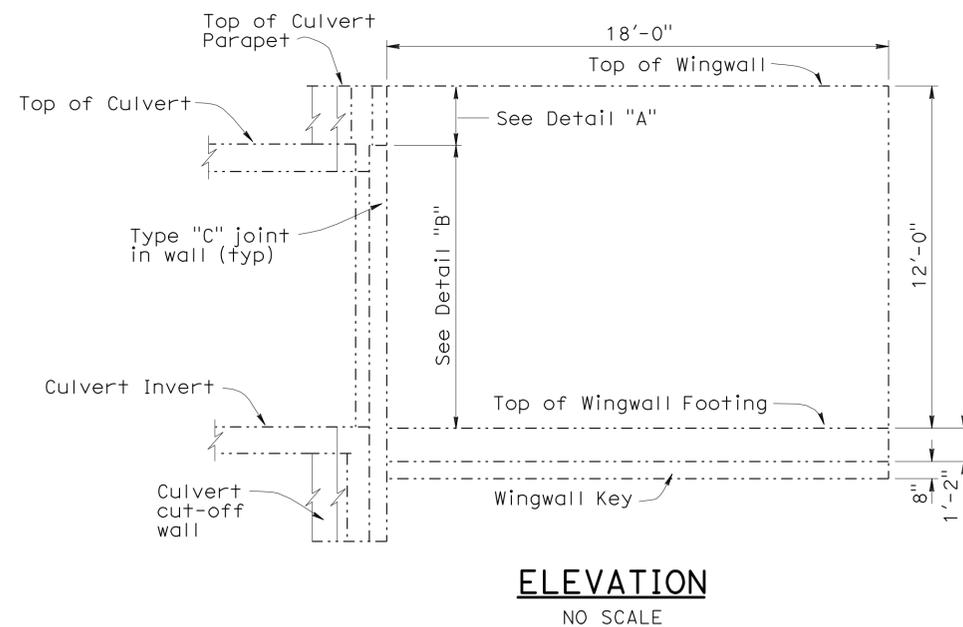
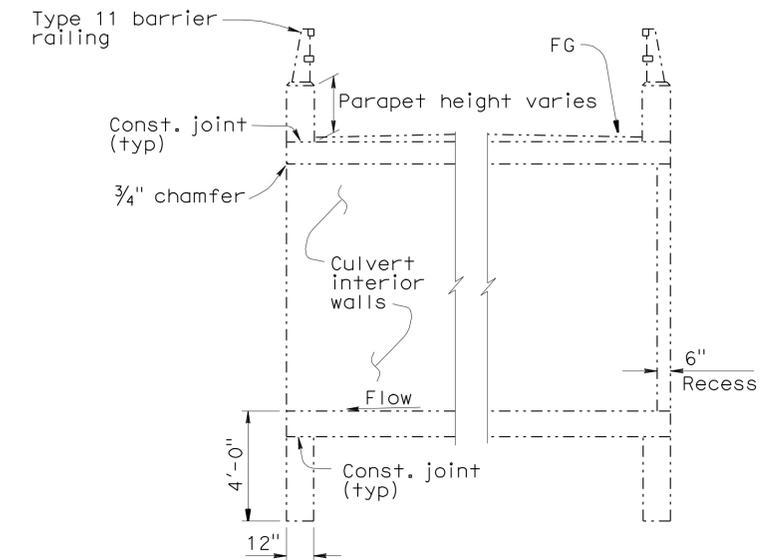
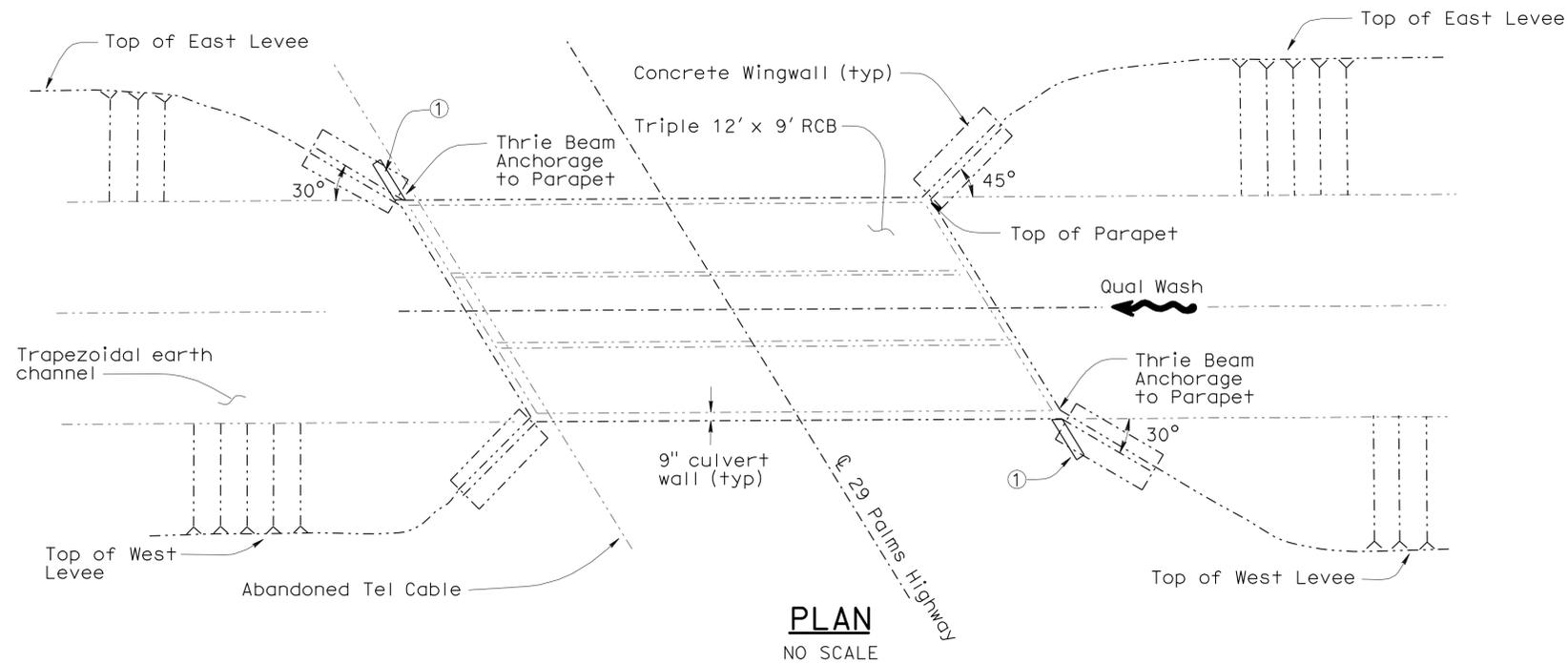
- NOTES:
- For identification of Plan A or Plan B, see General Plan (GP).
 - For limits of excavation and backfill see Standard Plans May 2006 A62c, Section E-E.
 - See Roadway Plans for work locations.
 - Mortar fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.
 - Existing barrier heights vary. Where exist barrier height is less than 2'-8", transition barrier height to 2'-8" @ 4:1 slope.

DESIGN	BY	J Magana	CHECKED	Yu Song	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO.	Varies	TYPE 9 BARRIER (CASE 2) TRANSITION ANCHOR BLOCK DETAILS	
	DETAILS	BY	H Nguyen	CHECKED			J Magana	POST MILE		Varies
	QUANTITIES	BY	J Magana	CHECKED			Yu Song			

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3
 CU 08 EA 478101
 DISREGARD PRINTS BEARING EARLIER REVISION DATES: 10/5/09
 SHEET 6 OF 16
 FILE => 06type9-2barrier.dgn

USERNAME => hrr1c1gh DATE PLOTTED => 05-JAN-2011 TIME PLOTTED => 10:43

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	70	79
 REGISTERED CIVIL ENGINEER DATE 8-2-10					
1-3-11 PLANS APPROVAL DATE					
<small>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.</small>					



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

Legend:
 - - - - - Indicates existing structure.
 _____ Indicates new structure.

Note:
 ① See Type 11 Barrier, Transition Anchor Block Details.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 10/25/05)	DESIGN	BY J Magana	CHECKED Yu Song	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO.	54-1054	TYPE 11 BARRIER (QUAIL WASH) TRIPLE 12'-9" R.C.B CULVERT DETAILS
	DETAILS	BY H Nguyen	CHECKED J Magana			POST MILE	18.96	
	QUANTITIES	BY J Magana	CHECKED Yu Song			CU 08 EA 478101	DISREGARD PRINTS BEARING EARLIER REVISION DATES	

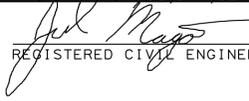
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

0 1 2 3

FILE => 07+type11barrier.dgn

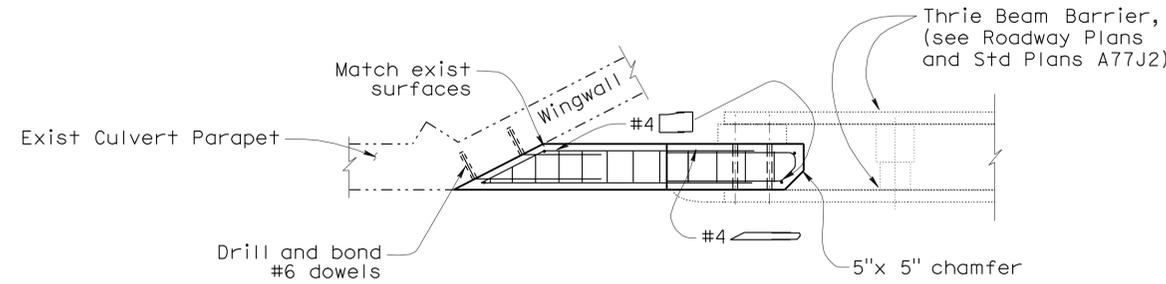
REVISION DATES

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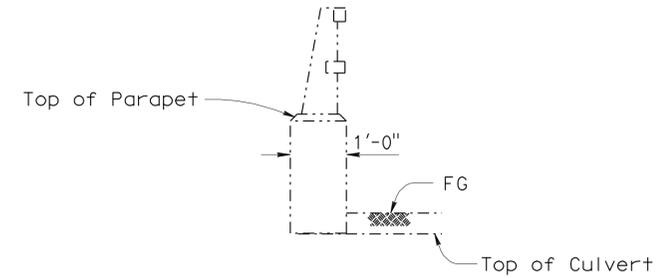
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	71	79
 REGISTERED CIVIL ENGINEER DATE 8-2-10					
1-3-11 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

LOCATION TABLE OF CONCRETE BARRIER TRANSITION BLOCK APPLICATIONS

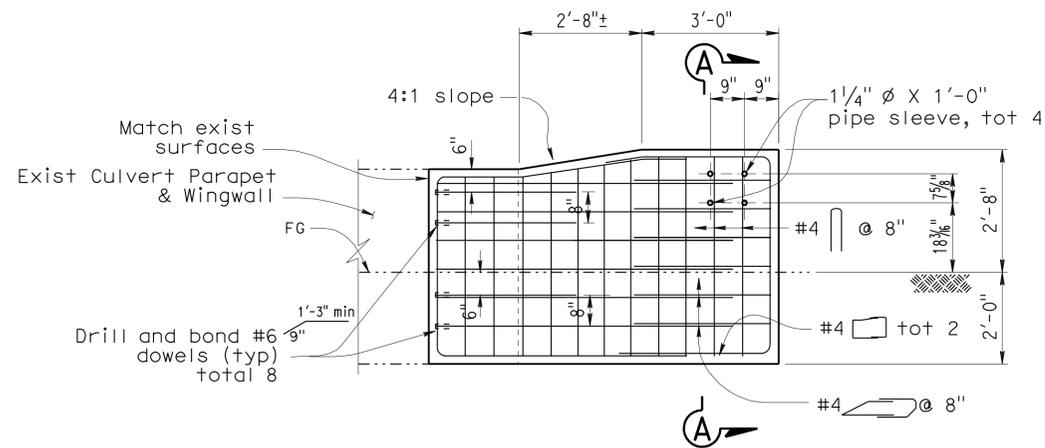
Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of Connections (WB)		GP Type
					Approach End	Departure End	
54-1054	Quail Wash	62	18.96	EB WB	1 1		B



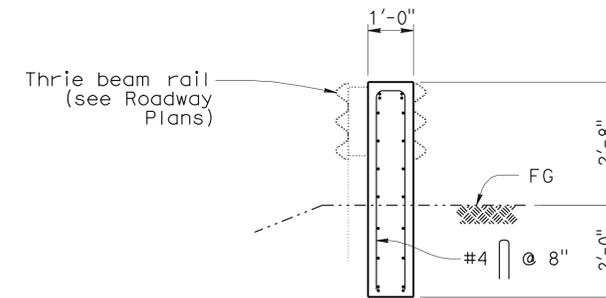
PLAN
NO SCALE



TYPICAL SECTION EXISTING CULVERT
PARAPET WITH TYPE 11 METAL RAILING
NO SCALE



ELEVATION
NO SCALE



SECTION A-A
NO SCALE

NOTES:

1. For limits of excavation and backfill see Standard Plans May 2006 A62c, Section E-E.
2. See Roadway Plans for work locations.
3. Mortar fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.
4. Existing barrier heights vary. Where exist barrier height is less than 2'-8", transition barrier height to 2'-8" @ 4:1 slope.

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

DESIGN	BY J Magana	CHECKED Yu Song
DETAILS	BY H Nguyen	CHECKED J Magana
QUANTITIES	BY J Magana	CHECKED Yu Song

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO.	54-1054
POST MILE	18.96

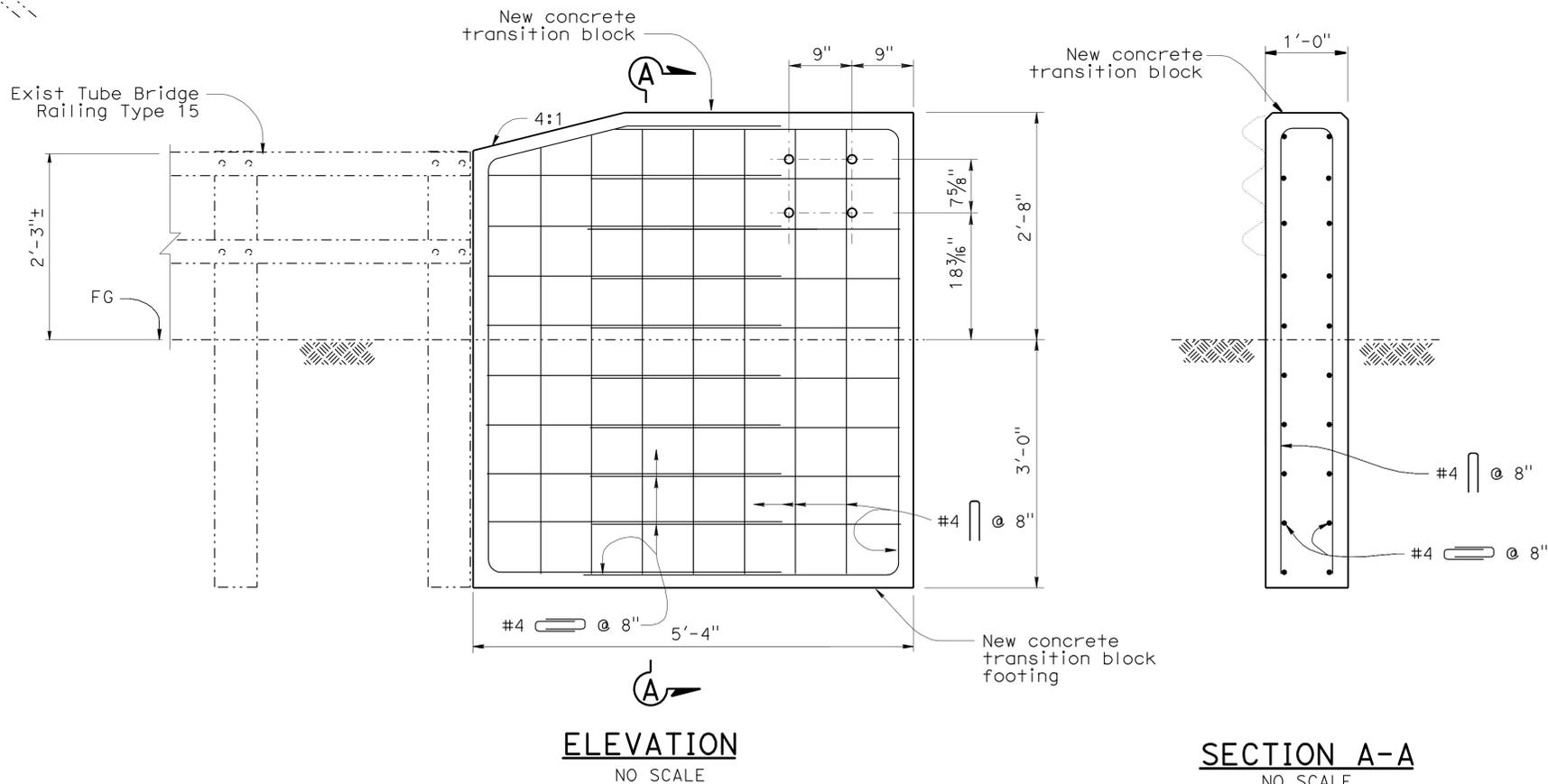
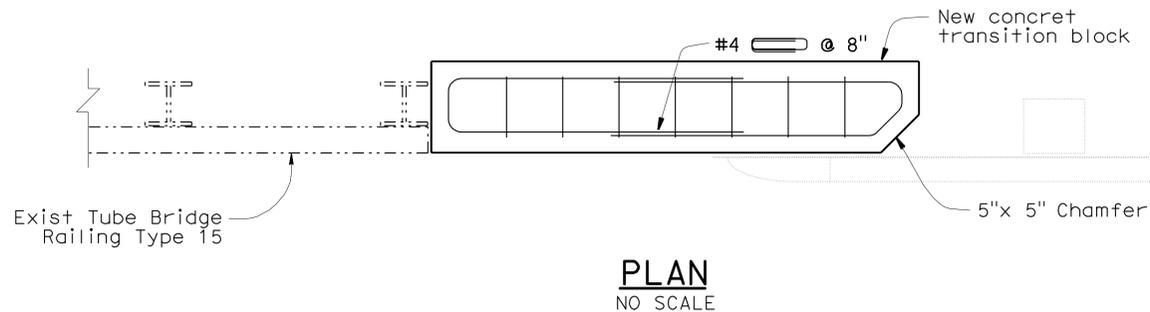
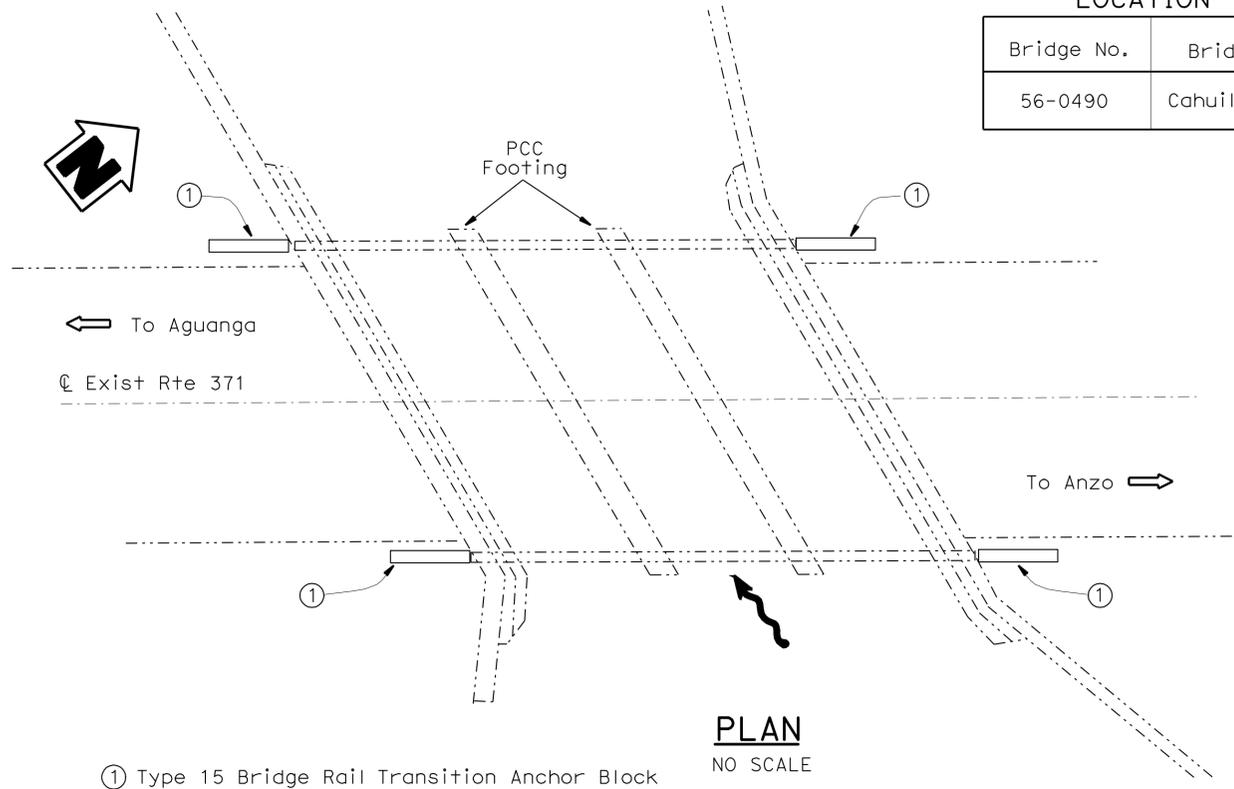
TYPE 11 BARRIER (QUAIL WASH)
TRANSITION ANCHOR BLOCK DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	72	79

REGISTERED CIVIL ENGINEER DATE 8-2-10
 1-3-11
 PLANS APPROVAL DATE
 No. C61500
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA

LOCATION TABLE OF CONCRETE BARRIER TRANSITION BLOCK APPLICATIONS

Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of Connections (WB)		GP Type
					Approach End	Departure End	
56-0490	Cahuilla Creek	371	65.44	EB WB	1 1	1 1	B



NOTES:

- For identification of Plan A or Plan B, see General Plan (GP).
- For limits of excavation and backfill see Standard Plans May 2006 A62c, Section E-E.
- See Roadway Plans for work locations.
- Mortar fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.
- Existing barrier heights vary. Where exist barrier height is less than 2'-8", transition barrier height to 2'-8" @ 4:1 slope.

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

Legend:

- Indicates existing structure
- _____ Indicates new construction

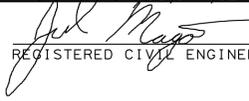
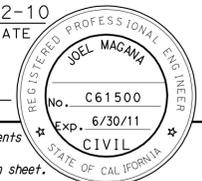
DESIGN	BY J Magana	CHECKED Yu Song
DETAILS	BY H Nguyen	CHECKED J Magana
QUANTITIES	BY J Magana	CHECKED Yu Song

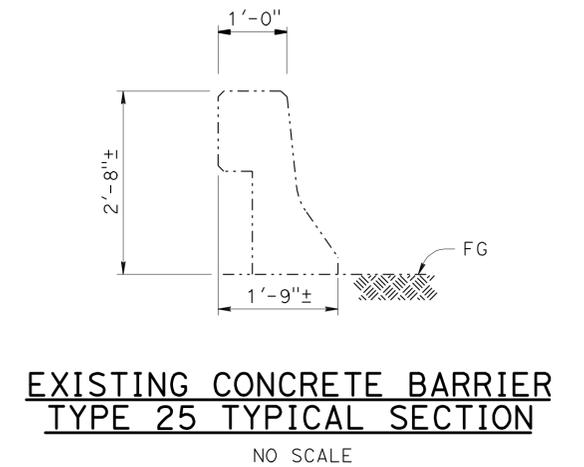
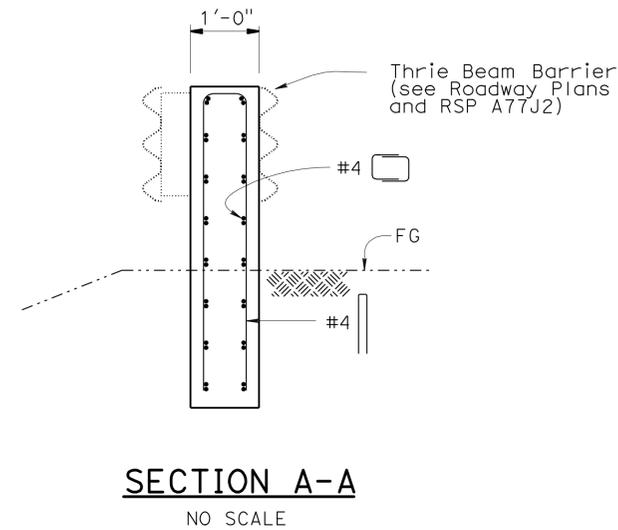
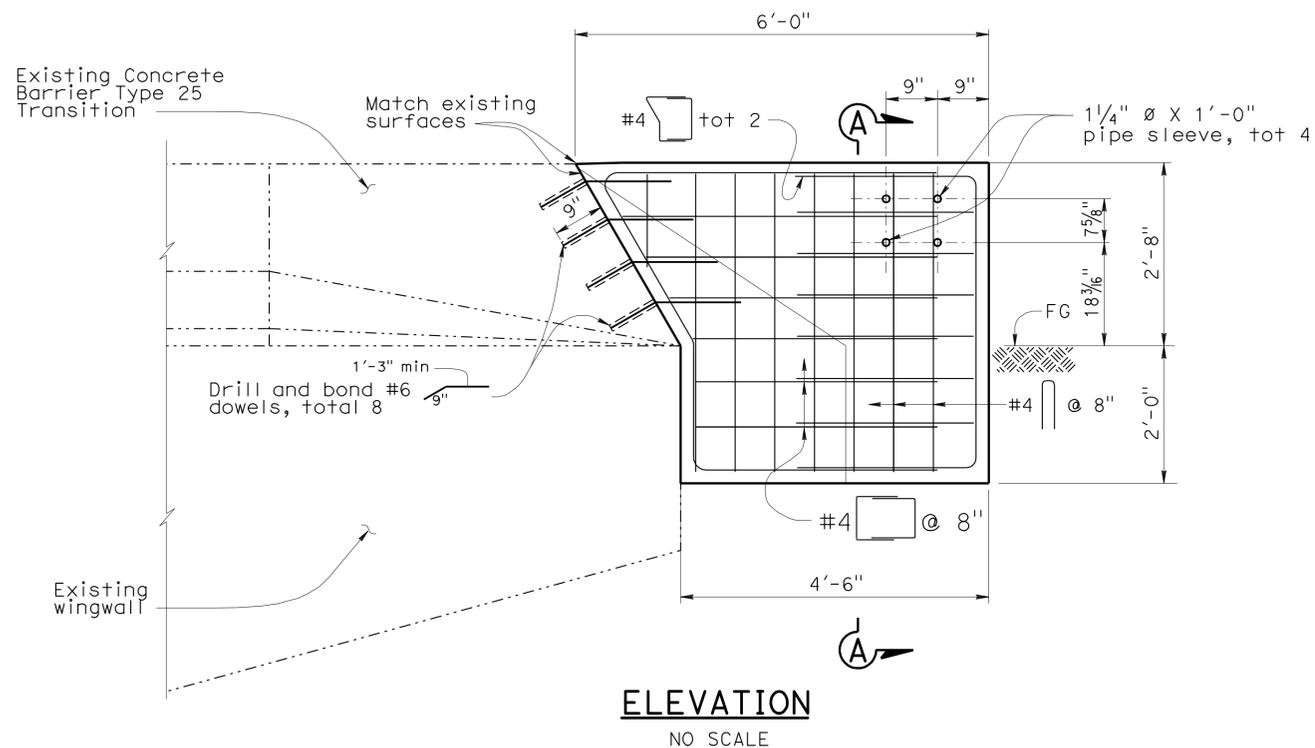
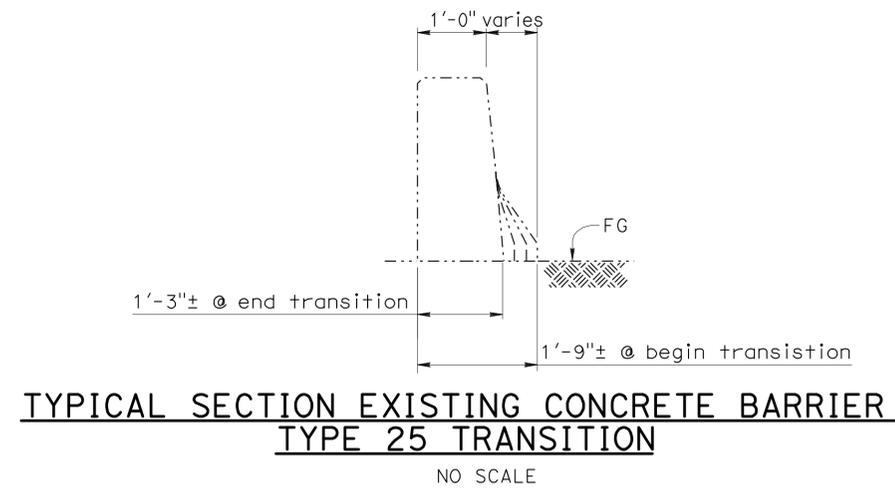
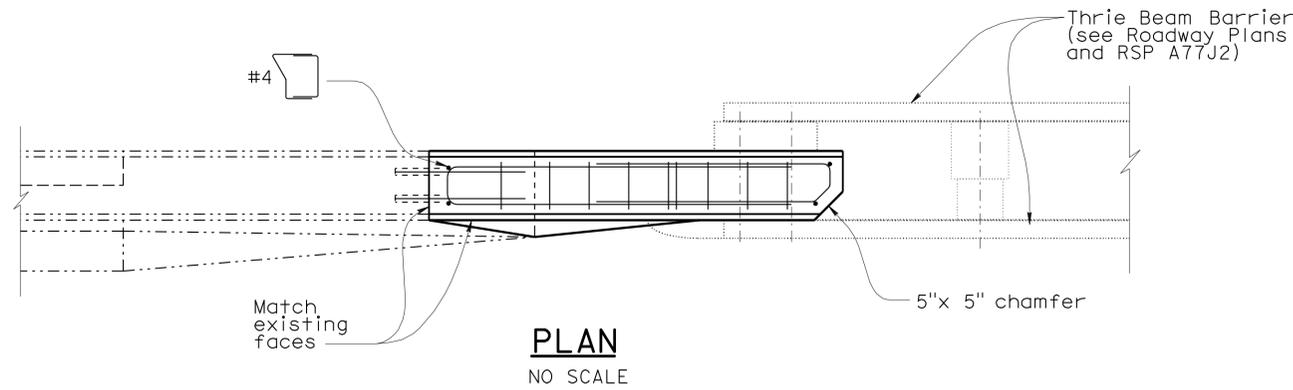
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGNS BRANCH

BRIDGE NO.	56-0490
POST MILE	Varies

TYPE 15 BRIDGE RAILING
TRANSITION ANCHOR BLOCK DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	73	79
 REGISTERED CIVIL ENGINEER DATE 8-2-10					
1-3-11 PLANS APPROVAL DATE					
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Notes:

1. For identification of Plan A or Plan B, see General Plan (GP).
2. For limits of excavation and backfill see Standard Plans May 2006 A62C, Section E-E.
3. See Roadway Plans for work locations.
4. Mortar fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.

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

Legend:

- Indicates existing structure
- Indicates new construction

LOCATION TABLE OF TYPE 25 BARRIER TRANSITION BLOCK (TYPE WB) APPLICATIONS

Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of Connections (WB)		GP Type
					Approach End	Departure End	
56-0185	Horse Creek	74	75.66	EB	1	1	B
				WB	1	1	
56-0774 R/L	Arriba Ditch		2.47	NB	2		A
				SB	2		
56-0775 R/L	Neva Ditch		2.61	NB	2		A
				SB	2		
56-0776 R/L	Lowen Ditch		2.99	NB	2		A
				SB	2		
56-0778 R/L	Kings Stormwater Channel		4.41	NB	2		A
				SB	2		
56-0758 R/L	Rte 86S / 111 Sep & OH	86S	12.10	NB	2		A
				SB	2		
56-0759 R/L	Wasteway No. 2		18.50	NB	2		A
				SB	2		
Concrete Barrier at Head Wall				NB	1		A
56-0760 R/L	Dillon Road UC		22.16	NB	2		A
				SB	2		
56-0374	Coachella Canal Wasteway No. 1	111	11.55	NB	1	1	B
				SB	1	1	
56-0376	Lincoln Drainage Ditch	195	7.41	EB	1		B

DESIGN	BY J. Magana	CHECKED Yu Song
DETAILS	BY H. Nguyen	CHECKED J. Magana
QUANTITIES	BY J. Magana	CHECKED Yu Song

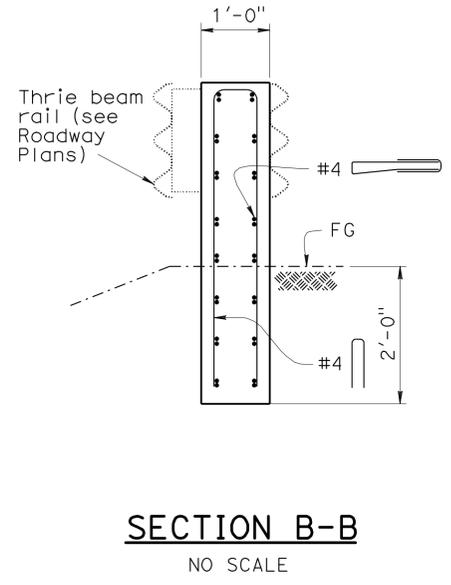
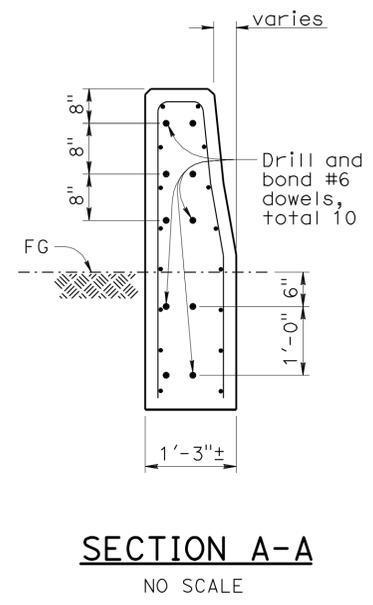
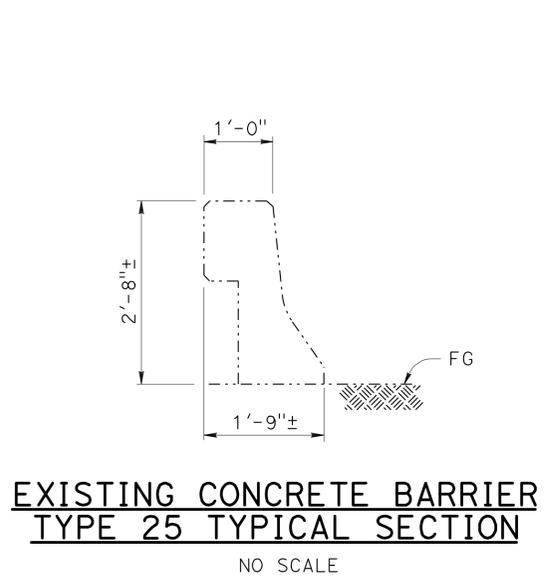
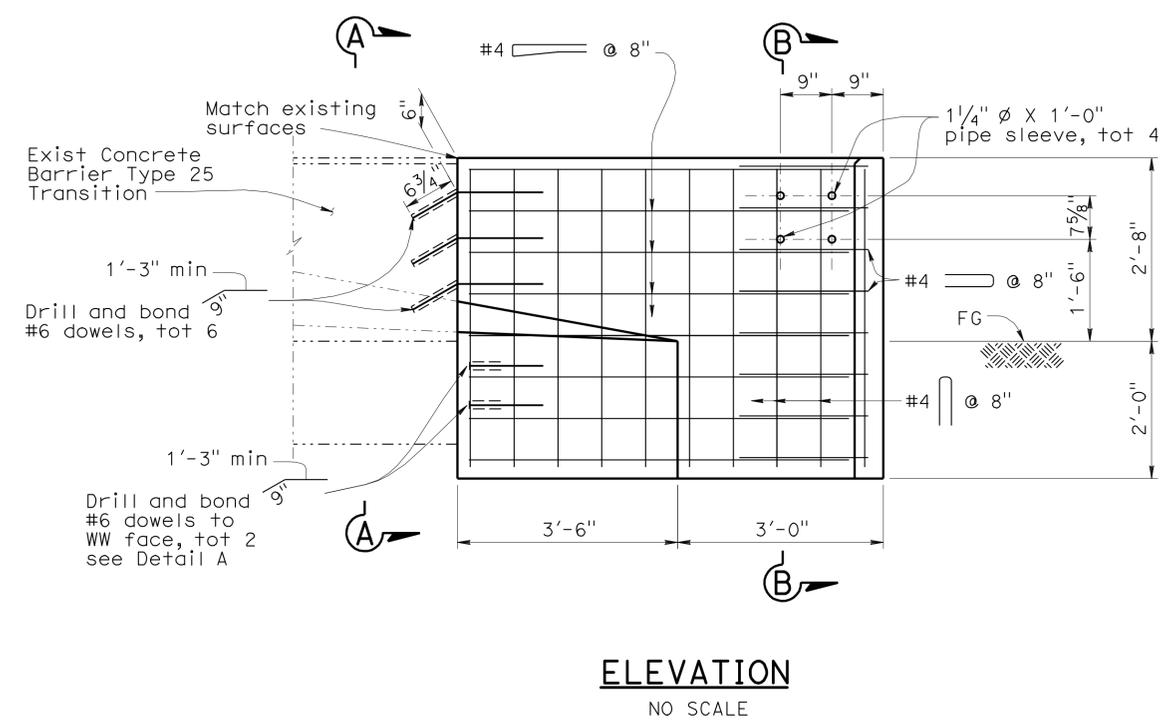
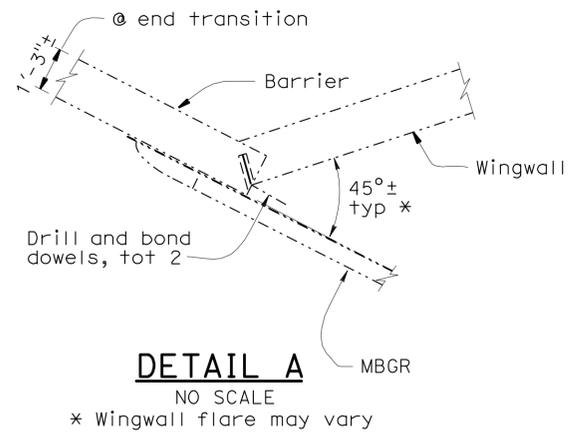
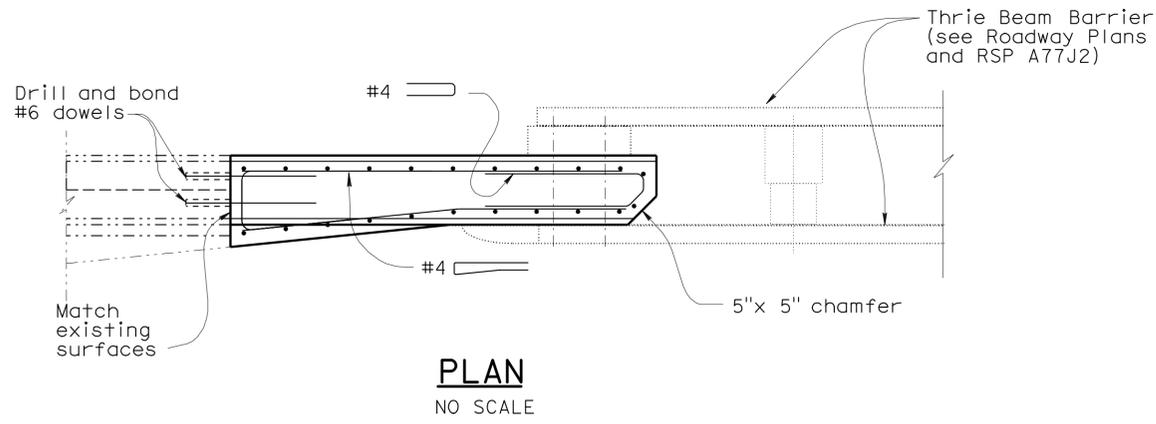
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO.
Varies
POST MILE
Varies

TYPE 25 BARRIER (CASE 1)
TRANSITION ANCHOR BLOCK DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	74	79
REGISTERED CIVIL ENGINEER No. C61500 Exp. 6/30/11 CIVIL STATE OF CALIFORNIA			8-2-10 DATE 1-3-11 PLANS APPROVAL DATE		
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- Notes:
- For identification of Plan A or Plan B, see General Plan (GP).
 - For limits of excavation and backfill see Standard Plans May 2006 A62C, Section E-E.
 - See Roadway Plans for work locations.
 - Mortar fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.
 - During excavation ensure no damage to culvert wingwalls.

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

Legend:
 ----- Indicates existing structure
 _____ Indicates new construction

LOCATION TABLE OF TYPE 25 BARRIER TRANSITION BLOCK (TYPE WB) APPLICATIONS

Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of Connections (WB)		GP Type
					Approach End	Departure End	
56-0284	Elm Ditch	111	6.6	NB	1	1	B
				SB	1	1	
56-0285	Date Ditch	111	7.97	NB	1	1	B
				SB	1	1	
56-0286	Palm Ditch	111	8.65	NB	1	1	B
				SB	1	1	
56-0287	Fir Ditch	111	9.54	NB	1	1	B
				SB	1	1	
56-0288	Grape Ditch	111	9.87	NB	1	1	B
				SB	1	1	
56-0275	Zimmerer Wash	111	13.56	NB	1	1	B
				SB	1	1	
56-0274	Caleb Wash	111	14.03	NB	1	1	B
				SB	1	1	
56-0294	Vine Ditch	111	15.34	NB	1	1	B
				SB	1	1	

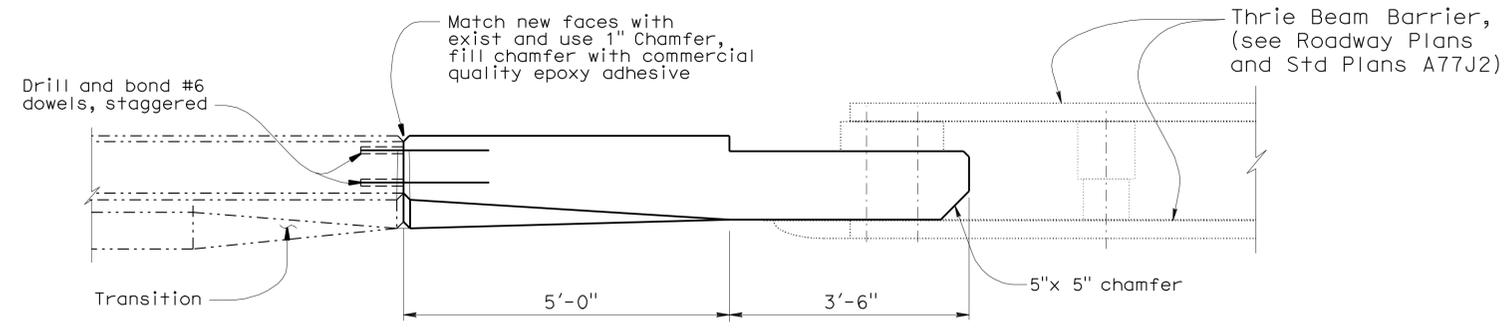
STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 10-25-05)	DESIGN	BY J. Magana	CHECKED Yu Song	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO.	TYPE 25 BARRIER (CASE 2)					
	DETAILS	BY H. Nguyen	CHECKED J. Magana			Varies	TRANSITION ANCHOR BLOCK DETAILS					
	QUANTITIES	BY J. Magana	CHECKED Yu Song			Varies						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					CU 08 EA 478101	DISREGARD PRINTS BEARING EARLIER REVISION DATES				6/14/10	SHEET 11	OF 16

USERNAME => hrr1ght DATE PLOTTED => 05-JAN-2011 TIME PLOTTED => 10:44

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111, 195,371,62	Var	75	79

REGISTERED CIVIL ENGINEER DATE 8-2-10
 1-3-11
 PLANS APPROVAL DATE

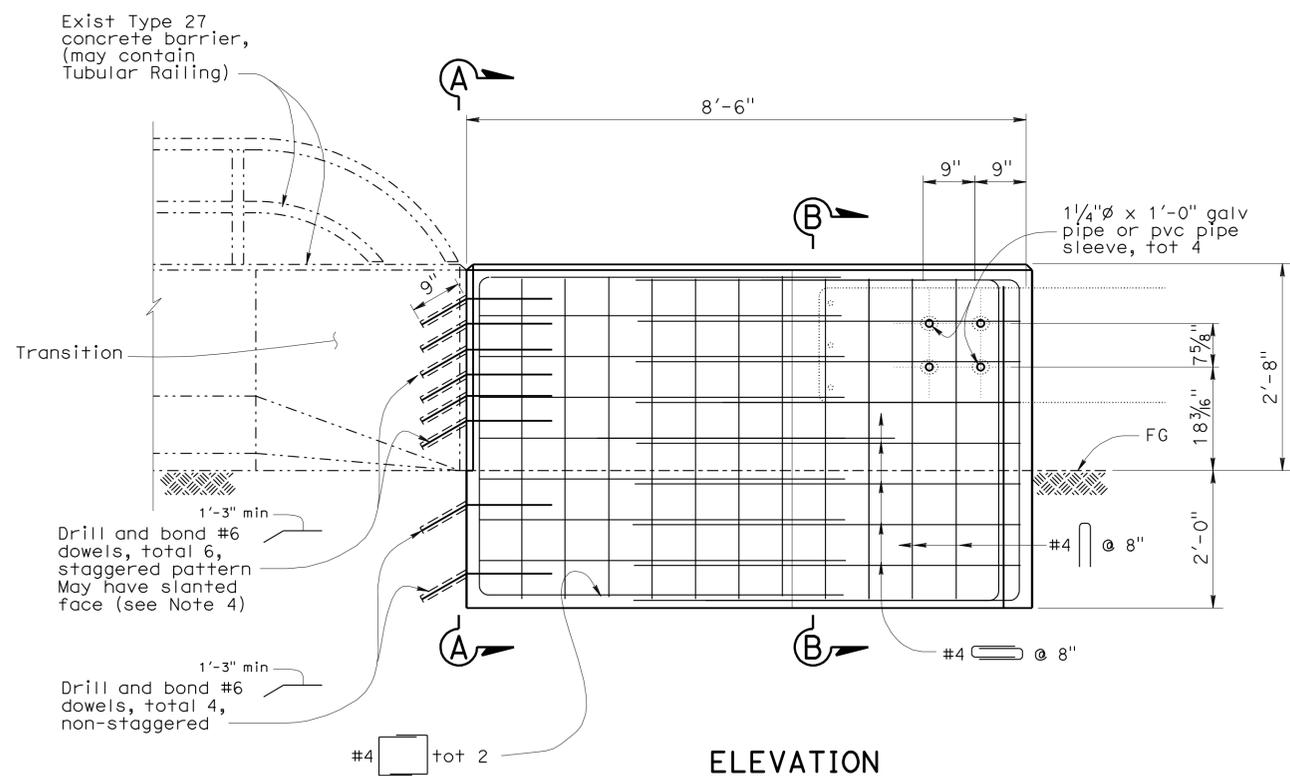
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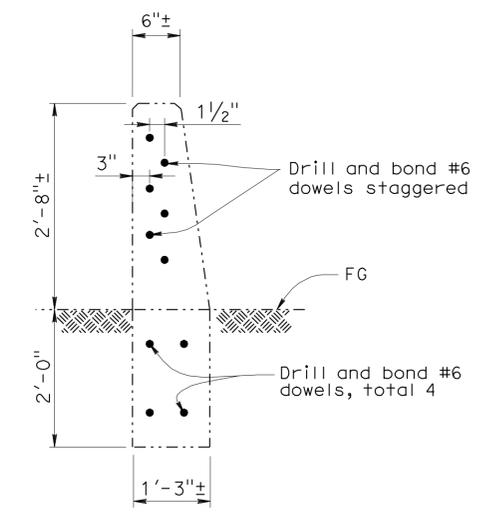
PLAN
NO SCALE

LOCATION TABLE OF TYPE 27 (MOD)
BARRIER TRANSITION BLOCK APPLICATION

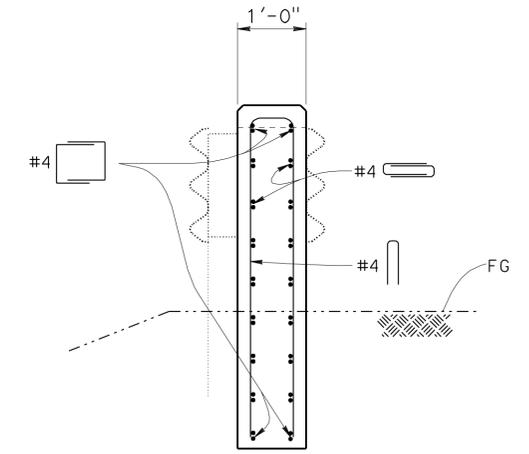
Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of Connections (WB)		GP Type
					Approach End	Departure End	
56-0182	Antsell Rock Creek	74	63.45	EB	1	1	B
				WB	1	1	
56-0183	Servo Creek	74	63.55	EB	1	1	B
				WB	1	1	
56-0184	S.F. San Jacinto River	74	63.76	EB	1	1	B
				WB	1	1	



ELEVATION
NO SCALE



SECTION A-A
NO SCALE



SECTION B-B
NO SCALE

LEGEND

- Indicates existing structure
- Indicates new construction

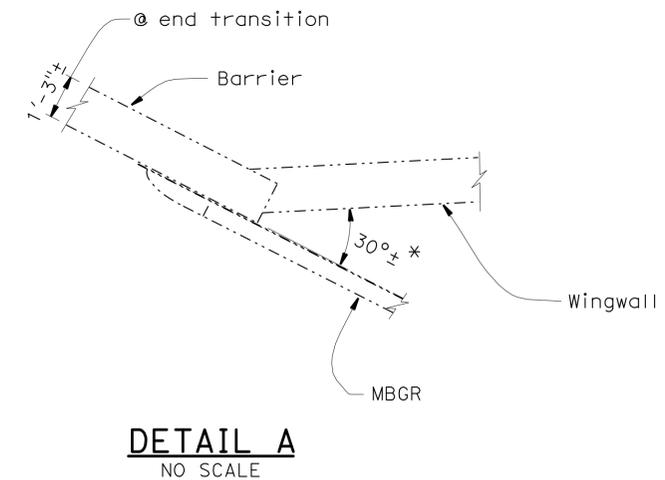
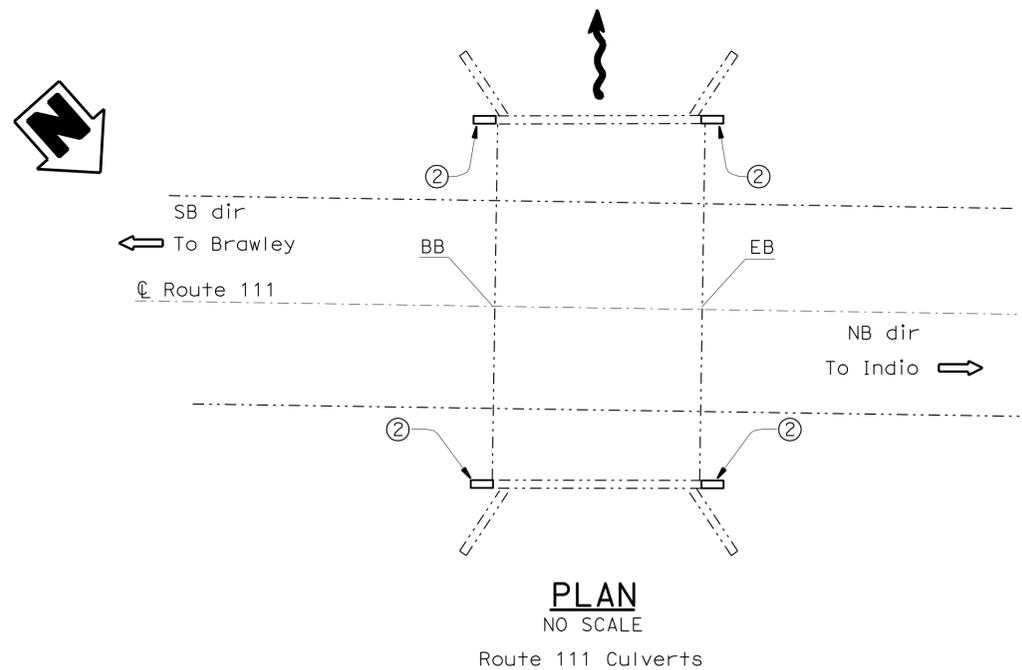
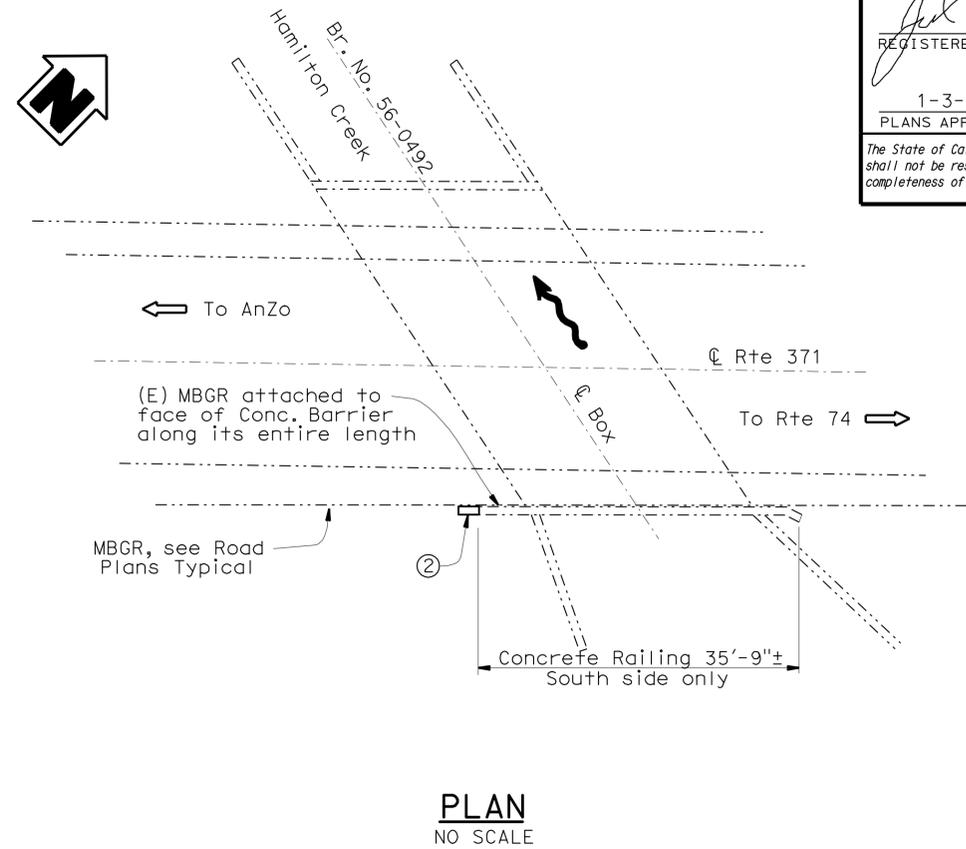
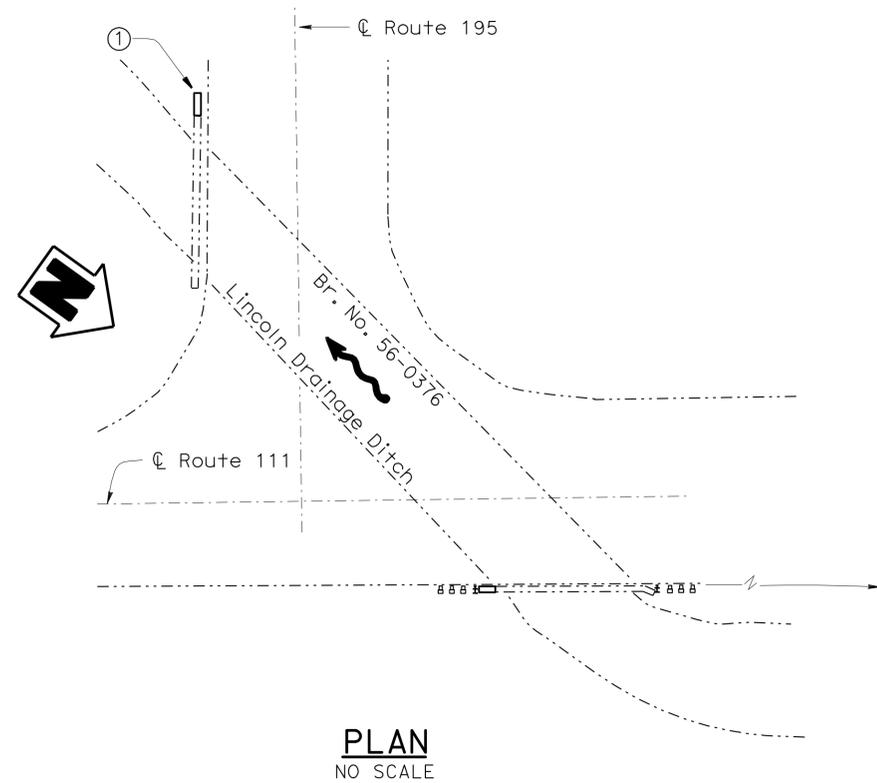
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

- NOTES:
- For identification of Plan A or Plan B, see, General Plan (GP).
 - For limits of excavation and backfill see Standard Plans May 2006 A62C, Section E-E.
 - See Roadway Plans for work locations.
 - Vertical face shown. Drill and bond #6 dowels staggered pattern along slanted face where applicable.
 - Mortar fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.
 - During excavation ensure no damage to abutment stem wall and wing walls.

DESIGN	BY J MAGANA	CHECKED YU SONG	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO.	varies	TYPE 27 (MOD) BARRIER TRANSITION ANCHOR BLOCK DETAILS
DETAILS	BY H NGUYEN	CHECKED J MAGANA			POST MILE	varies	
QUANTITIES	BY J MAGANA	CHECKED YU SONG					

STRUCTURES DESIGN SPECIAL DESIGN SHEET (ENGLISH) (REV. 10-25-05) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 CU 08 EA 478101 DISREGARD PRINTS BEARING EARLIER REVISION DATES 2/3/10 SHEET 12 OF 16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111, 195,371,62	Var	77	79
REGISTERED CIVIL ENGINEER DATE 8-2-10 PLANS APPROVAL DATE 1-3-11			JOEL MACANA No. C61500 Exp. 6/30/11 CIVIL STATE OF CALIFORNIA		
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NOTE:
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Legend:
 - - - - - Indicates existing structure
 _____ Indicates new construction

Notes:
 ① See Transition Anchor Block Type 25 Barrier and Detail A.
 ② See Transition Anchor Block for Culvert Concrete Barrier (Case 1).

DESIGN	BY J. Magana	CHECKED Yu Song
DETAILS	BY H. Nguyen	CHECKED J. Magana
QUANTITIES	BY J. Magana	CHECKED Yu Song

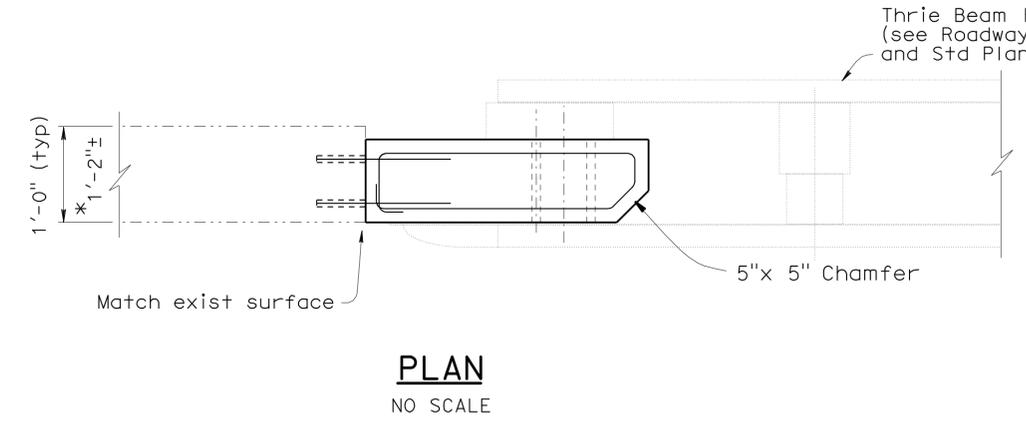
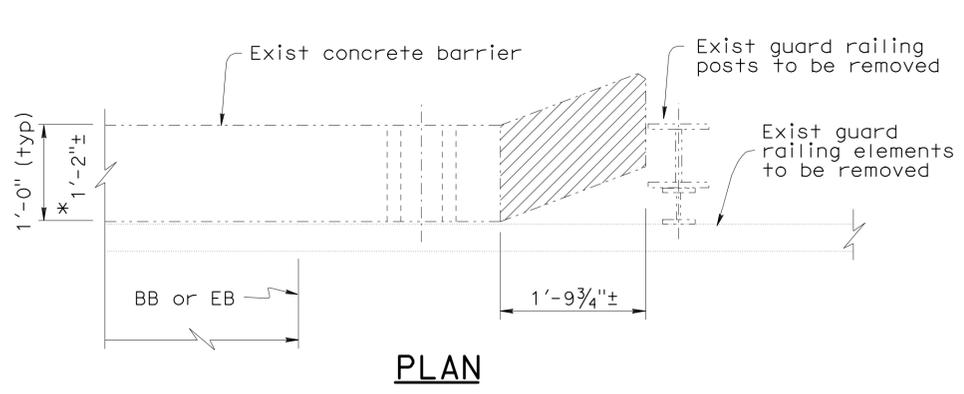
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE No.	Varies
POST MILE	Varies

CULVERT CONCRETE BARRIER
GENERAL PLAN

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111, 195,371,62	Var	78	79
REGISTERED CIVIL ENGINEER No. C61500 Exp. 6/30/11 CIVIL STATE OF CALIFORNIA			8-2-10	DATE	
PLANS APPROVAL DATE			1-3-11		
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.					

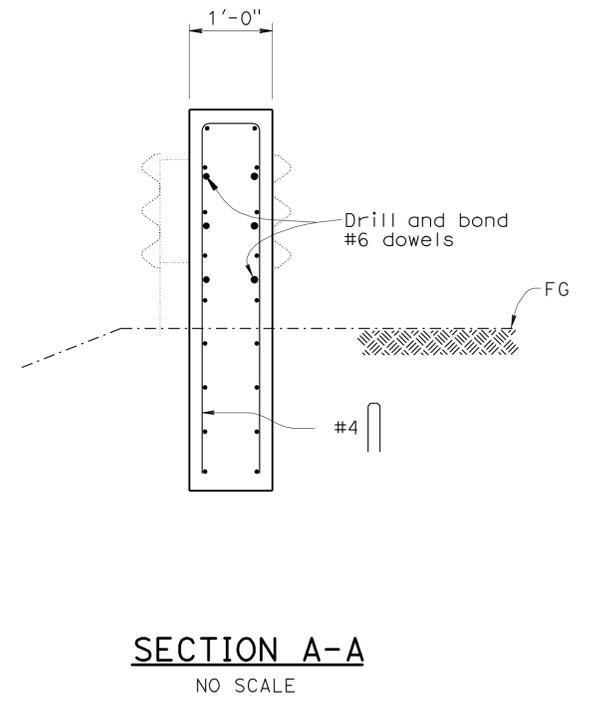
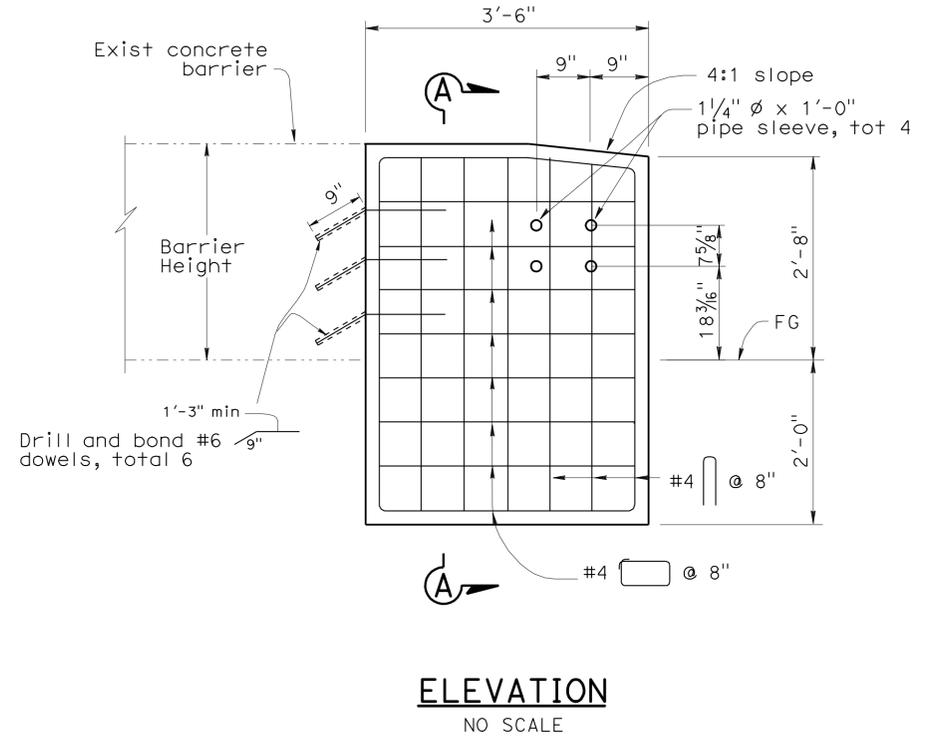
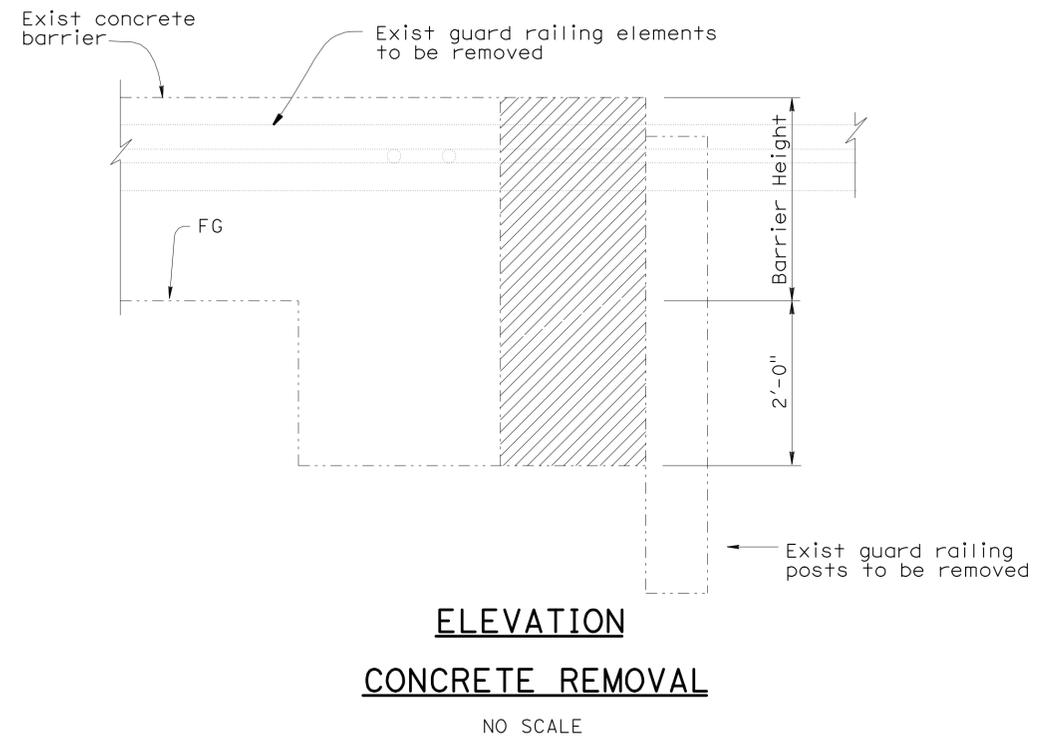


Legend:

----- Indicates existing structure

————— Indicates new construction

Concrete removal



LOCATION TABLE OF CONCRETE BARRIER TRANSITION BLOCK APPLICATIONS

Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of Connections (WB)		GP Type	Barrier height
					Approach End	Departure End		
56-0291	Olive Ditch	111	11.30	NB	1	1	B	2'-8"±
			SB	1	1	B	2'-8"±	
56-0293	Walnut Ditch		13.18	NB	1	1	B	2'-8"±
			SB	1	1	B	2'-8"±	
56-0266	Noe Wash		15.78	NB	1	1	B	2'-8"±
		SB	1	1	B	2'-8"±		
Concrete Barrier at Head Wall								
56-0267	Flatbush Wash	371	16.80	NB	1	1	B	2'-8"±
			SB	1	1	B	2'-8"±	
56-0492 *	Hamilton Creek		17.07	NB	1	1	B	2'-8"±
			SB	1	1	B	2'-8"±	
			74.16	EB	1	1	B	2'-9"±

- Notes:
- For identification of Plan A or Plan B, see General Plan (GP).
 - For limits of excavation and backfill see Standard Plans May 2006 A62C, Section E-E.
 - See Roadway Plans for work locations.
 - Mortar fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.
 - Existing barrier heights vary. Where exist barrier height is more than 2'-8", transition barrier height to 2'-8" @ 4:1 slope.
 - During excavation ensure no damage to culvert Wingwalls.

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

* Existing Barrier 1'-2" thick

DESIGN	BY J. Magana	CHECKED Yu Song
DETAILS	BY H. Nguyen	CHECKED J. Magana
QUANTITIES	BY J. Magana	CHECKED Yu Song

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

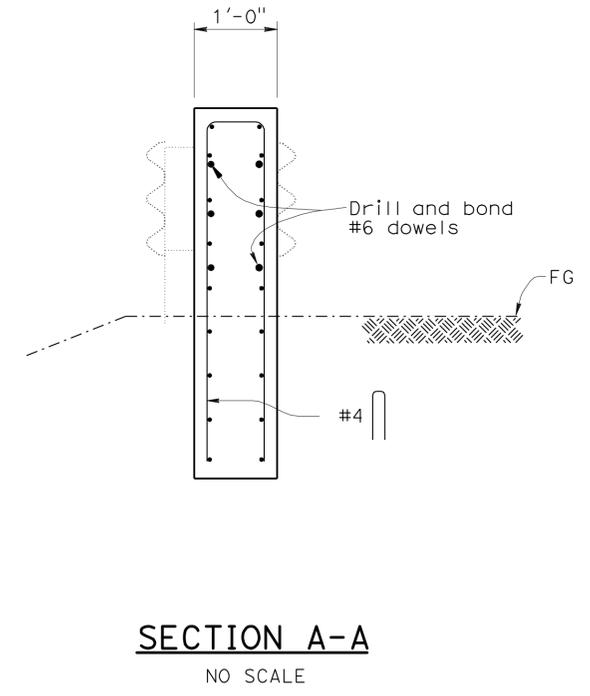
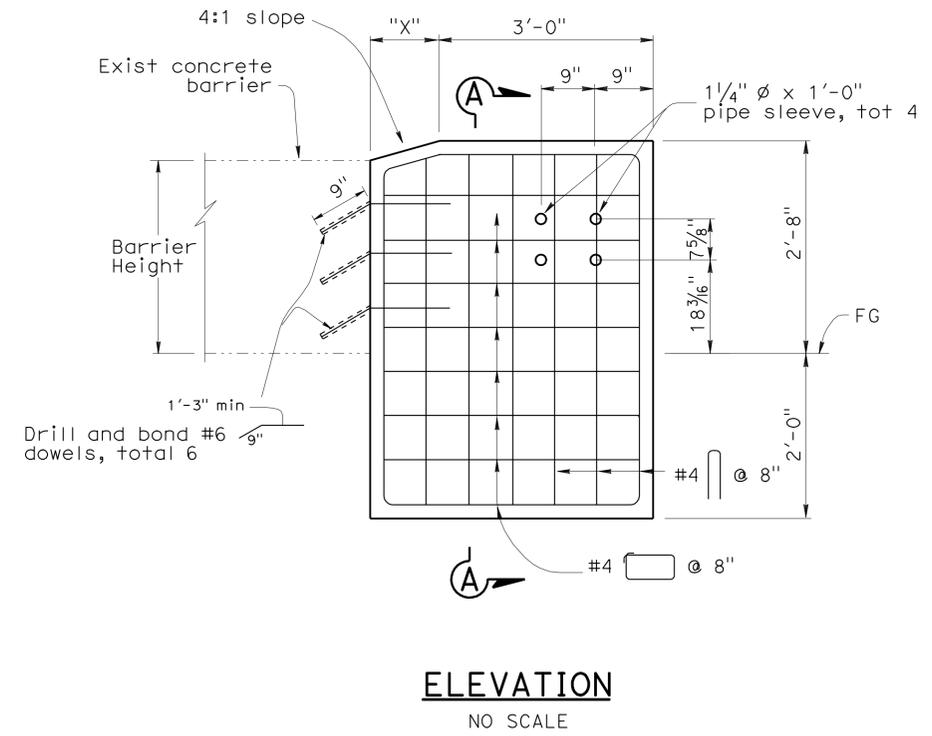
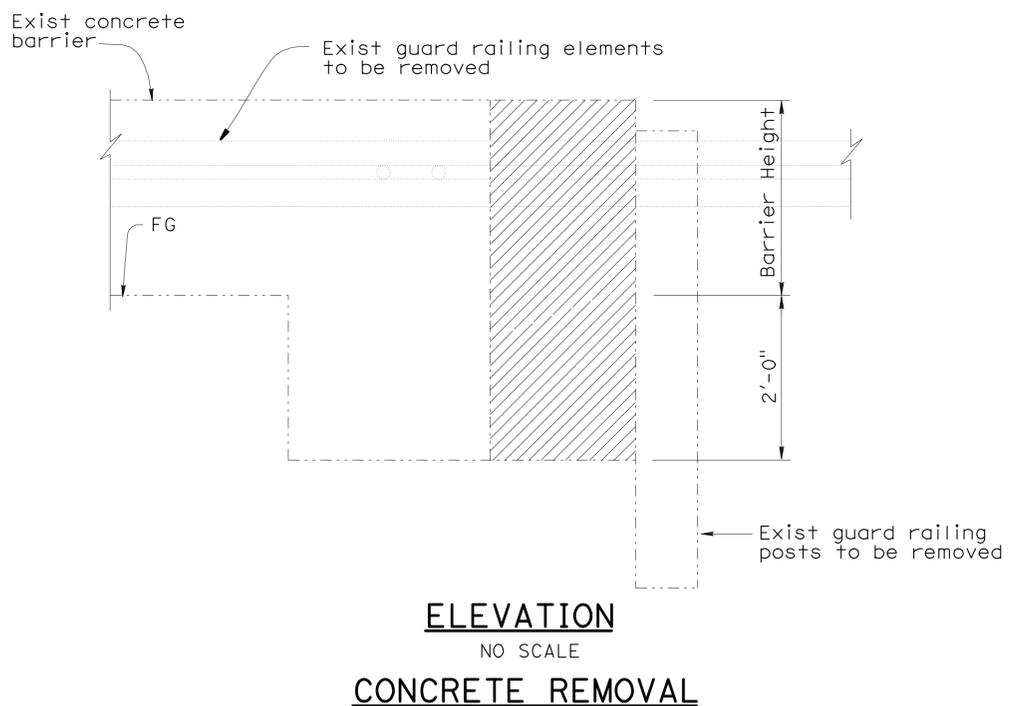
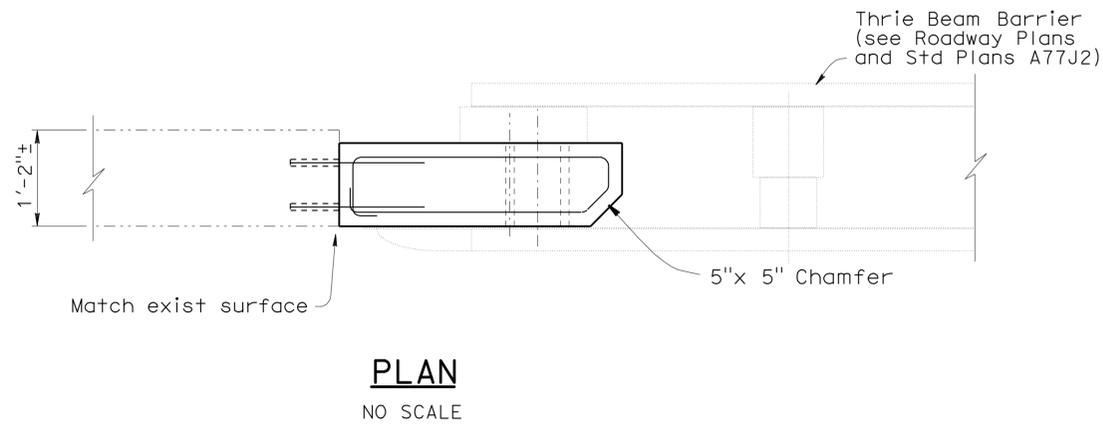
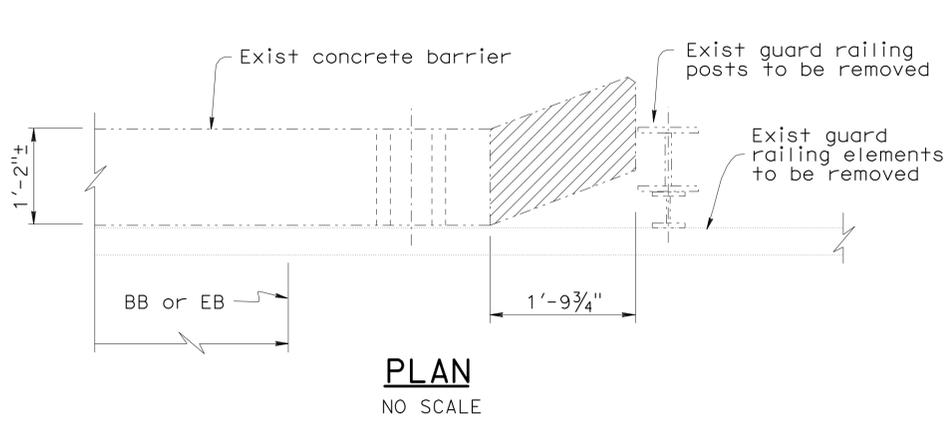
BRIDGE NO. Varies
POST MILE Varies
CULVERT CONCRETE BARRIER (CASE 1)
TRANSITION ANCHOR BLOCK DETAILS

LOCATION TABLE OF CONCRETE BARRIER TRANSITION BLOCK APPLICATIONS

Bridge No.	Bridge Name	Route	Post Mile	Direction	No. of Connections (WB)		GP Type	Barrier height	"X" distance
					Approach End	Departure End			
56-0491	Upper Cahuilla Creek	371	70.53	EB WB	1 1	1 1	B	2'-3"±	1'-8"±

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	Riv, Sbd	10,74,86S,111,195,371,62	Var	79	79

REGISTERED CIVIL ENGINEER DATE 8-2-10
 JOEL MACANA
 No. C61500
 Exp. 6/30/11
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 1-3-11
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NOTE:
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Legend:

- Indicates existing structure
- Indicates new construction
- ▨ Concrete removal

- Notes:
- For identification of Plan A or Plan B, see General Plan (GP).
 - For limits of excavation and backfill see Standard Plans May 2006 A62C, Section E-E.
 - See Roadway Plans for work locations.
 - Mortar fill drilled holes for bolts used to fasten MBGR to existing end block, unless holes were cast using pipe sleeves.
 - Existing barrier heights vary. Where exist barrier height is less than 2'-8", transition barrier height to 2'-8" @ 4:1 slope.

DESIGN	BY J. Magana	CHECKED Yu Song
DETAILS	BY H. Nguyen	CHECKED J. Magana
QUANTITIES	BY J. Magana	CHECKED Yu Song

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO. Varies
POST MILE Varies
CULVERT CONCRETE BARRIER (CASE 2)
TRANSITION ANCHOR BLOCK DETAILS