

INDEX OF PLANS

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

STATE OF CALIFORNIA **ACHSNHG-P180(054)E**  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN FRESNO COUNTY IN FRESNO**  
**FROM MAPLE AVENUE UNDERCROSSING TO**  
**CLOVIS AVENUE OVERCROSSING**

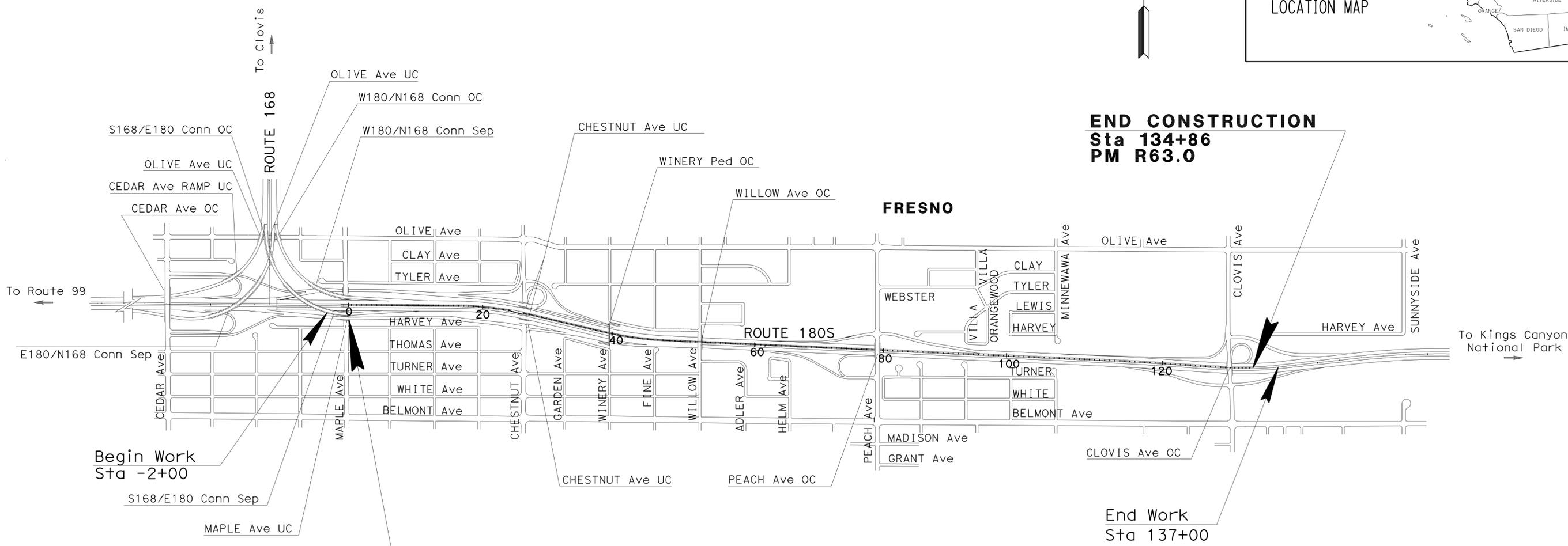
TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180S	R60.4/R63.0	1	27





LOCATION MAP



PROJECT MANAGER  
**ANAND KAPOOR**  
 DESIGN ENGINEER  
**ALI ALQATAMI**

**BEGIN CONSTRUCTION**  
**Sta 0+00**  
**PM R60.4**

NO SCALE

*Richard H. Kuan* 09-06-09  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER



October 12, 2009  
 PLANS APPROVAL DATE

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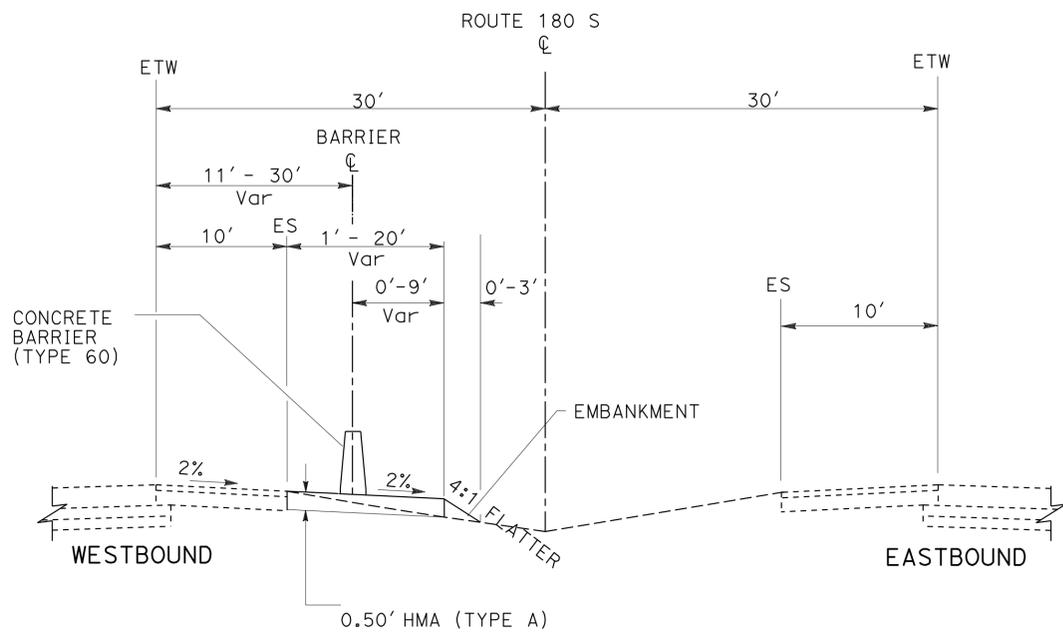
THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS."

CONTRACT No. **06-OJ8904**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180S	R60.4/R63.0	2	27
Richard H. Kuan			09-06-09	DATE	
REGISTERED CIVIL ENGINEER			RICHARD H. KUAN		
10-12-09			PLANS APPROVAL DATE		
No. 56678			Exp 06/30/11		
CIVIL			STATE OF CALIFORNIA		
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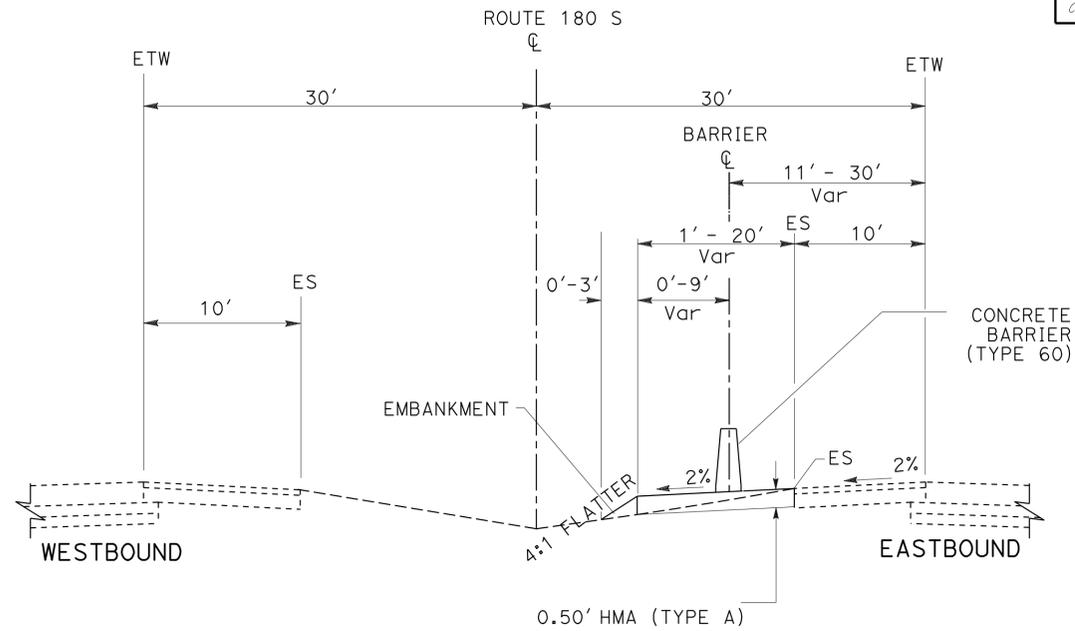
**NOTES:**

1. DIMENSIONS OF THE STRUCTURE PAVEMENT ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
3. MAINTAIN EXISTING DRAINAGE INLET ELEVATION.



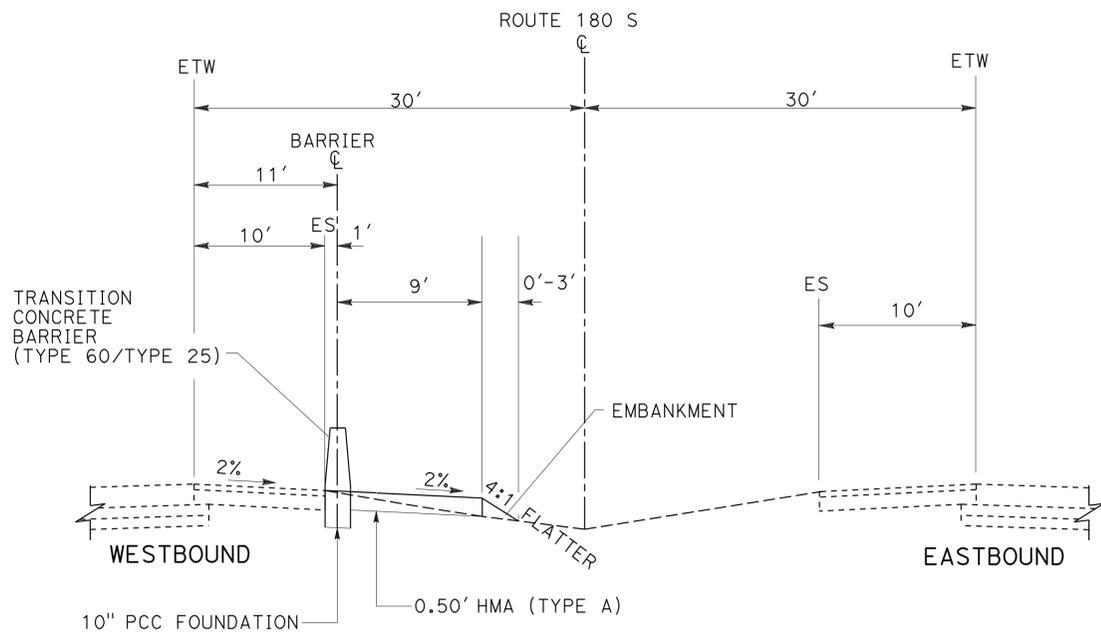
**ROUTE 180 S BARRIER**

Sta 0+15.00 TO Sta 3+15.13  
Sta 16+20.20 TO Sta 18+71.22  
Sta 27+36.09 TO Sta 30+36.85  
Sta 115+22.97 TO Sta 132+78.19



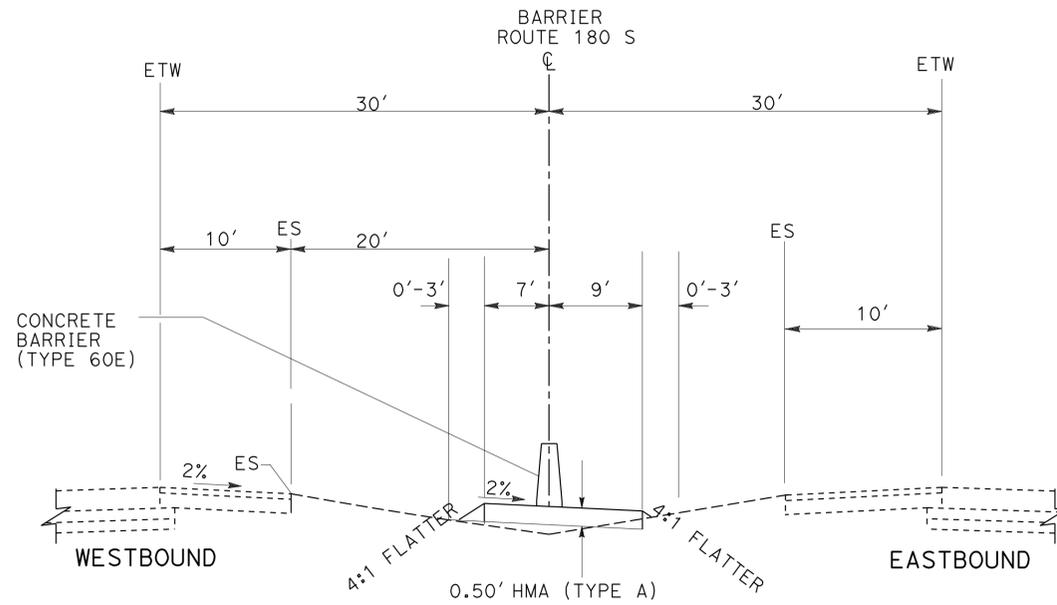
**ROUTE 180 S BARRIER**

Sta 19+96.22 TO Sta 24+64.33



**ROUTE 180 S BARRIER**

Sta 0+00.00 TO Sta 0+15.00  
Sta 27+21.09 TO Sta 27+36.09



**ROUTE 180 S BARRIER**

Sta 18+71.22 TO Sta 19+96.22

**TYPICAL CROSS SECTIONS**

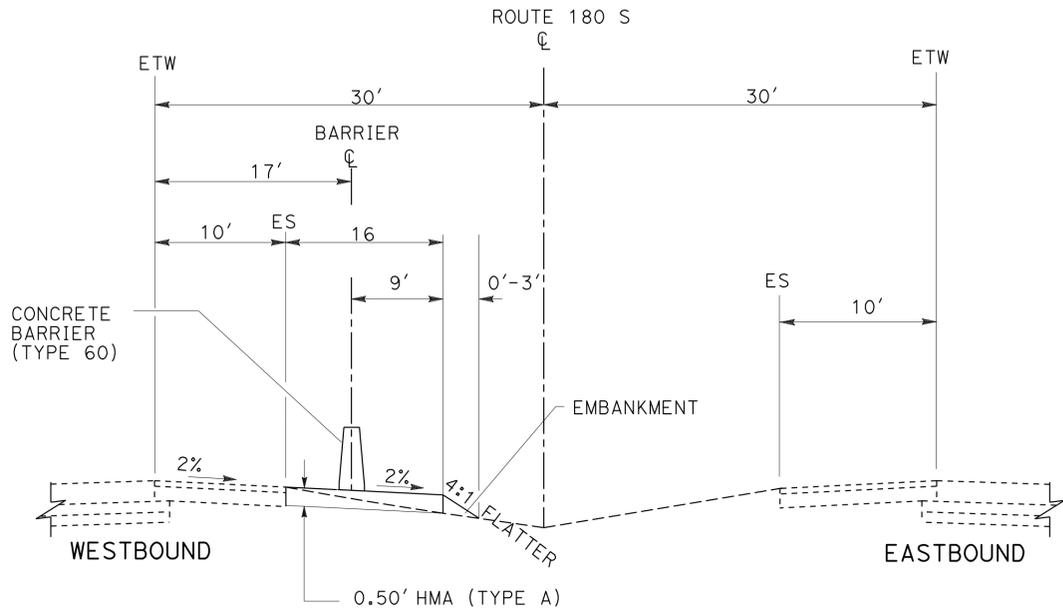
NO SCALE

**X-1**

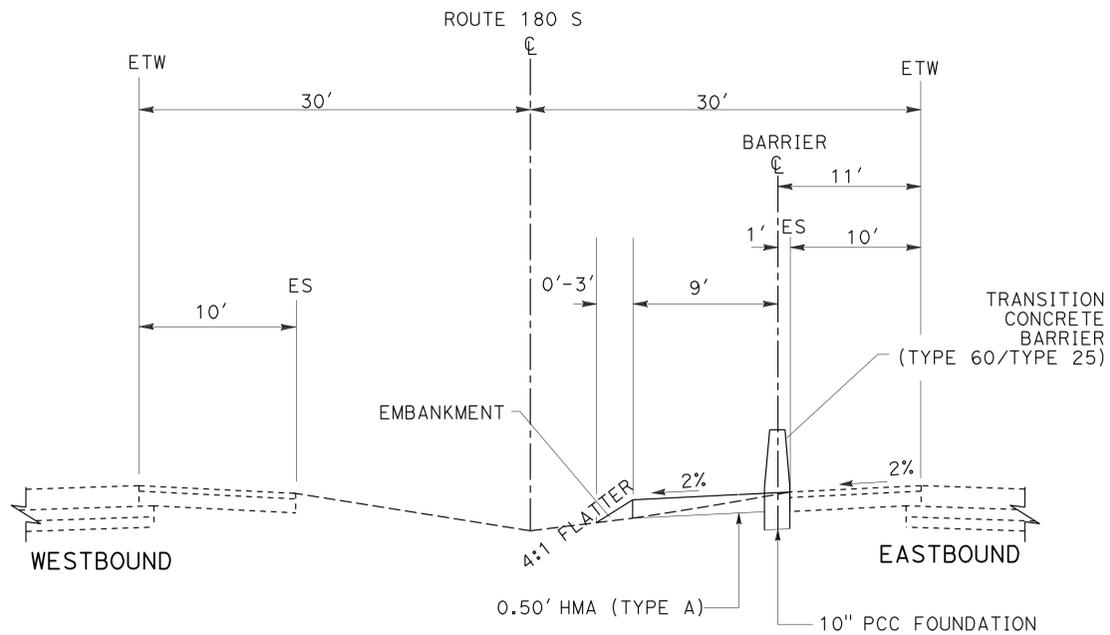
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
GEO LEYVA  
RICHARD KUAN  
ALI ALQATAMI  
DESIGN

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180S	R60.4/R63.0	3	27
Richard H. Kuan		09-06-09		REGISTERED CIVIL ENGINEER DATE	
10-12-09		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>					

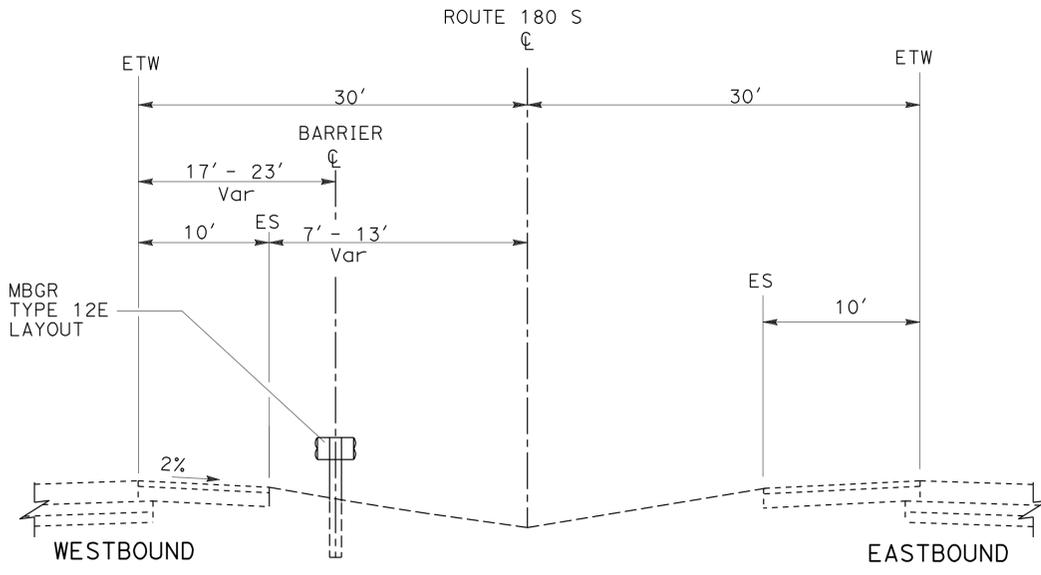
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Et Caltrans DESIGN**  
 FUNCTIONAL SUPERVISOR  
**ALI ALQATAMI**  
 CALCULATED/DESIGNED BY  
**GEO LEYVA**  
 CHECKED BY  
**RICHARD KUAN**  
 REVISED BY  
 DATE REVISED



**ROUTE 180 S BARRIER**  
 Sta 3+15.13 TO Sta 16+20.60  
 Sta 30+36.85 TO Sta 132+78.19



**ROUTE 180 S BARRIER**  
 Sta 24+64.33 TO Sta 24+79.33



**ROUTE 180 S BARRIER**  
 Sta 132+78.19 TO Sta 134+86.44

**TYPICAL CROSS SECTIONS**  
 NO SCALE  
**X-2**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180S	R60.4/R63.0	4	27
Richard H. Kuan			09-06-09	DATE	
REGISTERED CIVIL ENGINEER			PLANS APPROVAL DATE		
10-12-09			DATE		
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**NOTES:**

- APPROXIMATE LOCATION OF EXISTING UNDERGROUND CALTRANS ELECTRICAL CONDUIT. EXACT LOCATION SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- FOR ACCURATE RIGHT OF WAY AND ACCESS DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- MAINTAIN THE EXISTING DRAINAGE INLET ELEVATION.
- SEE SHEET C-1 FOR TRANSITION CONCRETE BARRIER (TYPE 60/TYPE 25) TO BRIDGE BARRIER (TYPE 25).

**ABBREVIATIONS:**

EAA - END ANCHOR ASSEMBLY (TYPE SFT)  
 RTA - RAIL TENSIONING ASSEMBLY

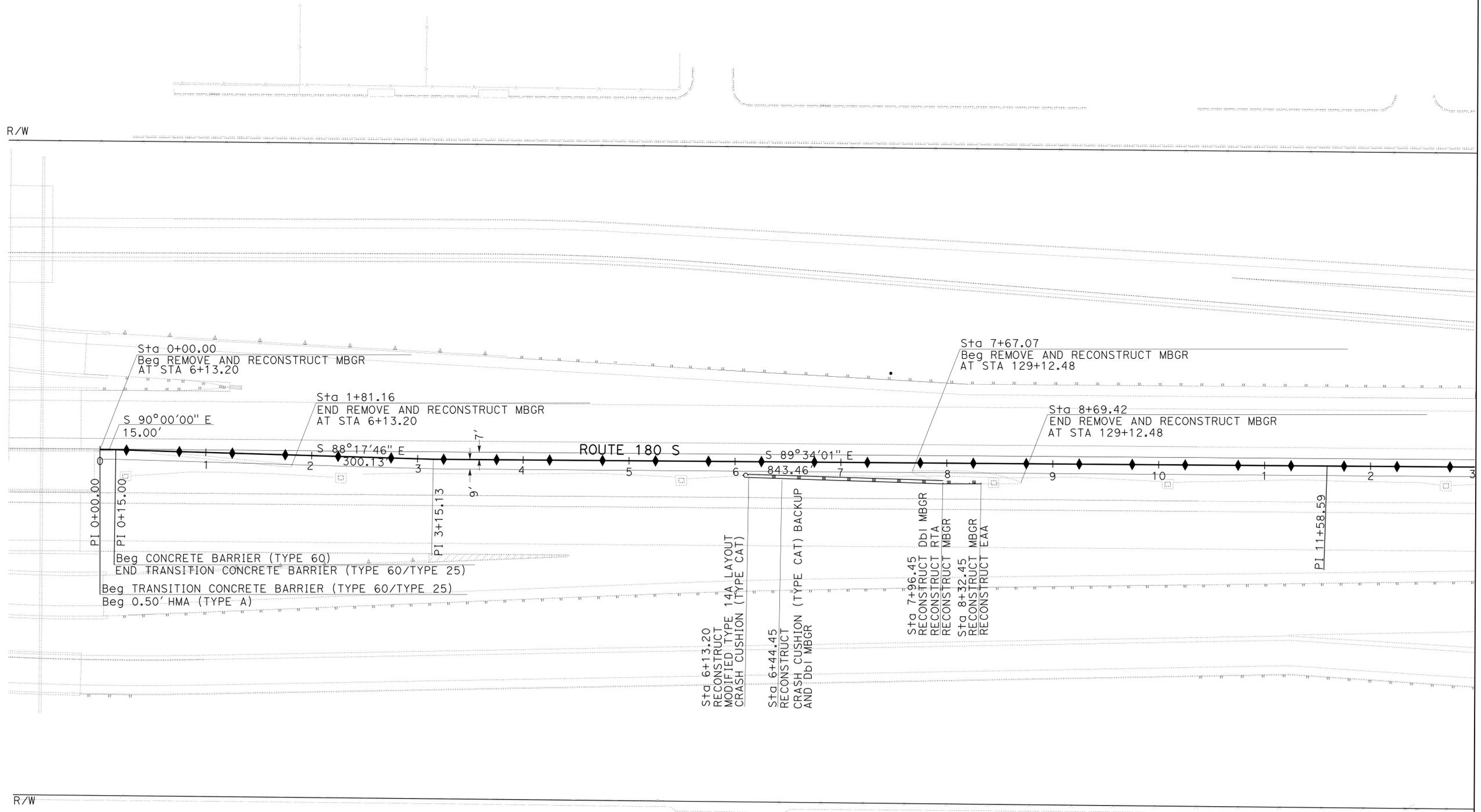
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN

FUNCTIONAL SUPERVISOR  
**ALI ALQATAMI**

CALCULATED-DESIGNED BY  
 CHECKED BY

GEO LEYVA  
 RICHARD KUAN

REVISED BY  
 DATE REVISED



MATCH SHEET L-2

**LAYOUT**

SCALE: 1"=50' **L-1**



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN

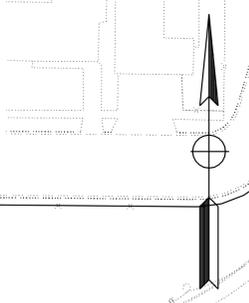
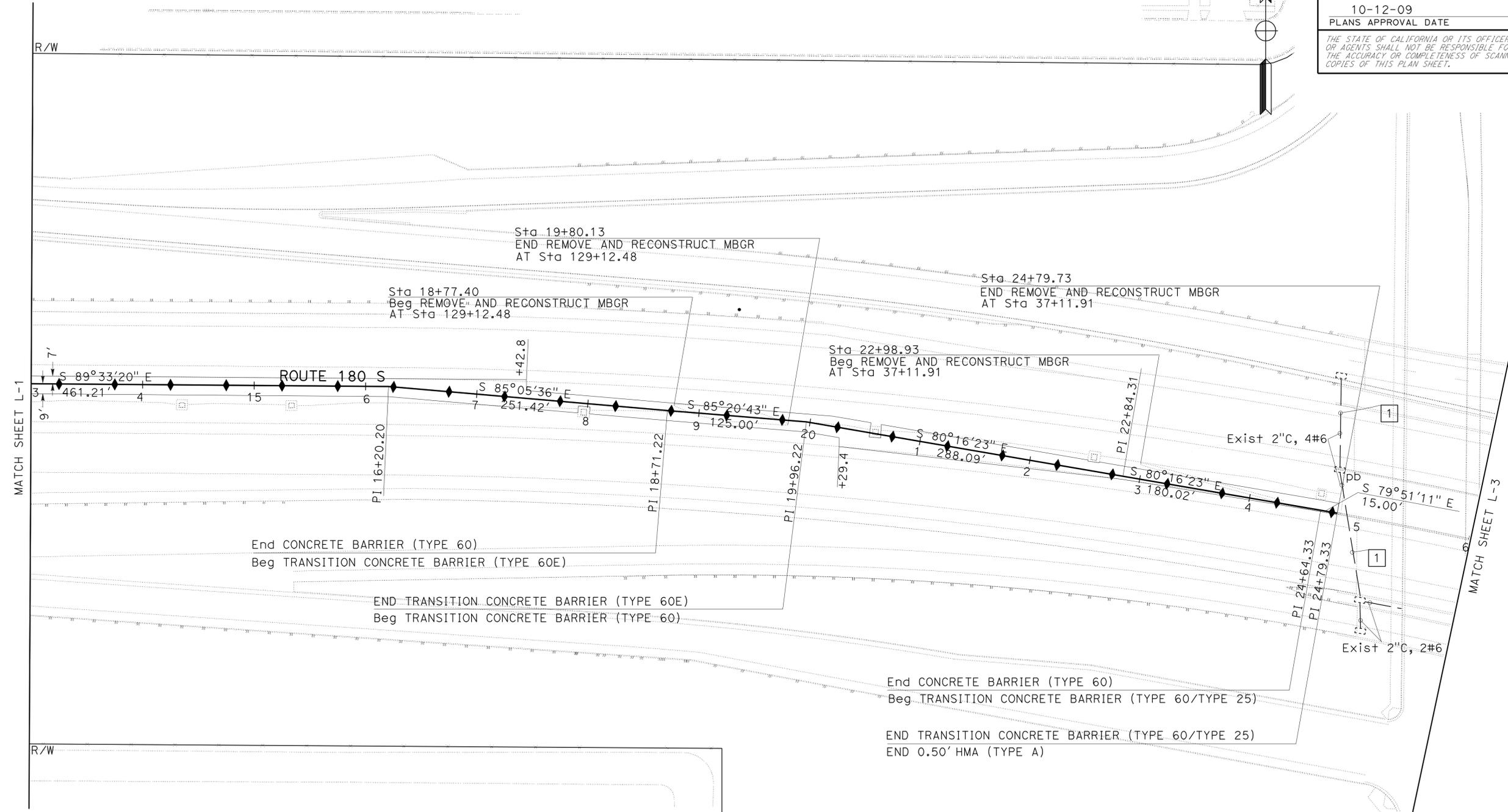
FUNCTIONAL SUPERVISOR  
**ALI ALQATAMI**

CALCULATED-DESIGNED BY  
 CHECKED BY

GEO LEYVA  
 RICHARD KUAN

REVISED BY  
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180S	R60.4/R63.0	5	27
Richard H. Kuan			09-06-09		
REGISTERED CIVIL ENGINEER			DATE		
10-12-09					
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 RICHARD H. KUAN No. 56678 Exp. 06/30/11 CIVIL STATE OF CALIFORNIA					



**LAYOUT**  
 SCALE: 1"=50' **L-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN

FUNCTIONAL SUPERVISOR  
**ALI ALQATAMI**

CALCULATED-DESIGNED BY  
**MOHAMMAD HASHEM**

CHECKED BY  
**RICHARD KUAN**

REVISED BY  
**MOHAMMAD HASHEM**

DATE REVISD  
**RICHARD KUAN**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180S	R60.4/R63.0	6	27

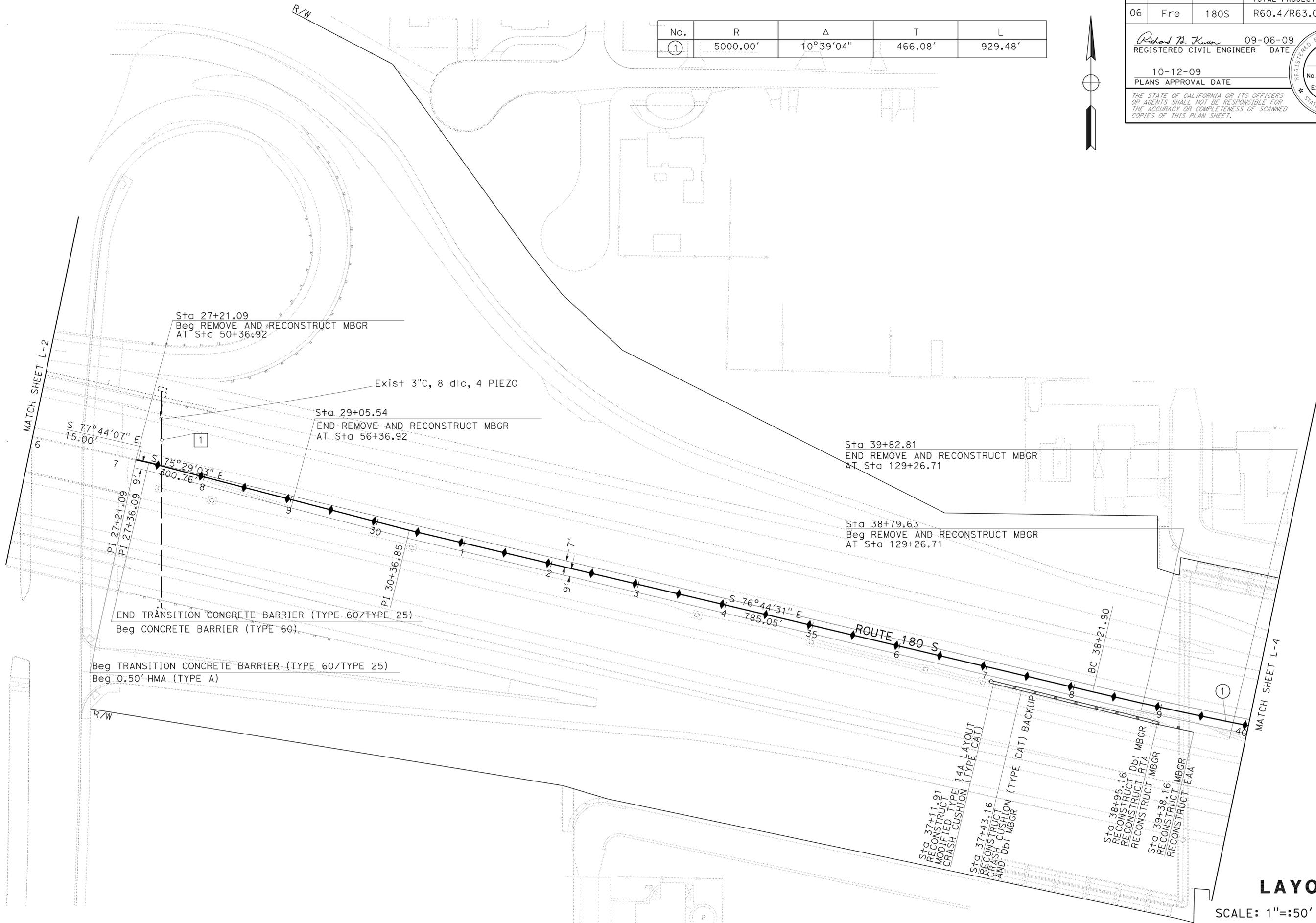
Richard H. Kuan 09-06-09  
 REGISTERED CIVIL ENGINEER DATE

10-12-09  
 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  
 RICHARD H. KUAN  
 No. 56678  
 Exp. 06/30/11  
 CIVIL  
 STATE OF CALIFORNIA

No.	R	Δ	T	L
①	5000.00'	10°39'04"	466.08'	929.48'



**LAYOUT**  
 SCALE: 1"=50' **L-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN

FUNCTIONAL SUPERVISOR  
**ALI ALQATAMI**

CALCULATED-DESIGNED BY  
 CHECKED BY

GEO LEYVA  
 RICHARD KUAN

REVISED BY  
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180S	R60.4/R63.0	7	27

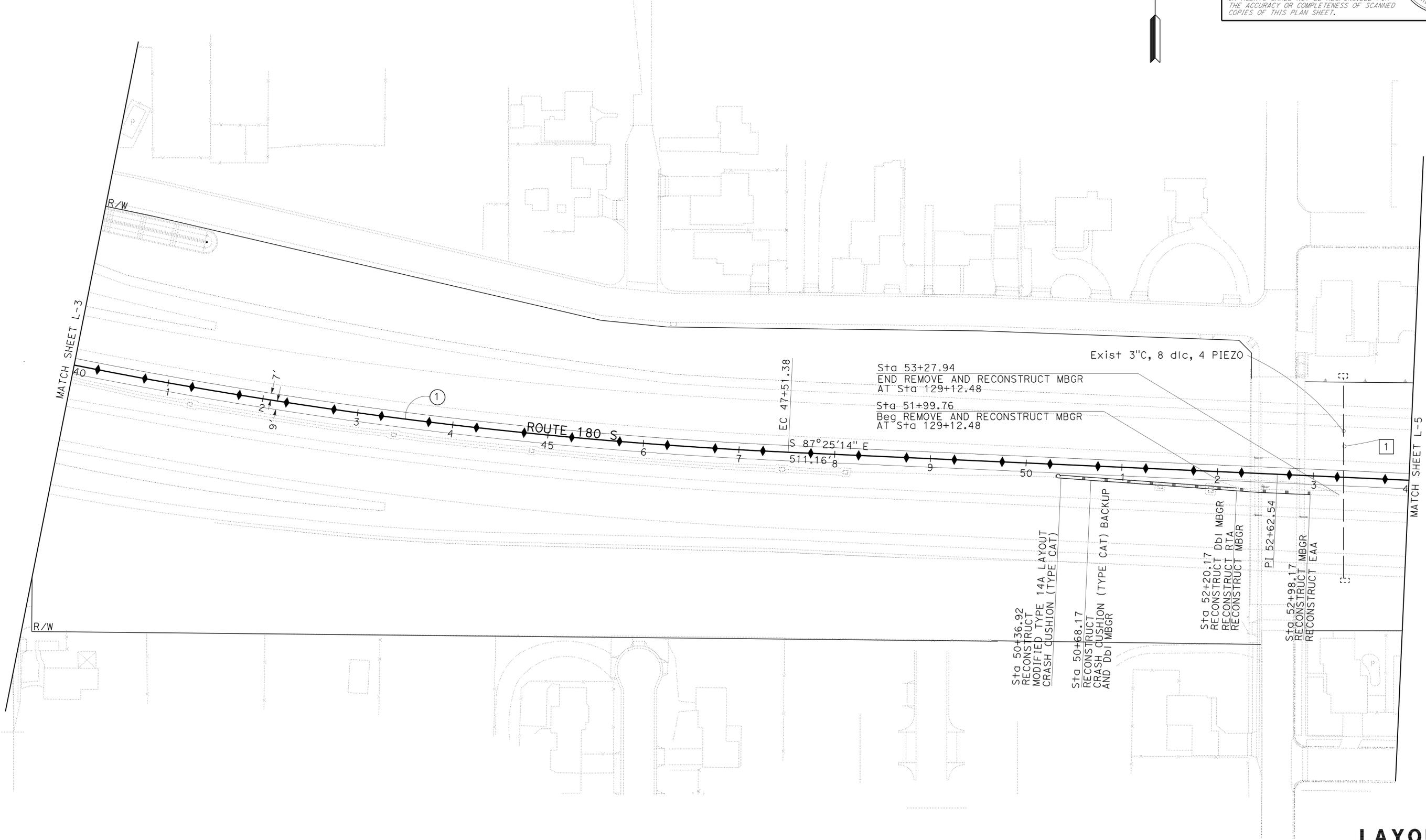
Richard H. Kuan 09-06-09  
 REGISTERED CIVIL ENGINEER DATE

10-12-09  
 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  
 RICHARD H. KUAN  
 No. 56678  
 Exp. 06/30/11  
 CIVIL  
 STATE OF CALIFORNIA

No.	R	Δ	T	L
①	5000.00'	10°39'04"	466.08'	929.48'



**LAYOUT**  
 SCALE: 1"=50' **L-4**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180S	R60.4/R63.0	8	27

<i>Richard H. Kuan</i>	09-06-09
REGISTERED CIVIL ENGINEER	DATE
10-12-09	
PLANS APPROVAL DATE	

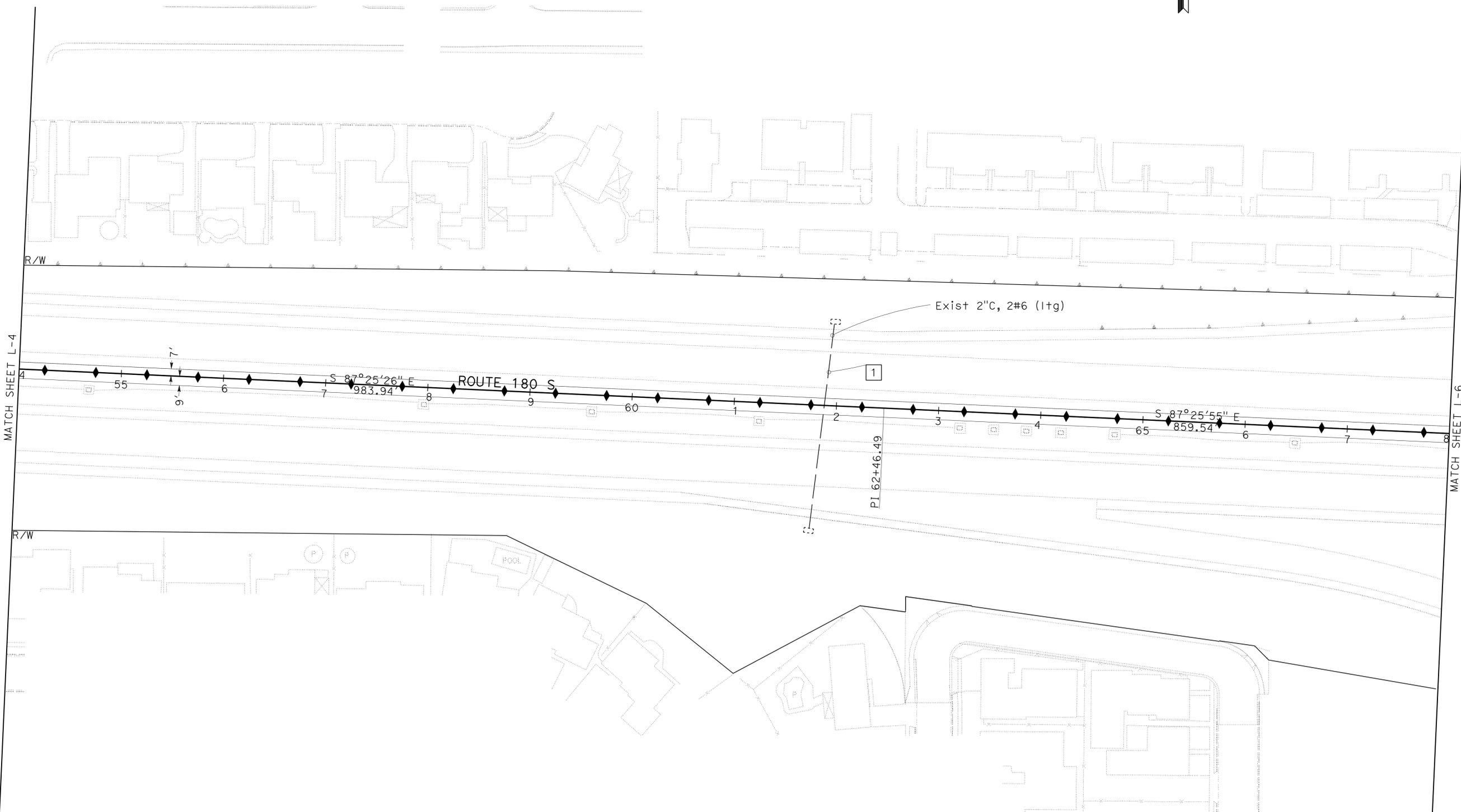
  

REGISTERED PROFESSIONAL ENGINEER
RICHARD H. KUAN
No. 56678
Exp. 06/30/11
CIVIL

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR
<b>Caltrans</b> DESIGN	<b>ALI ALQATAMI</b>	CHECKED BY	<b>GEO LEYVA</b>
			<b>RICHARD KUAN</b>
			DATE REVISOR



**LAYOUT**  
SCALE: 1"=50' **L-5**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN

FUNCTIONAL SUPERVISOR  
**ALI ALQATAMI**

CALCULATED-DESIGNED BY  
 CHECKED BY

GEO LEYVA  
 RICHARD KUAN

REVISED BY  
 DATE REVISED

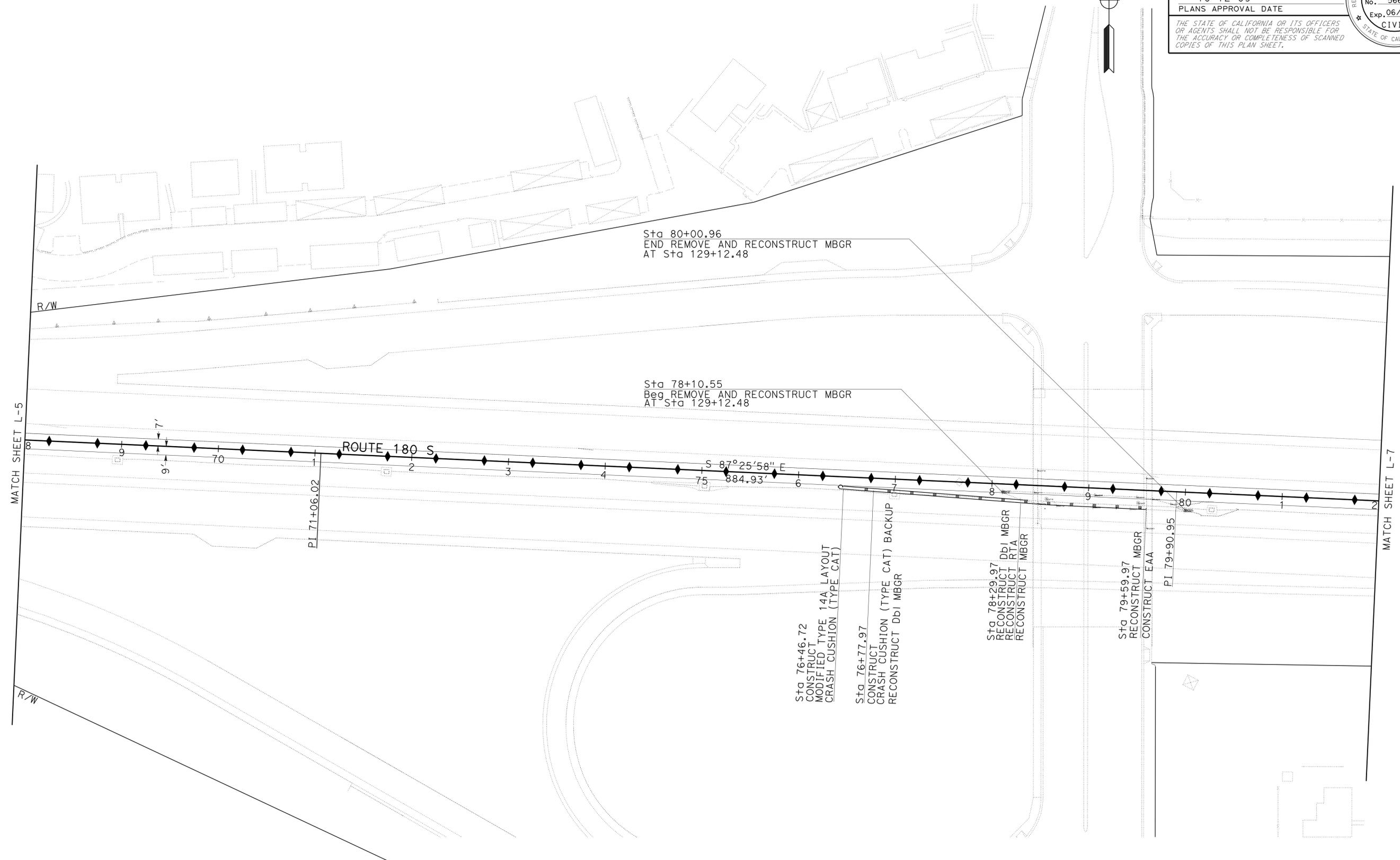
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180S	R60.4/R63.0	9	27

Richard H. Kuan 09-06-09  
 REGISTERED CIVIL ENGINEER DATE

10-12-09  
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
 RICHARD H. KUAN  
 No. 56678  
 Exp. 06/30/11  
 CIVIL  
 STATE OF CALIFORNIA



**LAYOUT**  
 SCALE: 1"=50' **L-6**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN

FUNCTIONAL SUPERVISOR  
**ALI ALQATAMI**

CALCULATED-DESIGNED BY  
**GEO LEYVA**

REVISOR BY  
**RICHARD KUAN**

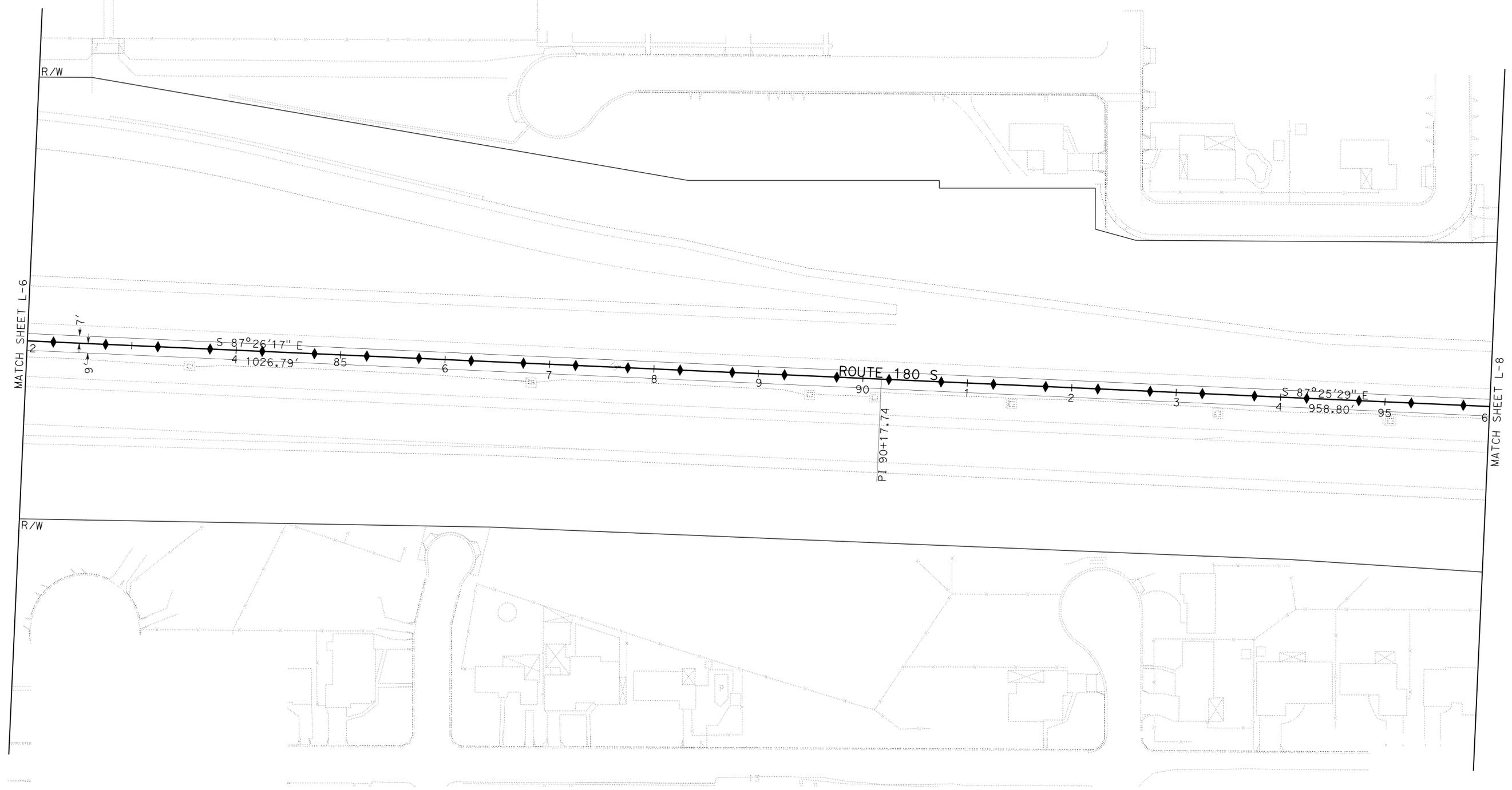
DATE REVISOR  
 DATE REVISOR

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180S	R60.4/R63.0	10	27

*Richard H. Kuan* 09-06-09  
 REGISTERED CIVIL ENGINEER DATE  
 10-12-09  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 RICHARD H. KUAN  
 No. 56678  
 Exp. 06/30/11  
 CIVIL  
 STATE OF CALIFORNIA

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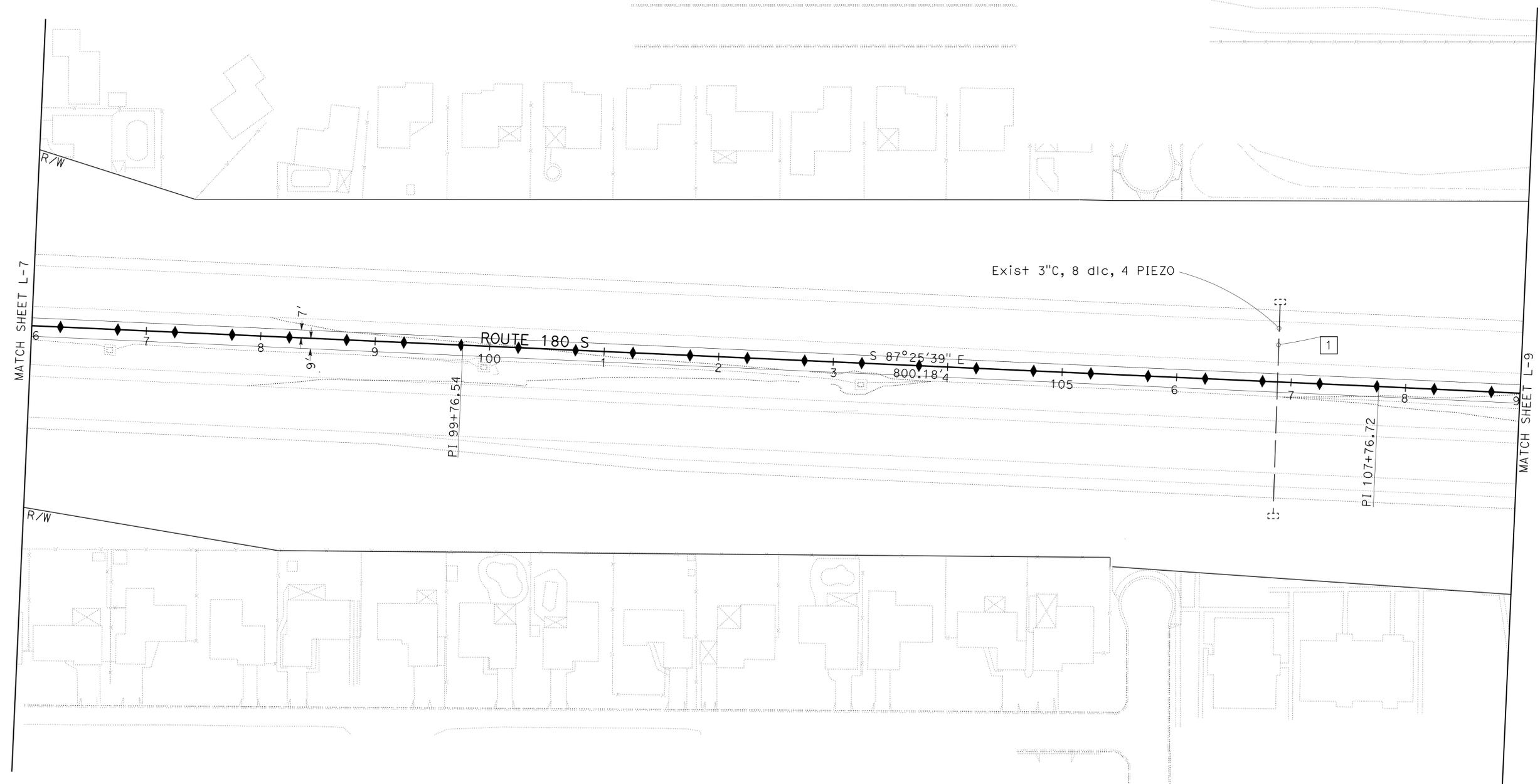


**LAYOUT**  
 SCALE: 1"=50' **L-7**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR
<b>Caltrans</b> DESIGN	<b>ALI ALOATAMI</b>	CHECKED BY	DATE

DESIGNED BY	REVISOR
<b>GEO LEYVA</b>	
<b>RICHARD KUAN</b>	

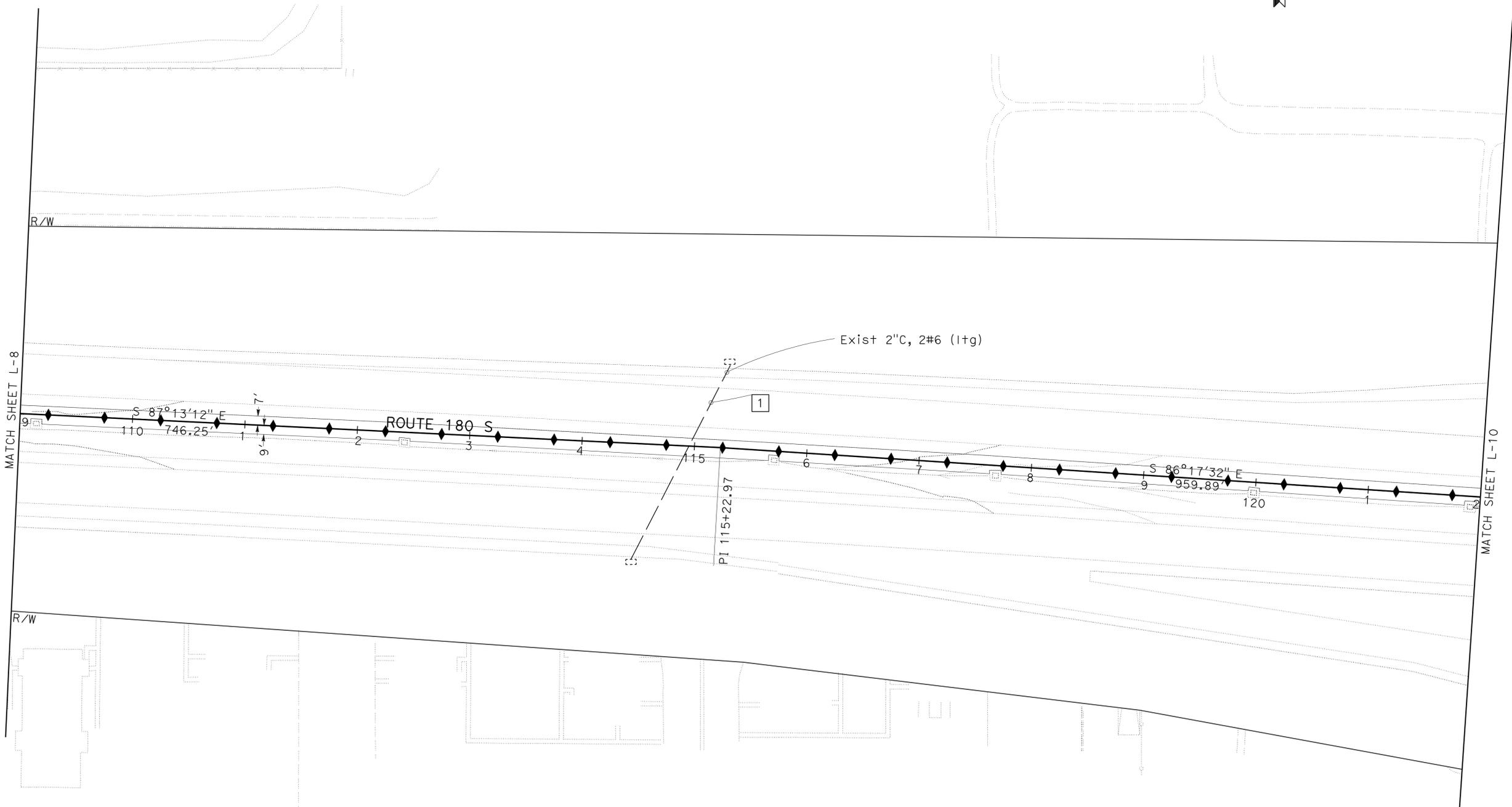
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180S	R60.4/R63.0	11	27
		Richard H. Kuan		09-06-09	
		REGISTERED CIVIL ENGINEER		DATE	
		10-12-09		PLANS APPROVAL DATE	
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**LAYOUT**  
SCALE: 1"=50' **L-8**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR
<b>Caltrans</b> DESIGN	<b>ALI ALQATAMI</b>	CHECKED BY	DATE
		<b>GEO LEYVA</b>	<b>RICHARD KUAN</b>

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	180S	R60.4/R63.0	12	27
			REGISTERED CIVIL ENGINEER	DATE	
			<i>Richard H. Kuan</i>	09-06-09	
			PLANS APPROVAL DATE		
			10-12-09		



**LAYOUT**

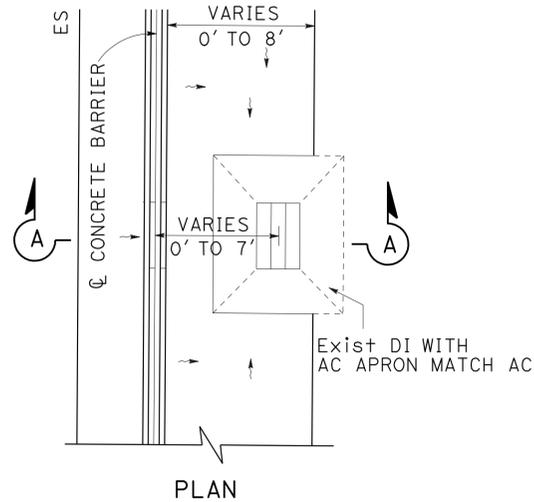
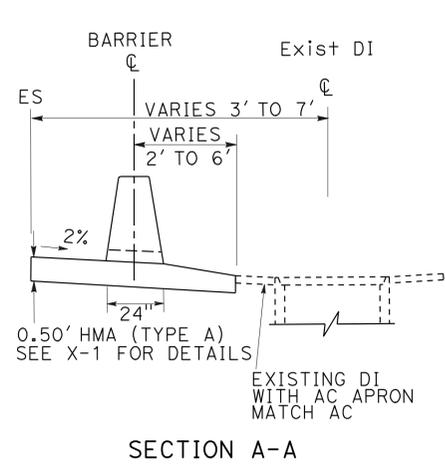
SCALE: 1"=50' **L-9**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	160S	R60.4/R63.0	14	27
Richard H. Kuan			09-06-09	DATE	
REGISTERED CIVIL ENGINEER			PLANS APPROVAL DATE		
10-12-09			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 RICHARD H. KUAN No. 56678 Exp. 06/30/11 CIVIL STATE OF CALIFORNIA					

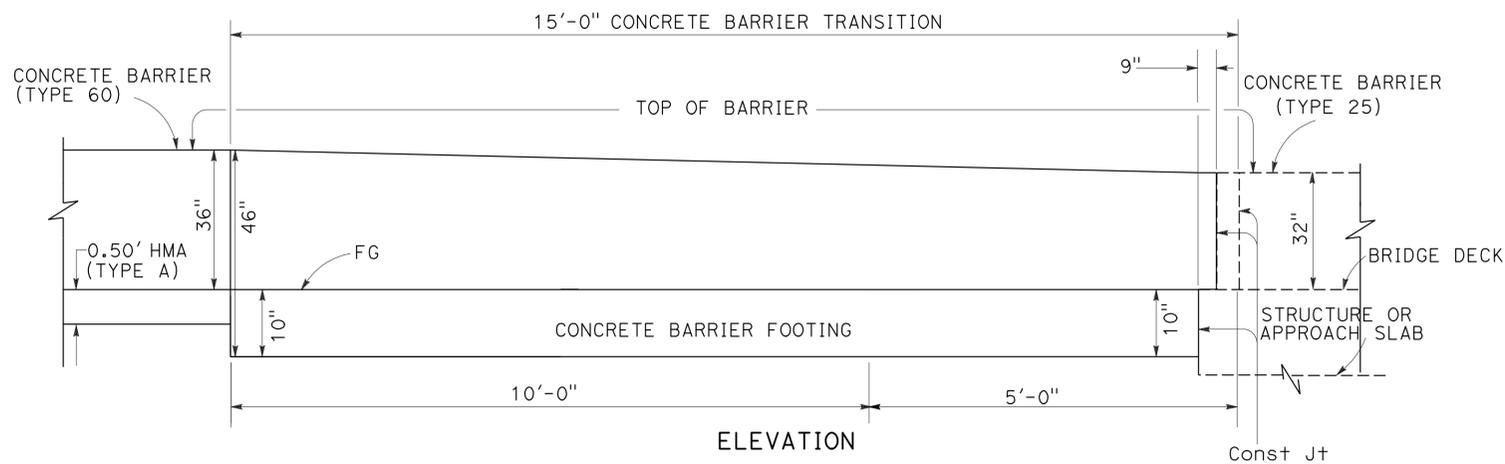
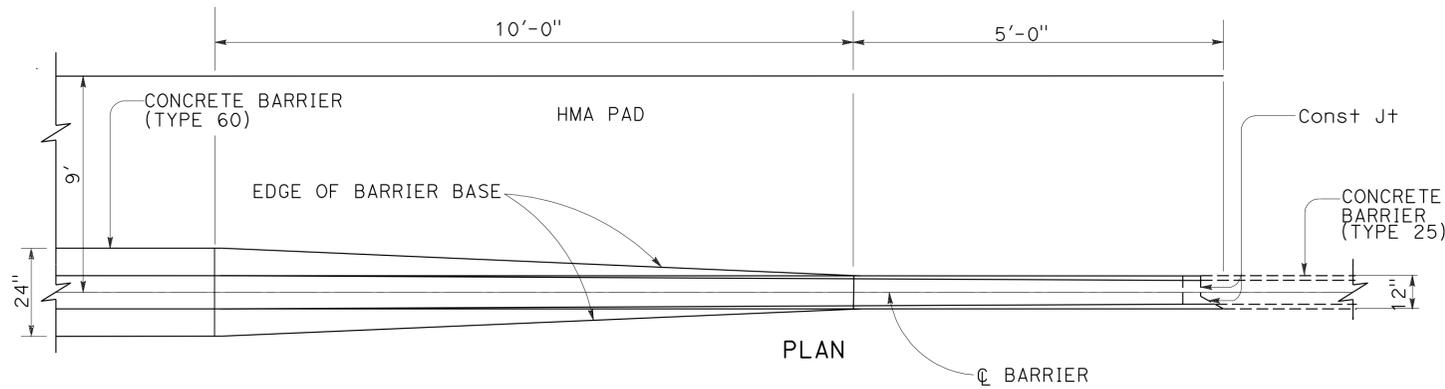
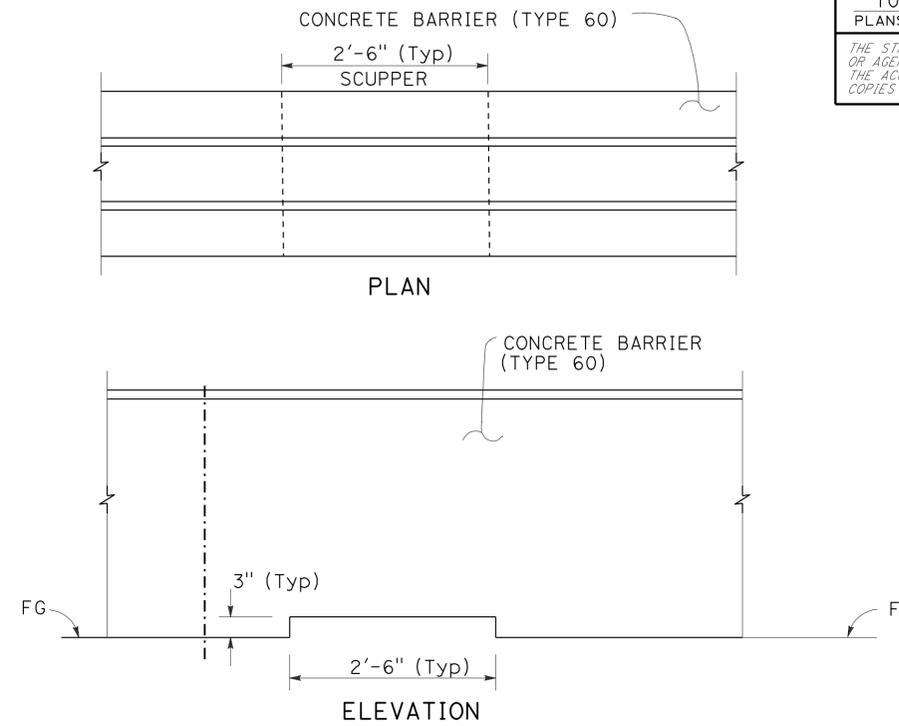
**NOTES:**

- SCUPPERS SHALL BE PLACED THROUGH THE BARRIER AT 25 LF ON CENTER.
- A FOOTING IS REQUIRED AT CONCRETE BARRIER ENDS TO CONNECT TO THE CONCRETE BRIDGE BARRIER.

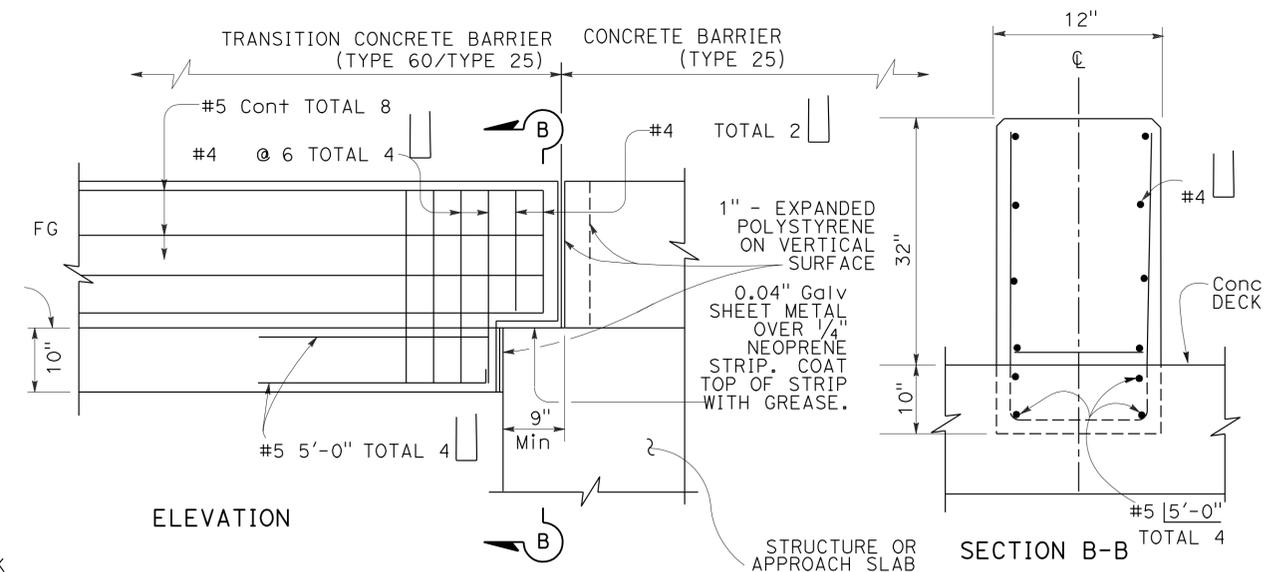


**INLET DETAIL**

- Sta 17+97.33
- Sta 20+59.64
- Sta 22+57.06
- Sta 109+14.59
- Sta 112+42.16
- Sta 115+71.19
- Sta 117+68.49
- Sta 119+98.51
- Sta 121+91.43
- Sta 123+76.54
- Sta 124+23.99
- Sta 124+90.32
- Sta 127+52.68
- Sta 128+83.96
- Sta 129+49.58
- Sta 130+80.76



**TRANSITION CONCRETE BARRIER (TYPE 60/TYPE 25)**



**TRANSITION CONCRETE BARRIER (TYPE 60/TYPE 25) CONNECTION TO CONCRETE BARRIER TYPE 25**

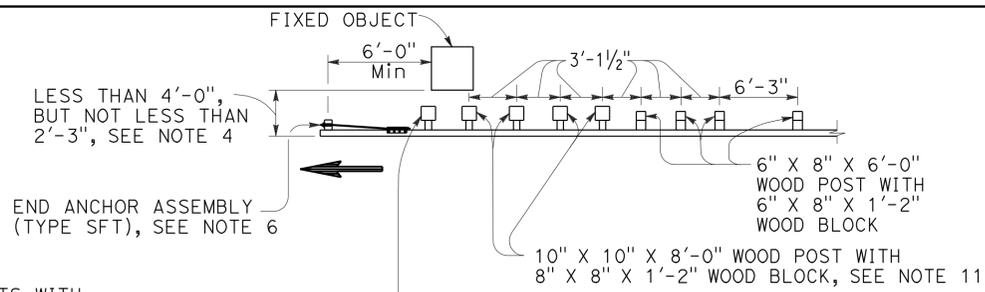
**CONSTRUCTION DETAILS NO SCALE C-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Ali Alqatami  
 Functional Supervisor  
 Geo Leyva  
 Designer  
 Richard Kuan  
 Checked By

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	160S	R60.4/R63.0	15	27
Richard H. Kuan		09-06-09		REGISTERED CIVIL ENGINEER DATE	
10-12-09		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:**

- 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
- 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.
- 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".

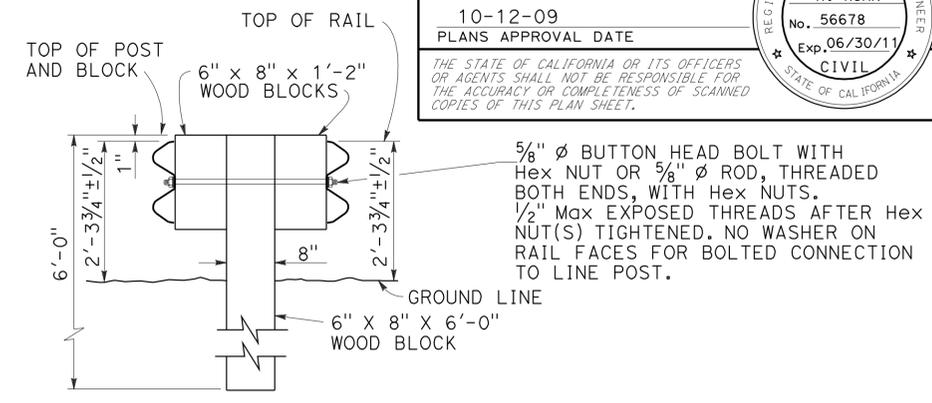


**NOTE A:**

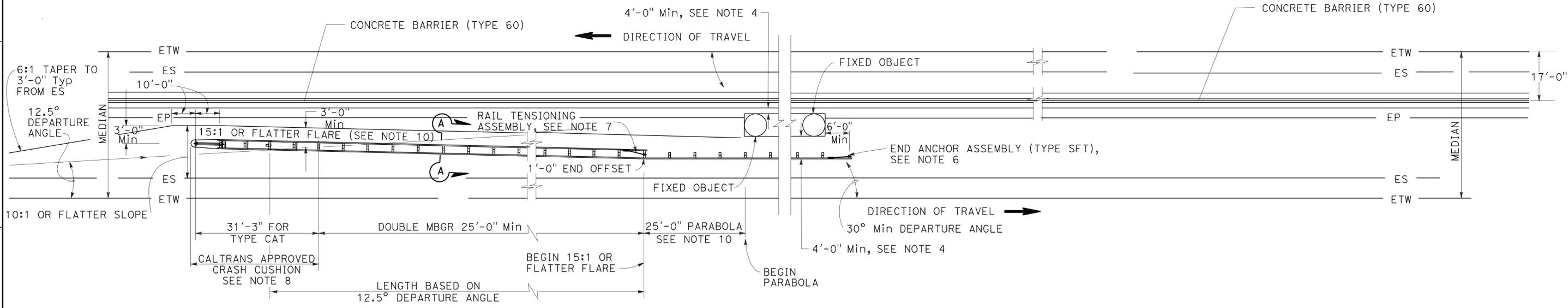
FOR A SERIES OF FIXED OBJECTS (BRIDGE COLUMNS, OVERHEAD SIGN SUPPORTS, etc.) ADDITIONAL 10" X 10" X 8'-0" WOOD POST WITH 8" X 8" X 1'-2" WOOD BLOCKS AT 3'-1/2" CENTER TO CENTER SPACING ARE TO BE USED BETWEEN FIXED OBJECTS.

**STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT**

USE STRENGTHENED RAILING SECTIONS WITH MODIFIED 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**



**MODIFIED TYPE 14A LAYOUT**

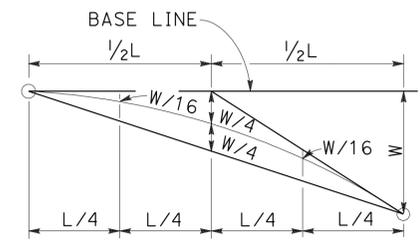


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

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

Y = OFFSET FROM BASE LINE  
W = MAXIMUM OFFSET  
X = DISTANCE ALONG BASE LINE  
L = LENGTH OF FLARE

**PARABOLIC FLARE OFFSETS**



**TYPICAL PARABOLIC LAYOUT**

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

**CONSTRUCTION DETAIL**

NO SCALE

**C-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Ali Alotami  
 Functional Supervisor  
 Geo Leyva  
 Richard Kuan  
 Calculated/Designed By  
 Checked By  
 Revised By  
 Date Revised

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	160S	R60.4/R63.0	16	27

Hassan Cole 05-06-09  
REGISTERED CIVIL ENGINEER DATE

10-12-09  
PLANS APPROVAL DATE

HASSAN M. TAHA  
No. 60130  
Exp. 06/30/10  
CIVIL

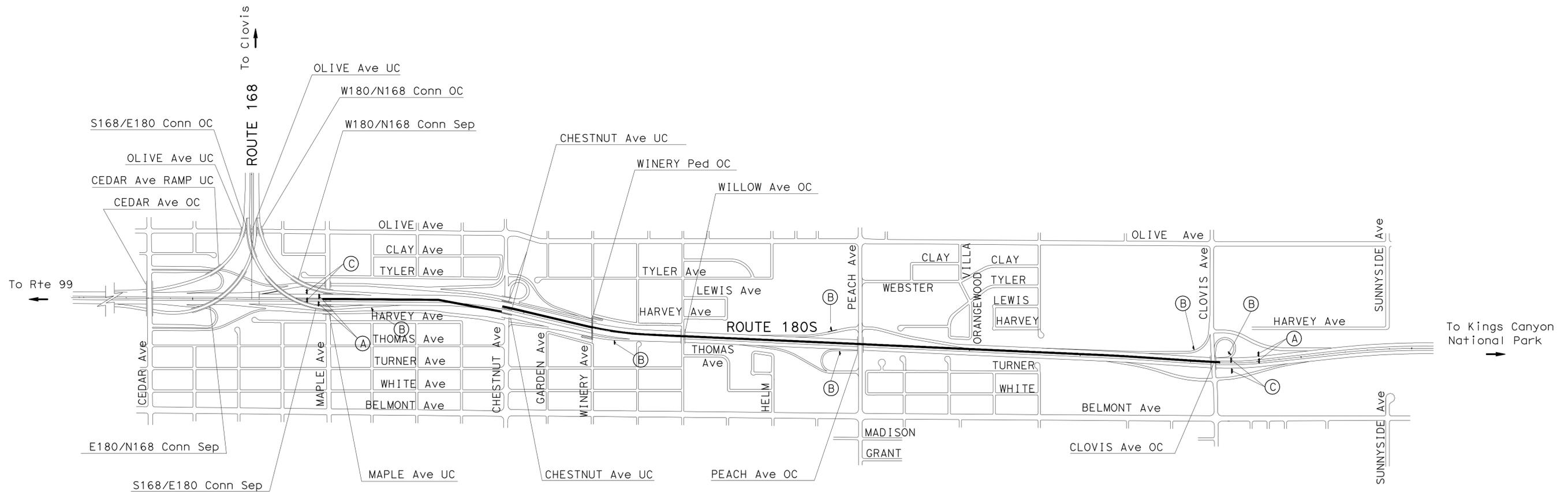
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**STATIONARY MOUNTED  
CONSTRUCTION AREA SIGNS**

SIGN No.	SIGN CODE	PANEL SIZE	SIGN MESSAGE	No. OF POST AND SIZE	No. OF SIGNS
(A)	W20-1	60" x 60"	ROAD WORK AHEAD	2 - 6" x 6"	4
(B)	W20-1	48" x 48"	ROAD WORK AHEAD	1 - 6" x 6"	6
(C)	G20-2	60" x 24"	END ROAD WORK	2 - 4" x 4"	4

NOTE: LOCATIONS OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC DESIGN  
FUNCTIONAL SUPERVISOR **MOHAMMAD QATAMI**  
CALCULATED-DESIGNED BY  
CHECKED BY  
REVISOR BY  
DATE REVISED

**CONSTRUCTION AREA SIGNS  
NO SCALE  
CS-1**

THIS PLAN ACCURATE FOR CONSTRUCTION AREA SIGNS ONLY.

### EARTHWORK

Sta TO Sta	ROADWAY EXCAVATION	EMBANKMENT (N)
	CY	CY
0+00.00 TO 24+79.73	310	184
27+21.09 TO 132+78.19	1512	308
<b>TOTAL</b>	<b>1822</b>	<b>492</b>

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

### HOT MIX ASPHALT (TYPE A)

Sta TO Sta	TON
0+00.00 TO 24+73.53	1500
27+24.39 TO 129+26.71	6300
<b>TOTAL</b>	<b>7800</b>

### CONCRETE BARRIER (TYPE K)

Sta TO Sta	LF	REMARKS
AS NEEDED	100	USED WITHIN PROJECT LIMITS
<b>TOTAL</b>	<b>100</b>	

### METAL BEAM GUARD RAILING

DIRECTION	LOCATION	LAYOUT TYPE	RECONSTRUCT TRANSITION RAILING (TYPE WB)	RECONSTRUCT END CAP AND SPACER	RECONSTRUCT MBGR	RECONSTRUCT DBI MBGR	RECONSTRUCT RTA	RECONSTRUCT CRASH CUSHION (TYPE CAT) BACKUP	CRASH CUSHION (TYPE CAT) BACKUP	RECONSTRUCT CRASH CUSHION (TYPE CAT)	CRASH CUSHION (TYPE CAT)	RECONSTRUCT EAA (TYPE SFT)	EAA (TYPE SFT)
			EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	EA
WB	0+00.00	12E											
Med	7+67.07	5A											
Med	18+77.40	5A											
EB	22+98.93	12E											
WB	27+21.09	12E											
Med	38+79.63	5A											
Med	51+99.76	5A											
Med	78+10.55	5A											
Med	130+94.62	5A											
EB	6+13.20	M14A			36	152	1	1		1		1	
EB	37+11.91	M14A			43	152	1	1		1		1	
EB	50+36.92	M14A			78	152	1	1		1		1	
EB	76+46.72	M14A			130	152	1		1		1		1
EB	129+12.48	M14A			163	152	1		1		1		1
WB	132+78.19	12E	1	1	25	127	1		1		1		
<b>TOTAL</b>			<b>1</b>	<b>1</b>	<b>475</b>	<b>887</b>	<b>6</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>

5A - Exist MBGR LAYOUT IN THE 1999 STANDARD PLAN  
M14A - MODIFIED TYPE 14A LAYOUT SEE C-2  
EAA - END ANCHOR ASSEMBLY (TYPE SFT)  
RTA - RAIL TENSIONING ASSEMBLY

### CONCRETE BARRIER (TYPE 60)

Sta TO Sta	LF	REMARKS
0+15.00 TO 18+71.22	1,857	WESTBOUND
19+96.22 TO 24+64.33	470	WESTBOUND TO EASTBOUND
27+36.09 TO 132+78.19	10,543	WESTBOUND
<b>TOTAL</b>	<b>12,870</b>	

### CONCRETE BARRIER (TYPE 60E)

Sta TO Sta	LF	REMARKS
18+71.22 TO 19+31.22	60	TRANSITION FROM 2' TO 5' WIDE
18+31.22 TO 19+36.22	5	FULL 5' WIDE
18+36.22 TO 19+96.22	60	TRANSITION FROM 5' TO 2' WIDE
<b>TOTAL</b>	<b>125</b>	<b>PROTECT OH SIGN IN MEDIAN</b>

### TRANSITION CONCRETE BARRIER (TYPE 60/TYPE 25)

Sta TO Sta	LF	REMARKS
0+00.00 TO 0+15.00	15	WESTBOUND
24+64.33 TO 24+79.33	15	EASTBOUND
27+21.09 TO 27+36.09	15	WESTBOUND
<b>TOTAL</b>	<b>45</b>	

### TEMPORARY DRAINAGE INLET PROTECTION

Sta	EA
17+97.33	1
20+59.64	1
22+57.06	1
109+14.59	1
112+42.16	1
115+71.19	1
117+68.49	1
119+98.51	1
121+91.43	1
123+76.54	1
124+23.99	1
124+90.32	1
127+52.68	1
128+83.96	1
129+49.58	1
130+80.76	1
<b>TOTAL</b>	<b>16</b>

### EROSION CONTROL (DRILL SEED)

Sta TO Sta	ACRE	REMARKS
0+00.00 TO 134+86.44	4	USED WITHIN PROJECT LIMITS
<b>TOTAL</b>	<b>4</b>	

### COMPOST (INCORPORATE)

Sta TO Sta	SQYD	REMARKS
0+00.00 TO 134+86.44	19,360	USED WITHIN PROJECT LIMITS
<b>TOTAL</b>	<b>19,360</b>	

## SUMMARY OF QUANTITIES Q-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre	160S	R60.4/R63.0	17	27

Richard H. Kuan 09-06-09  
REGISTERED CIVIL ENGINEER DATE

10-12-09  
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.

RICHARD H. KUAN  
No. 56678  
Exp. 06/30/11  
CIVIL

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** DESIGN

FUNCTIONAL SUPERVISOR  
**ALI ALQATAMI**

REVISOR  
**GEO LEYVA**

CHECKED BY  
**RICHARD KUAN**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre	160S	R60.4/R63.0	18	27

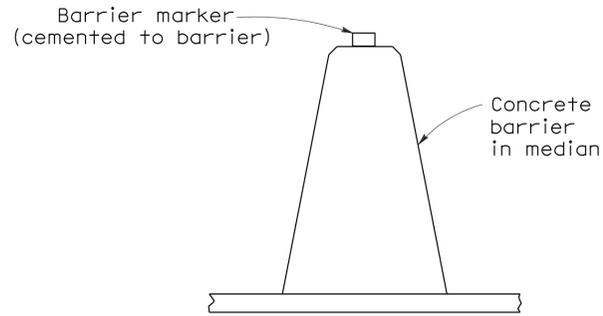
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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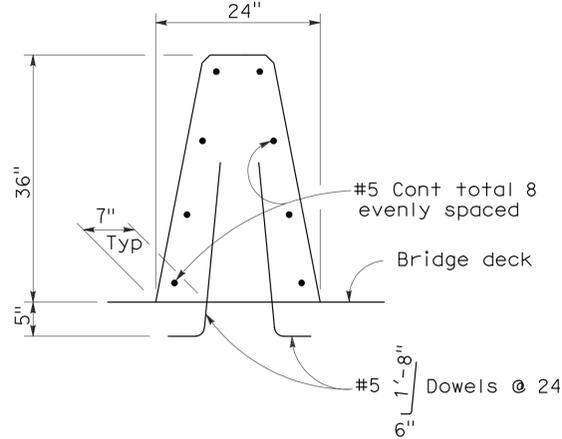
To accompany plans dated 10-12-09

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



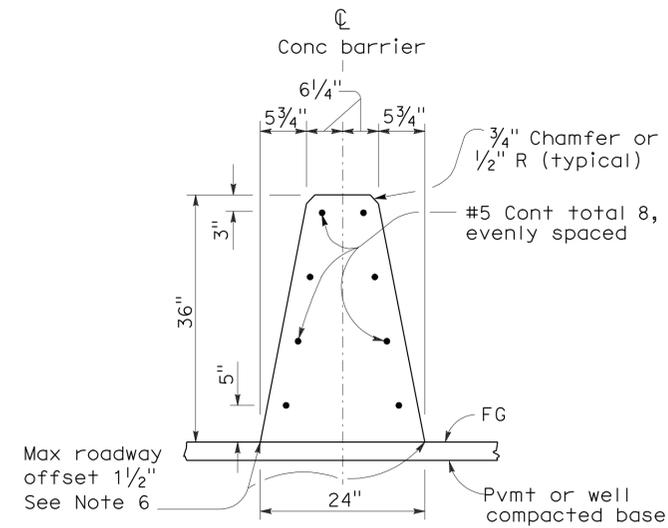
**CONCRETE BARRIER TYPE 60 DELINEATION**

See Notes 7 and 8



**CONCRETE BARRIER TYPE 60A**

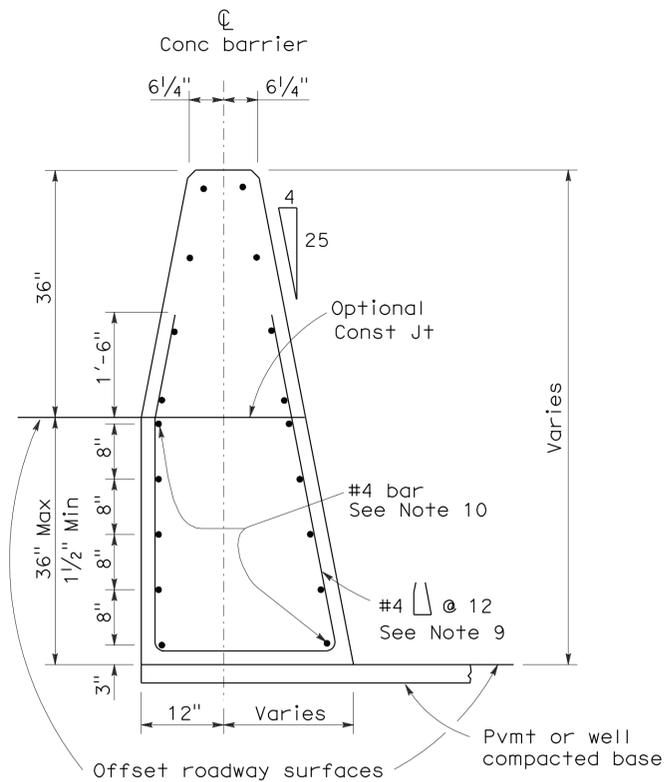
Details similar to Type 60 except as noted.



**CONCRETE BARRIER TYPE 60**

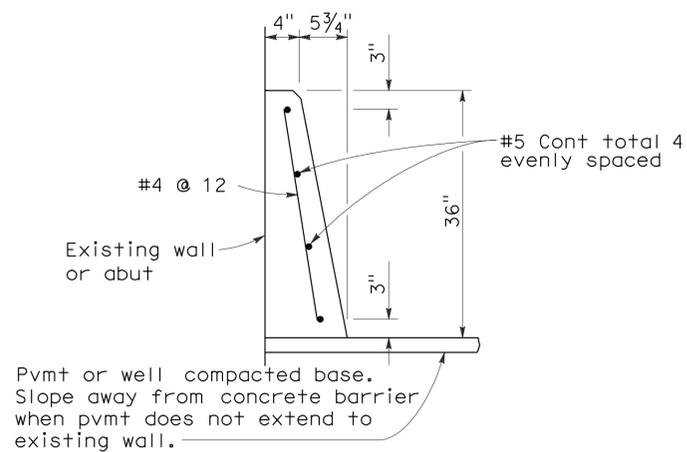
**NOTES:**

- See Standard Plan A76B for details of Concrete Barrier Type 60 end anchors, connection to structures and transitions to Concrete Barrier Type 50 and Concrete Barrier Type 60S.
- See Standard Plan A76C for Concrete Barrier Type 60 transitions at bridge column and sign pedestals.
- Where glare screen is required on Concrete Barrier Type 60, use Concrete Barrier Type 60G.
- Where the concrete barrier is added to the face of existing concrete structure, match existing weep holes.
- Expansion joints in concrete barrier shall be located at all deck, pavement and principal wall joints. Expansion joint filler material shall be the same size as joint or 1/2" minimum.
- Where roadway offset is greater than 1 1/2", see Concrete Barrier Type 60C.
- Barrier delineation to be used when required by the Special Provisions.
- Spacing of barrier markers to match spacing of raised pavement markers on the adjacent median edgeline pavement delineation.
- Reinforcing stirrup not required for roadway offsets less than 1'-0".
- For roadway surfaces offset greater than 1 1/2" to 3", no rebars required. For roadway surfaces offset greater than 3" to 8" use two #4 rebars at 3" above the lower roadway surface. For roadway surfaces offset greater than 8" to 12", use two #4 rebars at 3" above the lower roadway surface and two #4 rebars at 8" above the lower roadway surface. For roadway surfaces offset greater than 12" to 36", use two #4 rebars at 3" above the lower roadway surface and two #4 rebars at every 8" increment vertical spacing above the first two #4 rebars.



**CONCRETE BARRIER TYPE 60C**

Details similar to Type 60 except as noted. Concrete barrier end anchor when necessary. 36" roadway surfaces offset shown.



**CONCRETE BARRIER TYPE 60D**

**CONCRETE BARRIER TYPE 60**

NO SCALE

RSP A76A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A76A DATED MAY 1, 2006 - PAGE 29 OF THE STANDARD PLANS BOOK DATED MAY 2006.

**REVISED STANDARD PLAN RSP A76A**

2006 REVISED STANDARD PLAN RSP A76A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre	160S	R60.4/R63.0	19	27

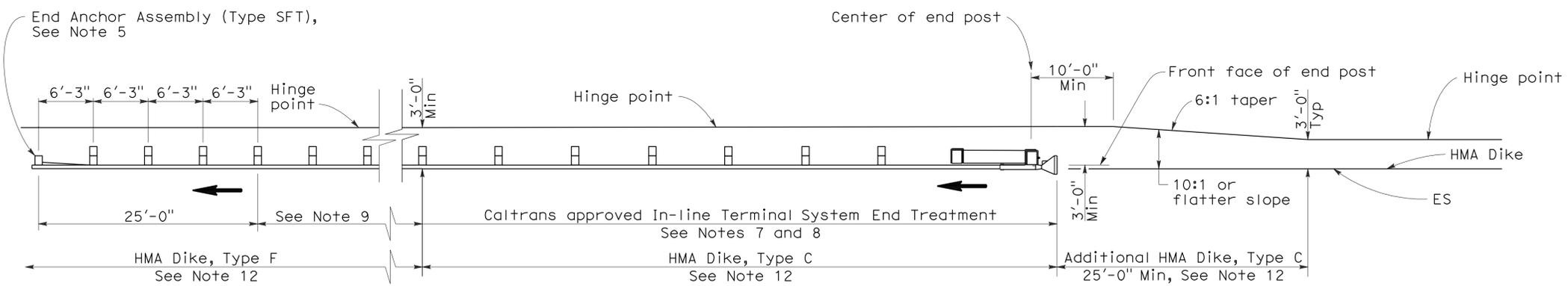
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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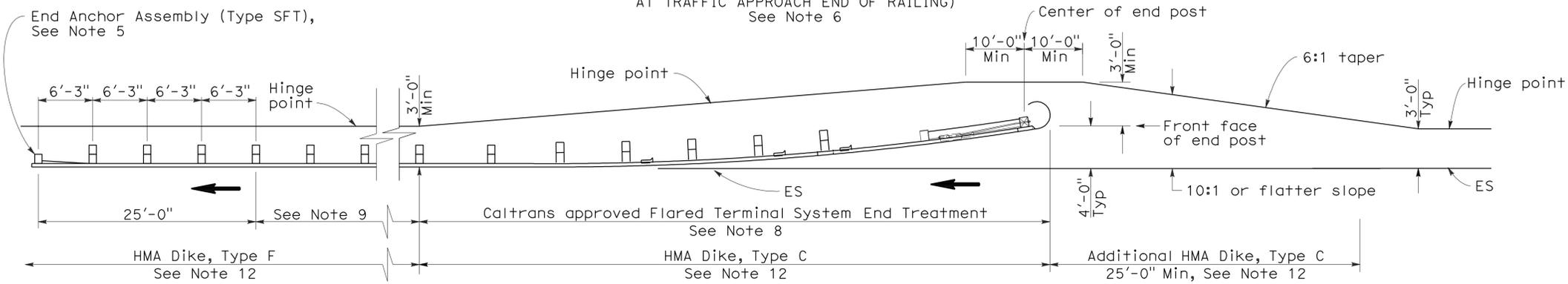
To accompany plans dated 10-12-09

2006 REVISED STANDARD PLAN RSP A77E1



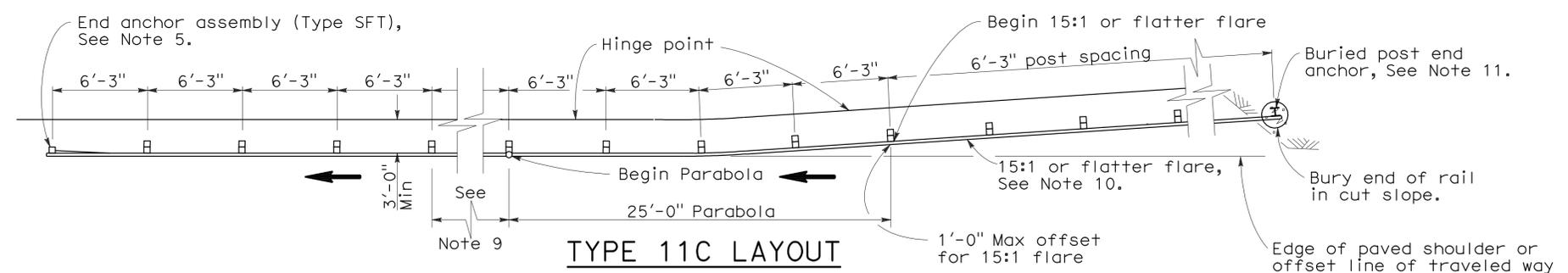
**TYPE 11A LAYOUT**

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



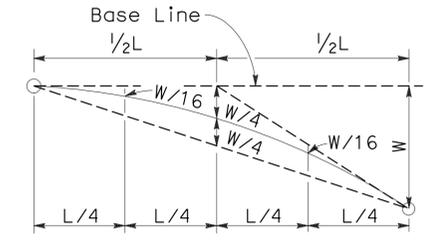
**TYPE 11B LAYOUT**

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

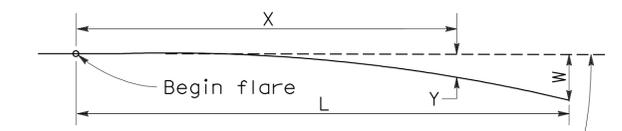


**TYPE 11C LAYOUT**

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



**TYPICAL PARABOLIC LAYOUT**

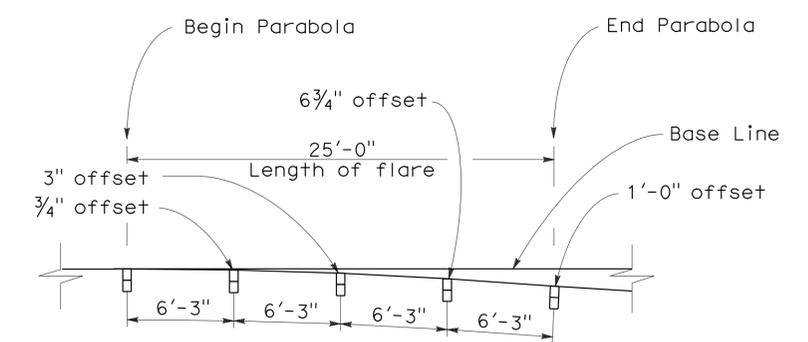


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

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.

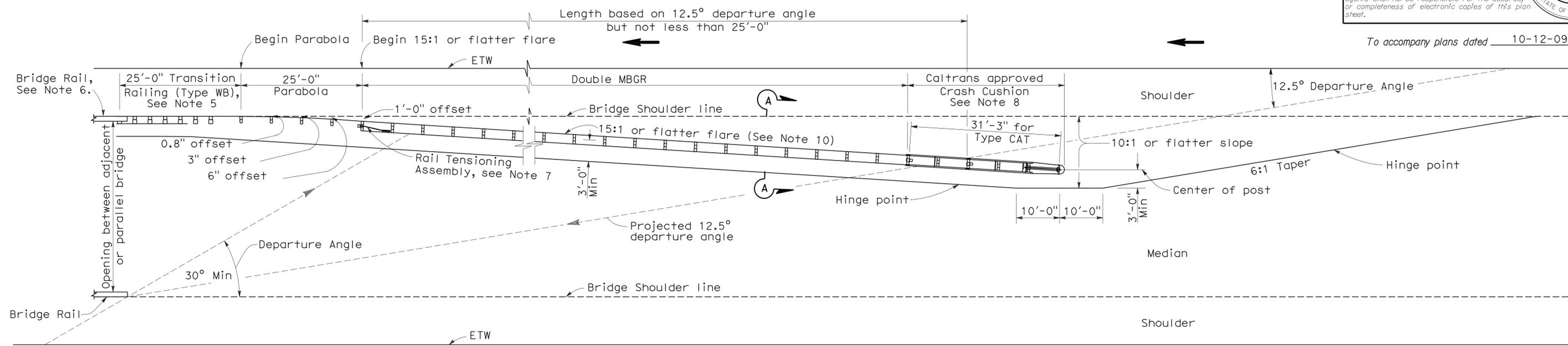
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**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.

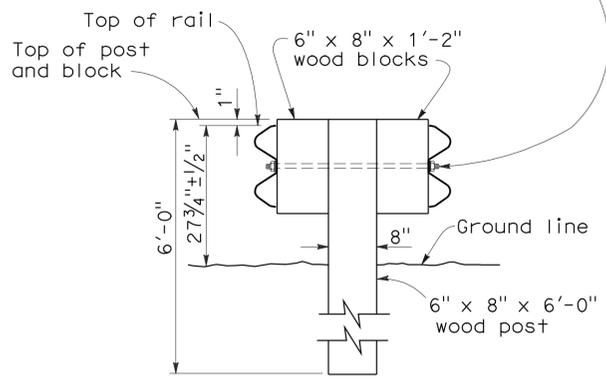
**REVISED STANDARD PLAN RSP A77E1**



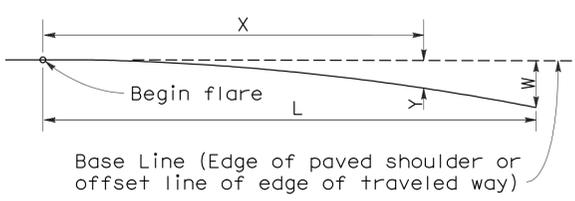
**TYPE 12E LAYOUT**

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.



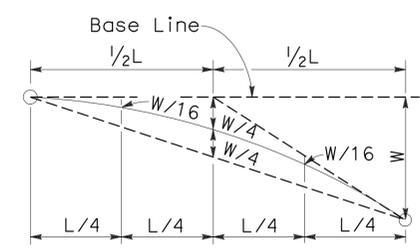
**SECTION A-A**  
**TYPICAL DOUBLE METAL BEAM GUARD RAILING**



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

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

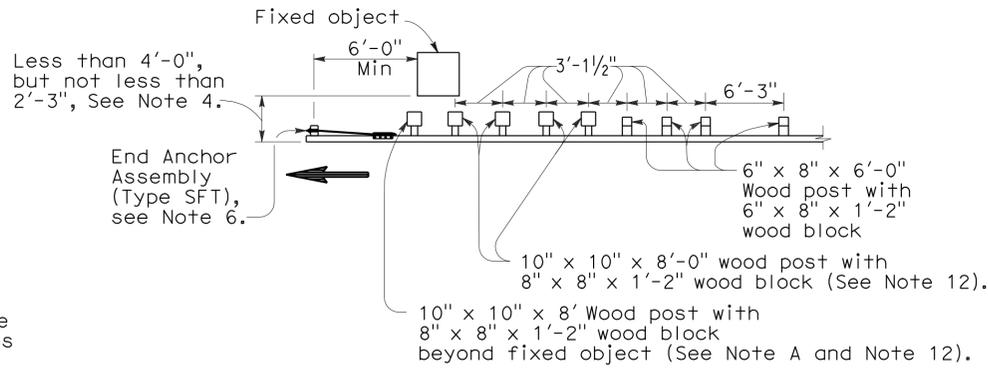
**METAL BEAM GUARD RAILING**  
**TYPICAL LAYOUTS FOR**  
**STRUCTURE APPROACH**

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

**NOTES:**

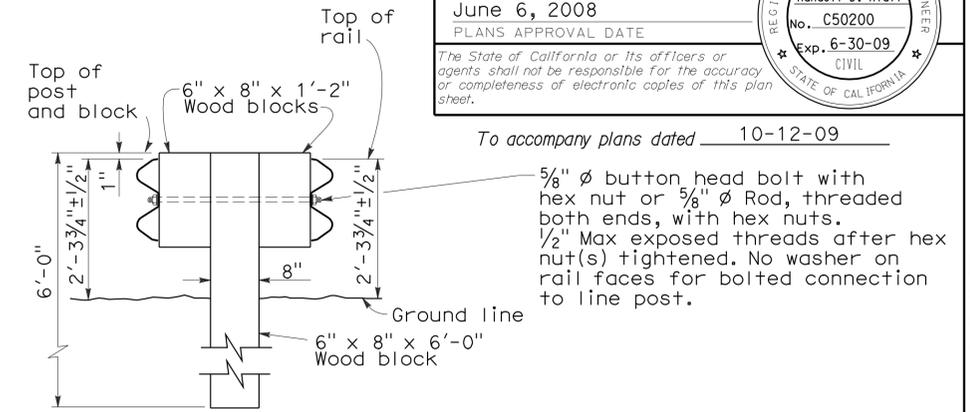
- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 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 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**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre	160S	R60.4/R63.0	21	27

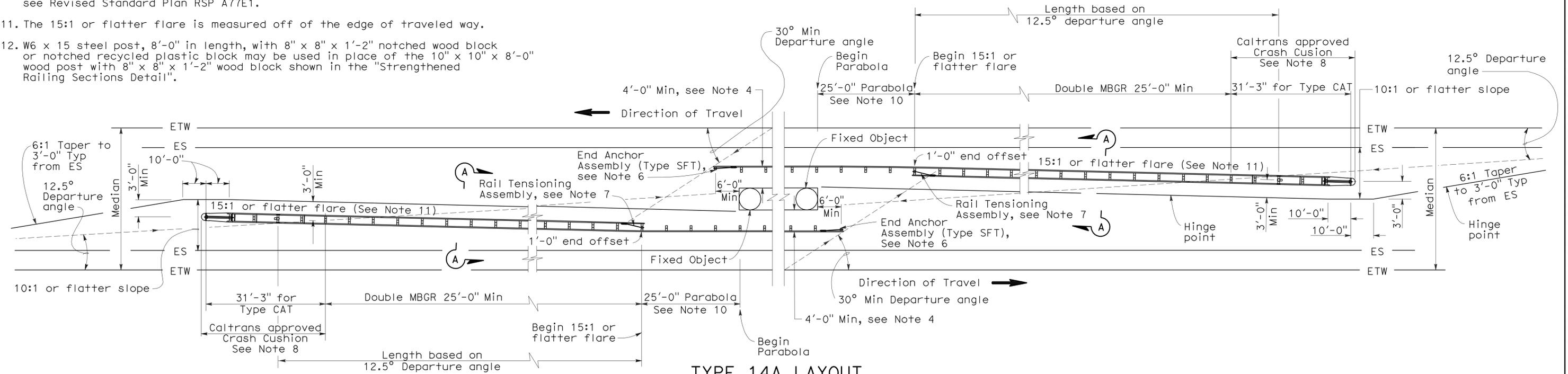
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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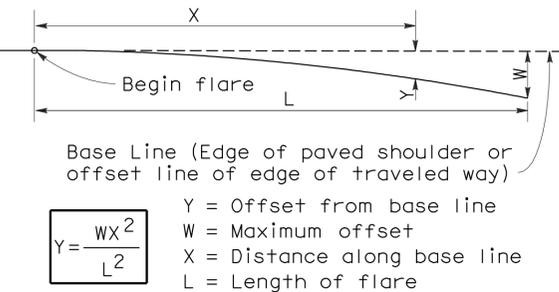
REGISTERED PROFESSIONAL ENGINEER  
Randell D. Hiatt  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA

To accompany plans dated 10-12-09

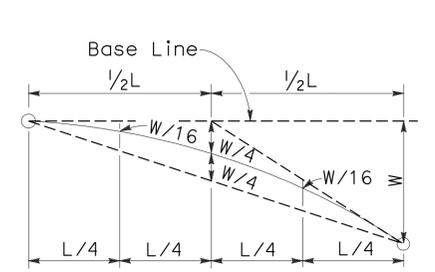


**TYPE 14A LAYOUT**

See Note 9



**PARABOLIC FLARE OFFSETS**



**TYPICAL PARABOLIC LAYOUT**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**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**

2006 REVISED STANDARD PLAN RSP A77G1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre	160S	R60.4/R63.0	22	27

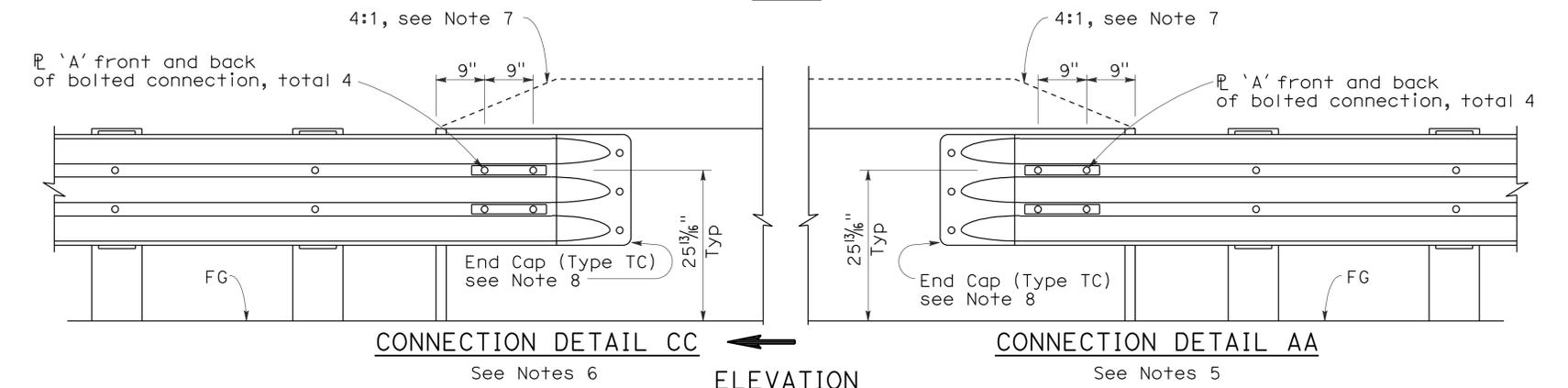
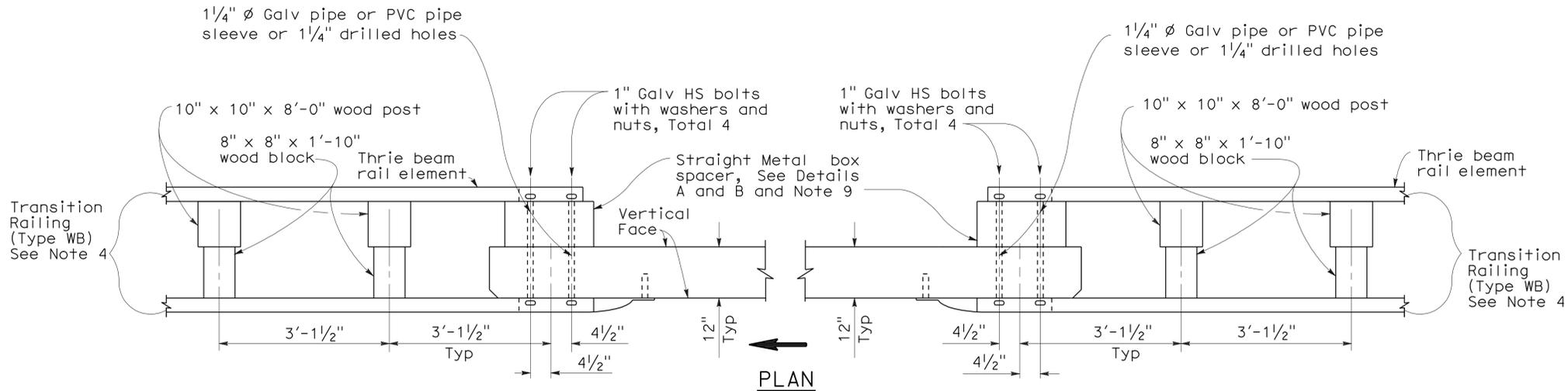
**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

June 6, 2008  
PLANS APPROVAL DATE

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

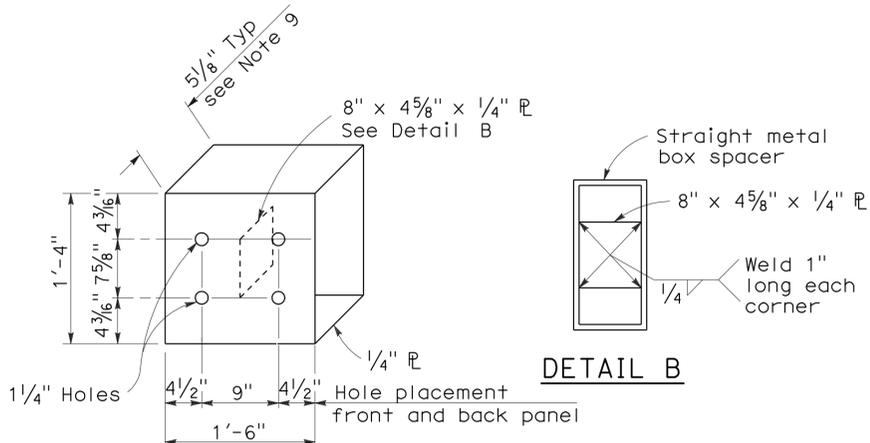
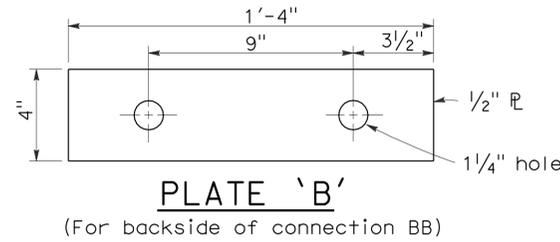
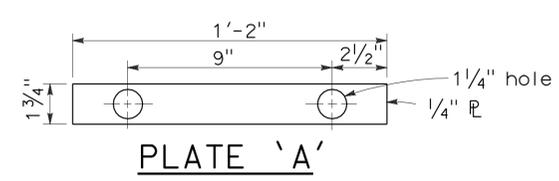
To accompany plans dated 10-12-09



**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

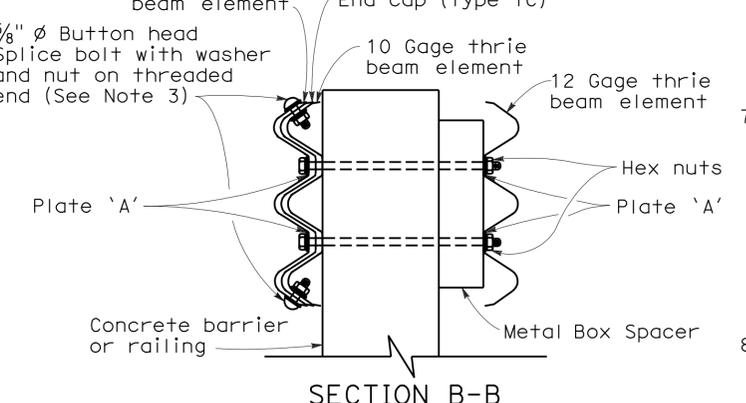
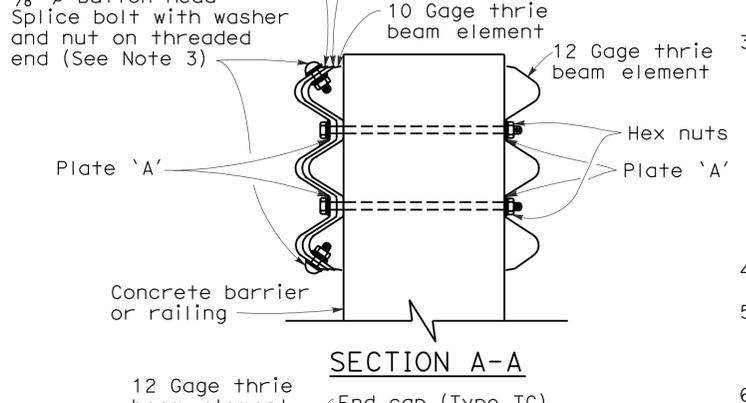
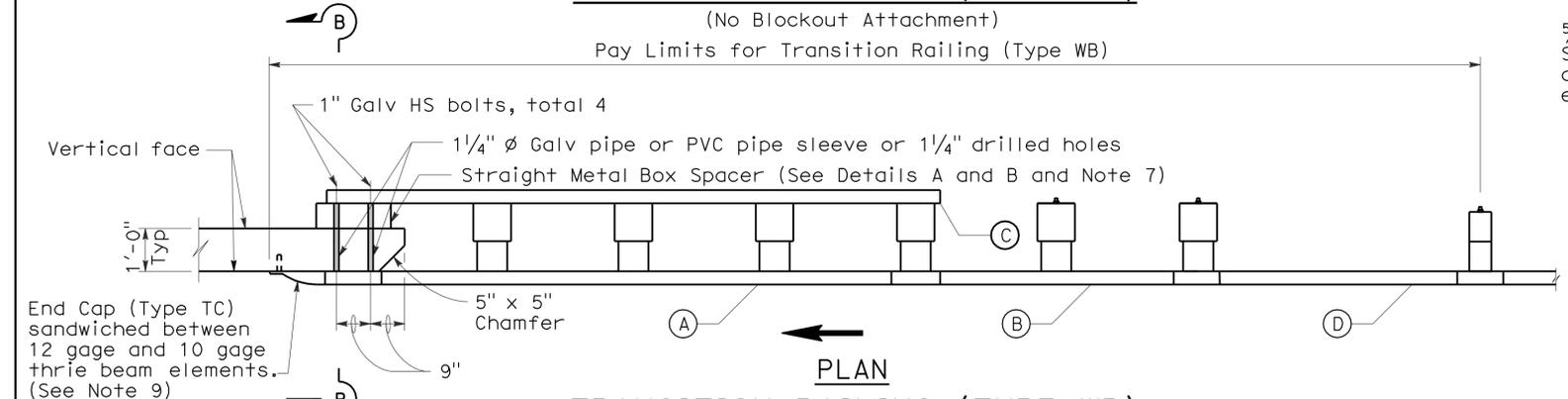
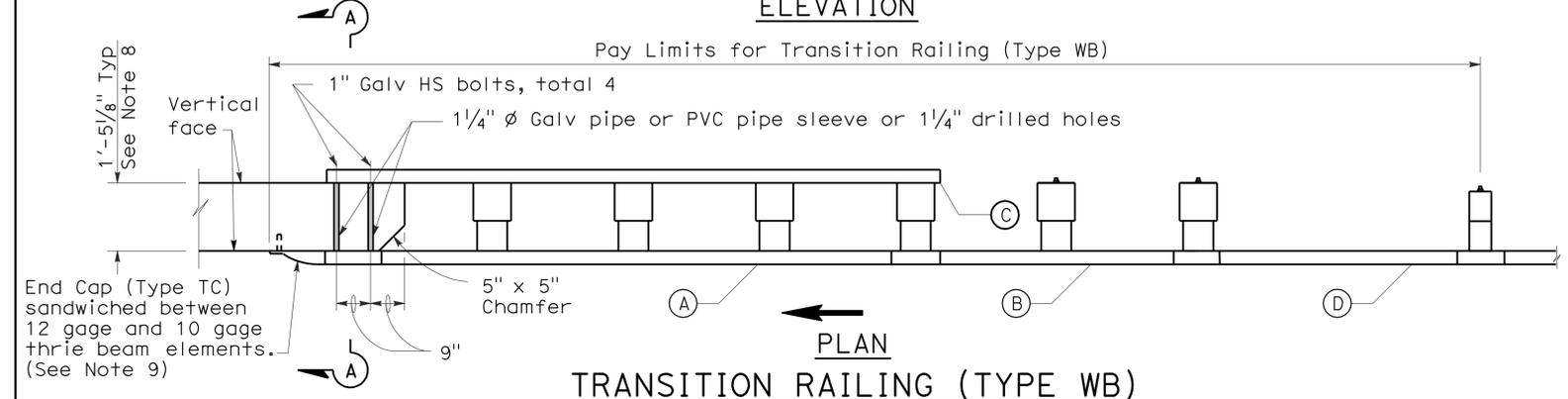
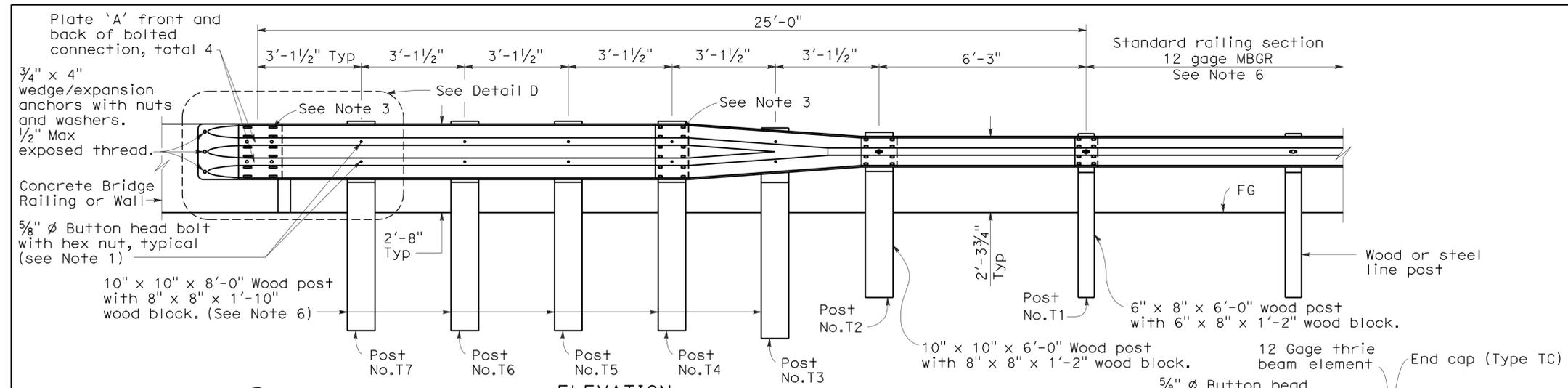
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre	160S	R60.4/R63.0	23	27

**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

June 5, 2009  
PLANS APPROVAL DATE

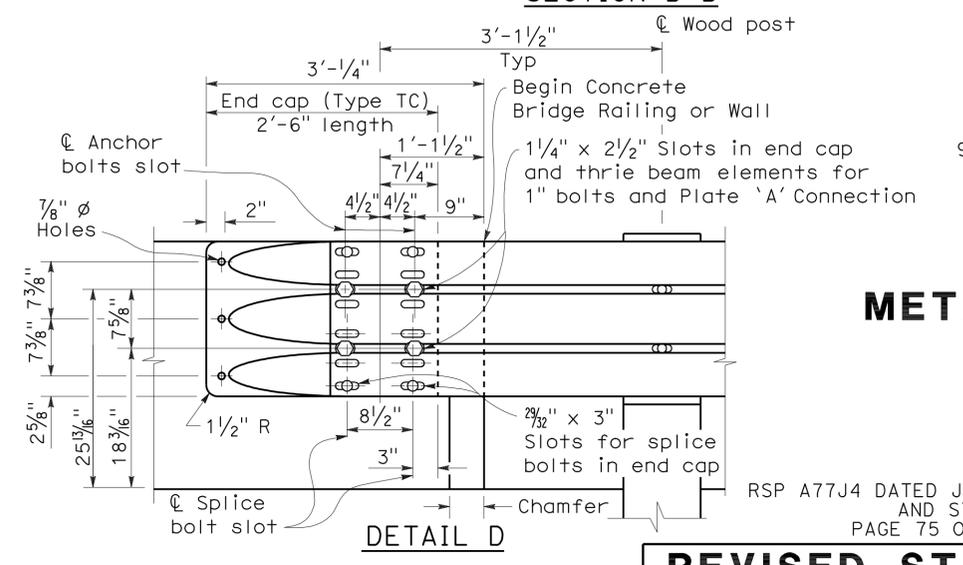
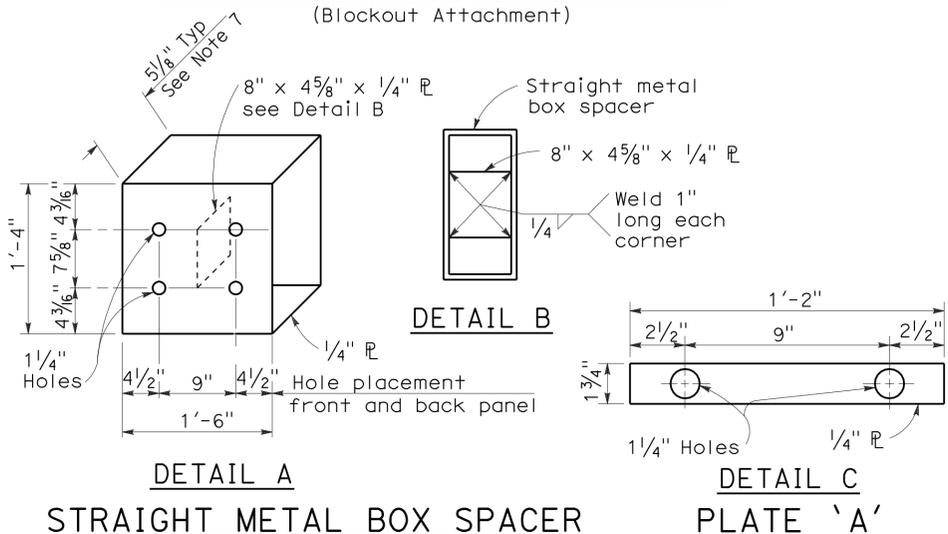
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REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-09  
CIVIL  
STATE OF CALIFORNIA



- NOTES:** To accompany plans dated 10-12-09
- Use 5/8 "  $\phi$  Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
  - The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
  - Exterior splice bolt holes for rail element splices at Post No.T4 and the connection to the concrete barrier or railing shall be the standard 29/32 " x 1 1/8 " slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4 "  $\phi$ . Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No.T4 and the connection to the concrete barrier or railing.
  - Direction of adjacent traffic indicated by  $\rightarrow$ .
  - The top elevation of Post Nos.T2 through T7 shall not project more than 1" above the top elevation of the rail element.
  - Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing or an approved Caltrans end treatment attached to Post No.T1.
  - The depth of the metal box spacer varies from the 5 1/8 " to 1 1/2 " and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17 1/8 ". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2 ", metal plates similar to Plate 'A' are to be used as spacers.
  - Where the width of the concrete railing or wall is greater than 17 1/8 ", wood blocks are to be used to fill the space created between the backside of Posts No.4 through No.7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
  - End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.

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



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP A77J4**

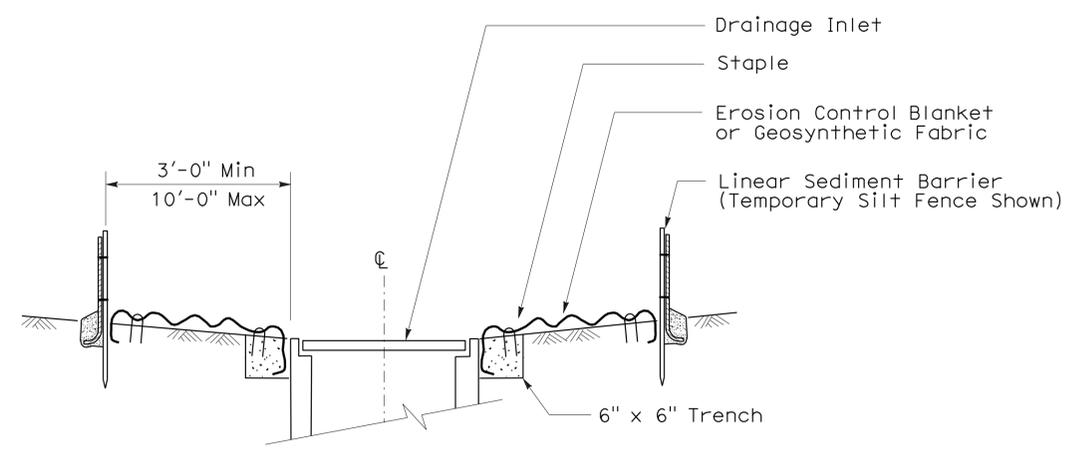
2006 REVISED STANDARD PLAN RSP A77J4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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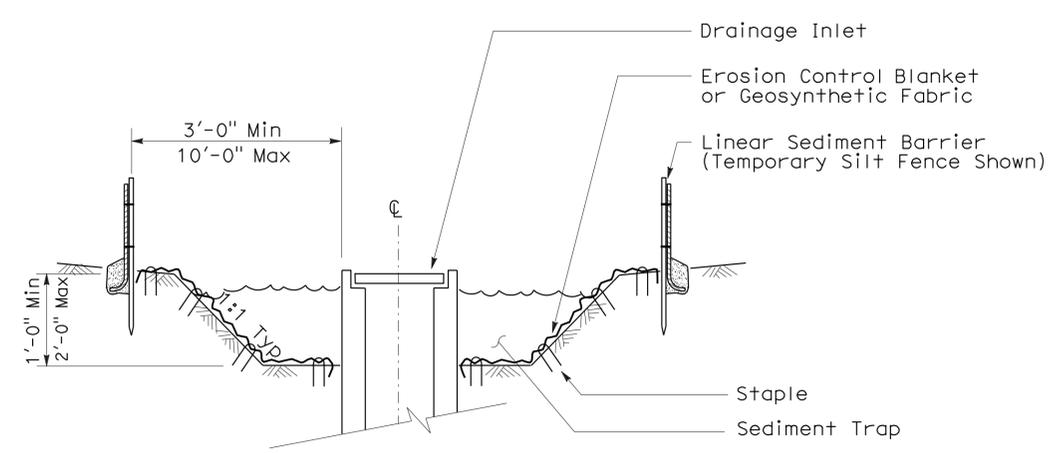
Robert B. Schott  
 LICENSED LANDSCAPE ARCHITECT  
 August 15, 2008  
 PLANS Approval DATE  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 10-12-09

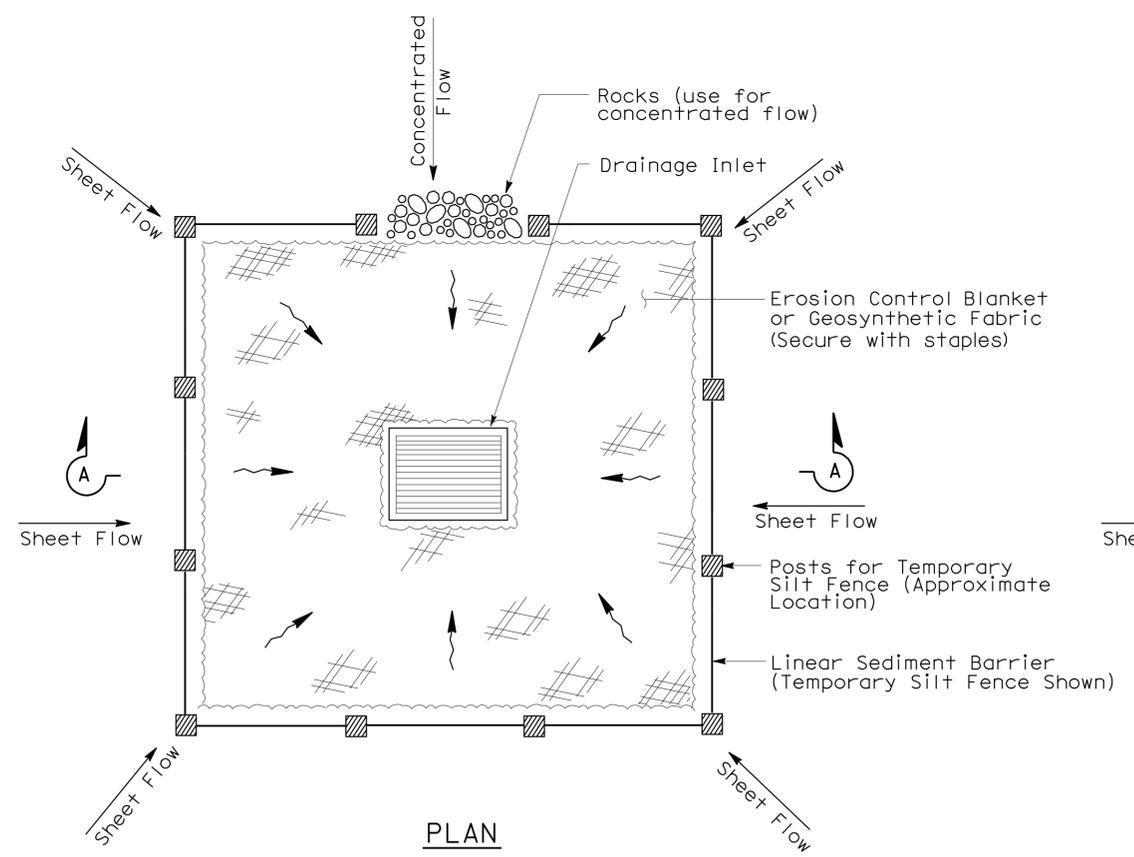
- NOTES:**
- See Standard Plan T51 for Temporary Silt Fence.
  - Dimensions may vary to fit field conditions.



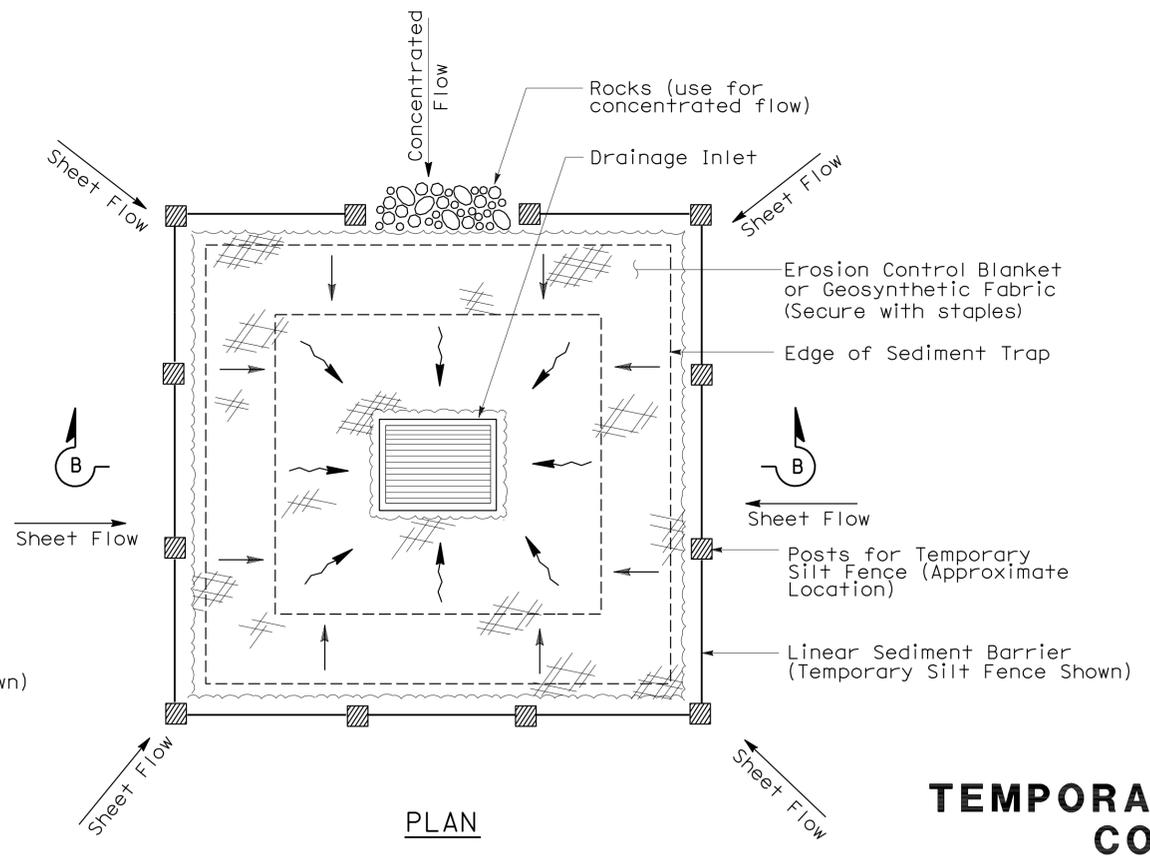
SECTION A-A



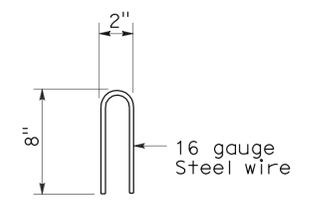
SECTION B-B



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 1)



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 2) (EXCAVATED SEDIMENT TRAP)

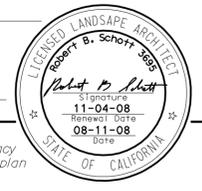


STAPLE DETAIL

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TEMPORARY WATER POLLUTION CONTROL DETAILS**  
**(TEMPORARY DRAINAGE INLET PROTECTION)**  
 NO SCALE

NSP T61 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T61

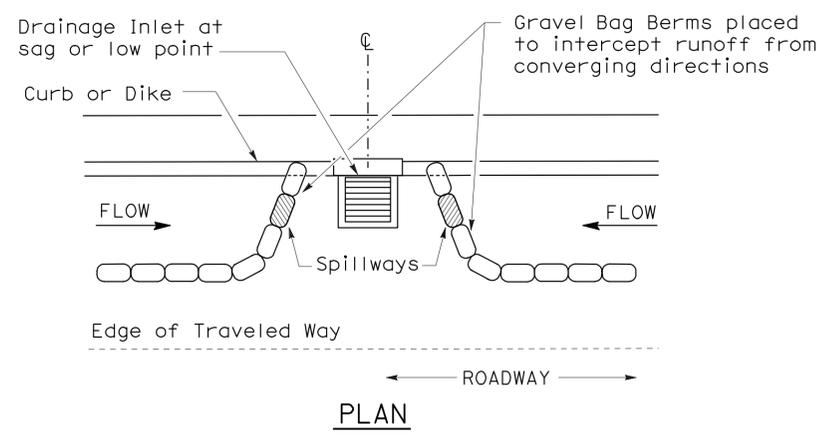


To accompany plans dated 10-12-09

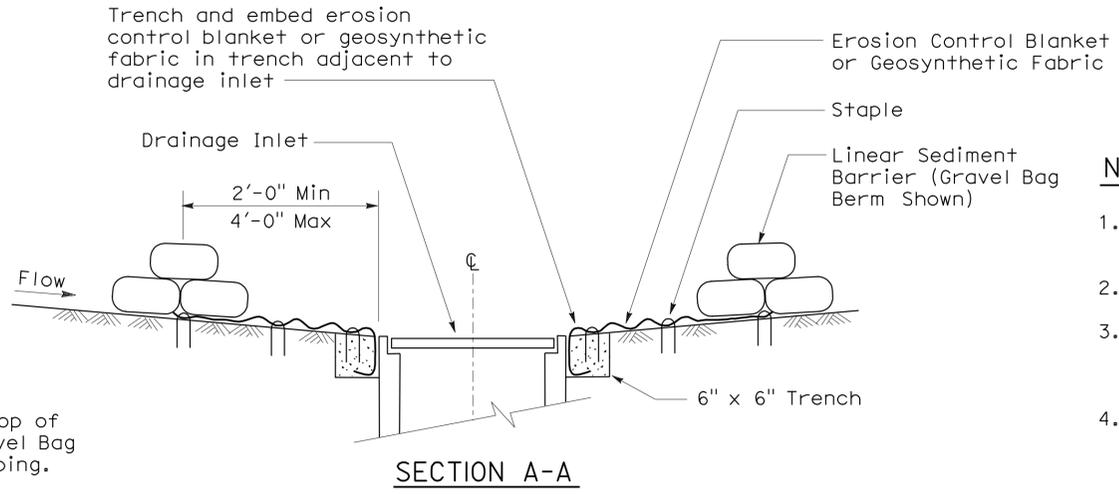
### GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	1 to 3.9	4 to 5.9	6 to 7.9	8 to 10	10+
INTERVAL BETWEEN BERM	100'	75'	50'	25'	12'

For slope of less than 1%, install barriers only if erosion/sediment is prevalent

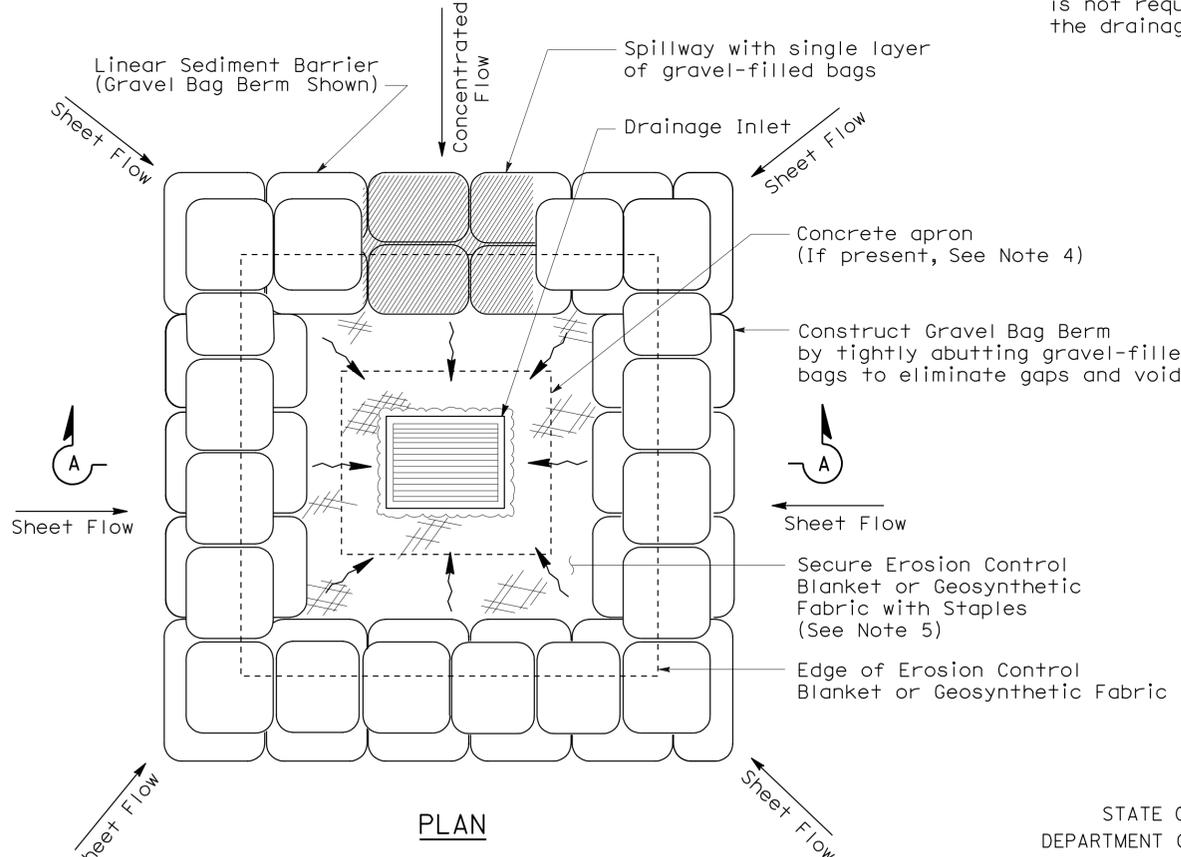
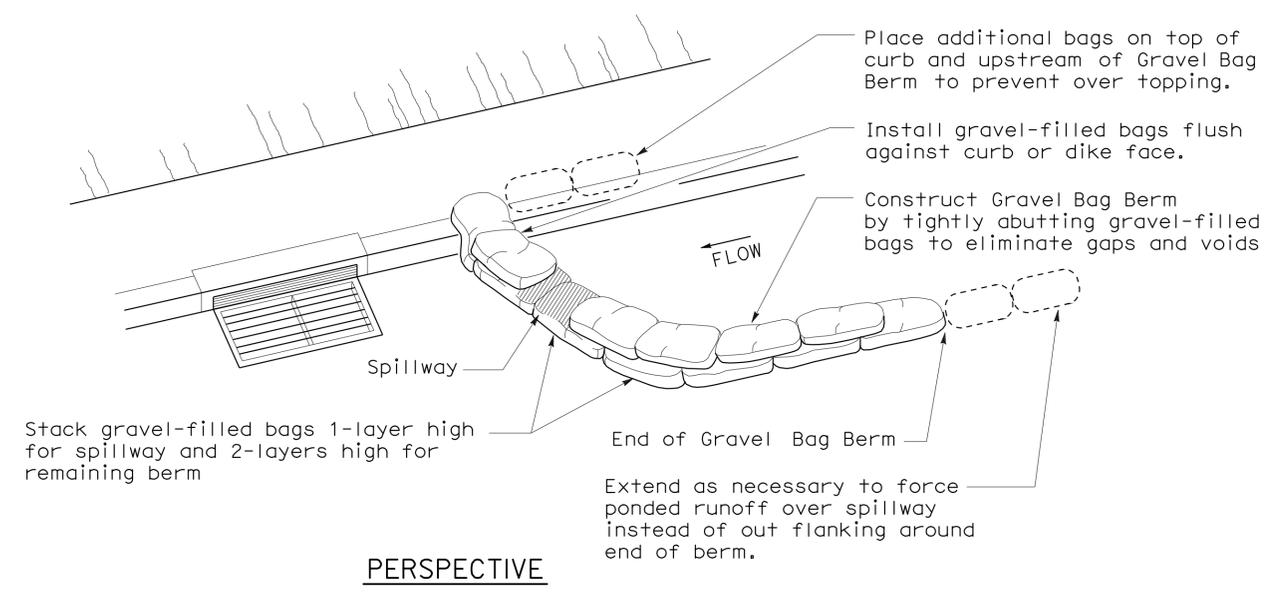


**CONFIGURATION FOR SAG POINT INLET (GRAVEL BAG BERM)**

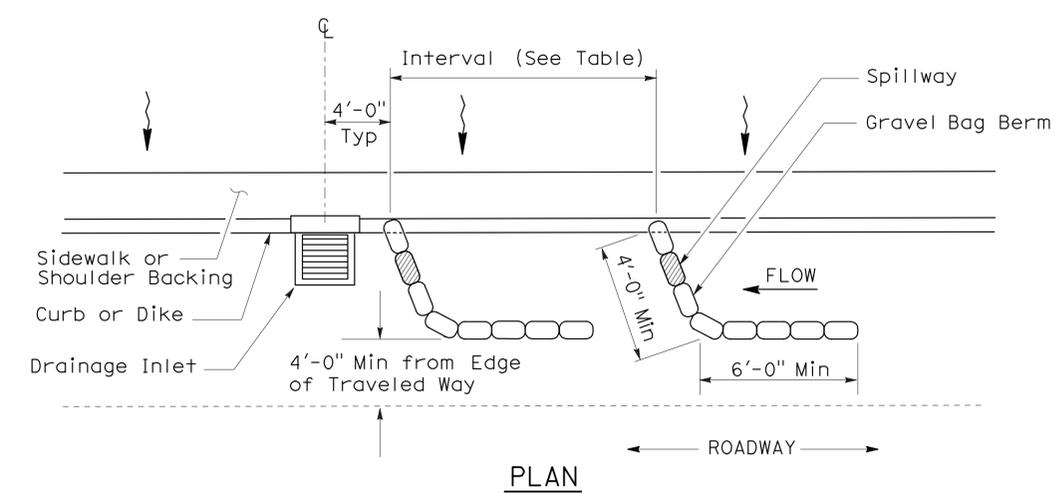
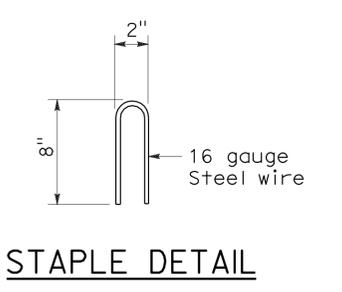


**NOTES:**

1. Place safety cones adjacent to drainage inlet protection.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated or paved.



**TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B)**



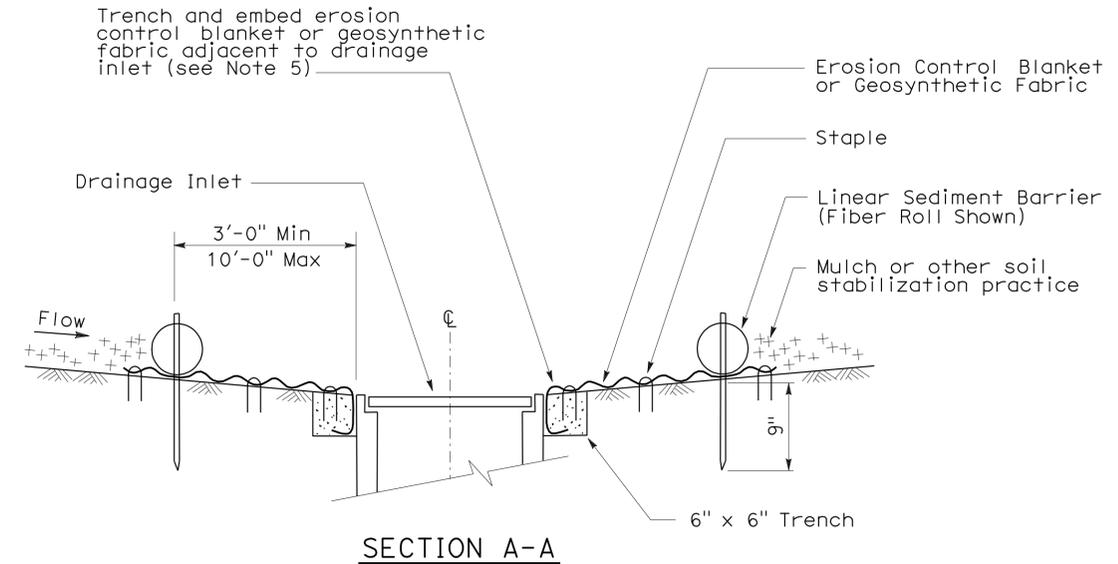
**TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3A) (GRAVEL BAG BERM)**

**TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)**

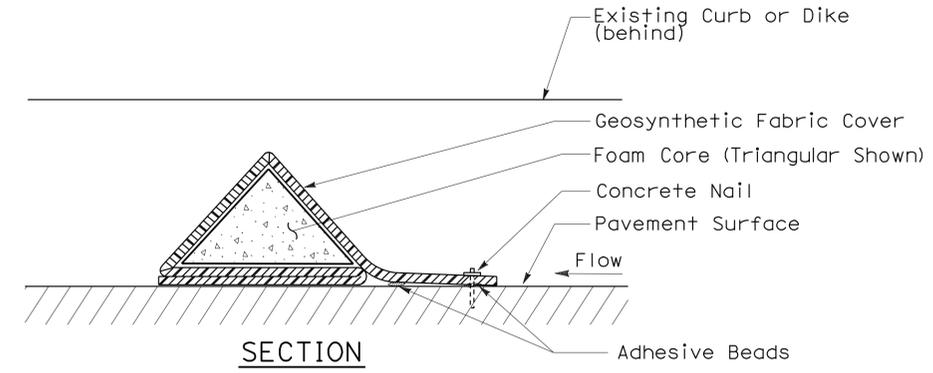
NO SCALE  
 NSP T62 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

**FLEXIBLE SEDIMENT BARRIER SPACING TABLE**

SLOPE OF ROADWAY (PERCENT)	0 to 0.9	1 to 1.9	2 to 2.9	3 to 4	5+
INTERVAL BETWEEN BARRIERS	50'	35'	30'	25'	20'
ANGLE FROM FACE OF CURB	70°	70°	70°	45°	45°
SUGGESTED BARRIER LENGTH	6'	6'	6'	6'	6'



**SECTION A-A**

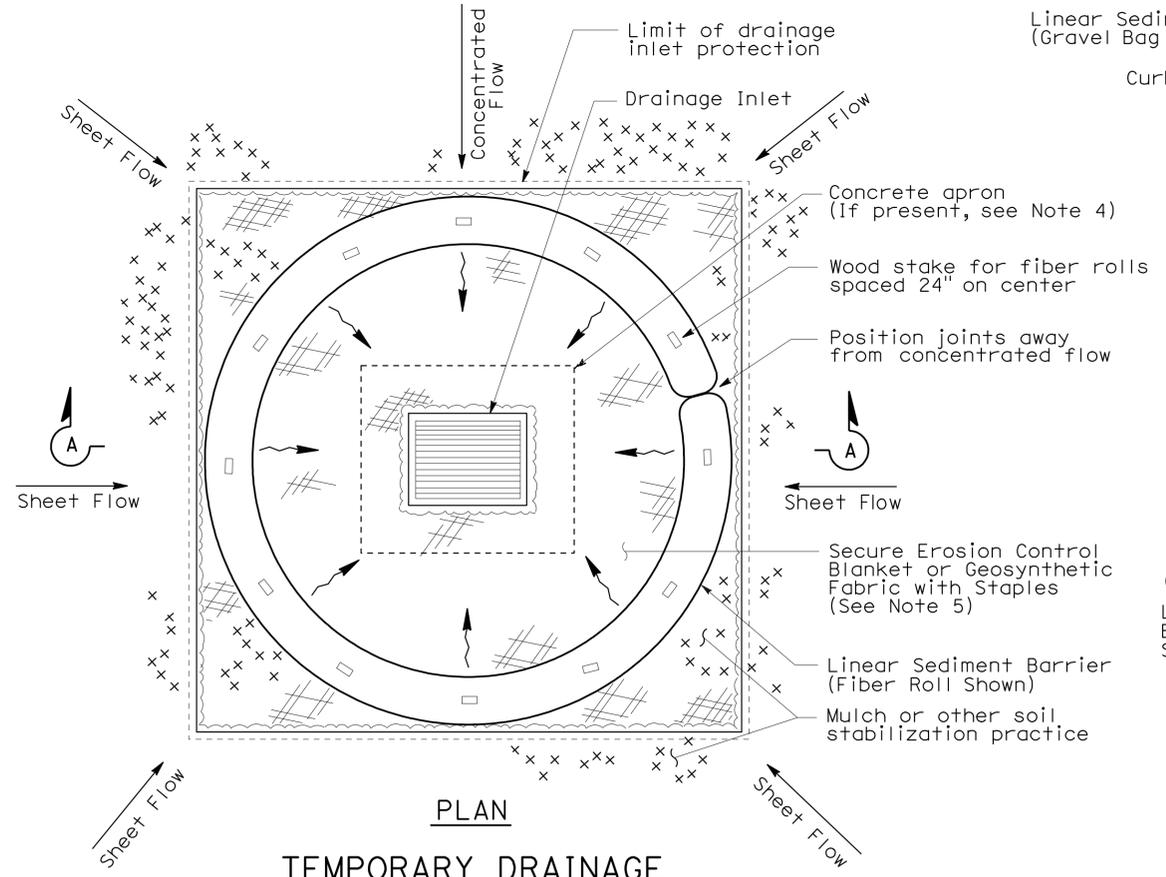


**SECTION  
FLEXIBLE SEDIMENT BARRIER DETAIL  
(FOAM BARRIER SHOWN)**

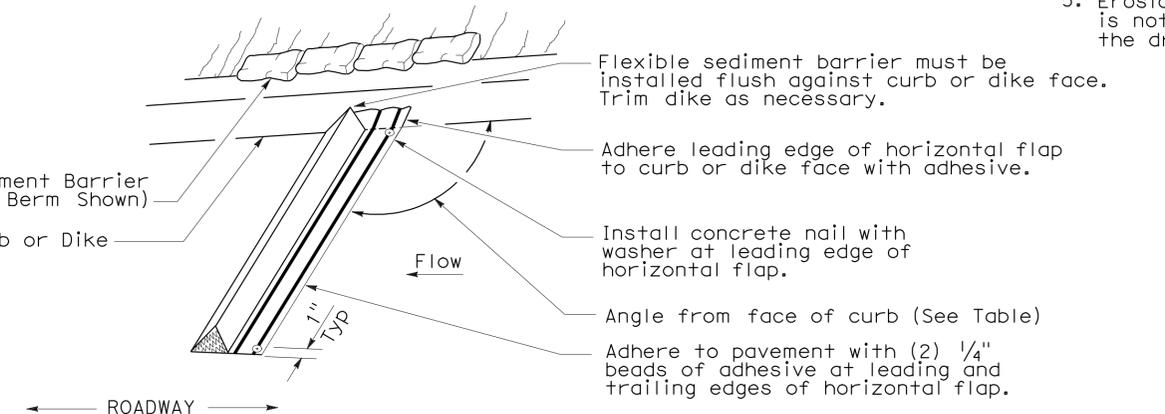
**NOTES:**

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 flexible sediment barriers upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated.

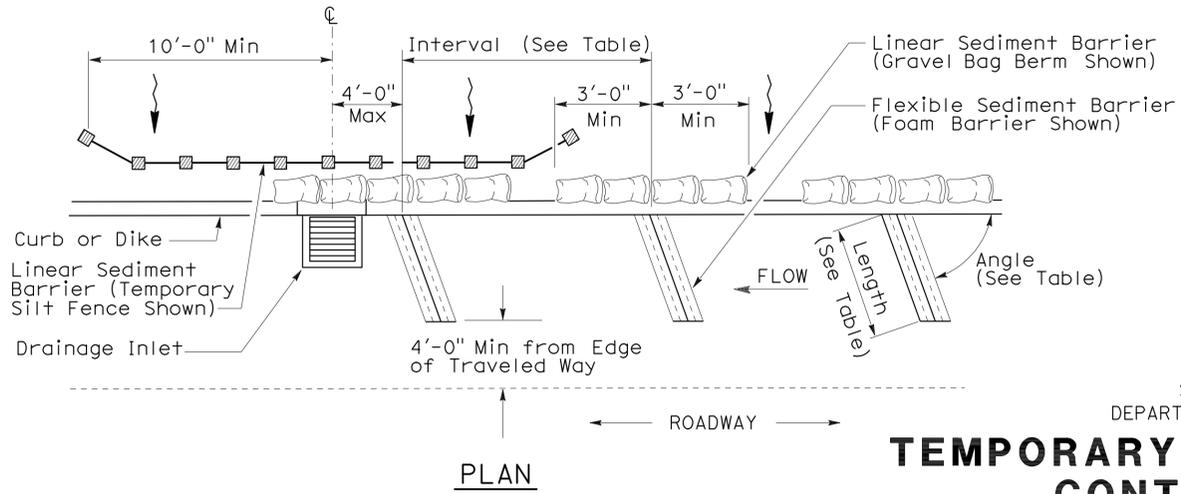
To accompany plans dated 10-12-09



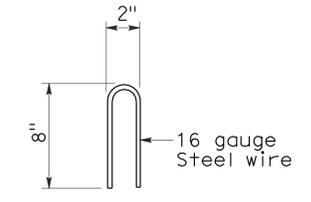
**PLAN  
TEMPORARY DRAINAGE  
INLET PROTECTION (TYPE 4A)**



**PERSPECTIVE**



**PLAN  
TEMPORARY DRAINAGE  
INLET PROTECTION (TYPE 4B)  
FLEXIBLE SEDIMENT BARRIER**



**STAPLE DETAIL**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY WATER POLLUTION  
CONTROL DETAILS  
(TEMPORARY DRAINAGE  
INLET PROTECTION)**  
NO SCALE  
NSP T63 DATED AUGUST 15, 2008 SUPPLEMENTS  
THE STANDARD PLANS BOOK DATED MAY 2006.

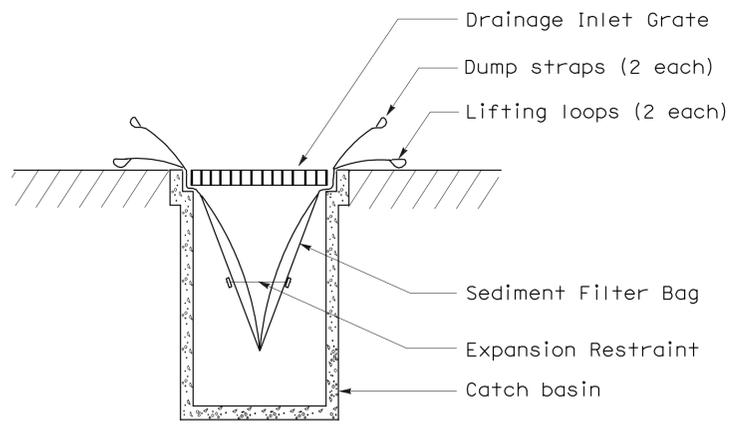
2006 NEW STANDARD PLAN NSP T63

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre	160S	R60.4/R63.0	27	27

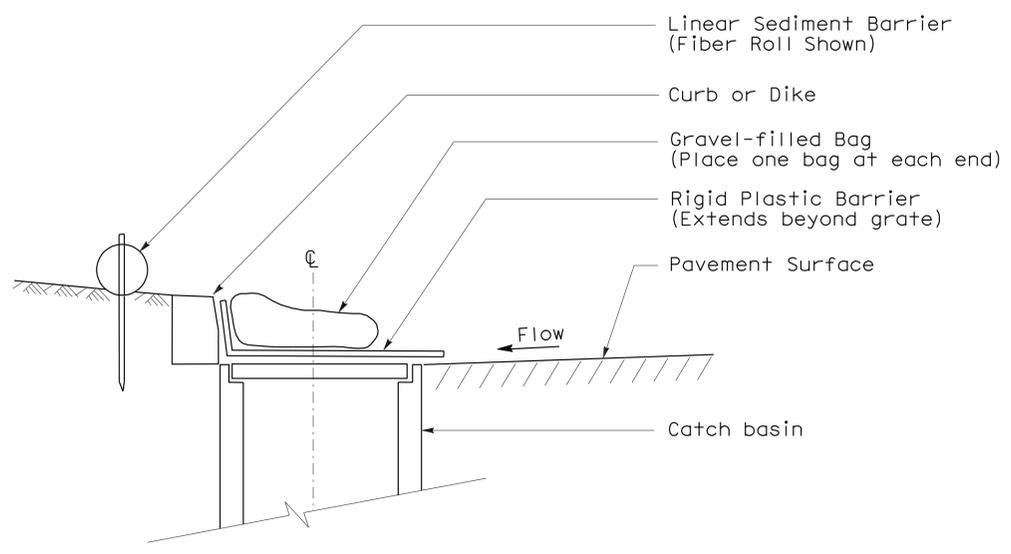
*Robert B. Schott*  
 LICENSED LANDSCAPE ARCHITECT  
 August 15, 2008  
 PLANS APPROVAL DATE  
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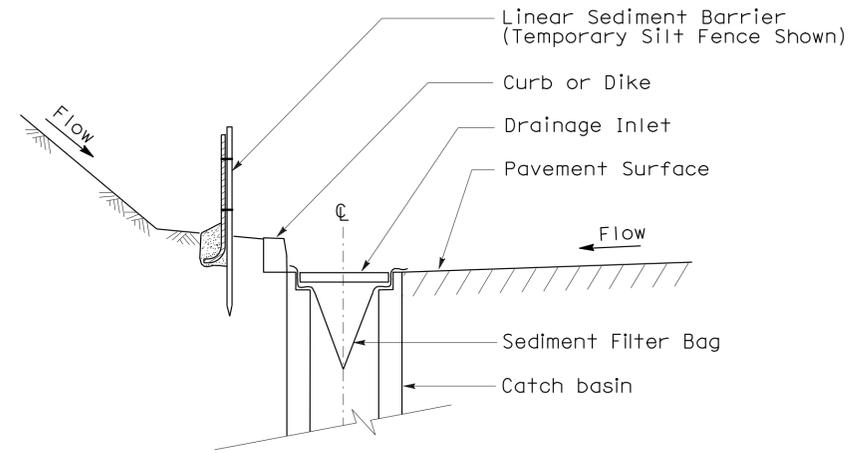
To accompany plans dated 10-12-09



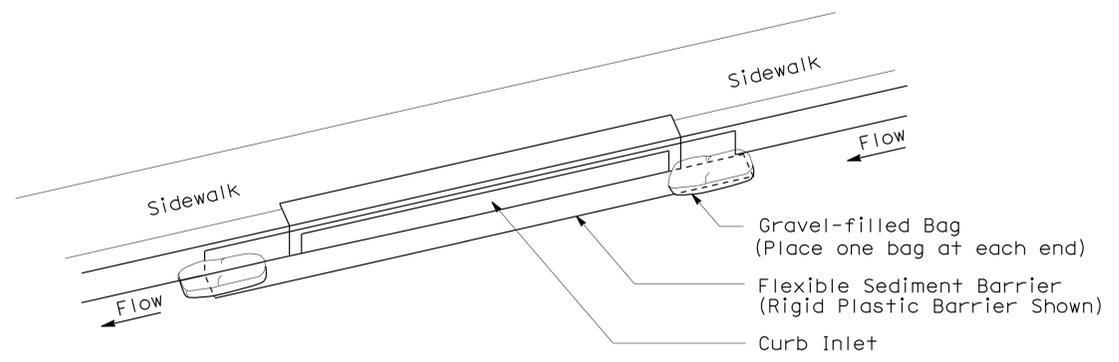
**SECTION B-B**  
**SEDIMENT FILTER BAG DETAIL**



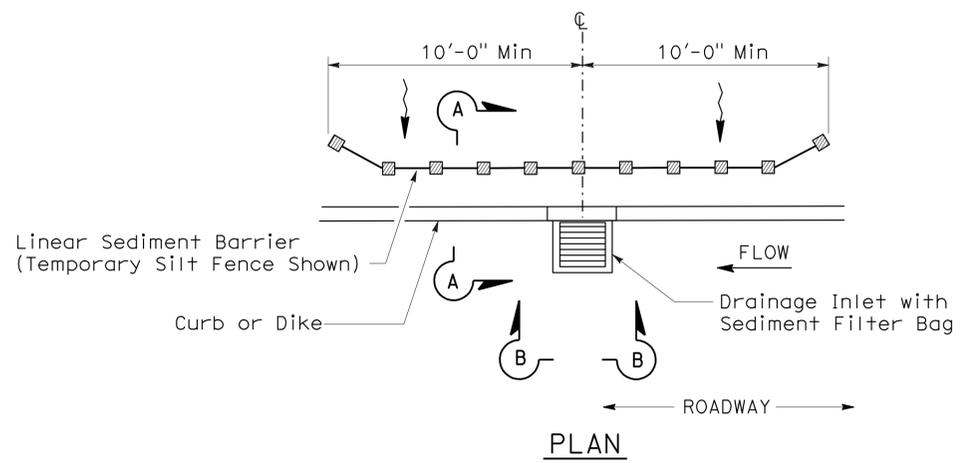
**SECTION**  
**TEMPORARY DRAINAGE INLET PROTECTION (TYPE 6A)**  
**(CATCH BASIN WITH GRATE)**



**SECTION A-A**



**PERSPECTIVE**  
**TEMPORARY DRAINAGE INLET PROTECTION (TYPE 6B)**  
**(CURB INLET WITHOUT GRATE)**



**PLAN**  
**TEMPORARY DRAINAGE INLET PROTECTION (TYPE 5)**  
**(SEDIMENT FILTER BAG)**

**NOTES:**

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)**  
NO SCALE

NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T64