

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 **ACNHP-P198(061)E**  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN KINGS COUNTY IN AND NEAR HANFORD**  
**FROM 14TH AVENUE UNDERCROSSING TO**  
**11TH AVENUE UNDERCROSSING**

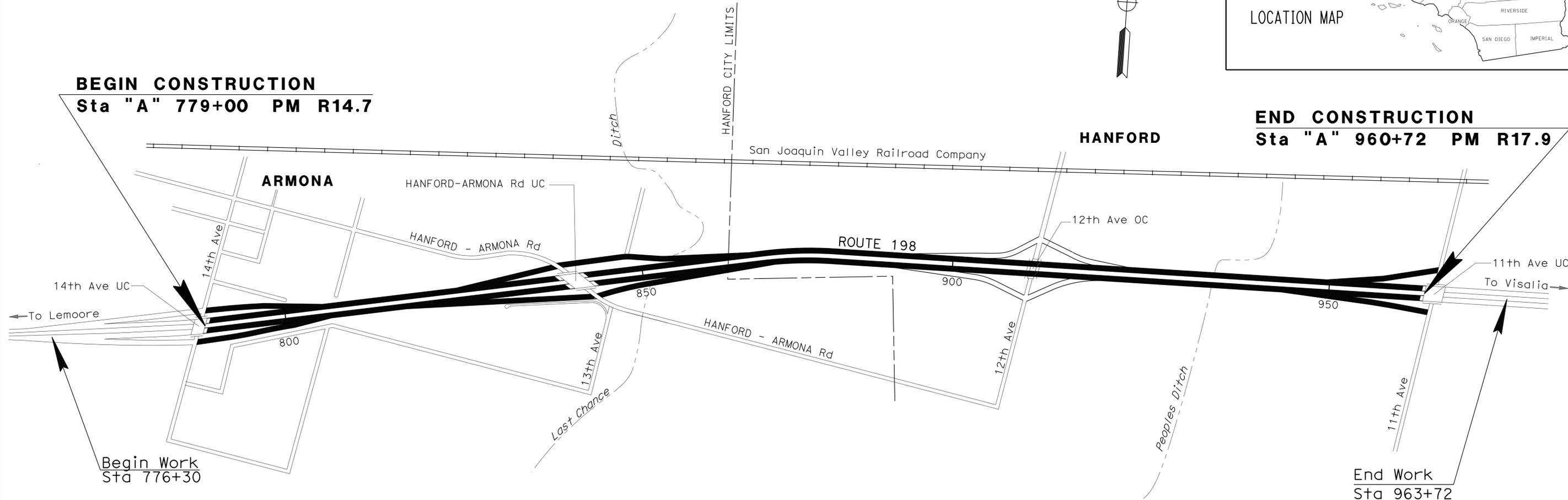
TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	1	49



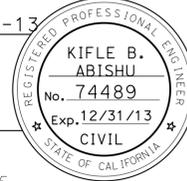


LOCATION MAP



PROJECT MANAGER  
**MINERVA RODRIGUEZ**  
 DESIGN ENGINEER  
**KAL DAHER**

*Kifle Abishu* 10-28-13  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER  
**October 28, 2013**  
 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.



NO SCALE

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

CONTRACT No.	<b>06-OP1604</b>
PROJECT ID	<b>0612000100</b>

DATE PLOTTED => 16-DEC-2013  
 TIME PLOTTED => 09:20  
 LAST REVISION: 07-29-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	2	49

<i>Kifle Abishu</i>	10-28-13
REGISTERED CIVIL ENGINEER	DATE
10-28-13	
PLANS APPROVAL DATE	

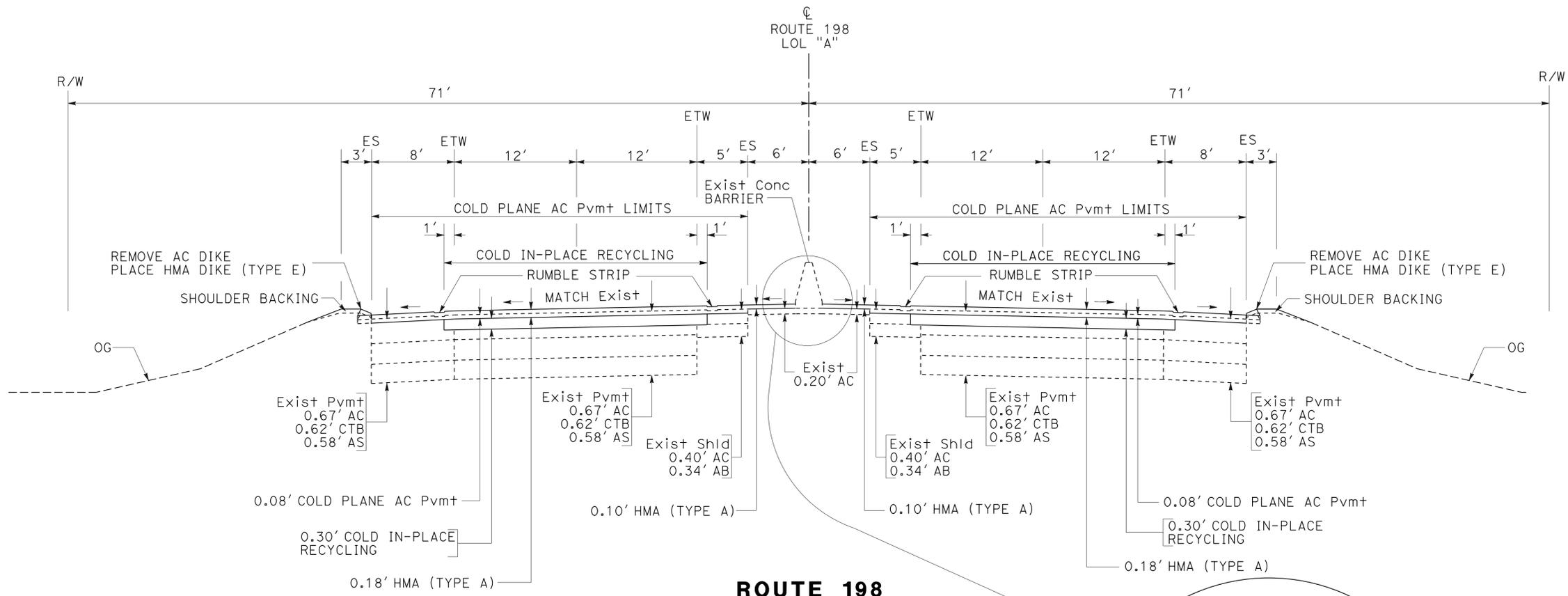
REGISTERED PROFESSIONAL ENGINEER
KIFLE B. ABISHU
No. 74489
Exp. 12/31/13
CIVIL

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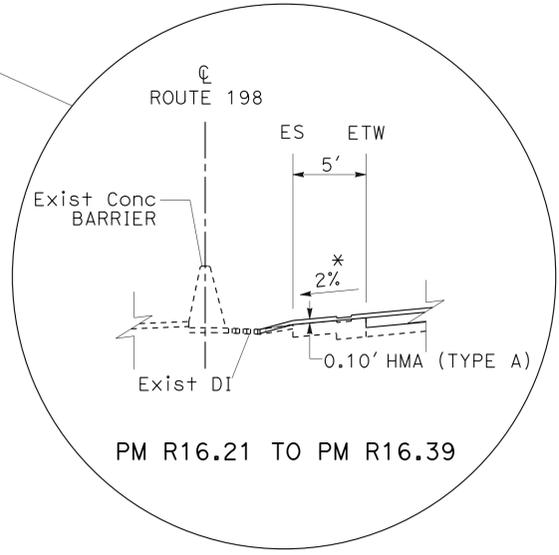
**PAVEMENT CLIMATE REGION**  
INLAND VALLEY

**NOTES:**

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- FOR TYPE AND LOCATION OF HMA DIKE SEE SUMMARY OF QUANTITIES SHEET.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



**ROUTE 198**  
Sta 845+05.40 TO Sta 954+30.54  
Sta 792+96.50 TO Sta 839+85.00



\* VARIES 2% TO -2% AT SUPERELEVATION FROM PM R16.21 TO PM R16.39

**TYPICAL CROSS SECTIONS**  
NO SCALE  
**X-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
DESIGN  
FUNCTIONAL SUPERVISOR: KAL DAHER  
CALCULATED/DESIGNED BY: KIFLE ABISHU  
CHECKED BY: KAL DAHER  
REVISED BY: KIFLE ABISHU  
DATE REVISED: KAL DAHER

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**DESIGN**  
 FUNCTIONAL SUPERVISOR: KAL DAHER  
 CHECKED BY: KAL DAHER  
 CALCULATED/DESIGNED BY: KIFLE ABISHU  
 REVISIONS: KIFLE ABISHU, KAL DAHER  
 REVISED BY: KIFLE ABISHU, KAL DAHER  
 DATE REVISED:

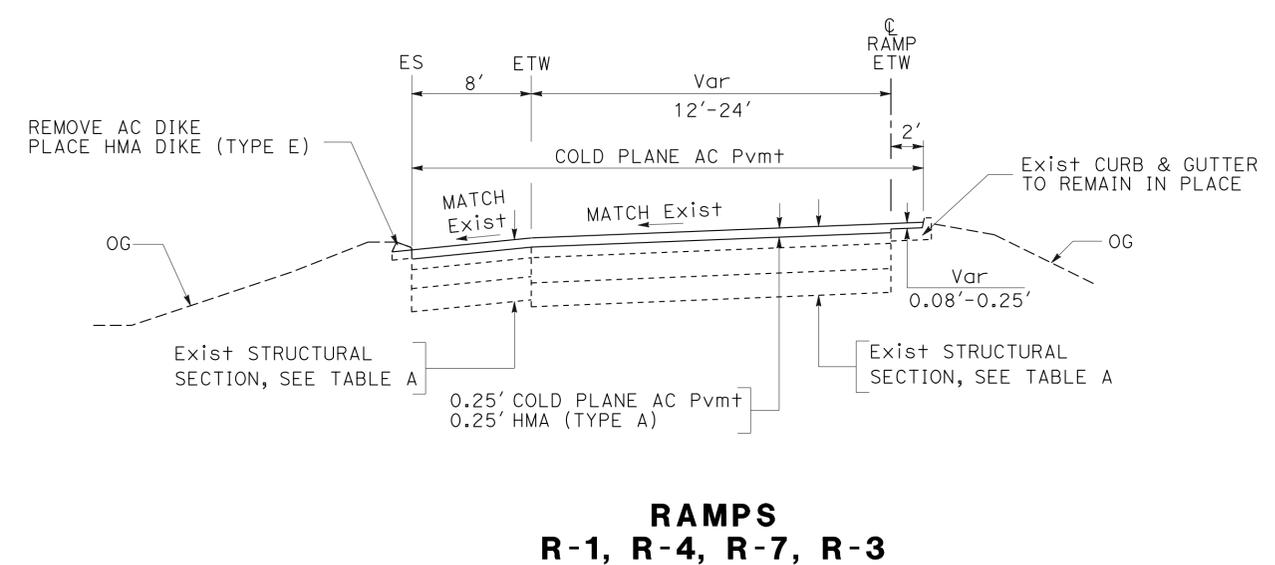
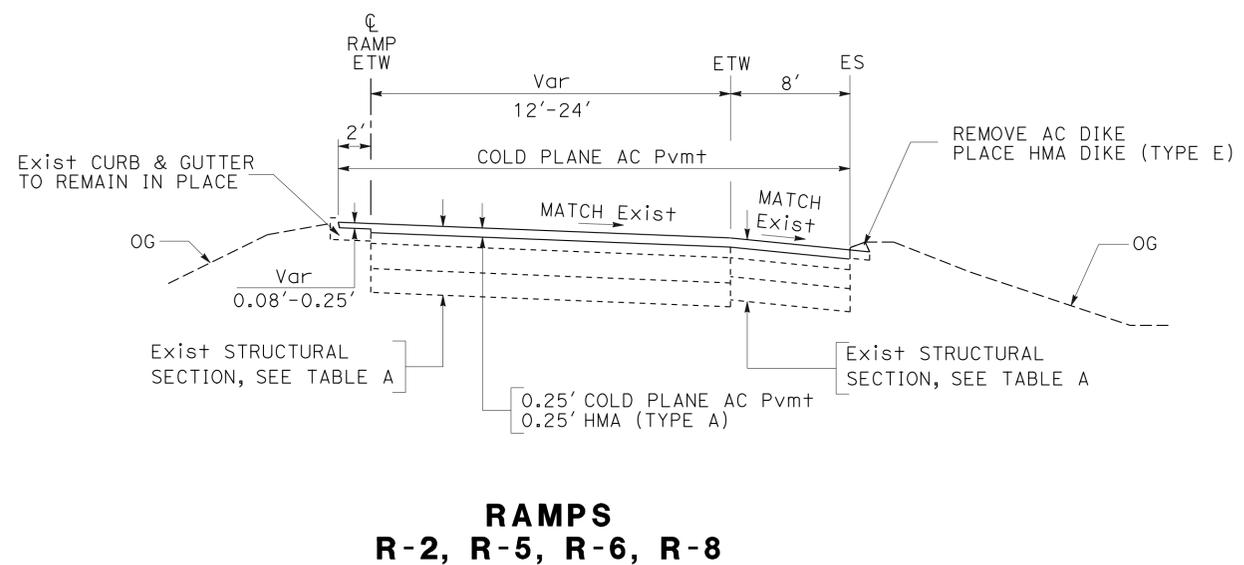
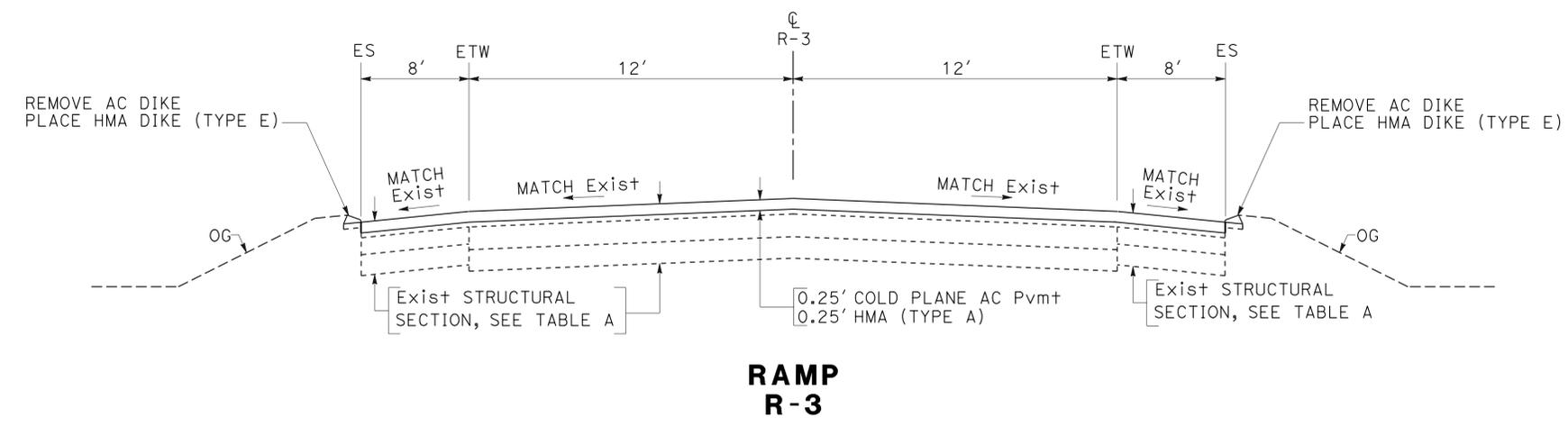


TABLE A  
EXISTING STRUCTURAL SECTION

RAMPS	LOCATION	THICKNESS					
		TRAVELED WAY			SHOULDER		
		AC	AB	AS	AC	AB	AS
		LF					
R-1	WB OFF RAMP to 14th AVENUE	0.41	0.75	0.50	0.41	0.51	0.50
R-2	EB ON RAMP from 14th AVENUE	0.41	0.75	0.50	0.41	0.51	0.50
R-3	WB OFF RAMP to HANFORD - ARMONA ROAD	0.41	0.83	0.58	0.41	0.59	0.58
R-4	WB ON RAMP from HANFORD - ARMONA ROAD	0.41	0.75	0.50	0.41	0.51	0.50
R-5	EB OFF RAMP to HANFORD - ARMONA ROAD	0.36	0.75	0.50	0.36	0.51	0.50
R-6	EB ON RAMP from HANFORD - ARMONA ROAD	0.41	0.83	0.58	0.41	0.59	0.58
R-7	WB ON RAMP from 11th AVENUE	0.60	0.50	0.58	0.60	0.50	0.58
R-8	EB OFF RAMP to 11th AVENUE	0.60	0.50	0.58	0.60	0.50	0.58

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

LAST REVISION DATE PLOTTED => 31-OCT-2013 07-29-13 TIME PLOTTED => 16:29



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

FUNCTIONAL SUPERVISOR  
 KAL DAHER

CALCULATED/DESIGNED BY  
 CHECKED BY

KIFLE ABISHU  
 KAL DAHER

REVISED BY  
 DATE

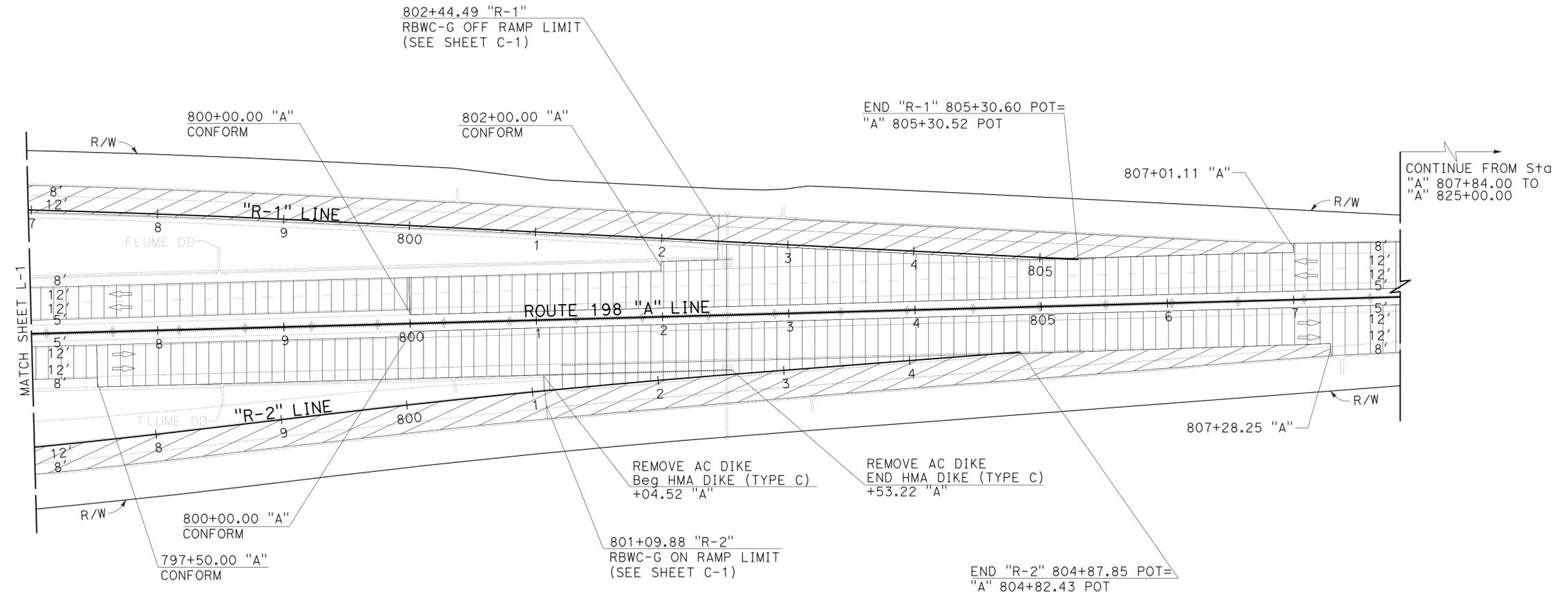
**NOTE:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	5	49

Kifle Abishu 10-28-13  
 REGISTERED CIVIL ENGINEER DATE  
 10-28-13  
 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  
 KIFLE B. ABISHU  
 No. 74489  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA



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

LAST REVISION DATE PLOTTED => 31-OCT-2013 06-20-13 TIME PLOTTED => 16:29

**NOTE:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	6	49

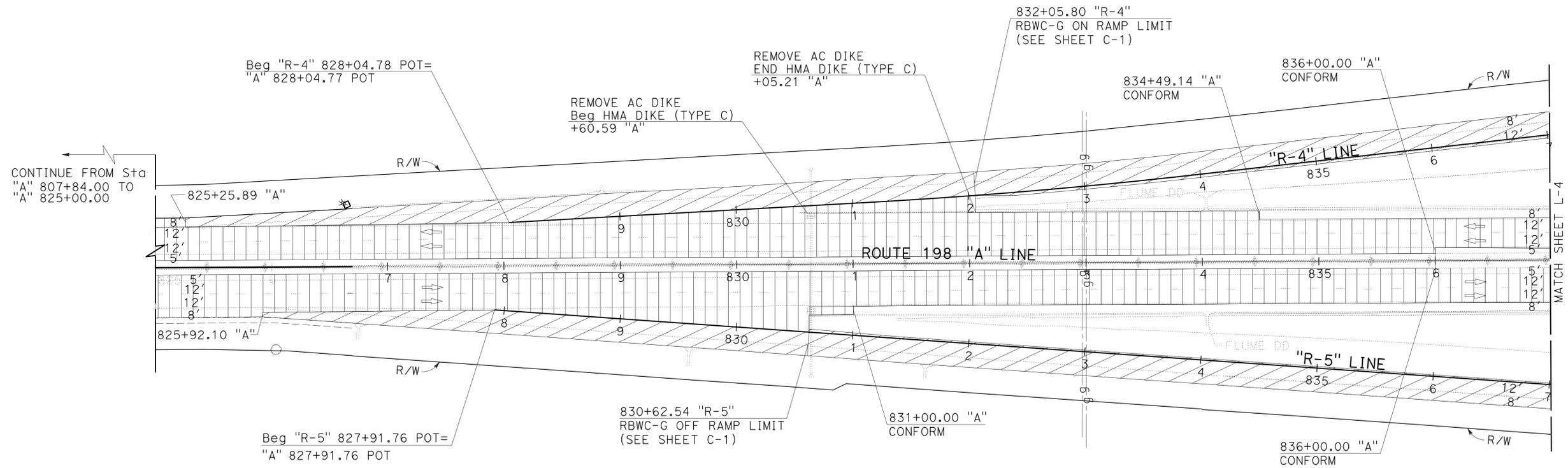
  

<i>Kifle Abishu</i>	10-28-13
REGISTERED CIVIL ENGINEER	DATE
10-28-13	
PLANS APPROVAL DATE	

KIFLE B. ABISHU	
No. 74489	
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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
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FUNCTIONAL SUPERVISOR	KAL DAHER
CALCULATED/DESIGNED BY	CHECKED BY
KIFLE ABISHU	KAL DAHER
REVISED BY	DATE REVISED

**NOTE:**

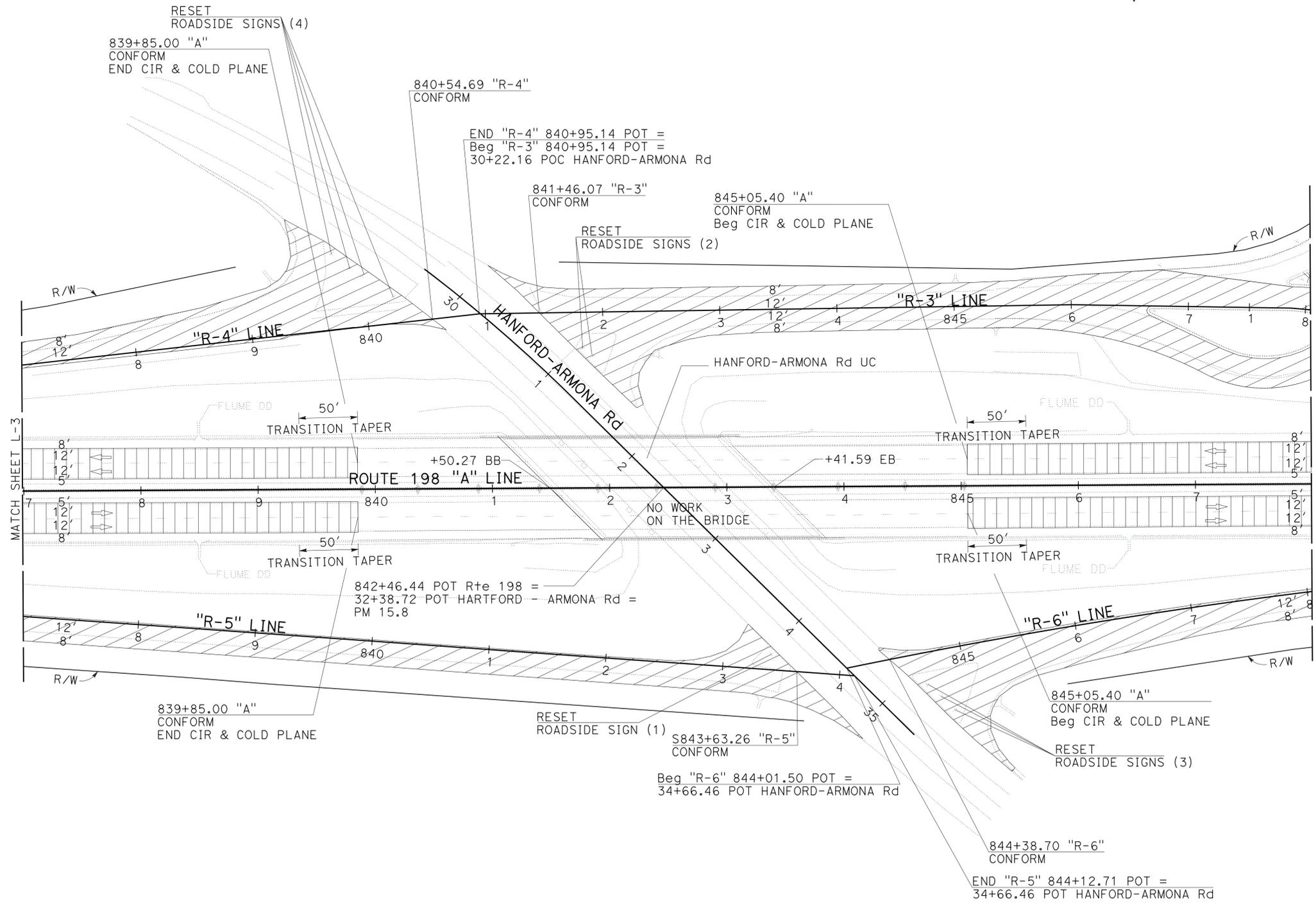
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	7	49

*Kifle Abishu* 10-28-13  
 REGISTERED CIVIL ENGINEER DATE  
 10-28-13  
 PLANS APPROVAL DATE

KIFLE B. ABISHU  
 No. 74489  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	KAL DAHER
CALCULATED/DESIGNED BY	CHECKED BY
KIFLE ABISHU	KAL DAHER
REVISOR BY	DATE REVISED



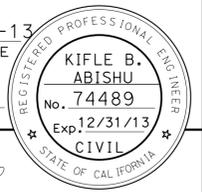
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06	Kin	198	R14.7/R17.9	8	49

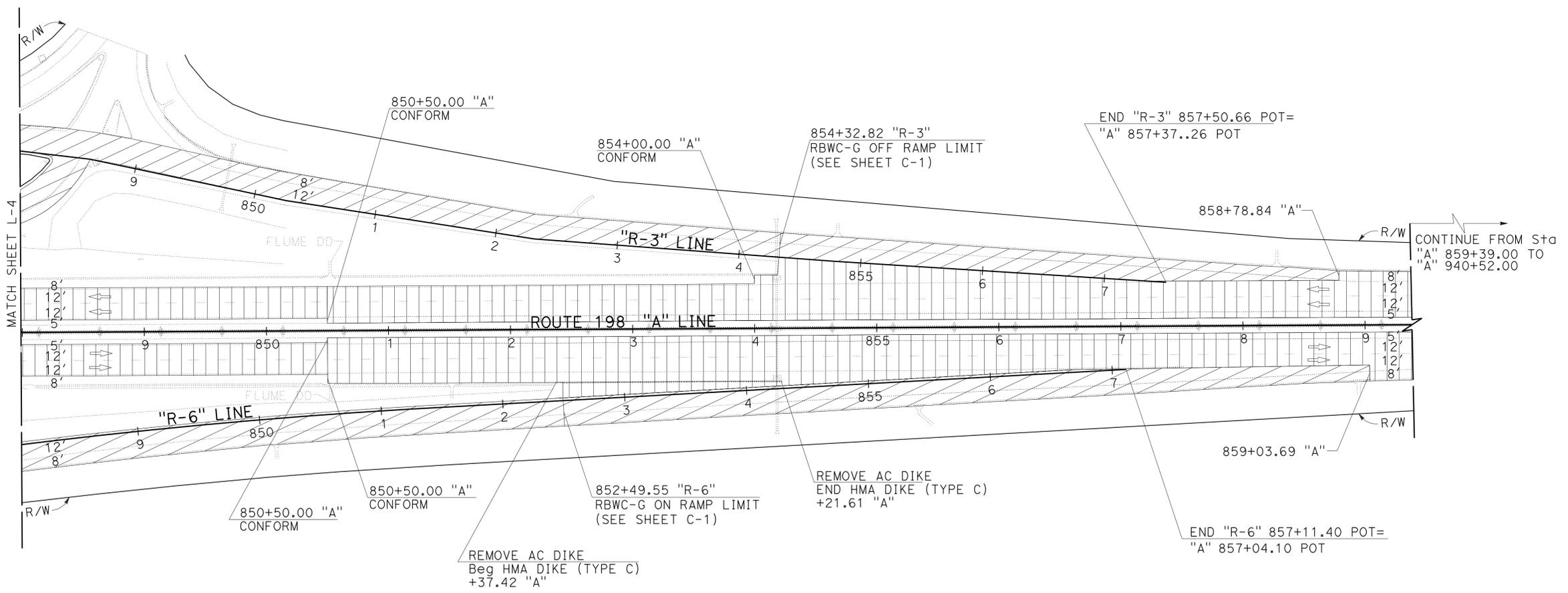
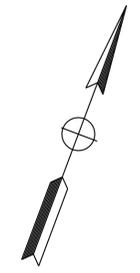
<i>Kifle Abishu</i>	10-28-13
REGISTERED CIVIL ENGINEER	DATE
10-28-13	
PLANS APPROVAL DATE	

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**NOTE:**  
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
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 FUNCTIONAL SUPERVISOR: KAL DAHER  
 CALCULATED/DESIGNED BY: KIFLE ABISHU  
 CHECKED BY: KAL DAHER  
 REVISED BY: KIFLE ABISHU  
 DATE REVISED: KAL DAHER

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

LAST REVISION | DATE PLOTTED => 31-OCT-2013  
 07-29-13 | TIME PLOTTED => 16:29

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
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FUNCTIONAL SUPERVISOR  
 KAL DAHER

CALCULATED-DESIGNED BY  
 CHECKED BY

KIFLE ABISHU  
 KAL DAHER

REVISED BY  
 DATE REVISED

**NOTE:**

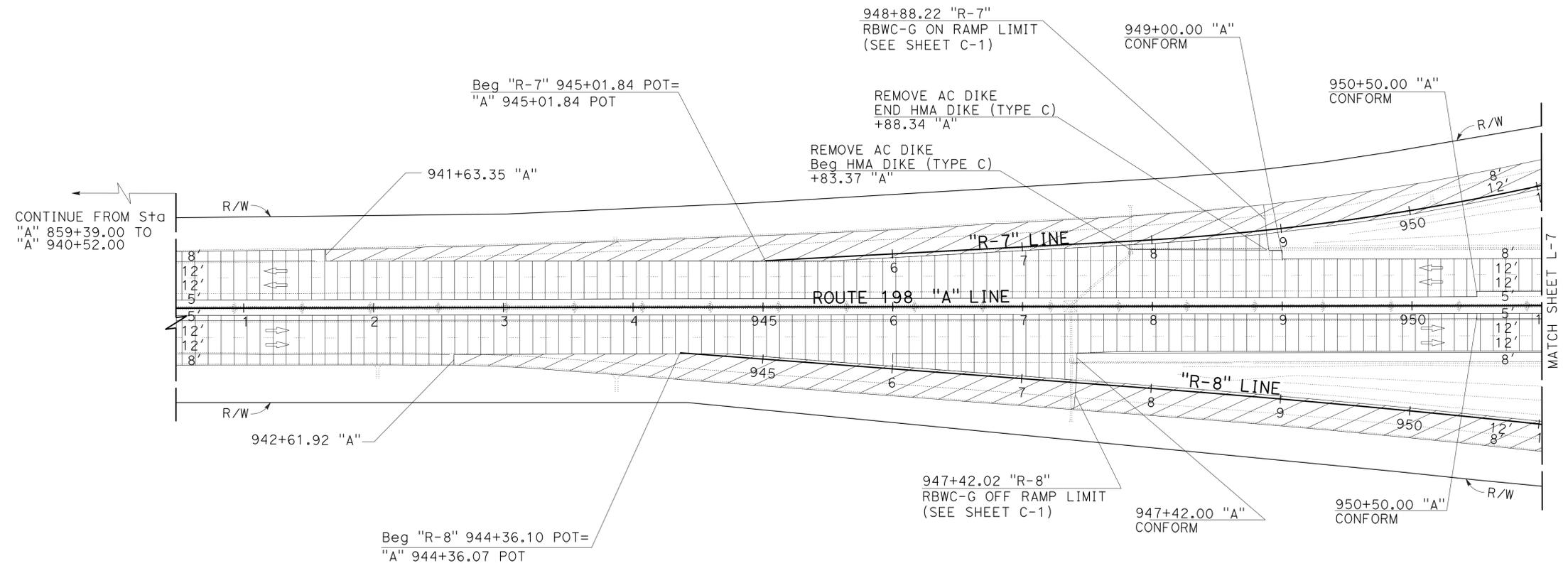
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	9	49

Kifle Abishu 10-28-13  
 REGISTERED CIVIL ENGINEER DATE  
 10-28-13  
 PLANS APPROVAL DATE

KIFLE B. ABISHU  
 No. 74489  
 Exp. 12/31/13  
 CIVIL

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

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 07-29-13 | TIME PLOTTED => 16:29

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
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FUNCTIONAL SUPERVISOR	KAL DAHER
CALCULATED/DESIGNED BY	CHECKED BY
KIFLE ABISHU	KAL DAHER
REVISED BY	DATE

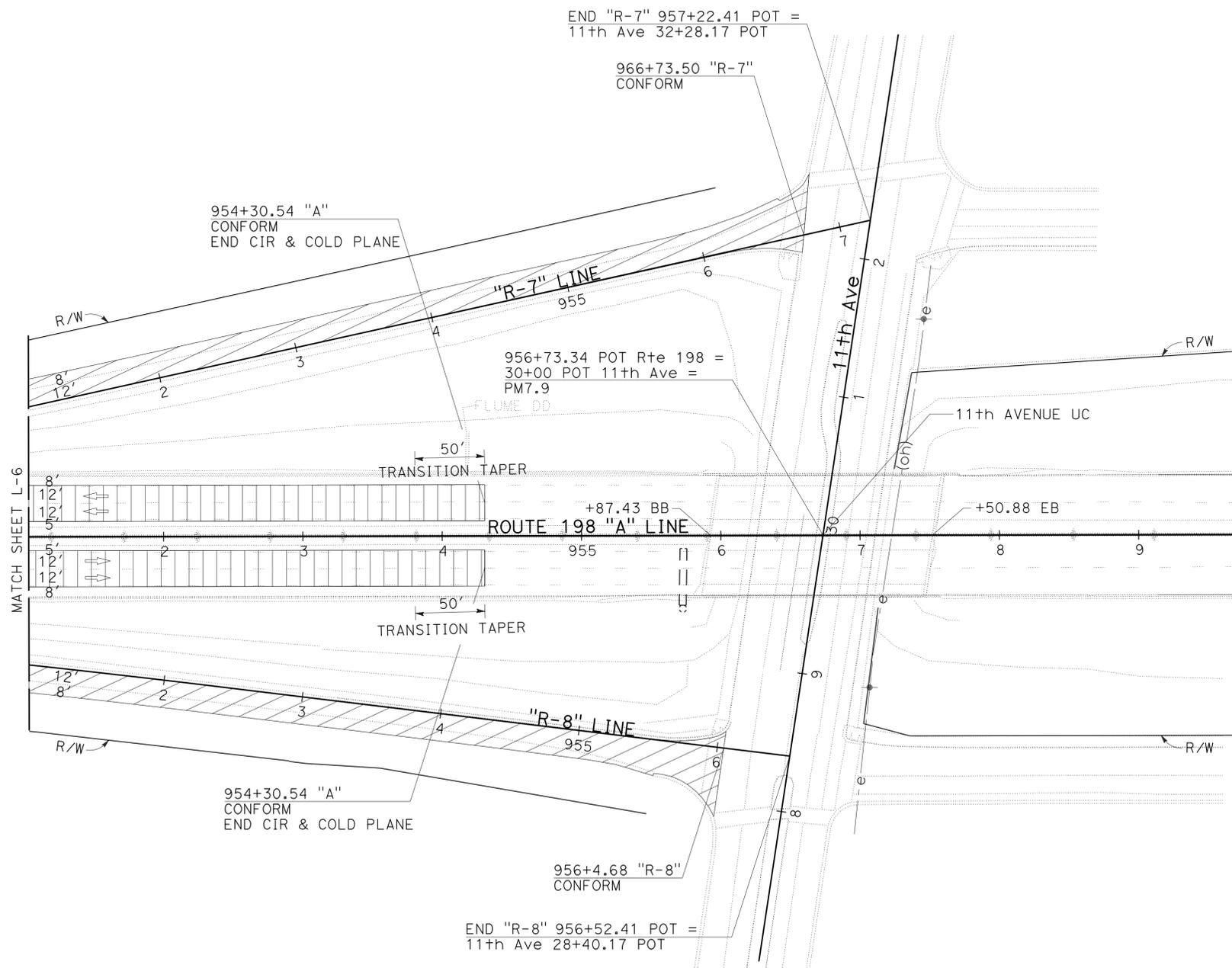
**NOTE:**  
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	10	49

Kifle Abishu 10-28-13  
 REGISTERED CIVIL ENGINEER DATE  
 10-28-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 KIFLE B. ABISHU  
 No. 74489  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

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

LAST REVISION DATE PLOTTED => 31-OCT-2013 07-29-13 TIME PLOTTED => 16:29





Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	13	49

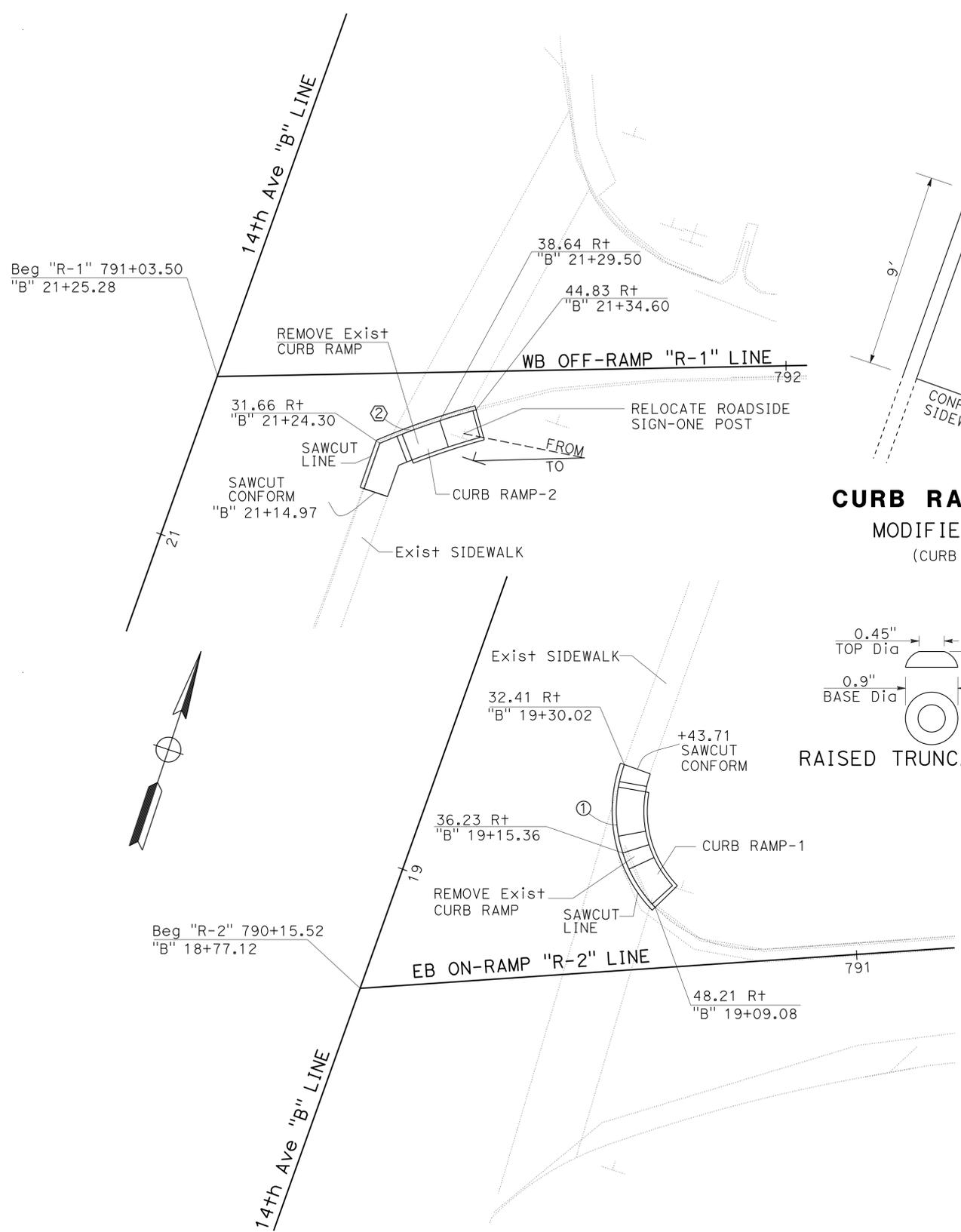
Kifle Abishu 10-28-13  
 REGISTERED CIVIL ENGINEER DATE  
 10-28-13  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER  
 KIFLE B. ABISHU  
 No. 74489  
 Exp. 12/31/13  
 CIVIL  
 STATE OF CALIFORNIA

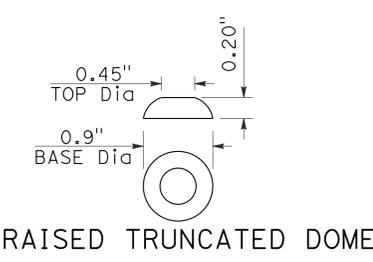
REVISOR	DATE
KIFLE ABISHU	KAL DAHER
FUNCTIONAL SUPERVISOR	DESIGN
KAL DAHER	DESIGN

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

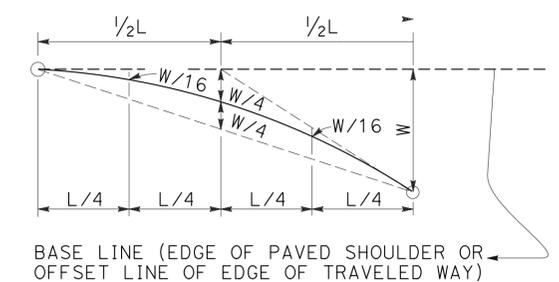
**Caltrans**



**CURB RAMP DETAIL**  
MODIFIED CASE C  
(CURB RAMP-2)



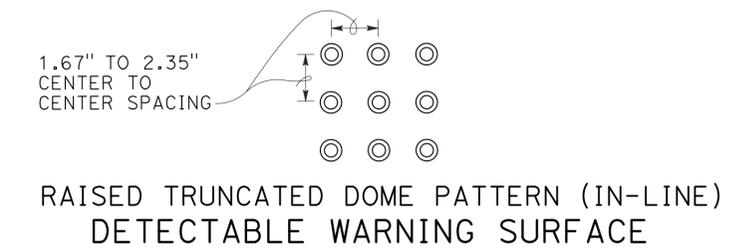
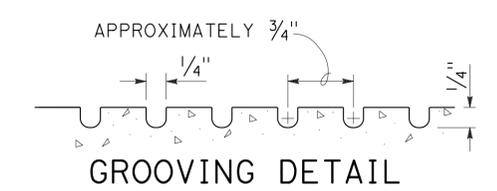
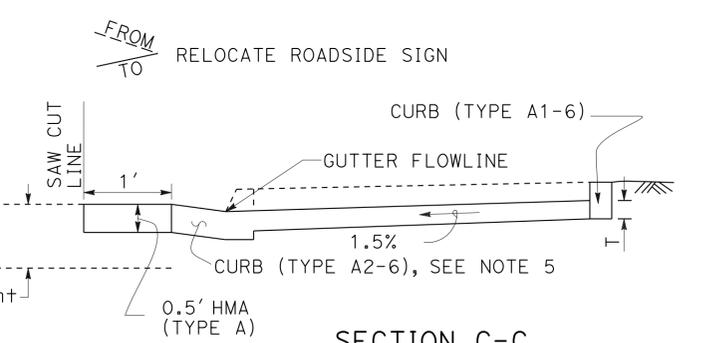
**CURB RAMP DETAIL**  
MODIFIED CASE C  
(CURB RAMP-1)



**NOTES:**

1. THE SIDES OF THE RAMP NEED NOT BE PARALLEL.
2. TRANSITIONS FROM RAMP TO WALKS, GUTTERS, OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT CHANGES.
3. SIDEWALK AND RAMP THICKNESS, "T" SHALL BE 3 1/2" MINIMUM.
4. THE CURB RAMP SHALL BE OUTLINED, AS SHOWN, WITH A 1' WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" ON CENTER. SEE GROOVING DETAIL.
5. MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP OR ACCESSIBLE ROUTE SHALL NOT EXCEED 5% WITHIN 4' OF THE TOP AND BOTTOM OF THE CURB RAMP.
6. CURB RAMP SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND 3' DEPTH OF THE RAMP. DETECTABLE WARNING SURFACES SHALL CONFORM TO THE DETAILS ON THIS PLAN AND THE REQUIREMENTS IN THE SPECIAL PROVISIONS.
7. THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE STREET SHALL BE 6" AND 8" FROM THE GUTTER FLOWLINE.

**LEGEND:**



**CONSTRUCTION DETAILS**  
C-3

**CURVE DATA**

No.	O	R	Δ	T	L	RP	LOCATION
1		25.00'	77°17'48"	19.99'	33.73'	Ctr	56.56' Rt "B" 27+43.74

**PARABOLIC FLARE DATA**

No.	FLARE
2	10' x 50' FLARE

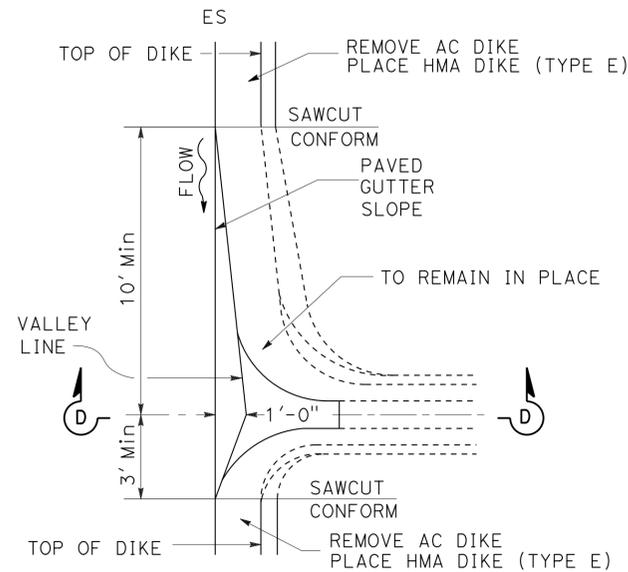


*Kifle Abishu* 10-28-13  
 REGISTERED CIVIL ENGINEER DATE

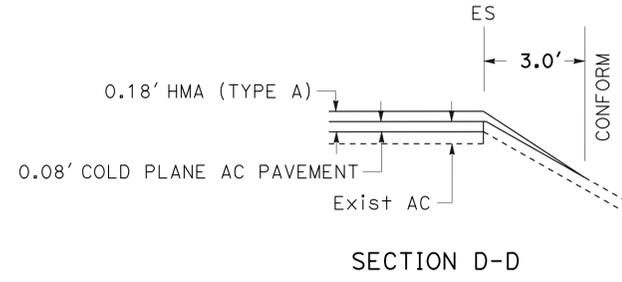
10-28-13  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 KIFLE B. ABISHU  
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 CIVIL  
 STATE OF CALIFORNIA

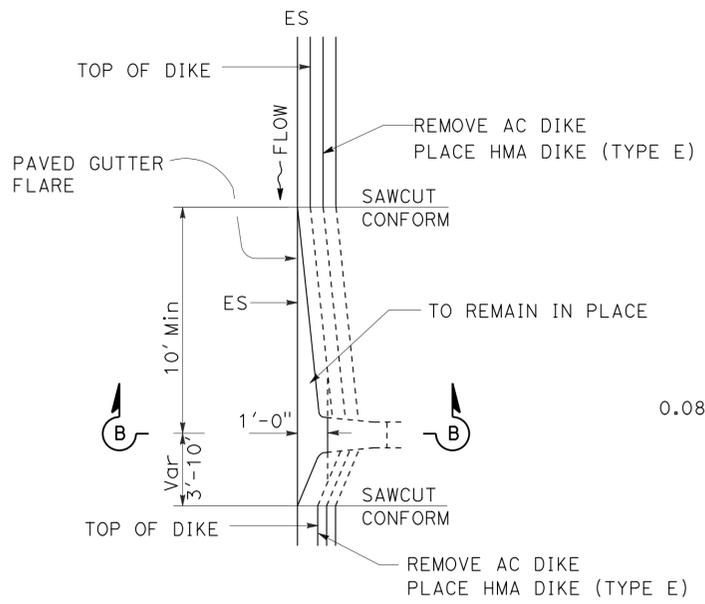
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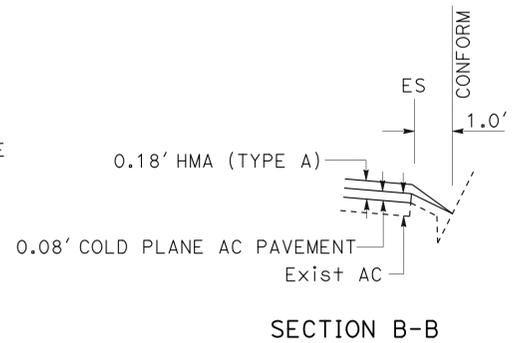
**OVERSIDE DRAIN**



**SECTION D-D**



**TAPERED INLET TO FLUME DOWNDRAIN**



**SECTION B-B**

**HMA OVERSIDE DRAIN AND FLUME LOCATIONS**

SHEET No.	STATION	DESCRIPTION
L-1	792+05.24	"R-1" - Lt
L-1	794+50.82	"A" - Rt
L-1	792+61.49	"R-2" - Rt
L-2	800+36.73	"R-1" - Lt
L-2	802+95.25	"R-1" - Lt
L-2	798+49.85	"A" - Lt
L-2	798+49.85	"A" - Rt
L-2	800+33.80	"A" - Rt
L-2	803+20.25	"R-2" - Rt
L-2	807+36.53	"A" - Rt
L-3	928+85.50	R-4 - Lt
L-3	832+85.41	"A" - Lt
L-3	834+03.39	"A" - Lt
L-3	834+03.39	"A" - Rt
L-3	826+74.12	"A" - Rt
L-3	829+60.72	"R-5" - Rt
L-3	831+64.21	"R-5" - Rt
L-4	839+22.61	"R-4" - Lt
L-4	842+47.25	"R-3" - Rt
L-4	845+01.43	"R-3" - Lt
L-4	845+35.23	"R-3" - Rt
L-4	838+49.35	"A" - Lt
L-4	838+49.35	"A" - Rt
L-4	846+43.12	"A" - Lt
L-4	846+43.12	"A" - Rt
L-4	843+33.73	"R-5" - Rt
L-4	845+25.83	"R-6" - Rt
L-5	849+11.57	"R-3" - Lt
L-5	852+61.85	"R-3" - Lt
L-5	854+79.29	"R-3" - Lt
L-5	850+52.48	"A" - Lt
L-5	850+52.48	"A" - Rt
L-5	850+52.48	"A" - Rt
L-5	851+51.62	"A" - Rt
L-5	850+11.77	"R-6" - Rt
L-5	855+40.12	"R-6" - Rt
L-5	858+94.66	"R-6" - Rt
L-6	942+03.13	"A" - Rt
L-6	943+86.36	"A" - Lt
L-6	943+87.01	"A" - Rt
L-6	950+18.74	"R-7" - Lt
L-7	954+17.71	"A" - Lt

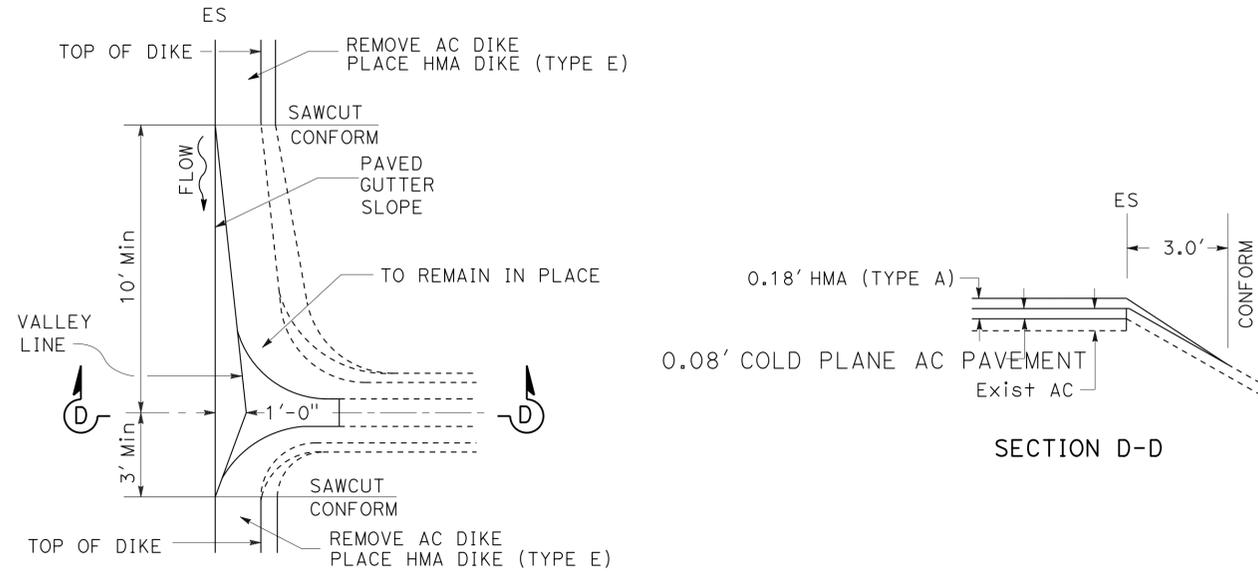
**HMA OVERSIDE DRAIN LOCATIONS**

DIRECTION OF TRAVEL	PM
EB	R14.77
WB	R15.19
WB	R15.19
EB	R15.28
WB	R15.29
EB	R15.36
WB	R15.38
EB	R16.11
EB	R16.14
EB	R16.21
EB	R16.34
EB	R16.38
EB	R16.44
WB	R16.46
WB	R16.46
EB	R16.54
EB	R16.54
WB	R16.63
WB	R16.69
EB	R16.85
EB	R16.88
WB	R16.91
WB	R16.91
EB	R16.63
WB	R17.16
EB	R17.19
WB	R17.32
EB	R17.33
WB	R17.42
EB	R17.42
WB	R17.49
EB	R17.50
WB	R17.52

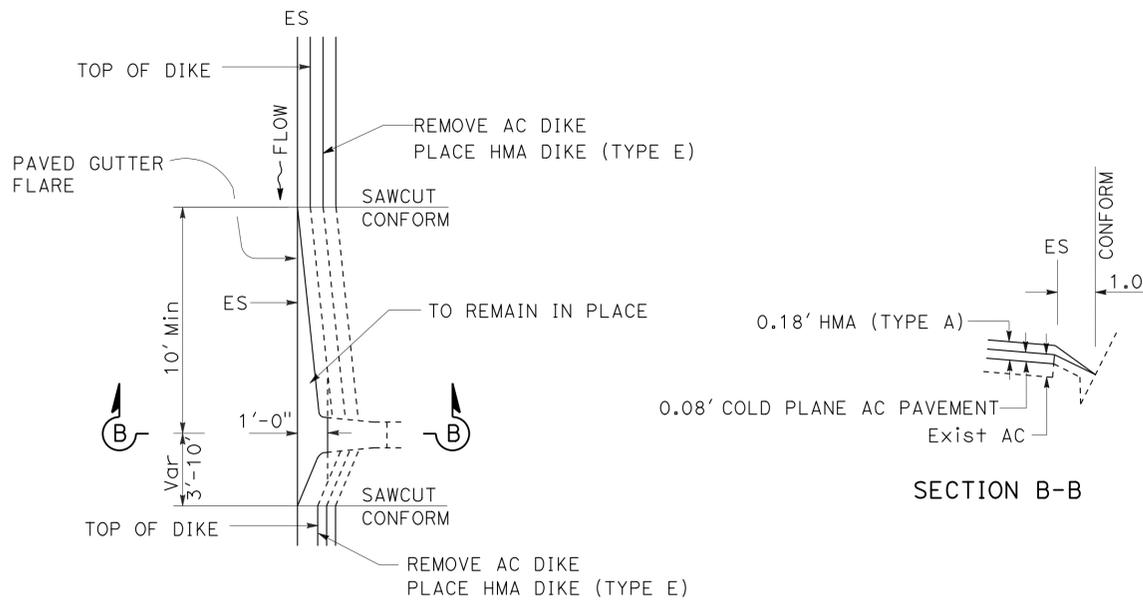
**CONSTRUCTION DETAILS**  
**C-5**

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 KIFLE ABISHU  
 KAL DAHER  
 KAL DAHER  
 DESIGN



**OVERSIDE DRAIN**



**TAPERED INLET TO FLUME DOWNDRAIN**

**HMA OVERSIDE DRAIN AND FLUME LOCATIONS**

SHEET No.	STATION	DESCRIPTION
L-1	792+05.24	"R-1" - Lt
L-1	794+50.82	"A" - Rt
L-1	792+61.49	"R-2" - Rt
L-2	800+36.73	"R-1" - Lt
L-2	802+95.25	"R-1" - Lt
L-2	798+49.85	"A" - Lt
L-2	798+49.85	"A" - Rt
L-2	800+33.80	"A" - Rt
L-2	803+20.25	"R-2" - Rt
L-2	807+36.53	"A" - Rt
L-3	928+85.50	R-4 - Lt
L-3	832+85.41	"A" - Lt
L-3	834+03.39	"A" - Lt
L-3	834+03.39	"A" - Rt
L-3	826+74.12	"A" - Rt
L-3	829+60.72	"R-5" - Rt
L-3	831+64.21	"R-5" - Rt
L-4	839+22.61	"R-4" - Lt
L-4	842+47.25	"R-3" - Rt
L-4	845+01.43	"R-3" - Lt
L-4	845+35.23	"R-3" - Rt
L-4	838+49.35	"A" - Lt
L-4	838+49.35	"A" - Rt
L-4	846+43.12	"A" - Lt
L-4	846+43.12	"A" - Rt
L-4	843+33.73	"R-5" - Rt
L-4	845+25.83	"R-6" - Rt
L-5	849+11.57	"R-3" - Lt
L-5	852+61.85	"R-3" - Lt
L-5	854+79.29	"R-3" - Lt
L-5	850+52.48	"A" - Lt
L-5	850+52.48	"A" - Rt
L-5	850+52.48	"A" - Rt
L-5	851+51.62	"A" - Rt
L-5	850+11.77	"R-6" - Rt
L-5	855+40.12	"R-6" - Rt
L-5	858+94.66	"R-6" - Rt
L-6	942+03.13	"A" - Rt
L-6	943+86.36	"A" - Lt
L-6	943+87.01	"A" - Rt
L-6	950+18.74	"R-7" - Lt
L-7	954+17.71	"A" - Lt

**HMA OVERSIDE DRAIN LOCATIONS**

DIRECTION OF TRAVEL	PM
EB	R14.77
WB	R15.19
WB	R15.19
EB	R15.28
WB	R15.29
EB	R15.36
WB	R15.38
EB	R16.11
EB	R16.14
EB	R16.21
EB	R16.34
EB	R16.38
EB	R16.44
WB	R16.46
WB	R16.46
EB	R16.54
EB	R16.54
WB	R16.63
WB	R16.69
EB	R16.85
EB	R16.88
WB	R16.91
WB	R16.91
EB	R16.63
WB	R17.16
EB	R17.19
WB	R17.32
EB	R17.33
WB	R17.42
EB	R17.42
WB	R17.49
EB	R17.50
WB	R17.52

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	16	49

<i>Kifle Abishu</i>	10-28-13
REGISTERED CIVIL ENGINEER	DATE
10-28-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
KIFLE B. ABISHU
No. 74489
Exp. 12/31/13
CIVIL
STATE OF CALIFORNIA

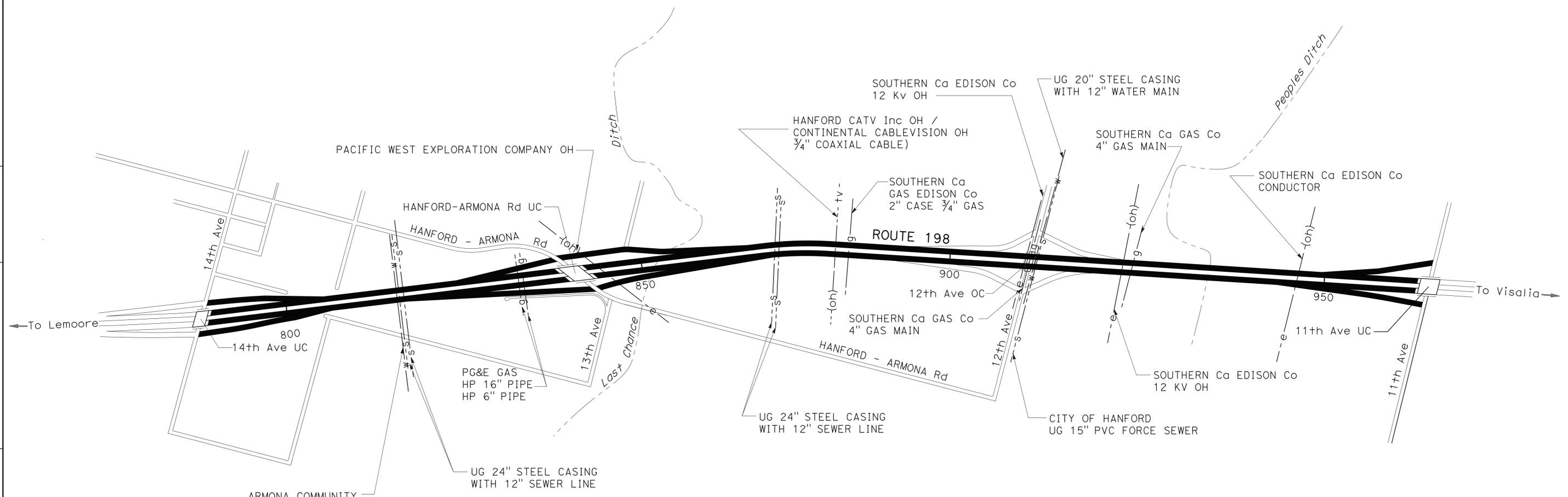
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**NOTES:**

UTILITY LOCATIONS ARE APPROXIMATE, AND HAVE NOT BEEN POSITIVELY LOCATED EXACT LOCATIONS TO BE DETERMINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION

**ABBREVIATIONS:**

PG&E PACIFIC GAS AND ELECTRIC COMPANY



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
<b>Caltrans</b>
<b>DESIGN</b>
FUNCTIONAL SUPERVISOR
KAL DAHER
CALCULATED-DESIGNED BY
CHECKED BY
KIFLE ABISHU
KAL DAHER
REVISED BY
DATE REVISED

APPROVED FOR UTILITY INFORMATION ONLY

**UTILITY PLAN**  
NO SCALE  
**U-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	17	49

*Amarjit S Dhillon* 10-28-13  
 REGISTERED CIVIL ENGINEER DATE

10-28-13  
 PLANS APPROVAL DATE

AMARJIT S. DHILLON  
 No. 67458  
 Exp. 6/30/15

REGISTERED PROFESSIONAL ENGINEER  
 STATE OF CALIFORNIA

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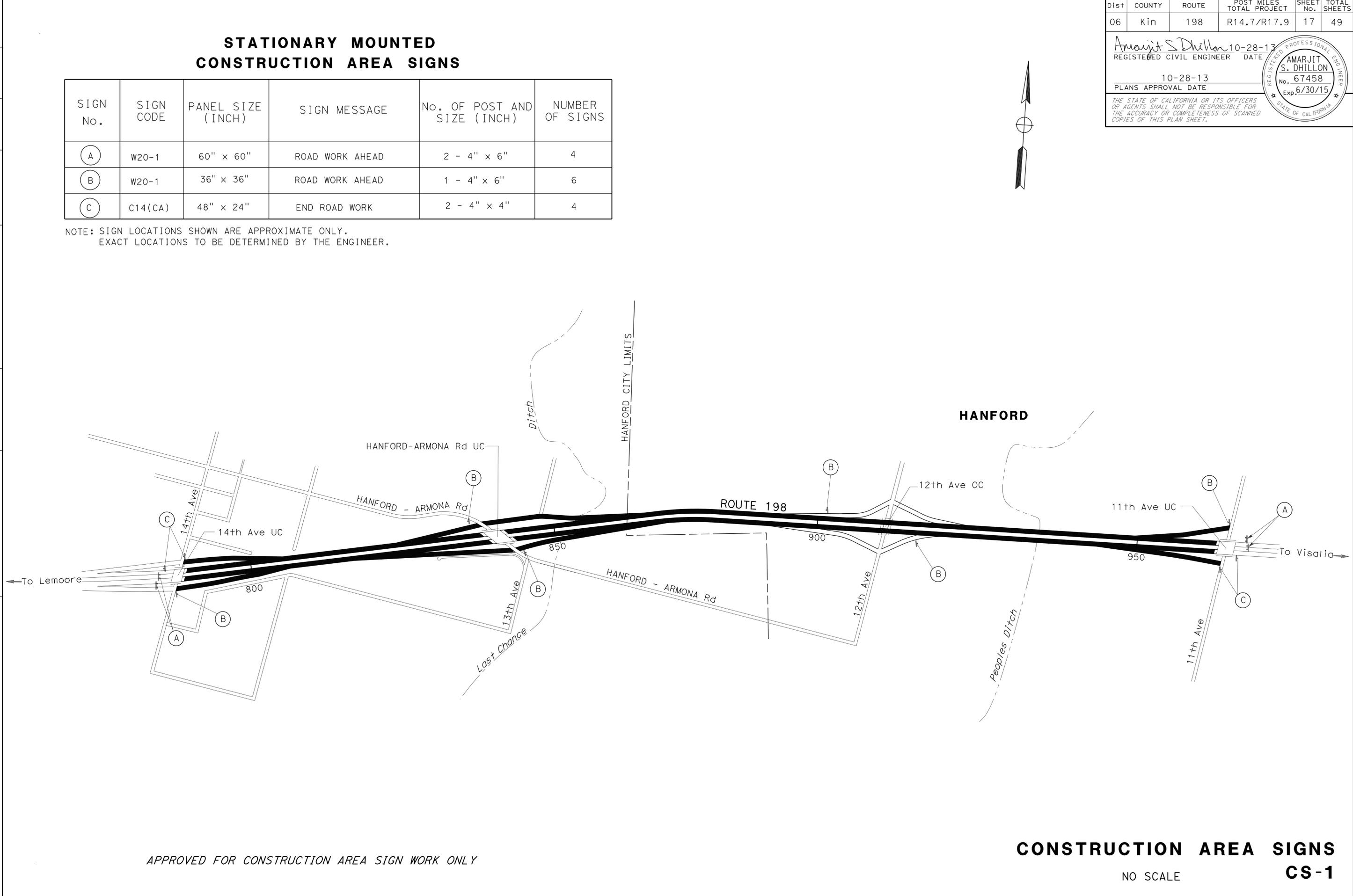


### STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	PANEL SIZE (INCH)	SIGN MESSAGE	No. OF POST AND SIZE (INCH)	NUMBER OF SIGNS
(A)	W20-1	60" x 60"	ROAD WORK AHEAD	2 - 4" x 6"	4
(B)	W20-1	36" x 36"	ROAD WORK AHEAD	1 - 4" x 6"	6
(C)	C14(CA)	48" x 24"	END ROAD WORK	2 - 4" x 4"	4

NOTE: SIGN LOCATIONS SHOWN ARE APPROXIMATE ONLY.  
 EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.

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



APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

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

LAST REVISION | DATE PLOTTED => 16-DEC-2013  
 07-29-13 | TIME PLOTTED => 09:21

# PAVEMENT DELINEATION QUANTITIES

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	18	49

Amajit S. Dhillon 10-28-13  
 REGISTERED CIVIL ENGINEER DATE

10-28-13  
 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.

ROUTE	LOCATION PM TO PM		DETAIL No.	PAVEMENT MARKER (RETROREFLECTIVE)			THERMOPLASTIC TRAFFIC STRIPE					THERMOPLASTIC PAVEMENT MARKING		
				TYPE G CLEAR (ONE-WAY)	TYPE H YELLOW (ONE-WAY)	TYPE D YELLOW (ONE-WAY)	8" SOLID	4" SOLID	4" (BROKEN 12-3)	4" (BROKEN 36-12)	4" (BROKEN 17-7)			
				EA	EA	EA	LF	LF	LF	LF	LF	DESCRIPTION	SQFT	
ROUTE 198/EB	FROM	TO												
	R14.7	R17.9	25		353			16,896			16,896			
	R14.7	R15.04	27B					1,796						
	R15.04	R15.07	27C						159					
	R15.07	R15.49	27B					2,218						
	R15.49	R15.54	36	24			528							
	R15.54	R16.02	27B					2,535						
	R16.02	R16.05	27C						159					
	R16.05	R16.69	27B					3,380						
	R16.69	R16.75	36	30			634							
	R16.75	R17.06	27B					1,637						
	R17.06	R17.12	27C						317					
	R17.12	R17.69	27B					3,010						
	R17.69	R17.75	36	30			634							
	R17.75	R17.9	27B					792						
ROUTE 198/WB	R14.7	R17.9	25		353			16,896			16,896			
	R14.7	R15.02	27B					1,690						
	R15.02	R15.08	36	30			634							
	R15.08	R15.5	27B					2,218						
	R15.5	R15.53	27C						159					
	R15.53	R16	27B					2,482						
	R16	R16.06	36	30			634							
	R16.06	R16.73	27B					3,538						
	R16.73	R16.78	27C						264					
	R16.78	R17.08	27B					1,584						
	R17.08	R17.13	36	24			528							
	R17.13	R17.71	27B					3,063						
	R17.71	R17.74	27C						159					
R17.74	R17.9	27B					845							
EB ONRAMP FROM 14th Ave			25A		43			1,001				1 - CROSSWALK	135	
			27B					1,686				2 - TYPE I (24) ARROW	31	
			36A	15			325							
WB OFFRAMP TO 14th Ave			25A		46			1,086				1 - CROSSWALK	159.31	
			27B					1,519				3 - "STOP"	66	
											1 - "AHEAD"	31		
EB OFFRAMP TO HANFORD/ARMONA Rd												1 - TYPE V ARROW	99	
			25A		50			1,185				3 - "STOP"	66	
			27B					1,752				1 - "AHEAD"	31	
											2 - LIMIT LINE	35.41		
											2 - TYPE V ARROW	66		
WB ONRAMP FROM HANFORD/ARMONA Rd			25A		36			840						
			27B					1,503						
			36A	15			325							
EB ONRAMP FROM HANFORD/ARMONA Rd			25A		35			810				2 - TYPE I (24) ARROW	62	
			27B					1,516						
			36A	15			345							
WB OFFRAMP TO HANFORD/ARMONA Rd			22			44						2 - LIMIT LINE	36.71	
			25A		25			571				4 - "STOP"	88	
			27B					2,382				2 - "AHEAD"	62	
											5 - TYPE V ARROW	165		
EB OFFRAMP TO 11th Ave										159		1 - TYPE I (24) ARROW	31	
			25A		47			1,106				1 - CROSSWALK	120.13	
			27B					1,332				2 - "STOP"	44	
											1 - "AHEAD"	31		
											2 - TYPE V ARROW	66		
WB ONRAMP FROM 11th Ave			25A		34			781						
			27B					1,558						
			36A	13			276							
SUBTOTAL				932	1,022	44	4,863	85,208	1,217	33,792	159		1425.56	
TOTAL					1,998		4,863	85,208	1,217	33,792	159		1425.56	

## PAVEMENT DELINEATION QUANTITIES PDQ-1

ABBREVIATION: LNMI - LANE MILE

**DIKE QUANTITIES**

LOCATION	PLACE HMA DIKE		HOT MIX ASPHALT (TYPE A) TON	REMOVE AC DIKE LF
	TYPE C	TYPE E		
	LF	LF		
PM R14.7 TO PM R17.9 EB ROUTE 198		14,520	382	14,520
PM R14.7 TO PM R17.9 WB ROUTE 198		13,886	365	13,886
"A" 801+04.50 TO "A" 802+53.22 (GORE)	149		1.1	149
"A" 830+60.59 TO "A" 832+05.21 (GORE)	145		1.1	145
"A" 852+37.42 TO "A" 854+21.61 (GORE)	184		1.4	184
"A" 947+83.29 TO "A" 948+88.26 (GORE)	105		0.8	105
WB OFF RAMP TO 14th Ave		1,499	39	1,499
EB ON RAMP FROM 14th Ave		1,588	42	1,588
WB OFF RAMP TO HANFORD - ARMONA Rd		1,588	42	1,588
WB ON RAMP FROM HANFORD - ARMONA Rd		1,392	37	1,392
EB OFF RAMP TO HANFORD - ARMONA Rd		1,736	46	1,736
EB ON RAMP FROM HANFORD - ARMONA Rd		1,437	38	1,437
WB ON RAMP FROM 11th Ave		1,375	36	1,375
EB OFF RAMP TO 11th Ave		1,283	34	1,283
<b>TOTAL</b>	583	40,304	*1066	40,887

\* - INCLUDED IN ROADWAY QUANTITIES TABLE

**CURB RAMP**

LOCATION	REMOVE CONCRETE (CURB, GUTTER, AND SIDEWALK)	MINOR CONCRETE (MISCELLANEOUS CONSTRUCTION)	CURB RAMP DETECTABLE WARNING SURFACE
	CY	CY	SQFT
14th Ave AND EB ON RAMP (CURB RAMP-1)	2.43	2.43	15
14th Ave AND WB OFF RAMP (CURB RAMP-2)	2.15	2.15	18
<b>TOTAL</b>	4.58	4.58	33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	19	49

10-28-13  
REGISTERED CIVIL ENGINEER DATE

10-28-13  
PLANS APPROVAL DATE

KIFLE B. ABISHU  
No. 74489  
Exp. 12/31/13  
CIVIL

REGISTERED PROFESSIONAL ENGINEER  
STATE OF CALIFORNIA

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**ROADWAY QUANTITIES**

LOCATION	TACK COAT	COLD PLANE AC PAVEMENT	CRACK TREATMENT	HOT MIX ASPHALT (TYPE A)	SAND COVER (COLD IN-PLACE RECYCLING)	COLD IN-PLACE RECYCLING	EMULSIFIED RECYCLING AGENT (COLD IN-PLACE RECYCLING)	CEMENT (COLD IN-PLACE RECYCLING)	ASPHALTIC EMULSION (COLD IN-PLACE RECYCLING)	SHOULDER BACKING	
	TON	SQYD	LNMI	TON	TON	SQYD	TON	TON	TON	TON	
Rte 198 MAINLINE	PM R14.7 TO PM R17.9 EB	48	60,785	3	8,416	103	45,106	274	92	38	232
	PM R14.7 TO PM R17.9 WB	48	60,525	3	8,396	103	45,106	274	92	38	232
	HMA DIKE (ALL TYPES)				1,066						
RAMPS	WB OFF RAMP TO 14th Ave	2.2	3,806		715						
	EB ON RAMP FROM 14th Ave	2.7	4,424		848						
	WB OFF RAMP TO HANFORD - ARMONA Rd	3.5	6,478		1,168						
	WB ON RAMP FROM HANFORD - ARMONA Rd	2.6	4,106		799						
	EB OFF RAMP TO HANFORD - ARMONA Rd	2.4	4,165		777						
	EB ON RAMP FROM HANFORD - ARMONA Rd	2.8	4,519		877						
	WB OFF RAMP TO 12th Ave	0.4	44		59						
	WB ON RAMP FROM 12th Ave	0.9	44		138						
	EB OFF RAMP TO 12th Ave	0.4	44		66						
	EB ON RAMP FROM 12th Ave	0.9	44		137						
WB ON RAMP FROM 11th Ave	2.5	3,732		742							
EB OFF RAMP TO 11th Ave	2.1	3,427		656							
<b>TOTAL</b>	119.4	156,145	**6	24,860	206	90,212	548	184	76	464	

\*\* - CRACK TREATMENT APPLIES ON INSIDE SHOULDER ONLY

**SUMMARY OF QUANTITIES Q-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
DESIGN  
KAL DAHER  
KIFLE B. ABISHU  
KAL DAHER  
REVISOR BY  
DATE REVISED



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	20	49

*Kifle Abishu* 10-28-13  
 REGISTERED CIVIL ENGINEER DATE

10-28-13  
 PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS  
 OR AGENTS SHALL NOT BE RESPONSIBLE FOR  
 THE ACCURACY OR COMPLETENESS OF SCANNED  
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**RESET ROADSIDE SIGN**

LOCATION	SHEET No.	RESET ROADSIDE SIGN	
		EA	LB
WB OFF RAMP TO HANFORD - ARMONA Rd	L-4	2	130
WB ON RAMP FROM HANFORD - ARMONA Rd	L-4	4	
EB OFF RAMP TO HANFORD - ARMONA Rd	L-4	1	
EB ON RAMP FROM HANFORD - ARMONA Rd	L-4	3	
<b>TOTAL</b>		10	130

**ROADSIDE SIGN**

LOCATION	SHEET No.	RELOCATE ROADSIDE SIGN-ONE POST
		EA
WB OFF RAMP TO 14th Ave	C-3	1
<b>TOTAL</b>		1

**SHOULDER RUMBLE STRIP  
(HMA, GROUND-IN INDENTATIONS)**

LOCATION (ROUTE 198)	OUTSIDE Shld EB	INSIDE Shld EB	OUTSIDE Shld WB	INSIDE Shld WB
	STA	STA	STA	STA
PM R14.70 TO PM R17.90		168		168
PM R14.70 TO PM R15.00	16		16	
PM R15.00 TO PM R15.48	25			
PM R15.53 TO PM R15.73	11			
PM R15.78 TO PM R15.98	11			
PM R16.07 TO PM R16.69	33			
PM R16.74 TO PM R17.00	14			
PM R17.05 TO PM R17.68	33			
PM R17.74 TO PM R17.88	7			
PM R15.08 TO PM R15.52			23	
PM R15.67 TO PM R15.75			4	
PM R15.81 TO PM R15.00			10	
PM R16.05 TO PM R16.79			39	
PM R16.85 TO PM R17.09			13	
PM R17.13 TO PM R17.75			33	
PM R17.78 TO PM R17.90			7	
<b>SUBTOTAL</b>	150	168	145	168
<b>TOTAL</b>	631			

**PRE/POST CONSTRUCTION SURVEYS**

SHEET No.	LOCATION	CURB RAMP IDENTIFICATION	NUMBER OF CONSTRUCTION SURVEYS	DESCRIPTION
			EA	
C-3	14th Ave AND EB ON RAMP	CURB RAMP-1	1	CURB RAMP
C-3	14th Ave AND WB OFF RAMP	CURB RAMP-2	1	CURB RAMP
<b>TOTAL</b>			2	

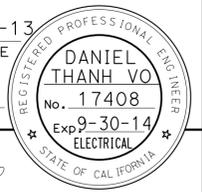
**SUMMARY OF QUANTITIES  
Q-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 KAL DAHER  
 KAL DAHER  
 KIFLE B. ABISHU  
 KAL DAHER  
 REVISOR BY  
 DATE REVISOR  
 CALCULATED-DESIGNED BY  
 CHECKED BY

LAST REVISION | DATE PLOTTED => 31-OCT-2013  
 07-29-13 | TIME PLOTTED => 16:30



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	kin	198	R14.7/R17.9	22	49
			Daniel Thanh Vo	10-28-13	
			REGISTERED ELECTRICAL ENGINEER	DATE	
			10-28-13		
			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>					



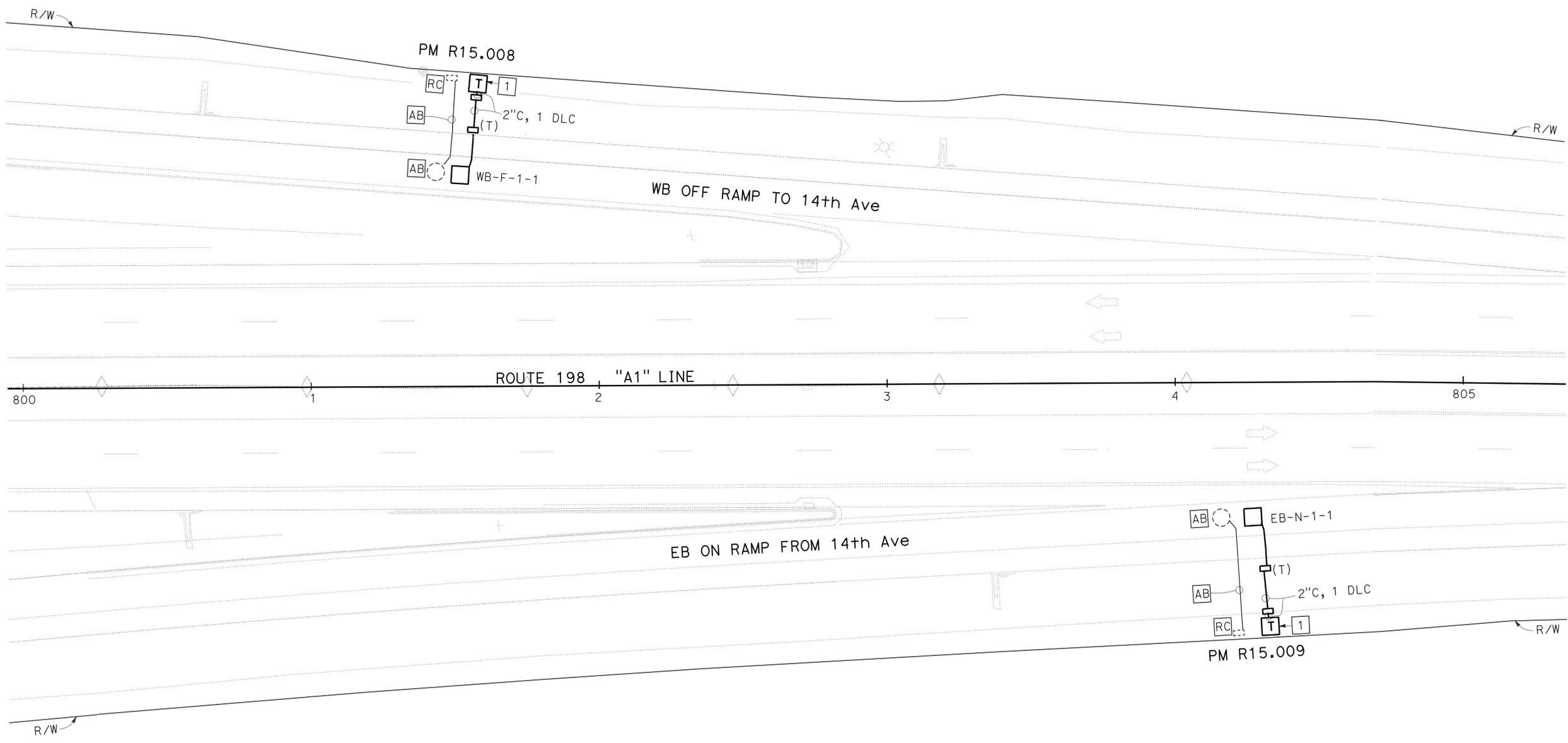
**LEGEND:**

- 1 MODIFIED TYPE B TDC WITH PATC AS SHOWN ON SHEET E-8.

**NOTES:**

- 1. ALL PULL BOXES MUST BE No. 5 (E) UNLESS OTHERWISE NOTED.
- 2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**® ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 CALCULATED/DESIGNED BY: [Blank]  
 CHECKED BY: [Blank]  
 DANNIEL VO  
 MONA ATTALLAH  
 REVISED BY: [Blank]  
 DATE REVISED: [Blank]



**TRAFFIC OPERATION SYSTEM**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 20'

**E-2**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	23	49

<i>Daniel Thanh Vo</i>	10-28-13
REGISTERED ELECTRICAL ENGINEER	DATE
10-28-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
DANIEL THANH VO
No. 17408
Exp 9-30-14
ELECTRICAL

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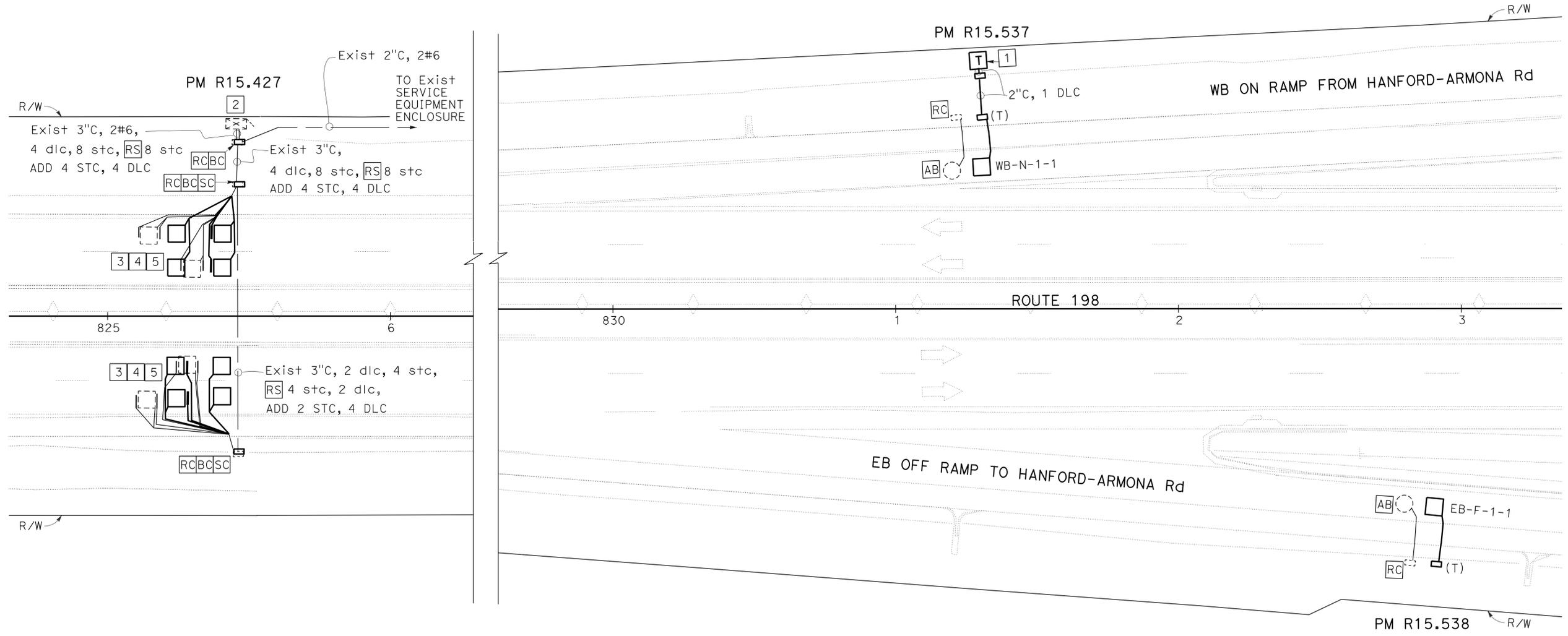
**LEGEND:**

- 1 MODIFIED TYPE B TDC WITH PATC AS SHOWN ON SHEET E-8.
- 2 RS EXISTING MODEM AND PATC, INSTALL WIRELESS MODEM AND ATC.
- 3 RS 4 EXISTING PIEZO SENSOR WITH ATTACHED STC.
- 4 AB 2 EXISTING DETECTOR LOOPS.
- 5 SEE SHEET E-7 FOR PIEZO AXLE SENSOR AND INDUCTIVE LOOP DETECTORS INSTALLATION AND DESIGNATION.

**NOTES:**

- 1. ALL PULL BOXES MUST BE No. 5 (E) UNLESS OTHERWISE NOTED.
- 2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Electrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 CALCULATED/DESIGNED BY: DANIEL VO  
 CHECKED BY: MONA ATTALLAH  
 REVISED BY: DATE  
 REVISIONS:



**TRAFFIC OPERATION SYSTEM**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 20'

**E-3**

LAST REVISION DATE PLOTTED => 31-OCT-2013  
 06-28-13 TIME PLOTTED => 16:53

**LEGEND:**

1 MODIFIED TYPE B TDC WITH PATC AS SHOWN ON SHEET E-8.

**NOTES:**

1. ALL PULL BOXES MUST BE No. 5 (E) UNLESS OTHERWISE NOTED.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	24	49

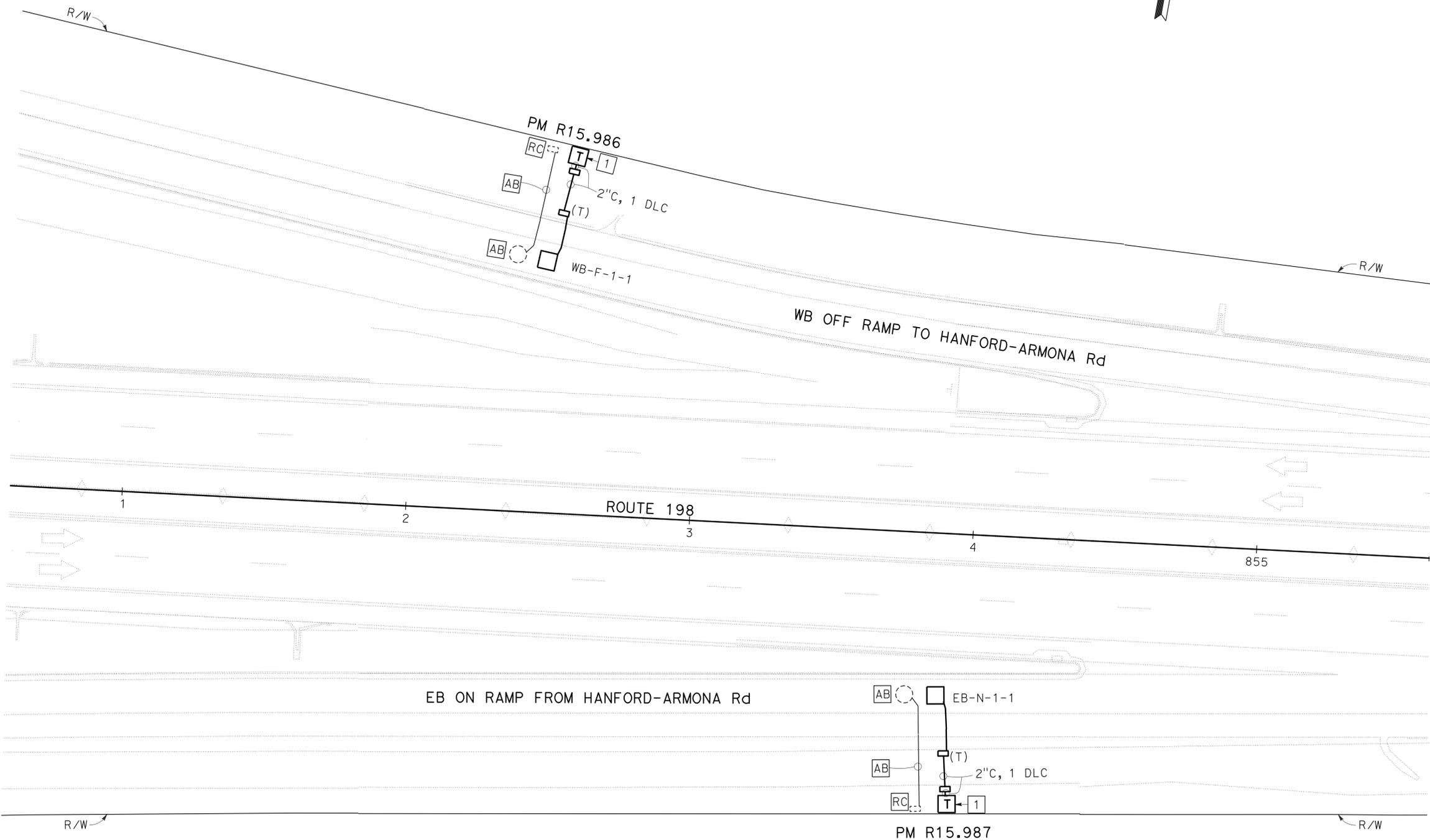
  

<i>Daniel Thanh Vo</i>	10-28-13
REGISTERED ELECTRICAL ENGINEER	DATE
10-28-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
DANIEL THANH VO
No. 17408
Exp. 9-30-14
ELECTRICAL
STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
<b>Caltrans</b> ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR
ALI BAKHDOUD
CALCULATED/DESIGNED BY
CHECKED BY
DANIEL VO
MONA ATTALLAH
REVISED BY
DATE REVISED

**TRAFFIC OPERATION SYSTEM**

SCALE: 1" = 20'

**E-4**

APPROVED FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	kin	198	R14.7/R17.9	25	49

<i>Daniel Thinh Vo</i>	10-28-13
REGISTERED ELECTRICAL ENGINEER	DATE
10-28-13	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
DANIEL THANH VO
No. 17408
Exp 9-30-14
ELECTRICAL
STATE OF CALIFORNIA

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



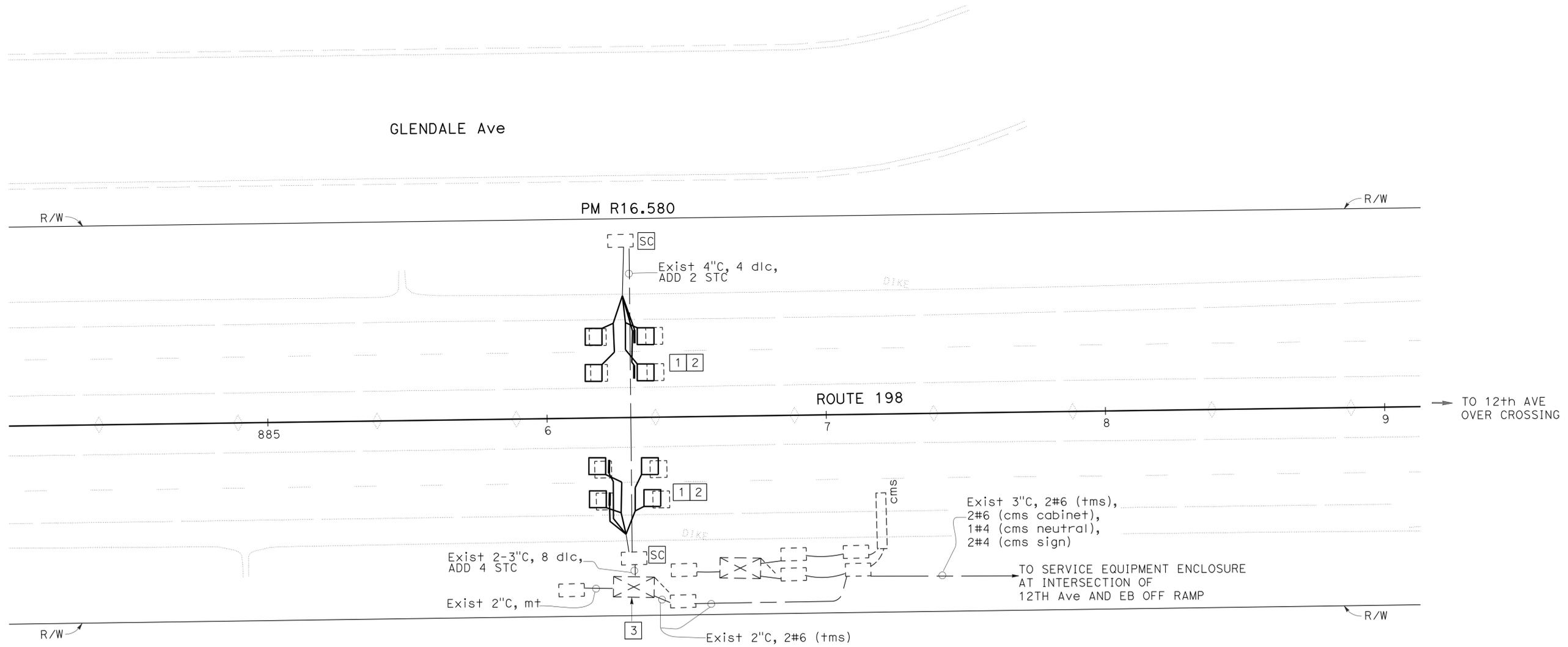
**LEGEND:**

- 1 [AB] EXISTING DETECTOR LOOPS.
- 2 SEE SHEET E-7 FOR PIEZO AXLE SENSOR AND INDUCTIVE LOOP DETECTORS INSTALLATION AND DESIGNATION.
- 3 INSTALL WIRELESS MODEM AND ATC.

**NOTE:**

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 CALCULATED/DESIGNED BY: DANIEL VO  
 CHECKED BY: MONA ATTALLAH  
 REVISED BY: DANIEL VO  
 DATE REVISED:



**TRAFFIC OPERATION SYSTEM**  
**E-5**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 20'

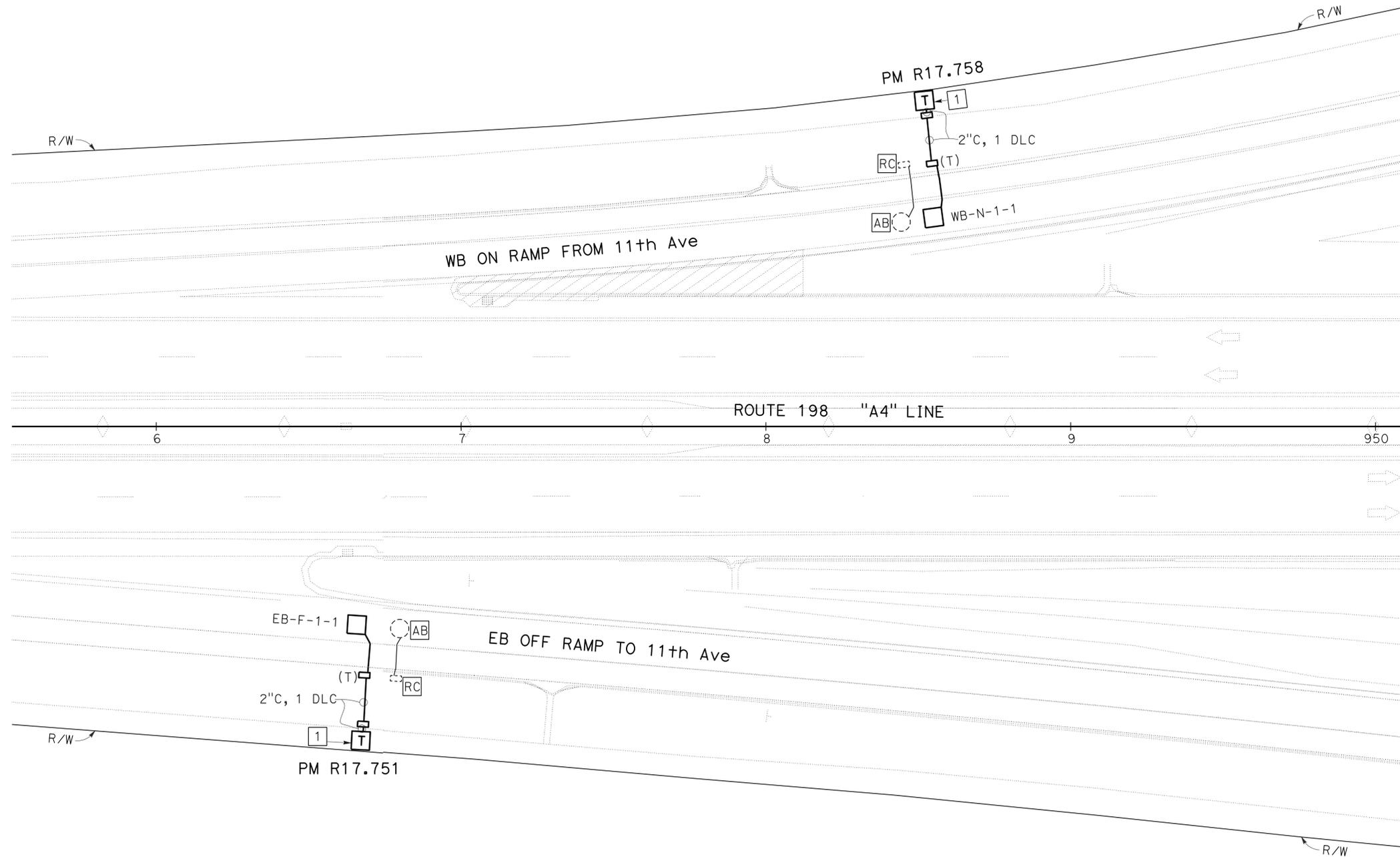
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	kin	198	R14.7/R17.9	26	49
			10-28-13		
REGISTERED ELECTRICAL ENGINEER			DATE		
10-28-13			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

**LEGEND:**

1 MODIFIED TYPE B TDC WITH PATC AS SHOWN ON SHEET E-8.

**NOTES:**

1. ALL PULL BOXES SHALL BE No. 5 (E) UNLESS OTHERWISE NOTED.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



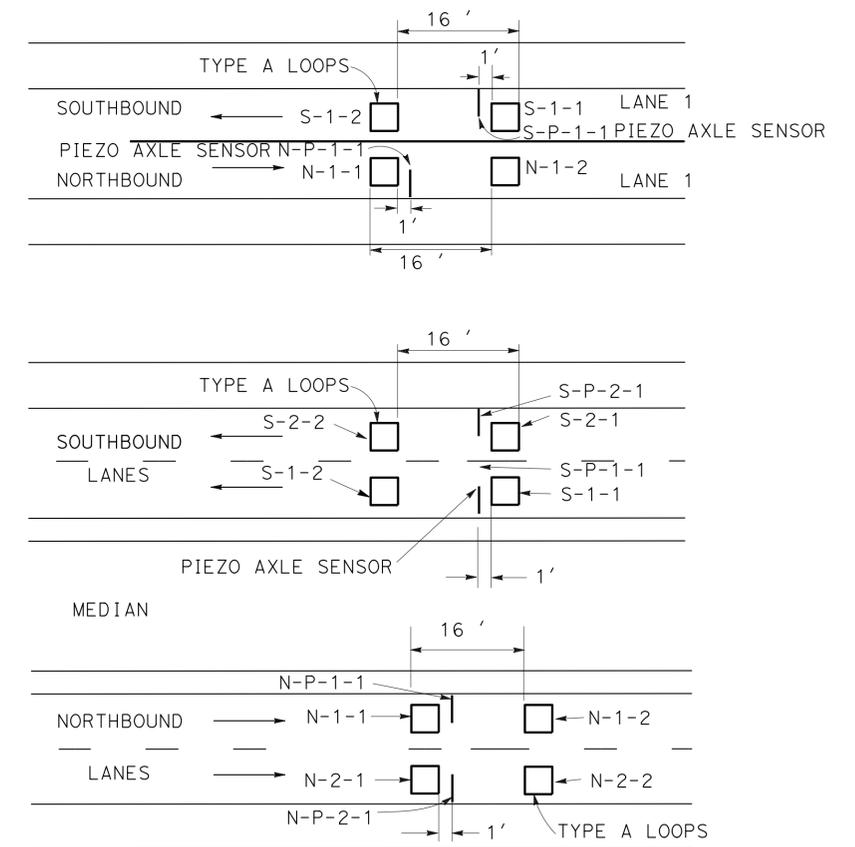
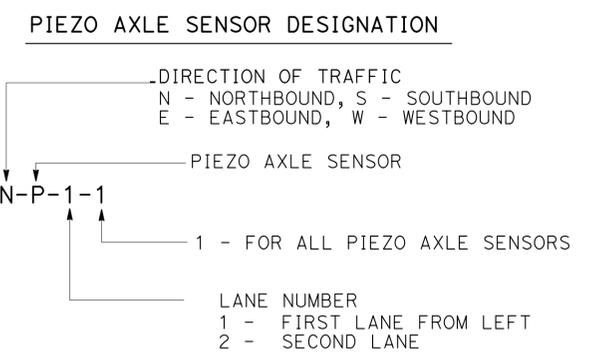
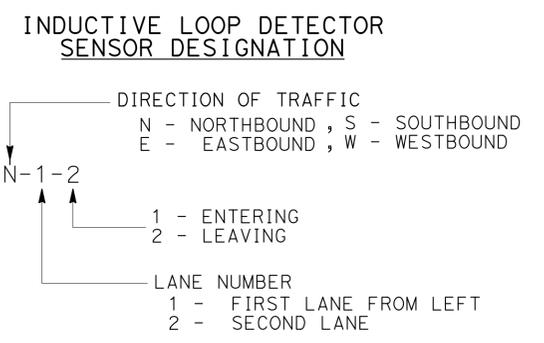
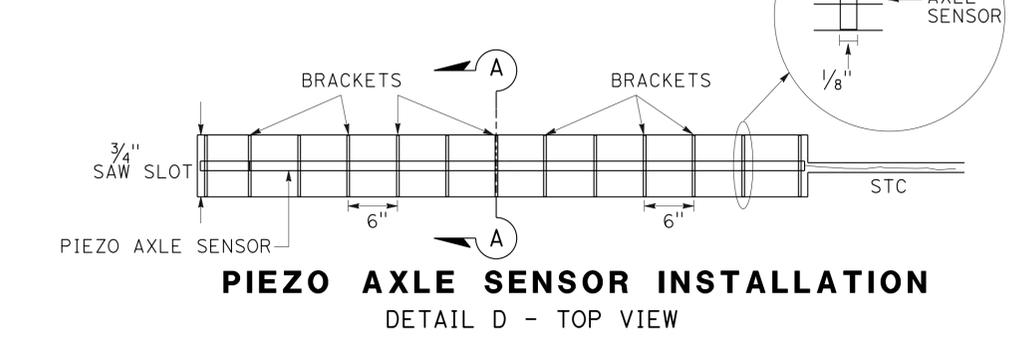
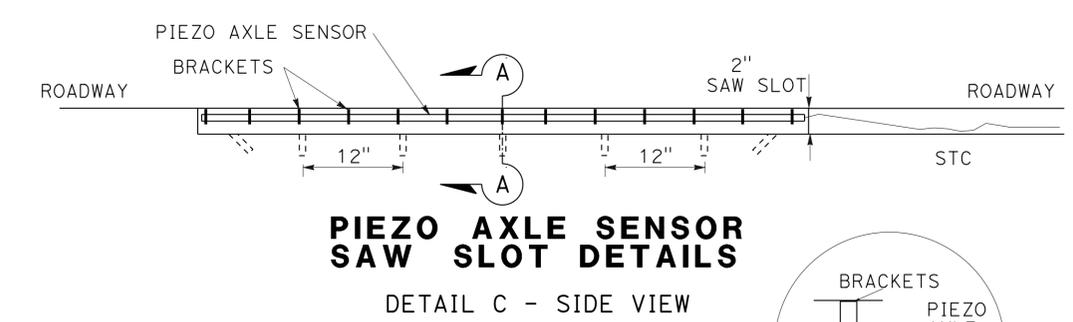
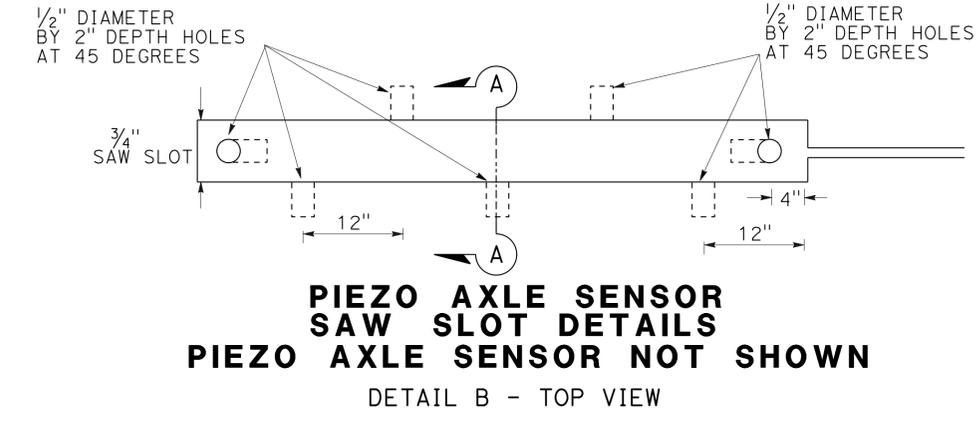
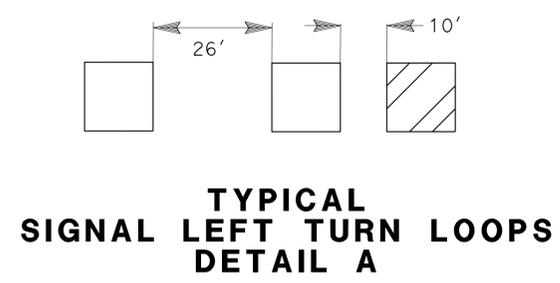
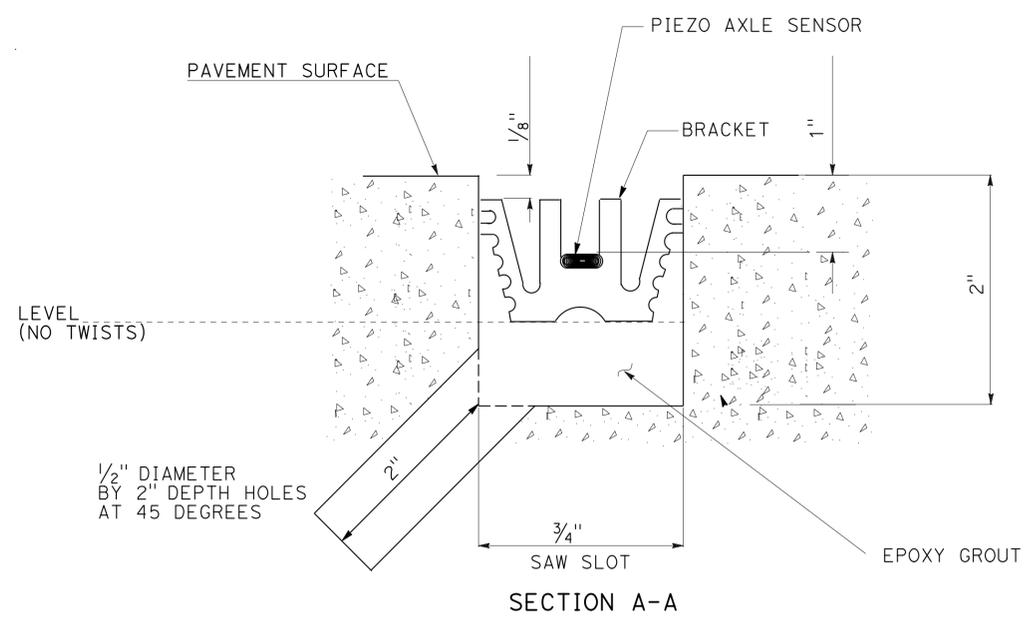
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
<b>Caltrans</b> ELECTRICAL DESIGN	ALI BAKHDOUD	CHECKED BY	DANIEL VO
			MONA ATTALLAH

**TRAFFIC OPERATION SYSTEM**  
**E-6**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 20'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	kin	198	R14.7/R17.9	27	49
<i>Daniel Thanh Vo</i> REGISTERED ELECTRICAL ENGINEER DATE 10-28-13 PLANS APPROVAL DATE 10-28-13			10-28-13 DATE No. 17408 Exp 9-30-14 ELECTRICAL 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.					



**LOOP DETECTOR AND PIEZO AXLE SENSOR PLACEMENT AND DESIGNATION**  
 DETAIL E

**ELECTRICAL DETAILS**

**E-7**

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Electrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 CALCULATED/DESIGNED BY: DANIEL VO  
 CHECKED BY: MONA ATTALLAH  
 REVISED BY: DANIEL VO  
 DATE REVISED: 10-28-13

LAST REVISION DATE PLOTTED => 31-OCT-2013  
 06-28-13 TIME PLOTTED => 16:54

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	28	49

<i>Daniel Thanh Vo</i>	10-28-13
REGISTERED ELECTRICAL ENGINEER	DATE
10-28-13	
PLANS APPROVAL DATE	

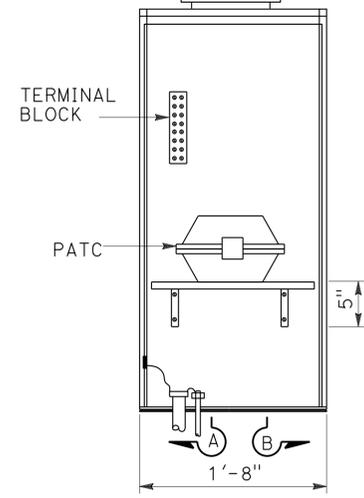
  

REGISTERED PROFESSIONAL ENGINEER
DANIEL THANH VO
No. 17408
Exp. 9/30/14
ELECTRICAL
STATE OF CALIFORNIA

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

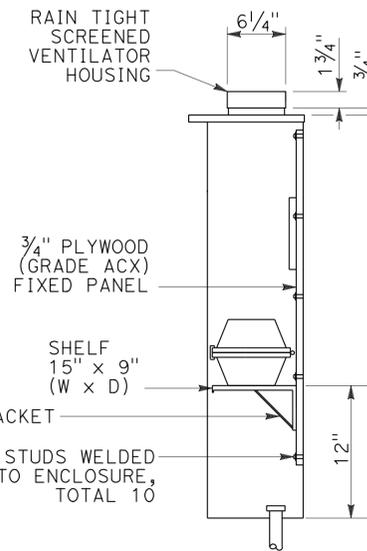
**NOTES:**

1. MODIFIED TDC MUST BE FURNISHED WITH A TERMINAL BLOCK, SHELF AND PATC. DIMENSIONS ARE NOMINAL.
2. AN APPROVED MASTIC OR CAULKING COMPOUND MUST BE PLACED ON THE FOUNDATION PRIOR TO PLACING THE CABINET TO SEAL OPENINGS BETWEEN THE BOTTOM OF THE CABINET AND THE FOUNDATION.
3. RAISED PCC PAD MUST BE PLACED IN FRONT OF THE TDC. PAD MUST BE 24" x 22" x 4" AND 2" ABOVE FINISHED GRADE.
4. CONDUIT MUST BE BONDED TO THE ENCLOSURE.
5. TDC:
  - A. MATERIAL MUST BE ANODIZED ALUMINUM (1/8" THICK).
  - B. THE EXTERIOR DOOR MUST BE SIDE HUNG AND SECURED WITH A DRAW LATCH, LOCKABLE WITH A PADLOCK. THE PADLOCK HOLE MUST HAVE A MINIMUM DIAMETER OF 7/16" TO RECEIVE A PADLOCK.
  - C. VENTILATION LOUVERS MUST BE LOCATED ON THE DOOR.
  - D. FASTEN FIXED MOUNTING PANELS WITH NUTS, LOCK AND FLAT WASHERS TO 3/16" Ø x 1" STUDS WELDED TO ENCLOSURE.
  - E. PATC ALUMINUM SHELF MUST BE ONE PIECE. SECURE TO PLYWOOD PANEL WITH SCREWS. DIMENSIONS AS SHOWN ON DETAIL F.

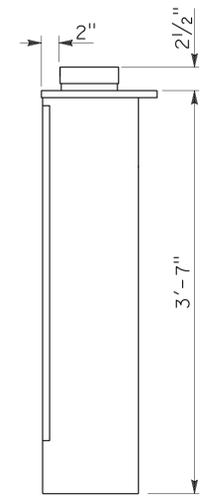


FRONT VIEW

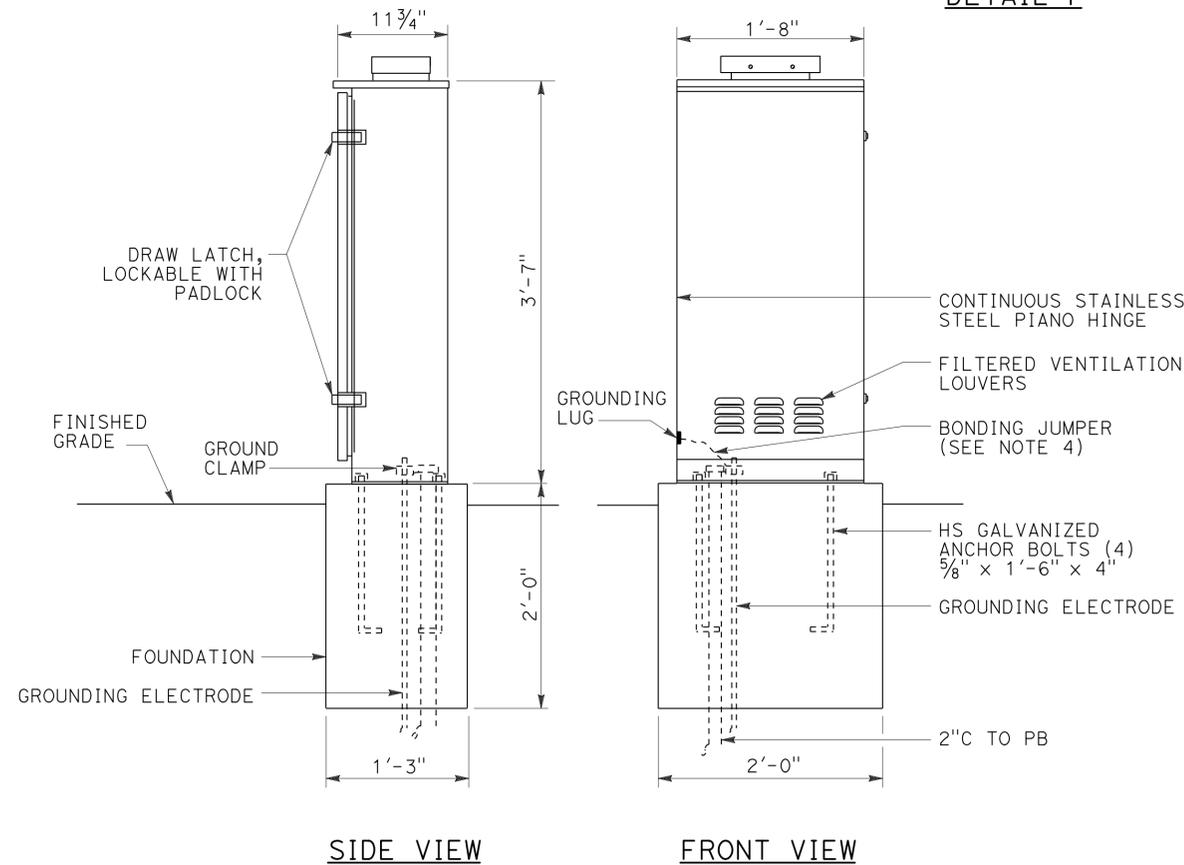
INTERIOR  
DETAIL F



SECTION A-A



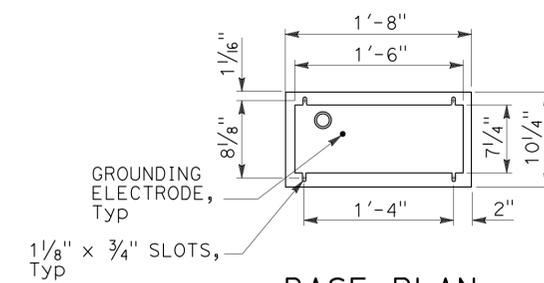
SECTION B-B



SIDE VIEW

FRONT VIEW

EXTERIOR  
DETAIL G



BASE PLAN  
DETAIL H

**ELECTRICAL DETAILS**

**E-8**

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
<b>Caltrans</b> ELECTRICAL DESIGN	ALI BAKHDOUD	DANIEL VO	
		MONA ATTALLAH	

**NOTE:**

THE QUANTITIES ON THIS SHEET ARE FOR INFORMATION ONLY AND NOT SEPARATE PAY ITEMS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	29	49

Daniel Thanh Vo 10-28-13  
 REGISTERED ELECTRICAL ENGINEER DATE  
 10-28-13  
 PLANS APPROVAL DATE

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 COPIES OF THIS PLAN SHEET.

**MODIFY SIGNAL**

SHEET No.	DETECTOR LOOP		DLC	No. 5 (E) PB	No. 6 (E) PB
	TYPE A	TYPE D			
	EA	EA			
E-1	10	6	600	9	1

**TRAFFIC OPERATION SYSTEM**

SHEET No.	No. 5 (E) PB	No. 5 (T) PB	2" CONDUIT		MODIFIED TYPE B TDC	FOUNDATION TYPE B TDC	DLC	TYPE A DETECTOR LOOP	PIEZO AXLE SENSOR WITH 300' STC ATTACHED	AUTOMATED TRAFFIC COUNTER	PORTABLE AUTOMATED TRAFFIC COUNTER	WIRELESS MODEM
			TYPE 1	TYPE 3								
			LF	LF								
E-2	2	2	20	50	2	2	100	2			2	2
E-3	3	2	10	40	1	1	950	10	4	1	1	2
E-4	2	2	20	50	2	2	100	2			2	2
E-5								8	4	1		1
E-6	2	2	20	50	2	2	100	2			2	2

**ELECTRICAL QUANTITIES**  
**E-9**

	<b>M</b>	
Maint	MAINTENANCE	
Max	MAXIMUM	
MB	METAL BEAM	
MBB	METAL BEAM BARRIER	
MBGR	METAL BEAM GUARD RAILING	
Med	MEDIAN	
MGS	MIDWEST GUARDRAIL SYSTEM	
MH	MANHOLE	
Min	MINIMUM	
Misc	MISCELLANEOUS	
Misc I & S	MISCELLANEOUS IRON AND STEEL	
Mkr	MARKER	
Mod	MODIFIED, MODIFY	
Mon	MONUMENT	
MP	METAL PLATE	
MPGR	METAL PLATE GUARD RAILING	
MR	MOVEMENT RATING	
MSE	MECHANICALLY STABILIZED EMBANKMENT	
Mt	MOUNTAIN, MOUNT	
MtI	MATERIAL	
MVP	MAINTENANCE VEHICLE PULLOUT	
	<b>N</b>	
N	NORTH	
NB	NORTHBOUND	
No.	NUMBER (MUST HAVE PERIOD)	
Nos.	NUMBERS (MUST HAVE PERIOD)	
NPS	NOMINAL PIPE SIZE	
NS	NEAR SIDE	
NSP	NEW STANDARD PLAN	
NTS	NOT TO SCALE	
	<b>O</b>	
Obir	OBLITERATE	
OC	OVERCROSSING	
OD	OUTSIDE DIAMETER	
OF	OUTSIDE FACE	
OG	ORIGINAL GROUND	
OGAC	OPEN GRADED ASPHALT CONCRETE	
OGFC	OPEN GRADED FRICTION COURSE	
OH	OVERHEAD	
OHWM	ORDINARY HIGH WATER MARK	
O-O	OUT TO OUT	
Opp	OPPOSITE	
OSD	OVERSIDE DRAIN	
	<b>P</b>	
p	PAGE	
PAP	PERFORATED ALUMINUM PIPE	
PB	PULL BOX	
PC	POINT OF CURVATURE, PRECAST	
PCC	POINT OF COMPOUND CURVE, PORTLAND CEMENT CONCRETE	
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN	
PCP	PERFORATED CONCRETE PIPE, PRESTRESSED CONCRETE PIPE	
PCVC	POINT OF COMPOUND VERTICAL CURVE	
PEC	PERMIT TO ENTER AND CONSTRUCT	
Ped	PEDESTRIAN	
Ped OC	PEDESTRIAN OVERCROSSING	
Ped UC	PEDESTRIAN UNDERCROSSING	
Perm MtI	PERMEABLE MATERIAL	

	<b>P continued</b>	
PG	PROFILE GRADE	
PI	POINT OF INTERSECTION	
PJP	PARTIAL JOINT PENETRATION	
Pkwy	PARKWAY	
PL, PL	PLATE	
P/L	PROPERTY LINE	
PM	POST MILE, TIME FROM NOON TO MIDNIGHT	
PN	PAVING NOTCH	
POC	POINT OF HORIZONTAL CURVE	
POT	POINT OF TANGENT	
POVC	POINT OF VERTICAL CURVE	
PP	PIPE PILE, PLASTIC PIPE, POWER POLE	
PPL	PERFORMED PERMEABLE LINER	
PPP	PERFORATED PLASTIC PIPE	
PRC	POINT OF REVERSE CURVE	
PRF	PAVEMENT REINFORCING FABRIC	
PRVC	POINT OF REVERSE VERTICAL CURVE	
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES	
PS, P/S	PRESTRESSED	
PSP	PERFORATED STEEL PIPE	
PT	POINT OF TANGENCY	
PVC	POLYVINYL CHLORIDE	
Pvmt	PAVEMENT	
	<b>Q</b>	
Qty	QUANTITY	
	<b>R</b>	
R	RADIUS	
R & D	REMOVE AND DISPOSE	
R & S	REMOVE AND SALVAGE	
R/C	RATE OF CHANGE	
RCA	REINFORCED CONCRETE ARCH	
RCB	REINFORCED CONCRETE BOX	
RCP	REINFORCED CONCRETE PIPE	
RCPA	REINFORCED CONCRETE PIPE ARCH	
Rd	ROAD	
Reinf	REINFORCED, REINFORCEMENT, REINFORCING	
Rel	RELOCATE	
Repl	REPLACEMENT	
Ret	RETAINING	
Rev	REVISED, REVISION	
Rdwy	ROADWAY	
RHMA	RUBBERIZED HOT MIX ASPHALT	
Riv	RIVER	
RM	ROAD-MIXED	
RP	RADIUS POINT, REFERENCE POINT	
RR	RAILROAD	
RSP	ROCK SLOPE PROTECTION, REVISED STANDARD PLAN	
Rt	RIGHT	
Rte	ROUTE	
RW	REDWOOD, RETAINING WALL	
R/W	RIGHT OF WAY	
Rwy	RAILWAY	

	<b>S</b>	
S	SOUTH, SUPPLEMENT	
SAE	STRUCTURE APPROACH EMBANKMENT	
Salv	SALVAGE	
SAPP	STRUCTURAL ALUMINUM PLATE PIPE	
SB	SOUTHBOUND	
SC	SAND CUSHION	
SCSP	SLOTTED CORRUGATED STEEL PIPE	
SD	STORM DRAIN	
Sec	SECOND, SECTION	
Sep	SEPARATION	
SG	SUBGRADE	
Shld	SHOULDER	
Sht	SHEET	
Sim	SIMILAR	
SL	STATION LINE	
SM	SELECTED MATERIAL	
Spec	SPECIAL, SPECIFICATIONS	
SPP	SLOTTED PLASTIC PIPE	
SS	SLOPE STAKE	
SSBM	STRAP AND SADDLE BRACKET METHOD	
SSD	STRUCTURAL SECTION DRAIN	
SSPA	STRUCTURAL STEEL PLATE ARCH	
SSPP	STRUCTURAL STEEL PLATE PIPE	
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH	
SSRP	STEEL SPIRAL RIB PIPE	
St	STREET	
Sta	STATION	
STBB	SINGLE THRIE BEAM BARRIER	
Std	STANDARD	
Str	STRUCTURE	
Surf	SURFACING	
SW	SIDEWALK, SOUND WALL	
Swr	SEWER	
Sym	SYMMETRICAL	
S4S	SURFACE 4 SIDES	
	<b>T</b>	
T	SEMI-TANGENT	
Tan	TANGENT	
TBB	THRIE BEAM BARRIER	
Tbr	TIMBER	
TC	TOP OF CURB	
TCB	TRAFFIC CONTROL BOX	
TCE	TEMPORARY CONSTRUCTION EASEMENT	
Tel	TELEPHONE	
Temp	TEMPORARY	
TG	TOP OF GRADE	
Tot	TOTAL	
TP	TELEPHONE POLE	
TPB	TREATED PERMEABLE BASE	
TPM	TREATED PERMEABLE MATERIAL	
Trans	TRANSITION	

	<b>T continued</b>	
TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL	
Typ	TYPICAL	
	<b>U</b>	
UC	UNDERCROSSING	
UD	UNDERDRAIN	
UG	UNDERGROUND	
UON	UNLESS OTHERWISE NOTED	
UP	UNDERPASS	
	<b>V</b>	
V	VALVE, DESIGN SPEED	
Var	VARIABLE, VARIES	
VC	VERTICAL CURVE	
VCP	VITRIFIED CLAY PIPE	
Vert	VERTICAL	
Via	VIADUCT	
Vol	VOLUME	
	<b>W</b>	
W	WEST, WIDTH	
WB	WESTBOUND	
WH	WEEP HOLE	
WM	WIRE MESH	
WS	WATER SURFACE	
WSP	WELDED STEEL PIPE	
Wt	WEIGHT	
WV	WATER VALVE	
WW	WINGWALL	
WWLOL	WINGWALL LAYOUT LINE	
	<b>X</b>	
X Sec	CROSS SECTION	
Xing	CROSSING	
	<b>Y</b>	
Yr	YEAR	
Yrs	YEARS	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	30	49

*Grace M. Tsushima*  
REGISTERED CIVIL ENGINEER



July 19, 2013  
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.

TO ACCOMPANY PLANS DATED 10-28-13

**UNIT OF MEASUREMENT SYMBOLS:**

Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

TABLE A	
SYMBOL USED	DEFINITIONS
ACRE	ACRE
CF	CUBIC FOOT
CY	CUBIC YARD
EA	EACH
GAL	GALLON
LB	POUND
LF	LINEAR FOOT
SQFT	SQUARE FOOT
SQYD	SQUARE YARD
STA	100 FEET
TAB	TABLET
TON	2,000 POUNDS

Some of the symbols used in the plans other than in the project plan quantity tables are:

TABLE B	
SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft <sup>3</sup> , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
Ø	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kíp	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

\* For use on a sign panel only

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

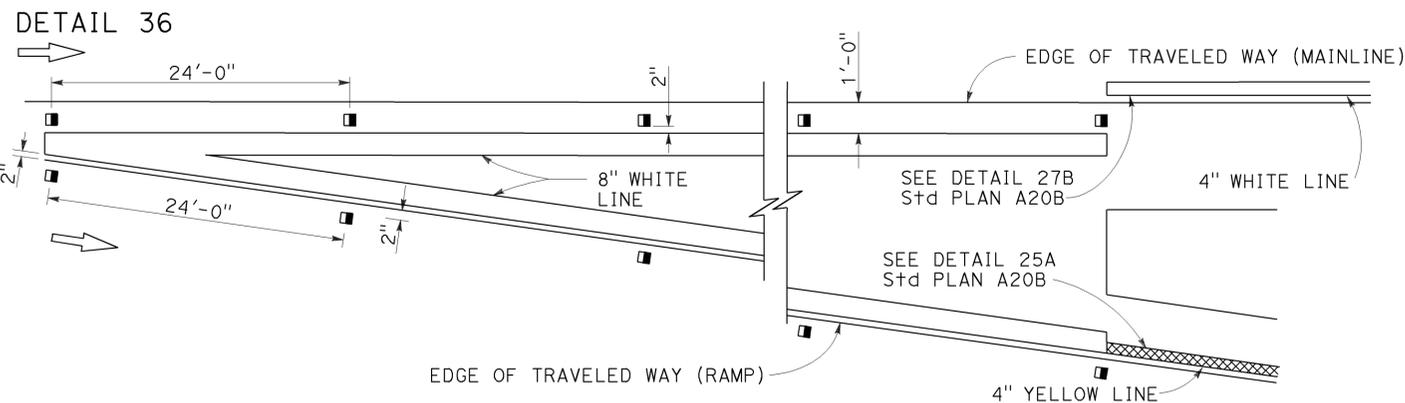
**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

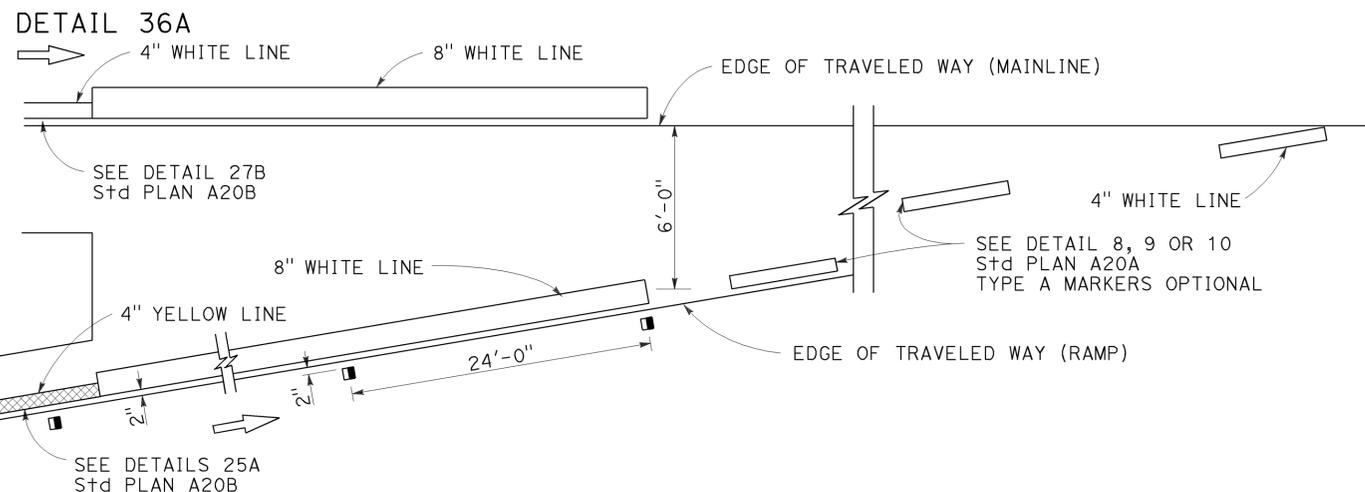
RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B  
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

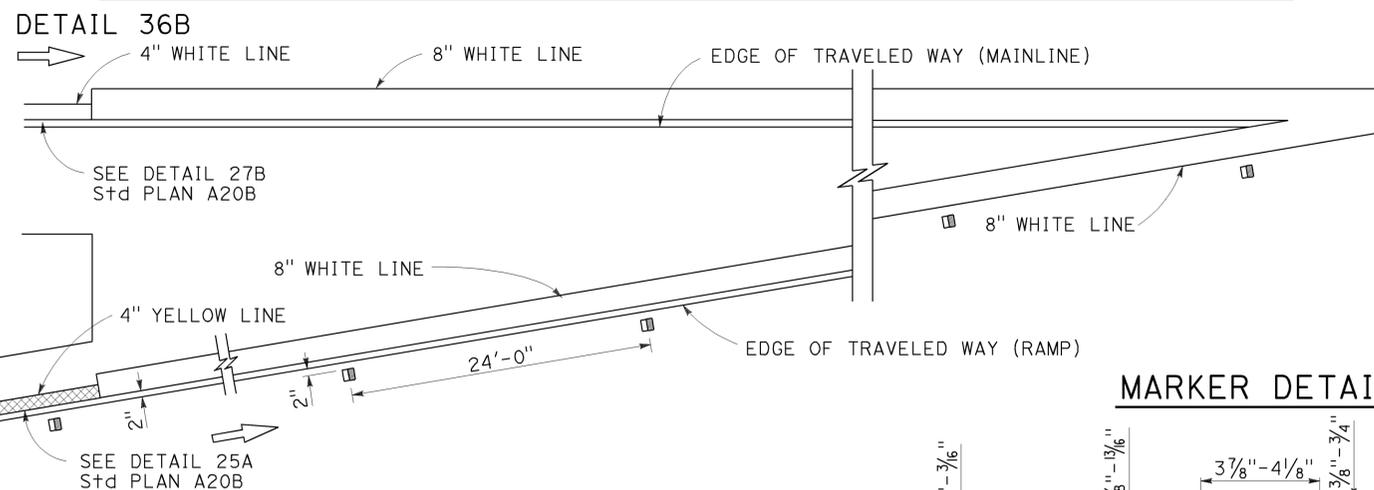
### EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



### ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



### ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

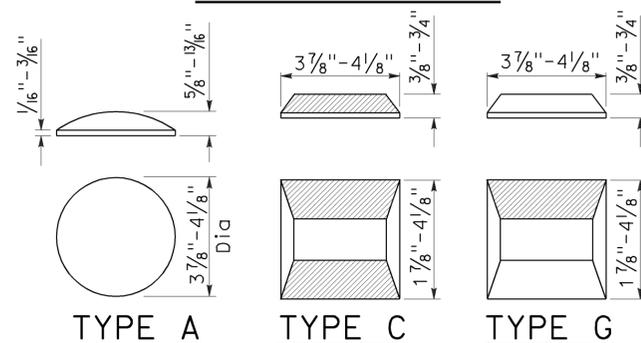


### MARKER DETAILS

#### LEGEND:

#### MARKERS

- TYPE A WHITE NON-REFLECTIVE
- ◻ TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE



RETROREFLECTIVE FACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	31	49

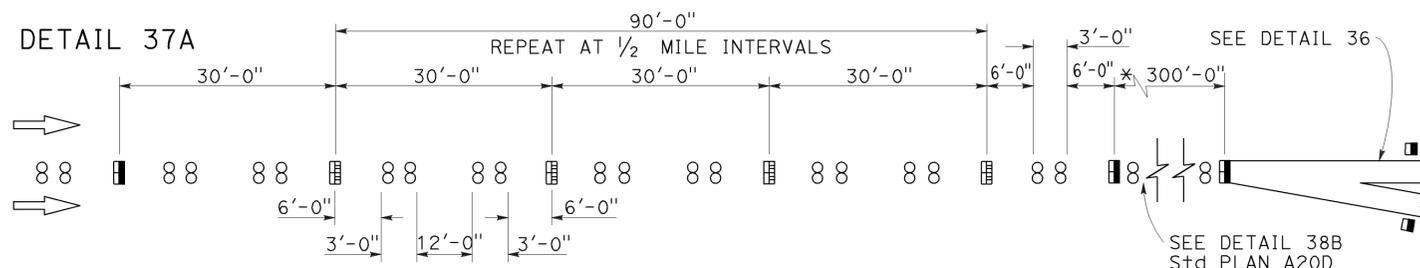
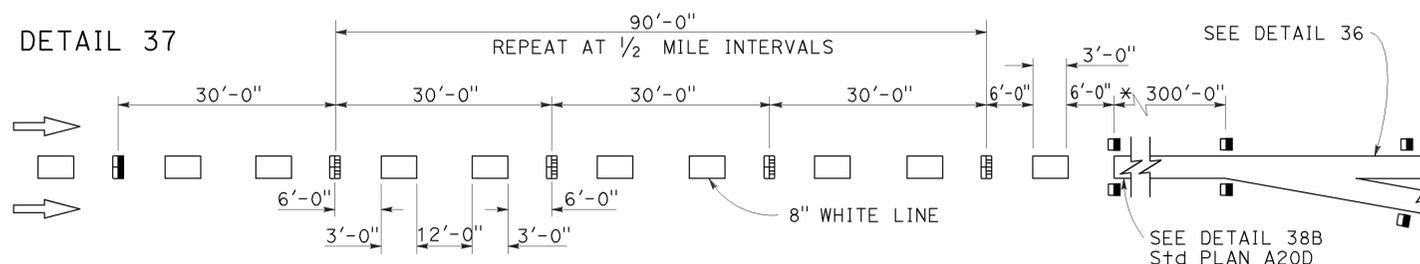
*Roberta L. McLaughlin*  
 REGISTERED CIVIL ENGINEER  
 No. C40375  
 Exp. 3-31-15  
 CIVIL  
 STATE OF CALIFORNIA

July 19, 2013  
 PLANS APPROVAL DATE

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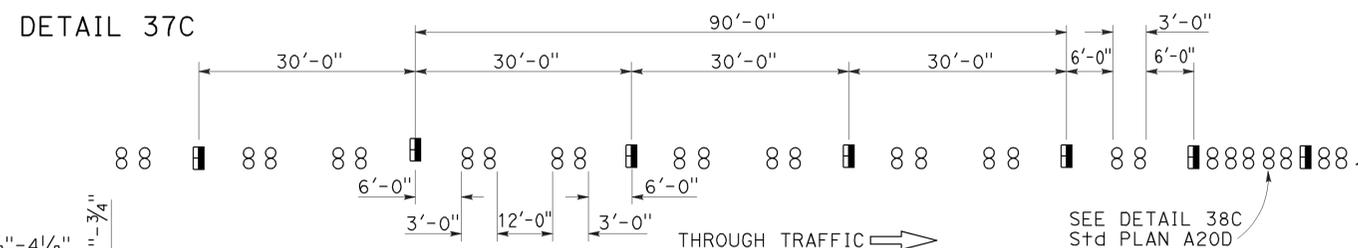
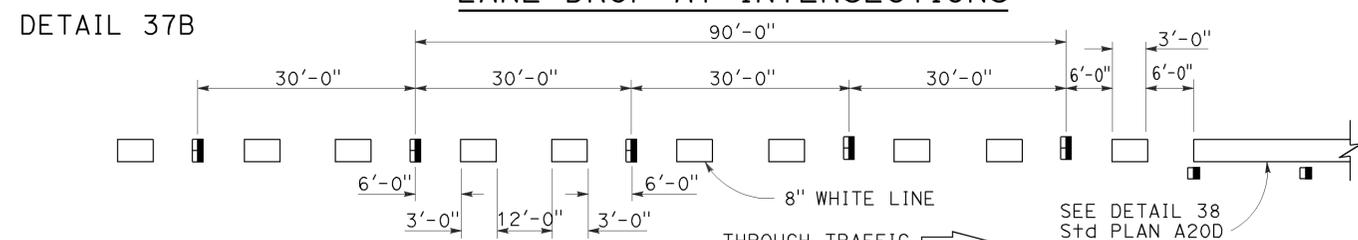
TO ACCOMPANY PLANS DATED 10-28-13

### LANE DROP AT EXIT RAMP



\* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

### LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

### PAVEMENT MARKERS AND TRAFFIC LINE TYPICAL DETAILS

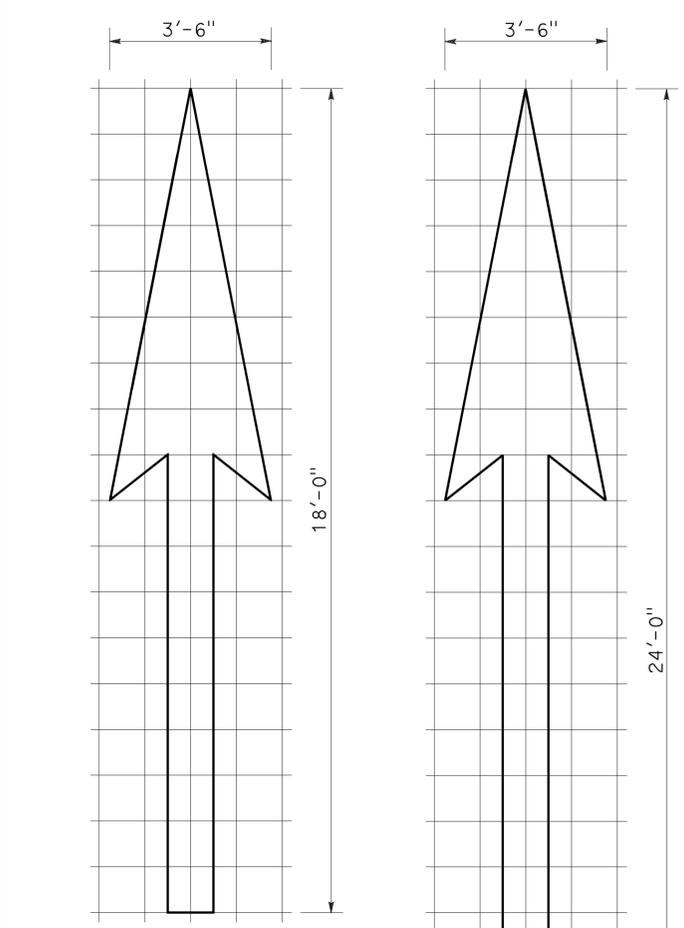
NO SCALE

RSP A20C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A20C DATED MAY 20, 2011 - PAGE 11 OF THE STANDARD PLANS BOOK DATED 2010.

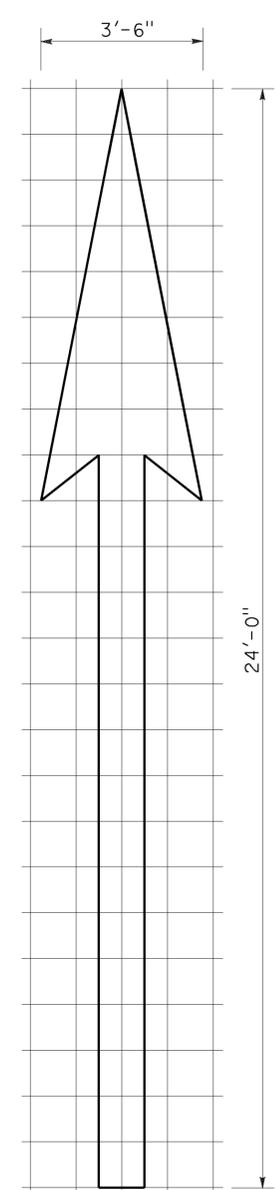
### REVISED STANDARD PLAN RSP A20C

2010 REVISED STANDARD PLAN RSP A20C

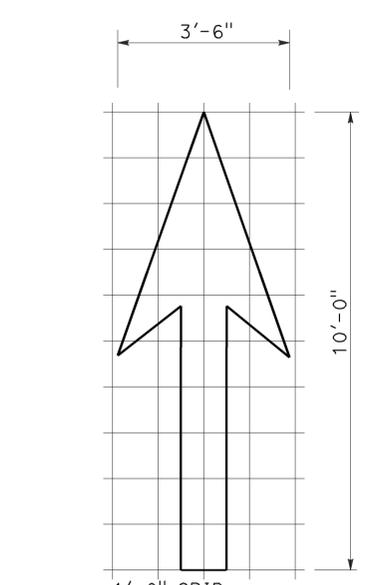
TO ACCOMPANY PLANS DATED 10-28-13



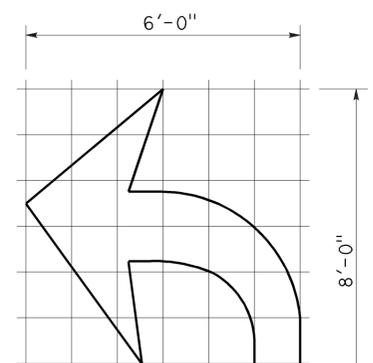
**TYPE I 18'-0" ARROW**  
A=25 ft<sup>2</sup>



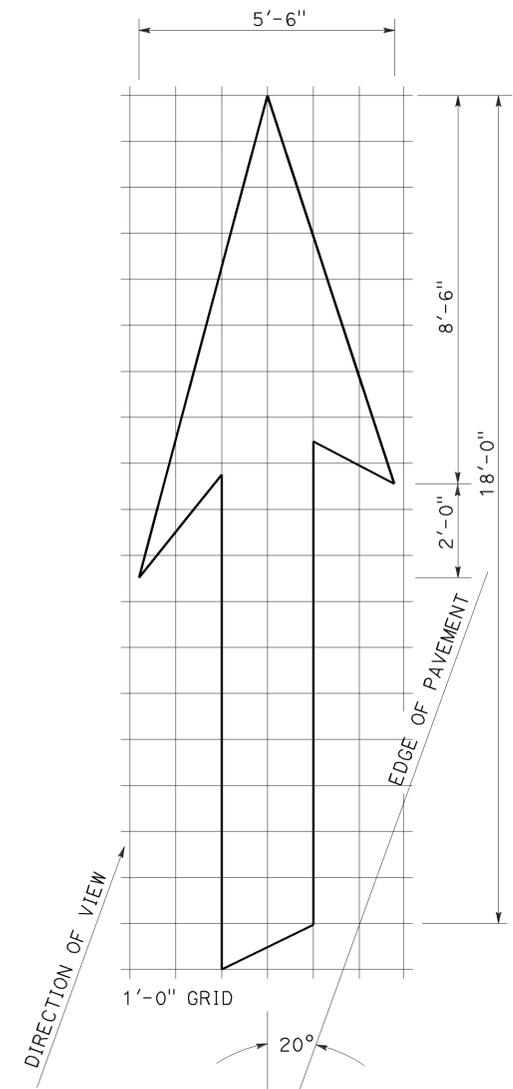
**TYPE I 24'-0" ARROW**  
A=31 ft<sup>2</sup>



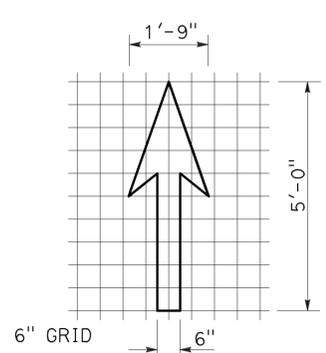
**TYPE I 10'-0" ARROW**  
A=14 ft<sup>2</sup>



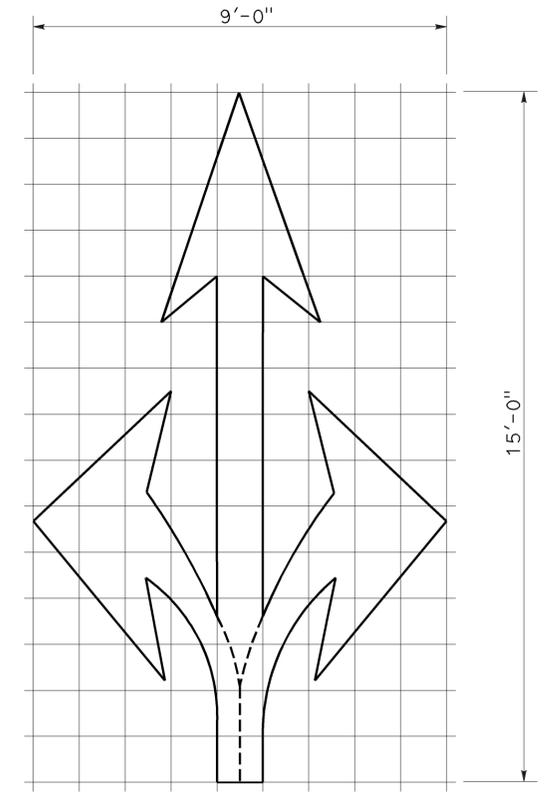
**TYPE IV (L) ARROW**  
A=15 ft<sup>2</sup>  
(For Type IV (R) arrow, use mirror image)



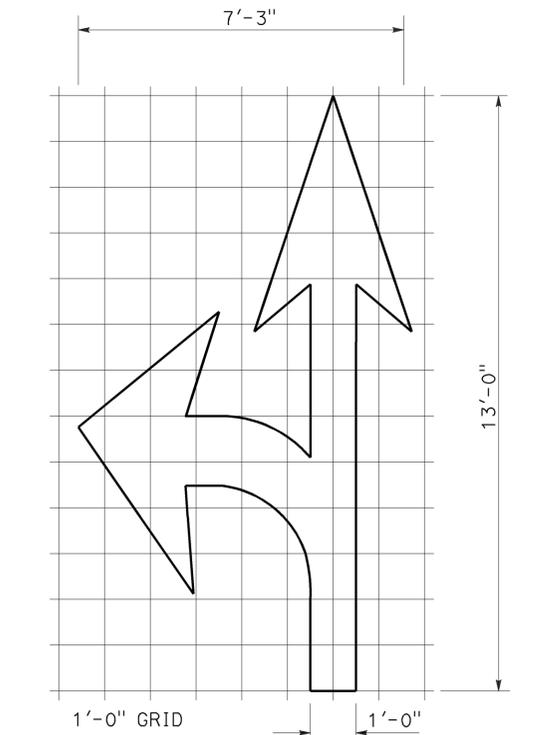
**TYPE VI ARROW**  
A=42 ft<sup>2</sup>  
Right lane drop arrow  
(For left lane, use mirror image)



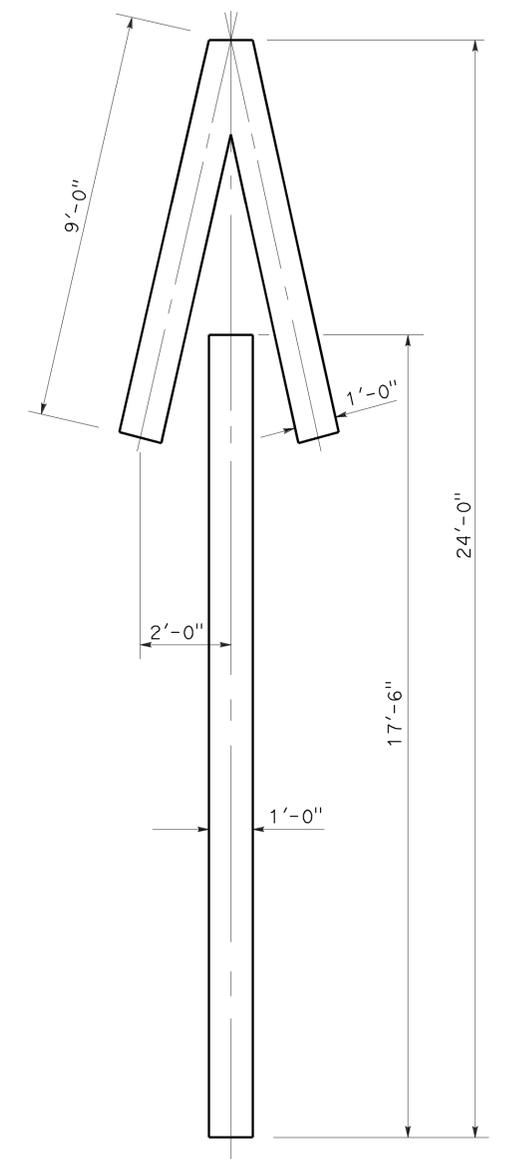
**BIKE LANE ARROW**  
A=3.5 ft<sup>2</sup>



**TYPE VIII ARROW**  
A=36 ft<sup>2</sup>



**TYPE VII (L) ARROW**  
A=27 ft<sup>2</sup>  
(For Type VII (R) arrow, use mirror image)



**TYPE V ARROW**  
A=33 ft<sup>2</sup>

**NOTE:**  
Minor variations in dimensions may be accepted by the Engineer.

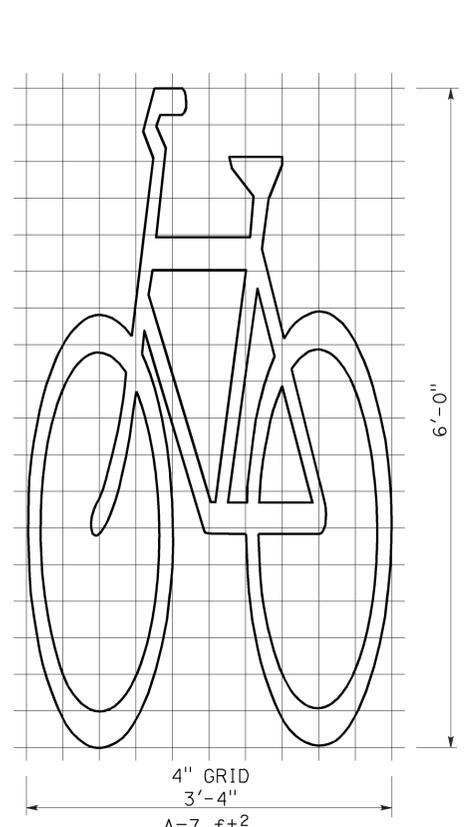
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS  
ARROWS**  
NO SCALE

RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

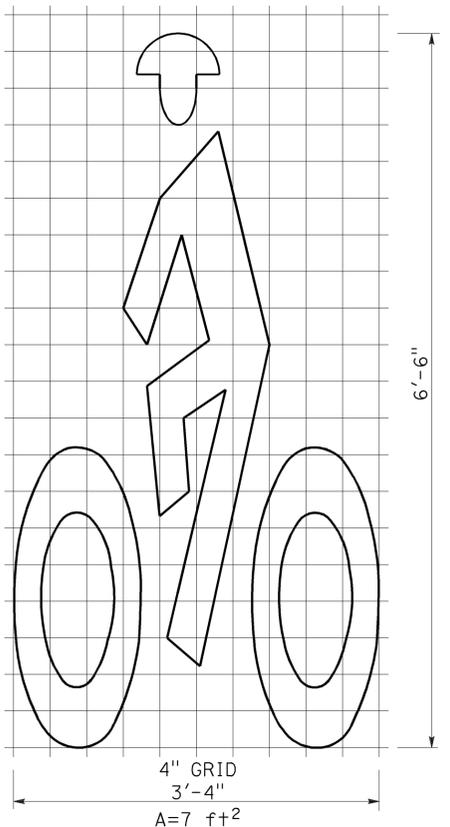
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	33	49

Robert L. McLaughlin  
 REGISTERED CIVIL ENGINEER  
 October 19, 2012  
 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.

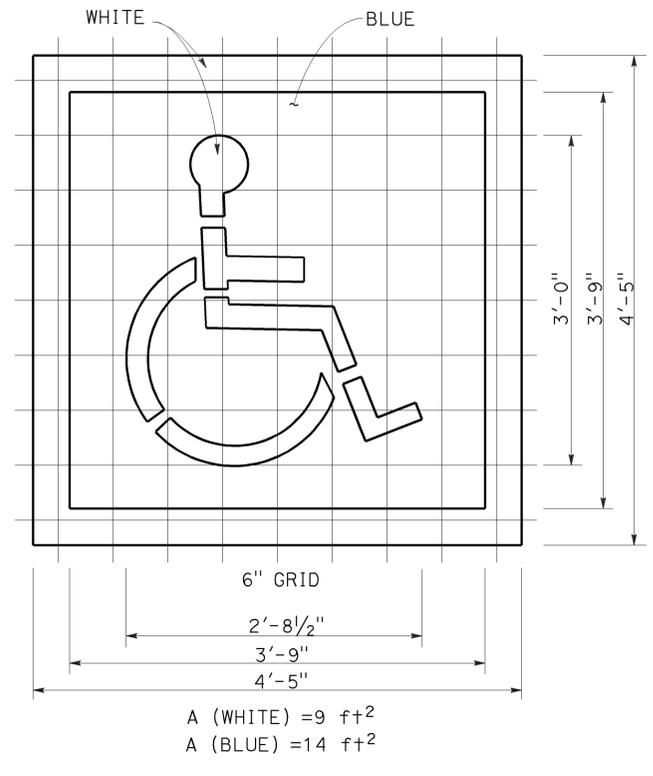
REGISTERED PROFESSIONAL ENGINEER  
 Robert L. McLaughlin  
 No. C40375  
 Exp. 3-31-13  
 CIVIL  
 STATE OF CALIFORNIA



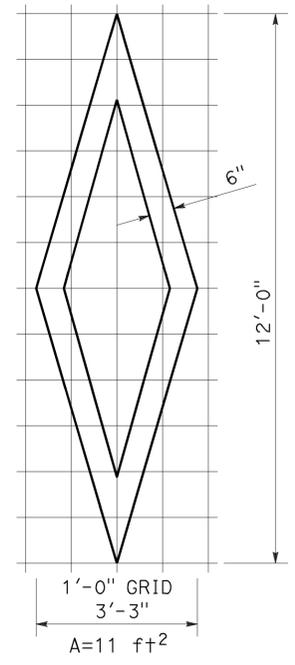
**BIKE LANE SYMBOL  
WITHOUT PERSON**



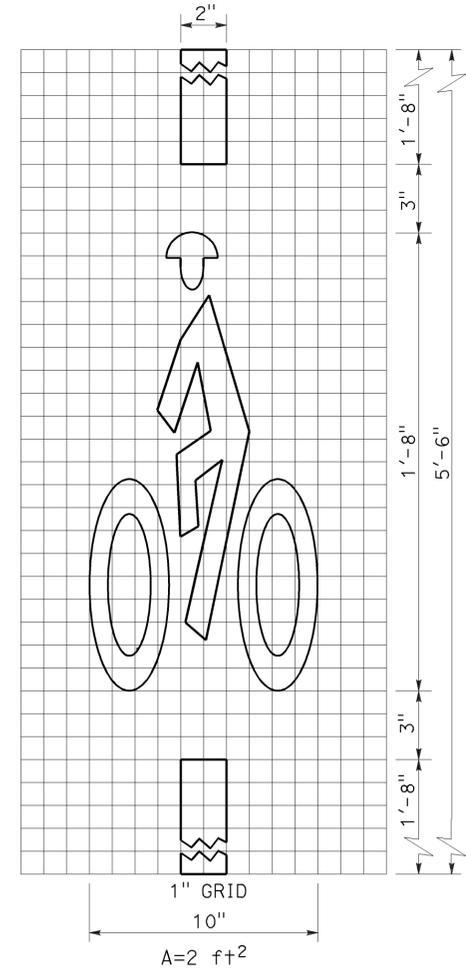
**BIKE LANE SYMBOL  
WITH PERSON**



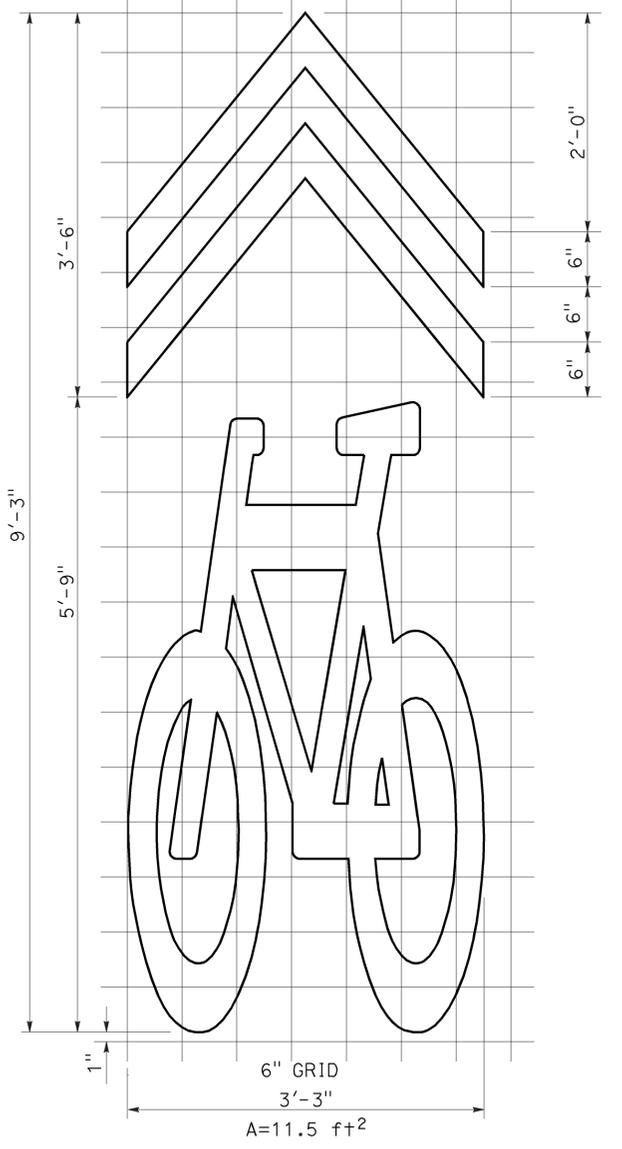
**INTERNATIONAL SYMBOL  
OF ACCESSIBILITY (ISA) MARKING**



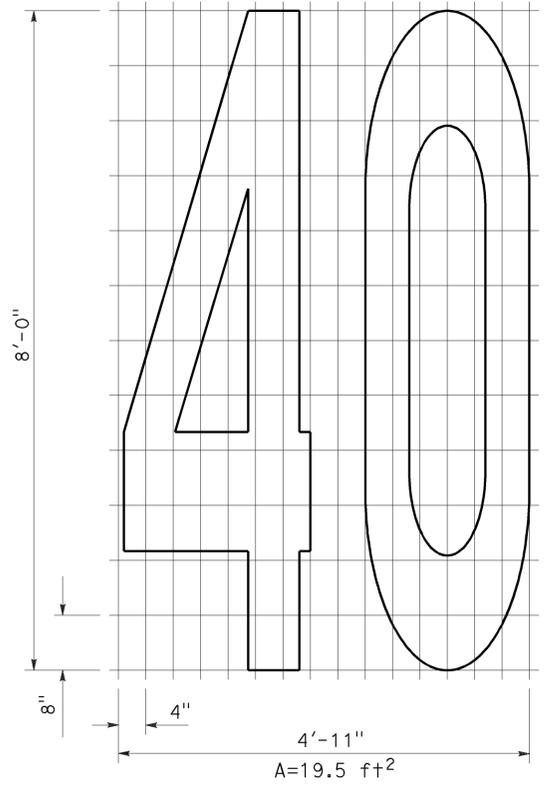
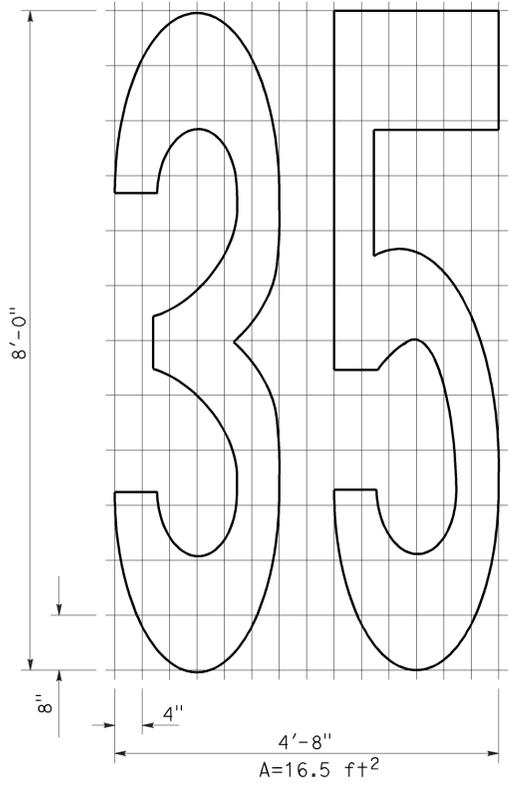
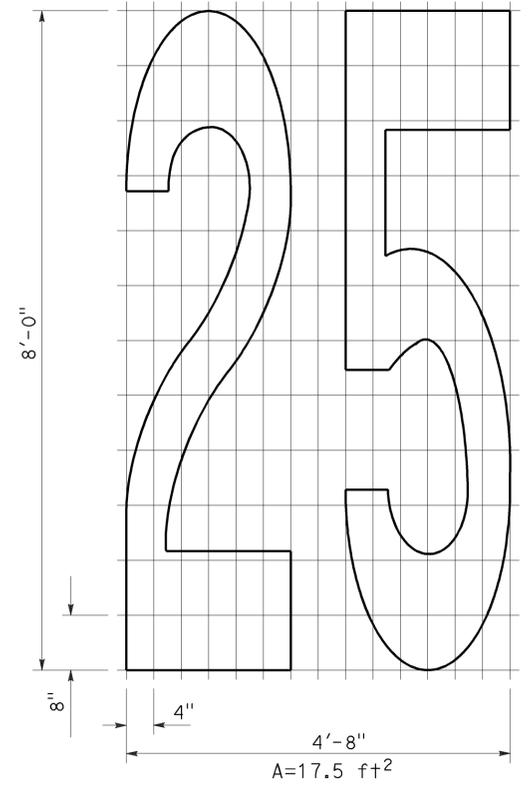
**DIAMOND SYMBOL**



**BICYCLE LOOP  
DETECTOR SYMBOL**



**SHARED ROADWAY BICYCLE MARKING**



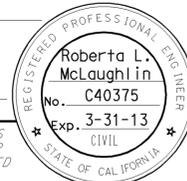
**NUMERALS**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS  
SYMBOLS AND NUMERALS**  
NO SCALE

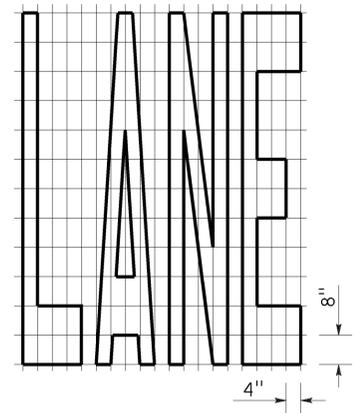
RSP A24C DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A24C  
DATED MAY 20, 2011 - PAGE 15 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A24C**

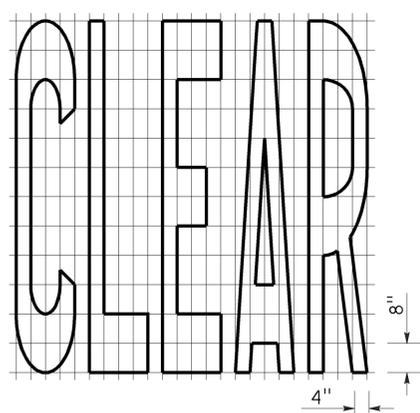
**2010 REVISED STANDARD PLAN RSP A24C**



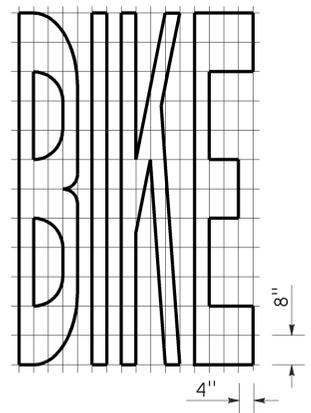
TO ACCOMPANY PLANS DATED 10-28-13



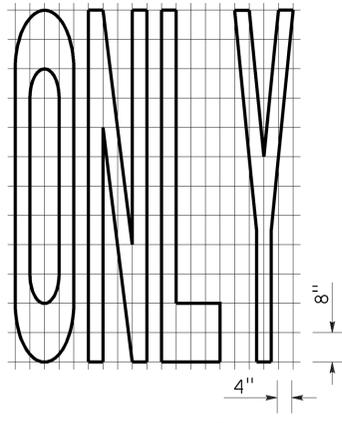
A=24 ft<sup>2</sup>



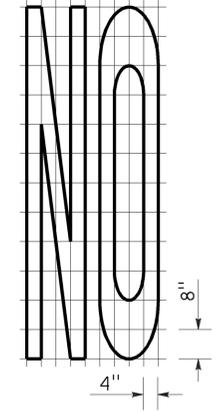
A=27 ft<sup>2</sup>



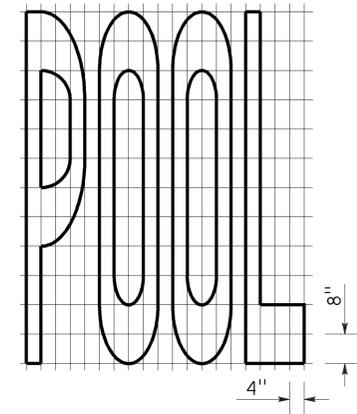
A=21 ft<sup>2</sup>



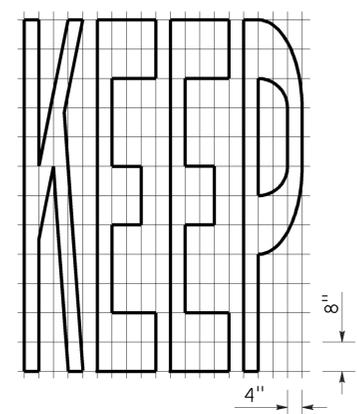
A=22 ft<sup>2</sup>



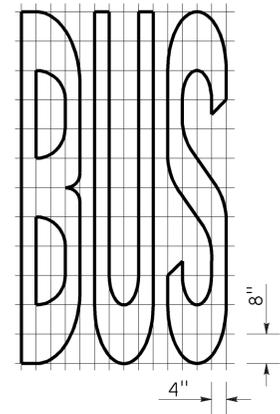
A=14 ft<sup>2</sup>



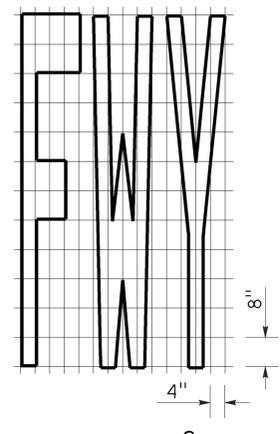
A=23 ft<sup>2</sup>



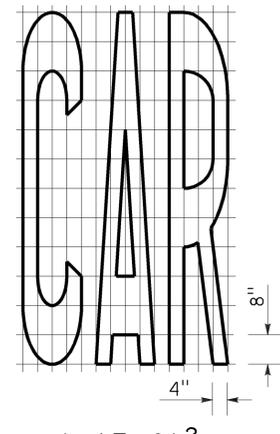
A=24 ft<sup>2</sup>



A=20 ft<sup>2</sup>

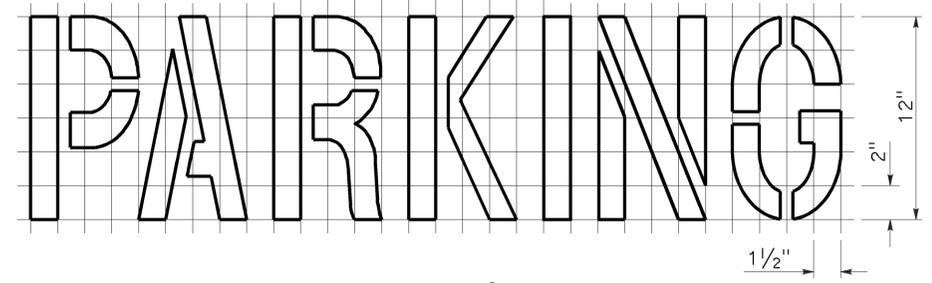
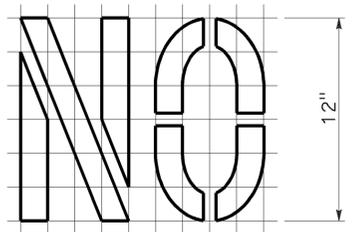


A=16 ft<sup>2</sup>

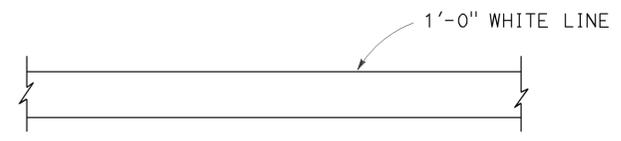


A=17 ft<sup>2</sup>

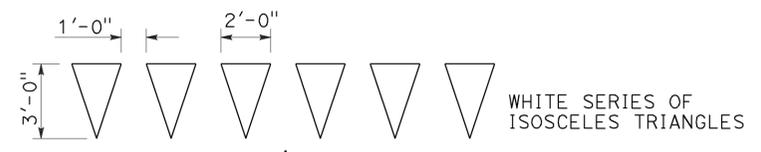
WORD MARKINGS			
ITEM	ft <sup>2</sup>	ITEM	ft <sup>2</sup>
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft<sup>2</sup>  
See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

**NOTES:**

1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

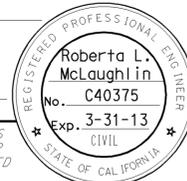
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS  
 WORDS, LIMIT AND YIELD LINES**  
 NO SCALE

RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E  
 DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

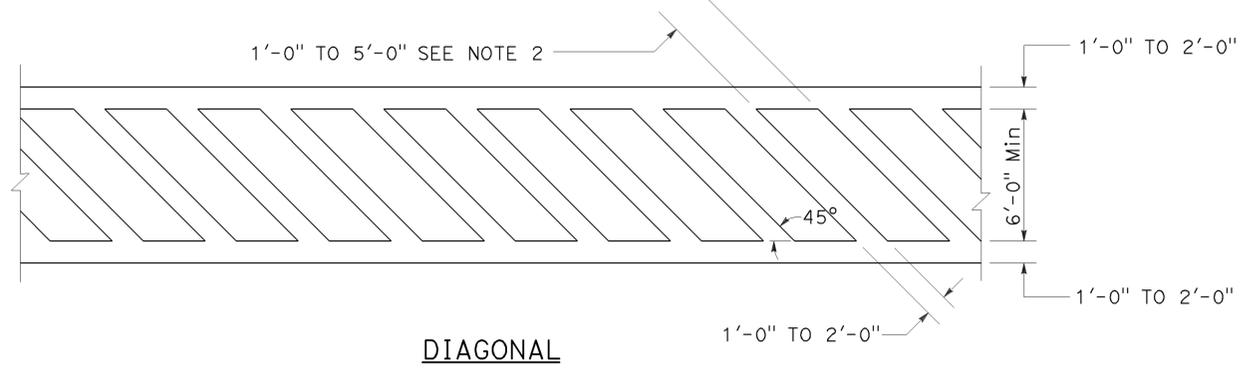
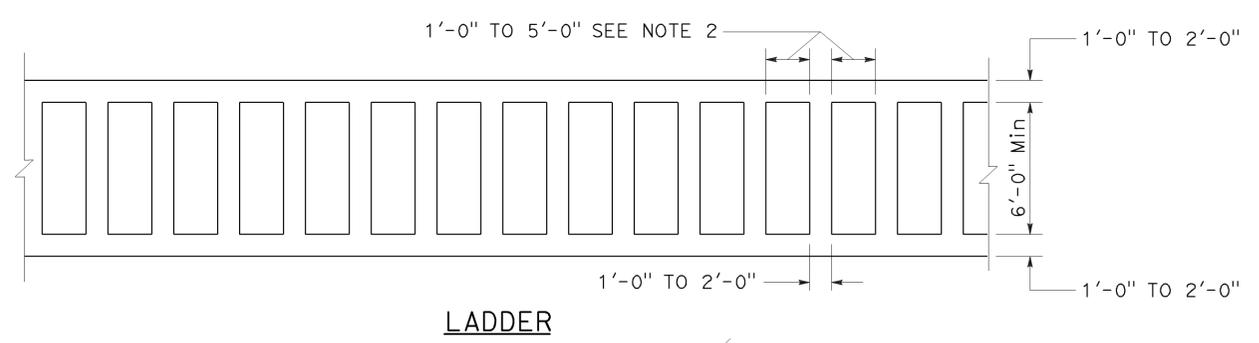
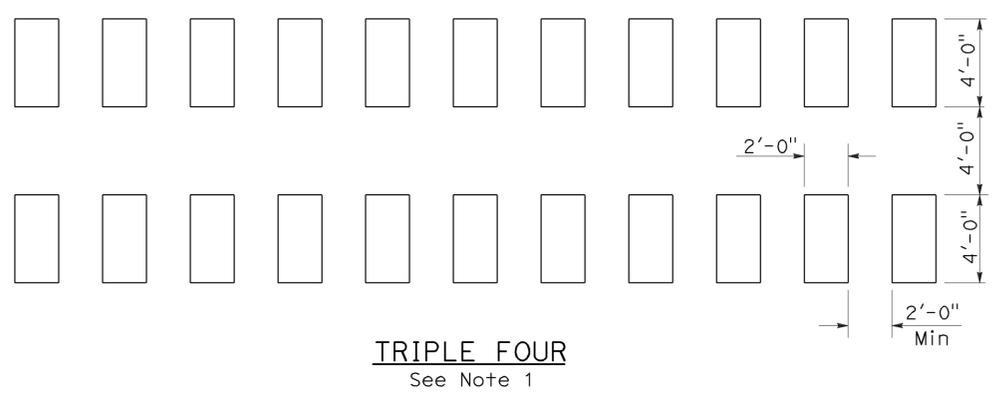
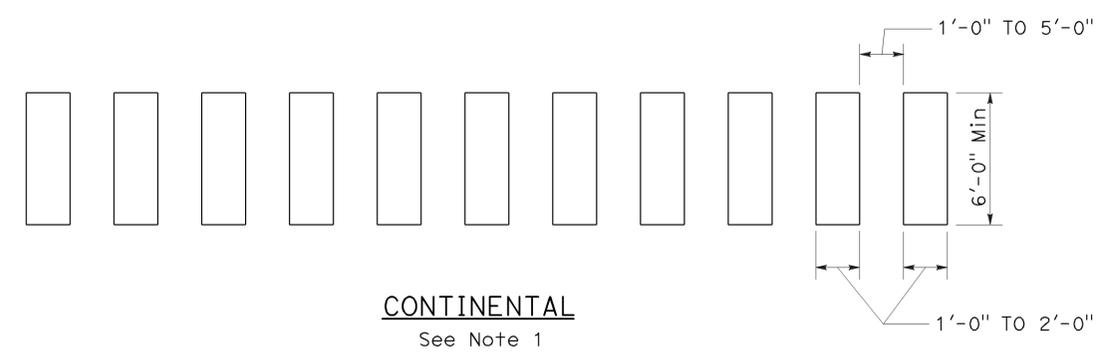
2010 REVISED STANDARD PLAN RSP A24E

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	35	49

 REGISTERED CIVIL ENGINEER		
July 20, 2012 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>		

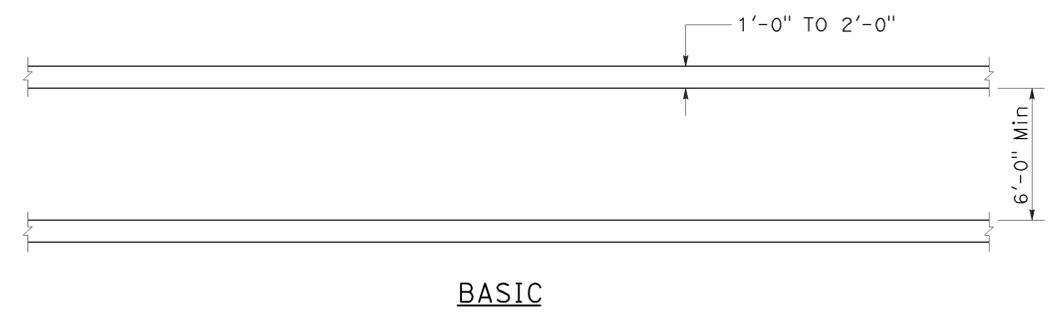
TO ACCOMPANY PLANS DATED 10-28-13



**HIGHER VISIBILITY CROSSWALKS**

**NOTES:**

1. Spaces between markings should be placed in wheel tracks of each lane.
2. Spacings not to exceed 2.5 times width of longitudinal line.
3. All crosswalk markings must be white except for those near schools must be yellow.



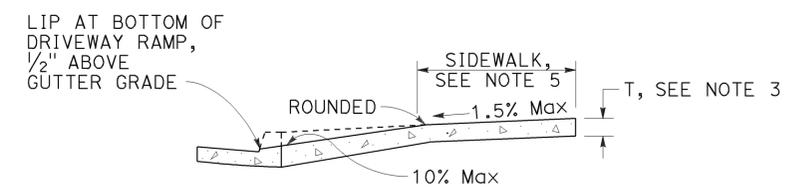
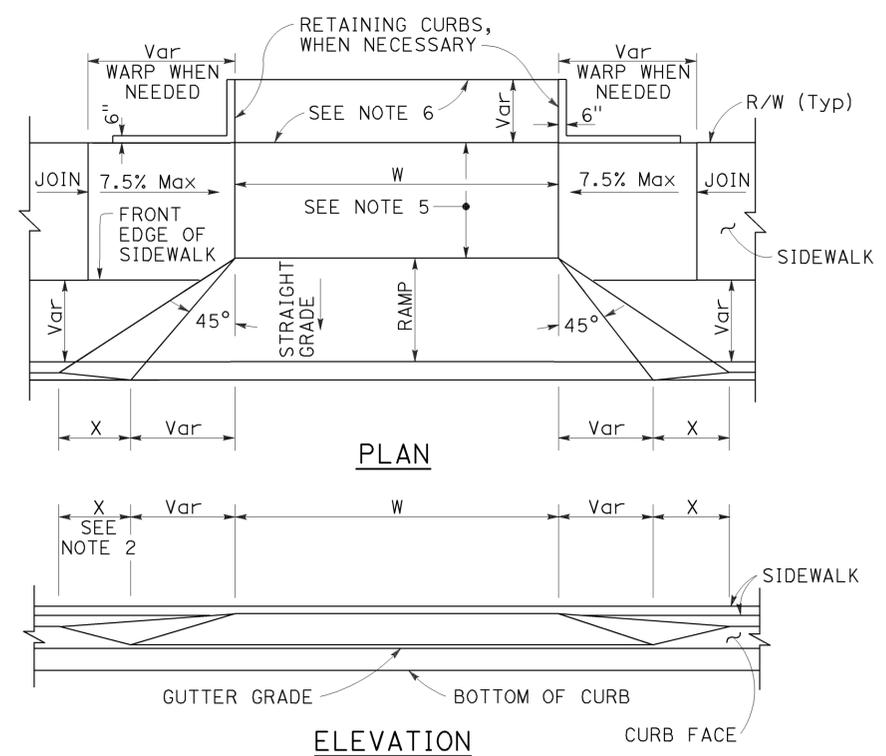
**BASIC**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**PAVEMENT MARKINGS**  
**CROSSWALKS**  
NO SCALE

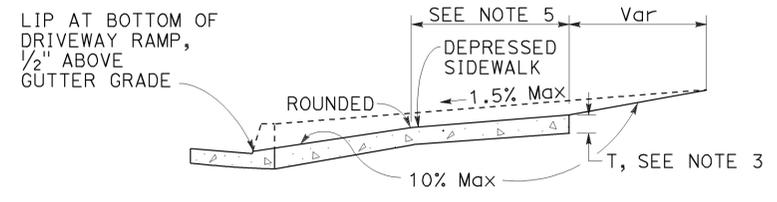
RSP A24F DATED JULY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**2010 REVISED STANDARD PLAN RSP A24F**

TO ACCOMPANY PLANS DATED 10-28-13



**CASE A**  
Typical driveway, sidewalk not depressed



**CASE B**  
Driveway with depressed sidewalk

**SECTIONS**

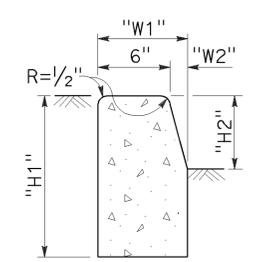
**TABLE A**

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'-9"

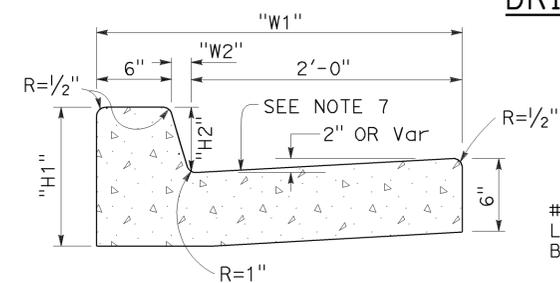
**CURB QUANTITIES**

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

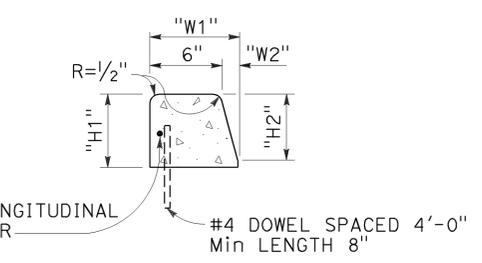
**DRIVEWAYS**



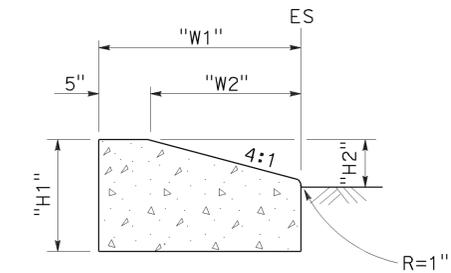
**TYPE A1 CURBS**  
See Table A



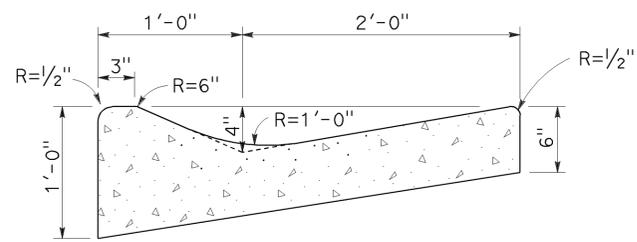
**TYPE A2 CURBS**  
See Table A



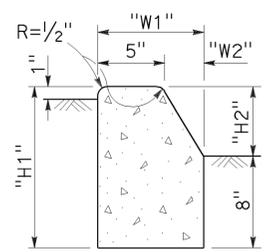
**TYPE A3 CURBS**  
Superimposed on existing pavement  
See Table A



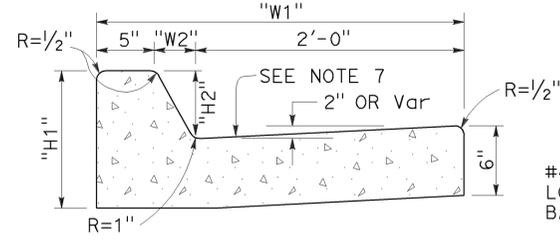
**TYPE D CURBS**  
See Table A



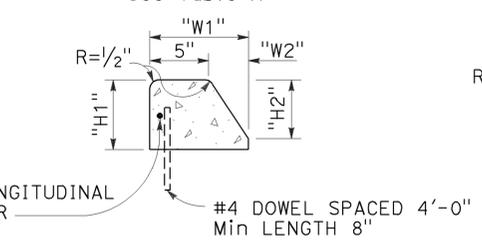
**TYPE E CURB**



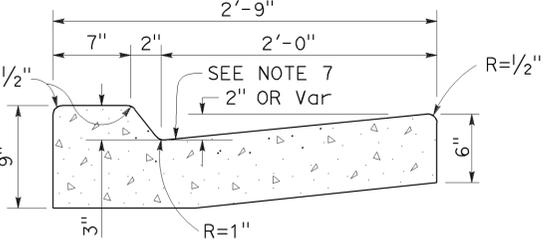
**TYPE B1 CURBS**  
See Table A



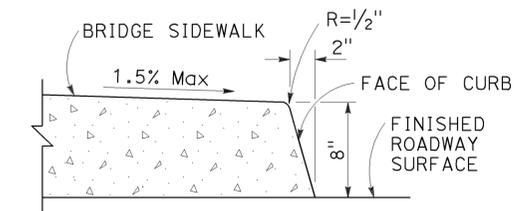
**TYPE B2 CURBS**  
See Table A



**TYPE B3 CURBS**  
Superimposed on existing pavement  
See Table A



**TYPE B4 CURBS**



**TYPE H CURB**  
On Bridges

**CURBS**

- NOTES:**
- Case A driveway section typically applies.
  - X=3'-0" except for curb heights over 10" where 4:1 slopes shall be used on curb slope.
  - 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'-2".
  - Retaining curbs and acquisition of construction easement may be necessary for narrow sidewalks or curb heights in excess of 6".
  - Across the pedestrian route at curb ramp locations, the gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**CURBS AND DRIVEWAYS**

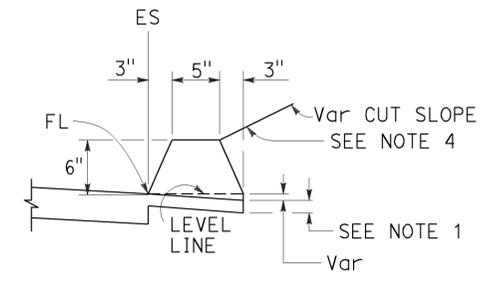
NO SCALE

RSP A87A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87A DATED MAY 20, 2011 - PAGE 119 OF THE STANDARD PLANS BOOK DATED 2010.

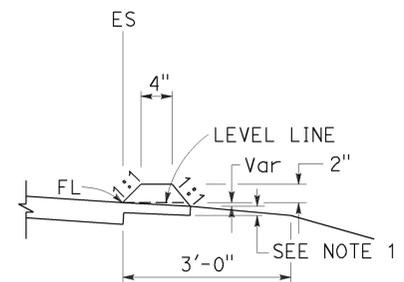
**REVISED STANDARD PLAN RSP A87A**

2010 REVISED STANDARD PLAN RSP A87A

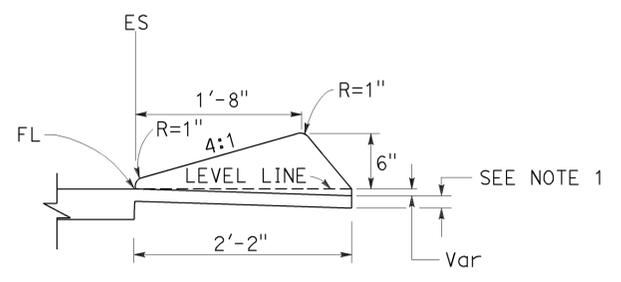
TO ACCOMPANY PLANS DATED 10-28-13



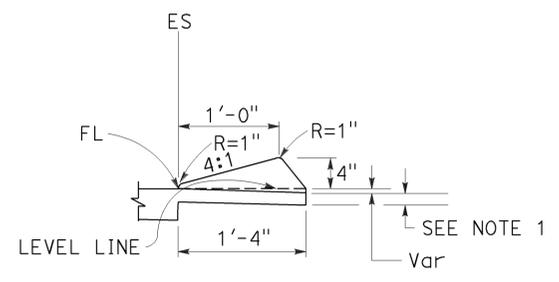
**TYPE A**  
See Note 3



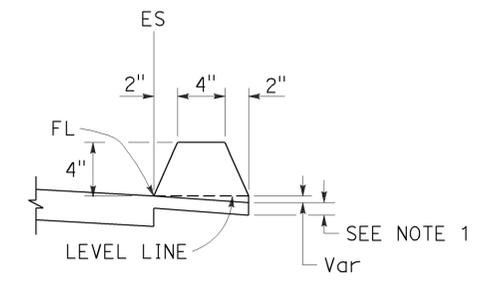
**TYPE C**



**TYPE D**

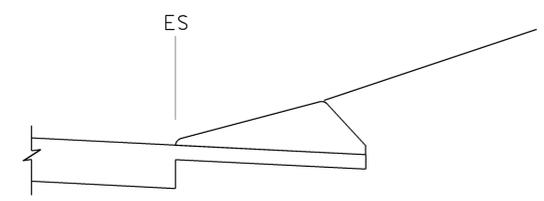


**TYPE E**

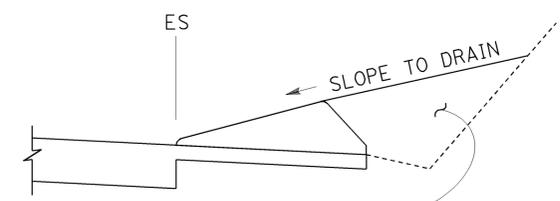


**TYPE F**  
See Note 5

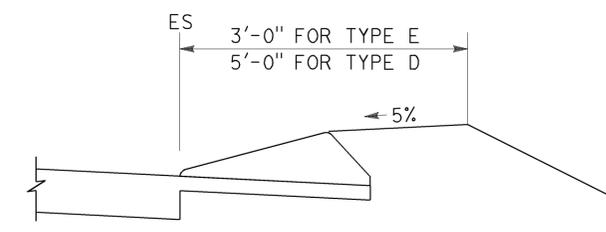
**DIKES**



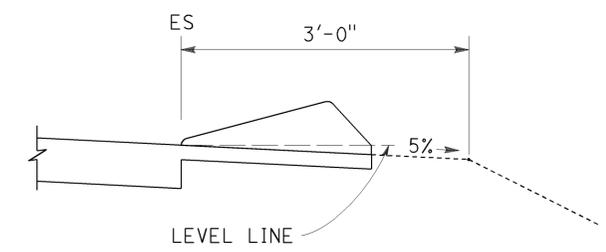
**CASE C-1**  
Cut Slope



**CASE C-2**  
Cut Slope



**CASE F**



**CASE R**  
See Note 2

**TYPE D AND E BACKFILL DETAILS**

**NOTES:**

- For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
- Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
- Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
- Fill and compact with excavated material to top of dike.
- Use Type F dike, where dike is required with guard railing installations. See Revised Standard Plan RSP A77N4 for dike positioning details.

**DIKE QUANTITIES**

TYPE	CUBIC YARDS PER LINEAR FOOT
A	0.0135
C	0.0038
D	0.0293
E	0.0130
F	0.0066

Quantities based on 5% cross slope.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**HOT MIX ASPHALT DIKES**

NO SCALE

RSP A87B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87B  
DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A87B**

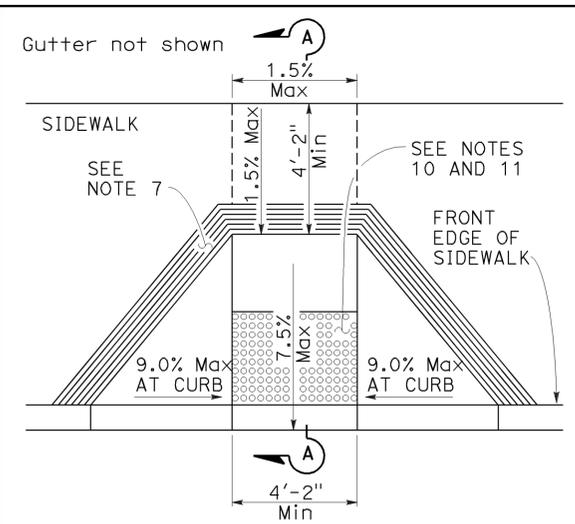
2010 REVISED STANDARD PLAN RSP A87B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	38	49

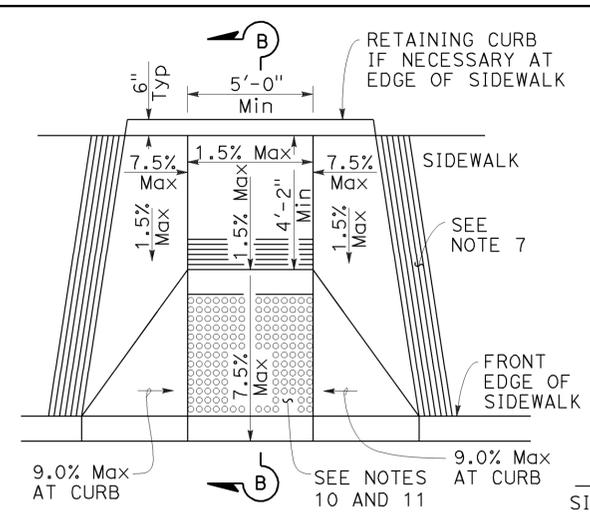
H. David Cordova  
 REGISTERED CIVIL ENGINEER  
 No. C41957  
 Exp. 3-31-14  
 CIVIL  
 STATE OF CALIFORNIA

July 19, 2013  
 PLANS APPROVAL DATE

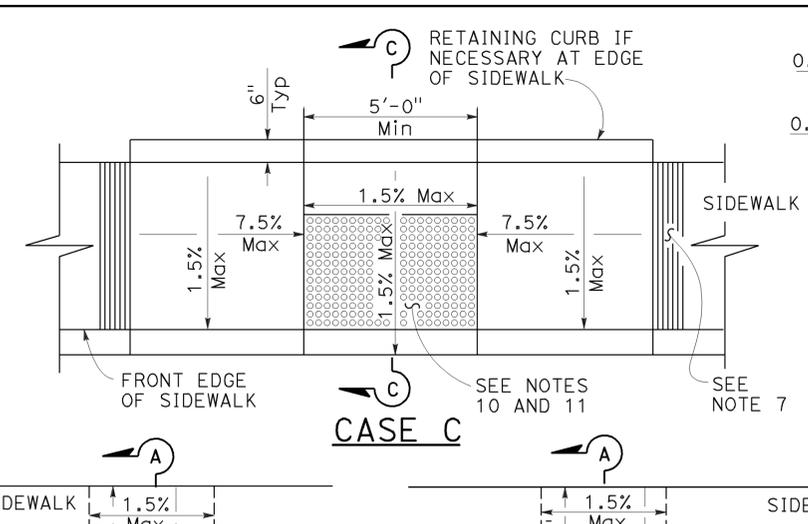
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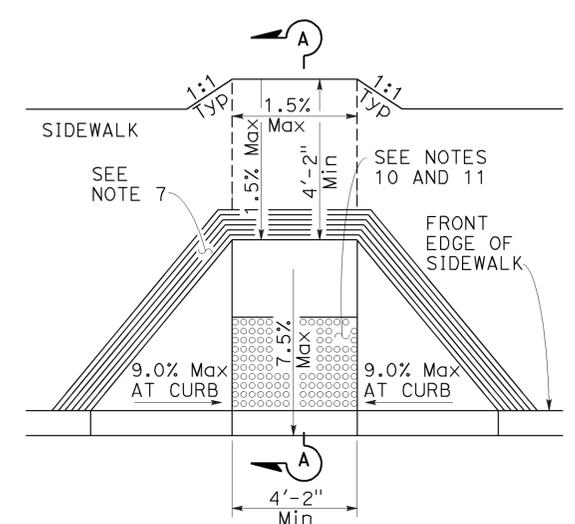
**CASE A**



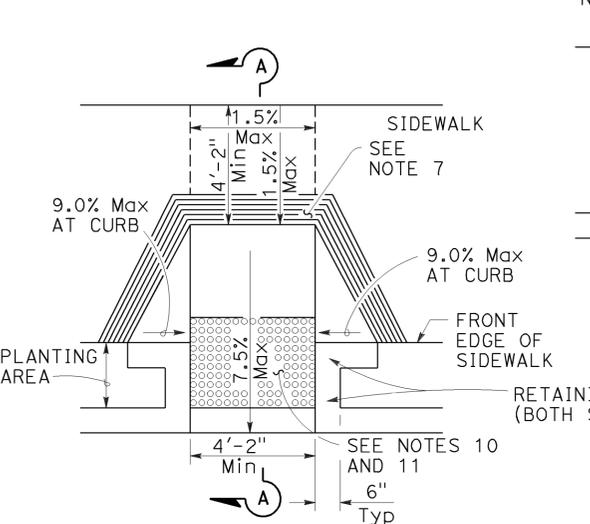
**CASE B**



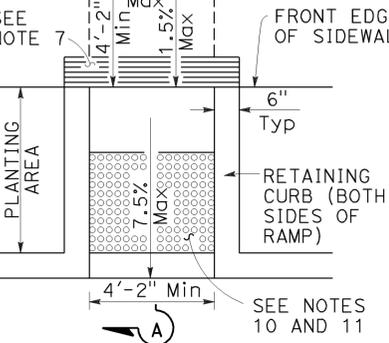
**CASE C**



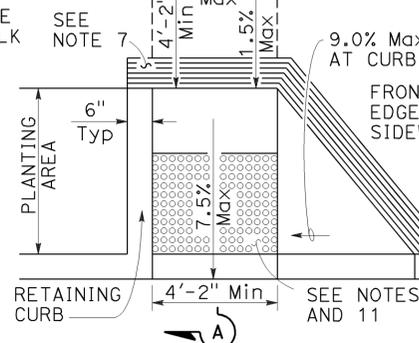
**CASE D**



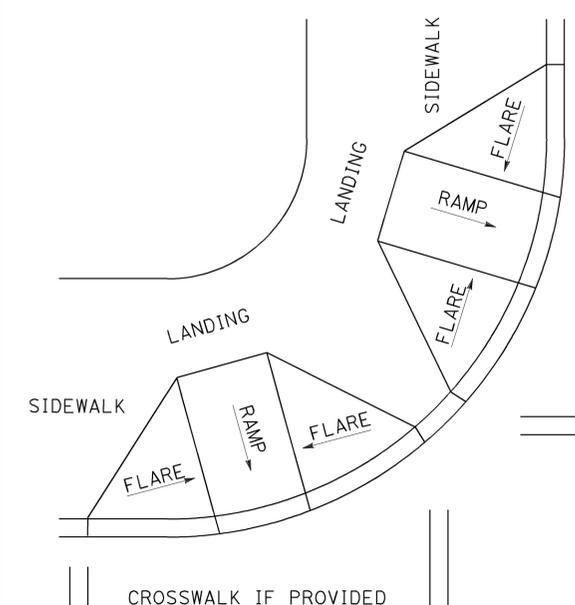
**CASE E**



**CASE F**



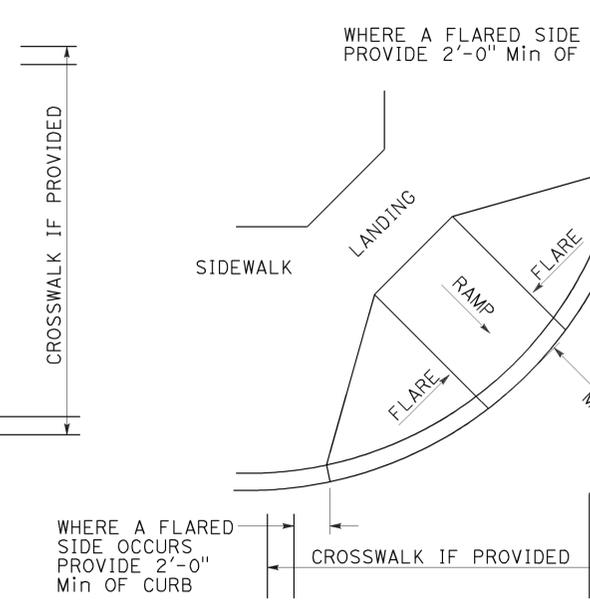
**CASE G**



**DETAIL A**

**TYPICAL TWO-RAMP CORNER INSTALLATION**

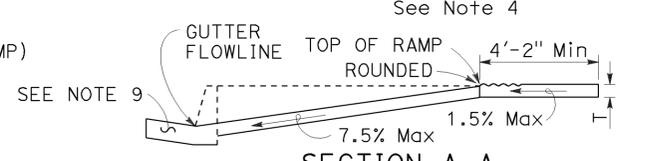
See Note 1



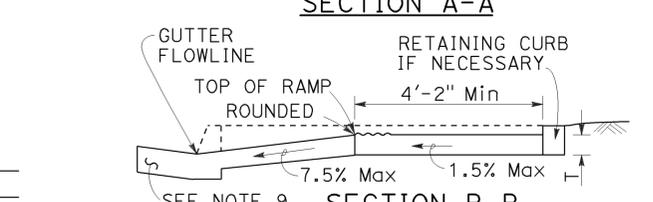
**DETAIL B**

**TYPICAL ONE-RAMP CORNER INSTALLATION**

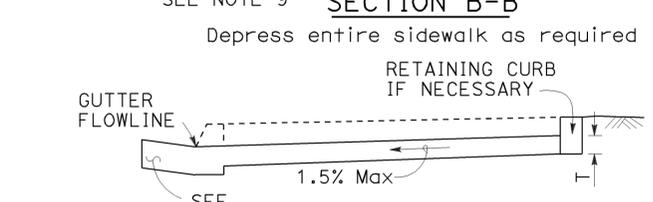
See Notes 1 and 3



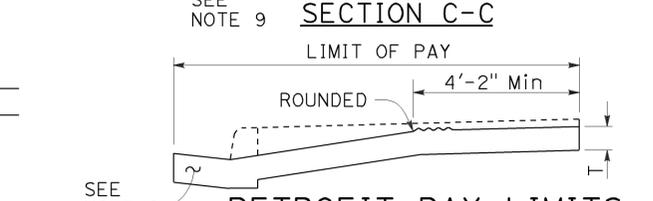
**SECTION A-A**



**SECTION B-B**

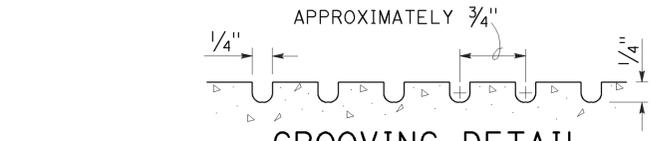


**SECTION C-C**

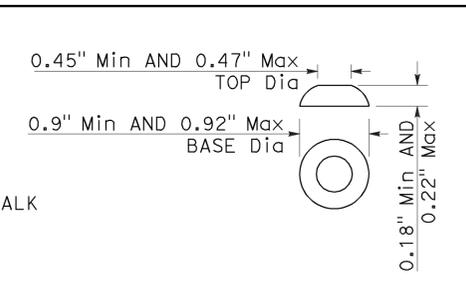


**RETROFIT PAY LIMITS**

Existing curb and sidewalk



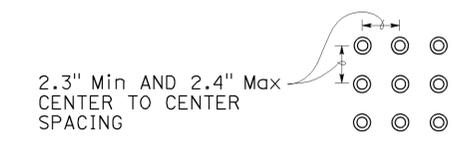
**GROOVING DETAIL**



**RAISED TRUNCATED DOME**

**NOTES:**

- As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate.
- If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B, or C or may be widened as in Case D.
- When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
- As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
- If located on a curve, the sides of the ramp need not be parallel, but the minimum width of the ramp shall be 4'-2".
- Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
- The curb ramp shall be outlined, as shown, with a 1'-0" wide border with 1/4" grooves approximately 3/4" on center. See grooving detail.
- Transitions from ramps and landing to walks, gutters or streets shall be flush (no lip) and free of abrupt changes.
- Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1:20 (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
- Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. Detectable Warning Surfaces shall conform to the details on this plan and the requirements in the Standard Specifications.
- The edge of the detectable warning surface nearest the street shall be between 6" and 8" from the gutter flowline.
- Sidewalk and ramp thickness, "T", shall be 3/2" minimum.
- Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
- Detectable warning surface may have to be cut to allow removal of utility covers while maintaining full detectable warning width and depth.



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

See Note 10

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**CURB RAMP DETAILS**  
NO SCALE

RSP A88A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A88A DATED MAY 20, 2011 - PAGE 121 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A88A**

2010 REVISED STANDARD PLAN RSP A88A

TO ACCOMPANY PLANS DATED 10-28-13

TABLE 1

TAPER LENGTH CRITERIA AND CHANNELIZING DEVICE SPACING							
SPEED (S)	MINIMUM TAPER LENGTH * FOR WIDTH OF OFFSET 12 FEET (W)				MAXIMUM CHANNELIZING DEVICE SPACING		
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	X	Y	Z **
					TAPER	TANGENT	CONFLICT
mph	ft	ft	ft	ft	ft	ft	ft
20	160	80	40	27	20	40	10
25	250	125	63	42	25	50	12
30	360	180	90	60	30	60	15
35	490	245	123	82	35	70	17
40	640	320	160	107	40	80	20
45	1080	540	270	180	45	90	22
50	1200	600	300	200	50	100	25
55	1320	660	330	220	55	110	27
60	1440	720	360	240	60	120	30
65	1560	780	390	260	65	130	32
70	1680	840	420	280	70	140	35

\* - For other offsets, use the following merging taper length formula for L:  
 For speed of 40 mph or less,  $L = WS^2/60$   
 For speed of 45 mph or more,  $L = WS$

Where: L = Taper length in feet  
 W = Width of offset in feet  
 S = Posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

\*\* - Use for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers (CA).

TABLE 2

LONGITUDINAL BUFFER SPACE AND FLAGGER STATION SPACING				
SPEED *	Min D **	DOWNGRADE Min D ***		
		-3%	-6%	-9%
		ft	ft	ft
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

\* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph

\*\* - Longitudinal buffer space or flagger station spacing

\*\*\* - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

ADVANCE WARNING SIGN SPACING			
ROAD TYPE	DISTANCE BETWEEN SIGNS *		
	A	B	C
	ft	ft	ft
URBAN - 25 mph OR LESS	100	100	100
URBAN - MORE THAN 25 mph TO 40 mph	250	250	250
URBAN - MORE THAN 40 mph	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

\* - The distances are approximate, are intended for guidance purposes only, and should be applied with engineering judgment. These distances should be adjusted by the Engineer for field conditions, if necessary, by increasing or decreasing the recommended distances.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM  
 FOR LANE CLOSURE ON  
 FREEWAYS AND EXPRESSWAYS**

NO SCALE

RSP T9 DATED APRIL 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T9**

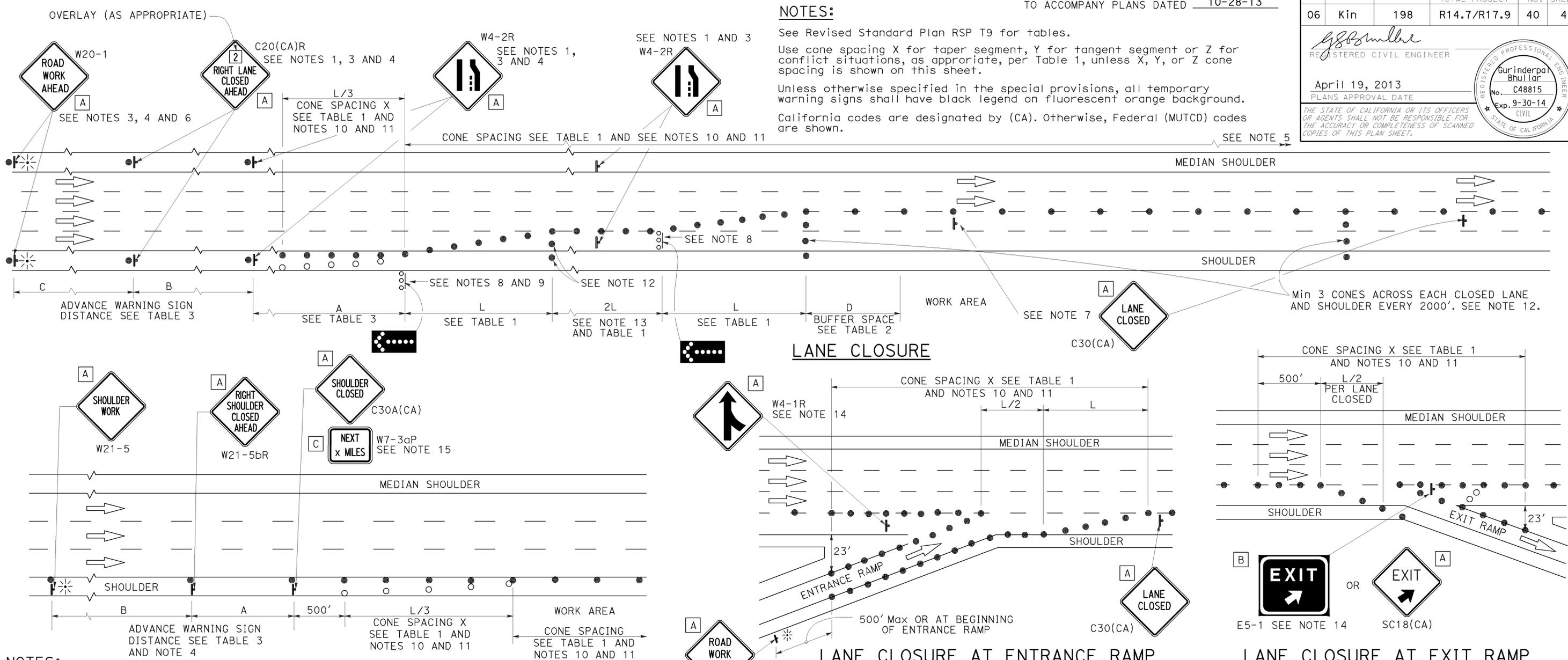
2010 REVISED STANDARD PLAN RSP T9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	40	49

REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Gurinderpal Bhullar  
 No. C48815  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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- NOTES:**
1. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
  2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
  3. Duplicate sign installations are not required:
    - a) On opposite shoulder if at least one-half of the available lanes remain open to traffic.
    - b) In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
  4. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
  5. A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.

- SHOULDER CLOSURE**
6. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT \_\_\_\_\_ MILES", use a C20(CA)L and W4-2L signs shall be used.
  7. Place a C30(CA) sign every 2000' throughout length of lane closure.
  8. One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
  9. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
  10. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
  11. Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.

- LANE CLOSURE AT ENTRANCE RAMP**
12. Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
  13. Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
  14. Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
  15. A W7-3aP "NEXT \_\_\_\_\_ MILES" plaque must be used if the shoulder closure extends beyond the distance that can be perceived by road users.

**LEGEND**

- TRAFFIC CONE
- TRAFFIC CONE (OPTIONAL TAPER)
- † TEMPORARY TRAFFIC CONTROL SIGN
- FLASHING ARROW SIGN (FAS)
- FAS SUPPORT OR TRAILER
- ⚡ PORTABLE FLASHING BEACON

**SIGN PANEL SIZE (Min)**

A	48" x 48"
B	72" x 60"
C	36" x 30"

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS**

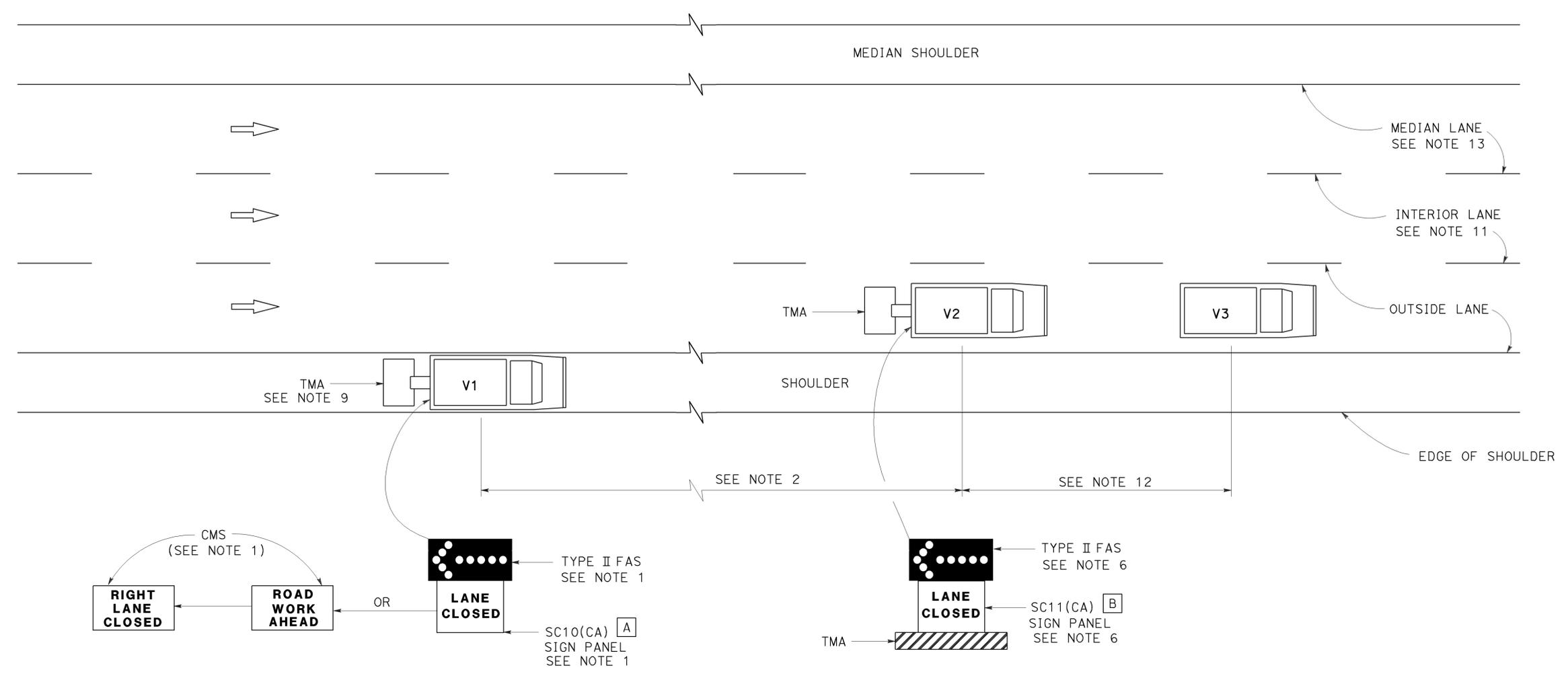
NO SCALE

RSP T10 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10 DATED MAY 20, 2011 - PAGE 237 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T10**

2010 REVISED STANDARD PLAN RSP T10

TO ACCOMPANY PLANS DATED 10-28-13



**SIGN PANEL SIZE (Min)**

- A 66" x 36"
- B 54" x 42"

**LEGEND**

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
- FLASHING ARROW SIGN (FAS)
- CMS CHANGEABLE MESSAGE SIGN
- TMA TRUCK-MOUNTED ATTENUATOR

**MOVING LANE CLOSURE ON MEDIAN LANE OR  
OUTSIDE LANE OF MULTILANE HIGHWAYS**

**NOTES:**

1. Either a changeable message sign or a SC10(CA) sign panel and a Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "RIGHT LANE CLOSED" message. For median lane closure, the flashing arrow symbol shall be reversed with the arrowhead on the right and the changeable message sign shall show "LEFT LANE CLOSED".
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500'.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2. For median lane closure the flashing arrow sign symbol shall be displayed with the arrowhead on the right.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11, etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on interior lane of multilane highways, use Revised Standard Plan T16.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.
13. When the work/application vehicle V3 occupies the median lane, sign vehicle V1 should drive in the median shoulder and indicate left lane closed ahead.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM  
FOR MOVING LANE CLOSURE  
ON MULTILANE HIGHWAYS**  
NO SCALE

RSP T15 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T15  
DATED MAY 20, 2011 - PAGE 243 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T15**

2010 REVISED STANDARD PLAN RSP T15

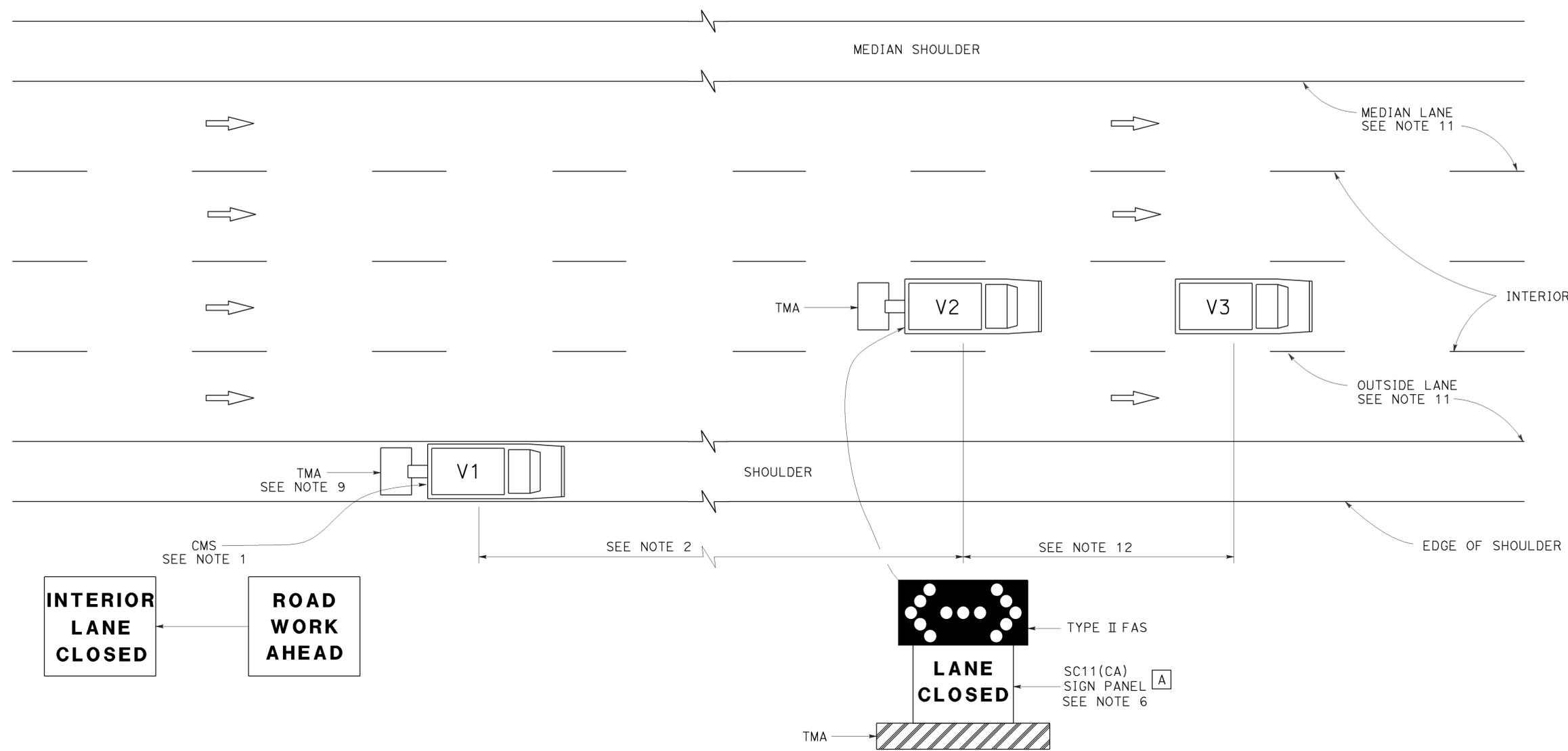
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	42	49

Registered Civil Engineer  
 Gurinderpal Bhullar  
 No. C48815  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

April 19, 2013  
 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.

TO ACCOMPANY PLANS DATED 10-28-13



SIGN PANEL SIZE (Min)

A 54" x 42"

LEGEND

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
- FLASHING ARROW SIGN (FAS) IN FLASHING DOUBLE ARROW MODE
- CMS CHANGEABLE MESSAGE SIGN
- TMA TRUCK-MOUNTED ATTENUATOR

**MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS**

NOTES:

1. A changeable message sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "INTERIOR LANE CLOSED" message. The message "CENTER LANE CLOSED" may be used in place of the "INTERIOR LANE CLOSED" message.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue. Sign vehicle V1 shall be positioned where highly visible when shoulders are not available.
3. A minimum sight distance of 1500' should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500'.
5. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall be equipped with a truck-mounted attenuator. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2.
7. All vehicles used for lane closures shall be equipped with two-way radios, and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.
10. Where workers would be on foot in the work area, a stationary type lane closure (Revised Standard Plan T10, T11 etc., as applicable) shall be used instead of this plan.
11. For moving lane closure on median lane or outside lane of multilane highways, use Revised Standard Plan T15.
12. The spacing between work vehicle(s) and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR MOVING LANE CLOSURE  
 ON MULTILANE HIGHWAYS**  
 NO SCALE

RSP T16 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T16 DATED MAY 20, 2011 - PAGE 244 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP T16**

2010 REVISED STANDARD PLAN RSP T16

**LEGEND:**

<b>AB</b>	ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
<b>BC</b>	INSTALL PULL BOX IN EXISTING CONDUIT RUN
<b>BP</b>	PEDESTRIAN BARRICADE, TYPE AS INDICATED ON PLAN
<b>CB</b>	INSTALL CONDUIT INTO EXISTING PULL BOX
<b>CC</b>	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
<b>CF</b>	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS. INSTALL PULL TAPE
<b>DH</b>	DETECTOR HANDHOLE
<b>FA</b>	FOUNDATION TO BE ABANDONED
<b>IS</b>	INSTALL SIGN ON SIGNAL MAST ARM
<b>NS</b>	NO SLIP BASE ON STANDARD
<b>PEC</b>	PHOTOELECTRIC CONTROL
<b>PEU</b>	PHOTOELECTRIC UNIT
<b>RC</b>	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
<b>RE</b>	REMOVE ELECTROLIER, FUSES AND BALLAST. TAPE ENDS OF CONDUCTORS
<b>RL</b>	RELOCATE EQUIPMENT
<b>RR</b>	REMOVE AND REUSE EQUIPMENT
<b>RS</b>	REMOVE AND SALVAGE EQUIPMENT
<b>SC</b>	SPLICE NEW TO EXISTING CONDUCTORS
<b>SD</b>	SERVICE DISCONNECT
<b>TSP</b>	TELEPHONE SERVICE POINT

**ABBREVIATIONS**

APS	ACCESSIBLE PEDESTRIAN SIGNAL	M/M	MULTIPLE TO MULTIPLE TRANSFORMER
BBS	BATTERY BACKUP SYSTEM	Mtg	MOUNTING
BC	BOLT CIRCLE	MV	MERCURY VAPOR LIGHTING FIXTURE
BPB	BICYCLE PUSH BUTTON	MVDS	MICROWAVE VEHICLE DETECTION SYSTEM
C	CONDUIT	N	NEUTRAL (GROUNDED CONDUCTOR)
CB	CIRCUIT BREAKER	NB	NEUTRAL BUS
CCTV	CLOSED CIRCUIT TELEVISION	NC	NORMALLY CLOSE
Ck+	CIRCUIT	NO	NORMALLY OPEN
CMS	CHANGEABLE MESSAGE SIGN	P	CIRCUIT BREAKER'S POLE
Ctid	CALTRANS IDENTIFICATION	PB	PULL BOX
Comm	COMMUNICATION	PBA	PUSH BUTTON ASSEMBLY
DLC	LOOP DETECTOR LEAD-IN CABLE	PEC	PHOTOELECTRIC CONTROL
EMS	EXTINGUISHABLE MESSAGE SIGN	Ped	PEDESTRIAN
EVUC	EMERGENCY VEHICLE UNIT CABLE	PEU	PHOTOELECTRIC UNIT
EVUD	EMERGENCY VEHICLE UNIT DETECTOR	PT	CONDUIT WITH PULL TAPE
FB	FLASHING BEACON	RE	RELOCATED EQUIPMENT
FBCA	FLASHING BEACON CONTROL ASSEMBLY	RM	RAMP METERING
FBS	FLASHING BEACON WITH SLIP BASE	RWIS	ROADSIDE WEATHER INFORMATION SYSTEM
FO	FIBER OPTIC	SB	SLIP BASE
G	EQUIPMENT GROUNDING CONDUCTOR	SIC	SIGNAL INTERCONNECT CABLE
GB	GROUND BUS	Sig	SIGNAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SMA	SIGNAL MAST ARM
HAR	HIGHWAY ADVISORY RADIO	SNS	STREET NAME SIGN
Hex	HEXAGONAL	SP	SERVICE POINT
HPS	HIGH PRESSURE SODIUM	TDC	TELEPHONE DEMARCATION CABINET
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN	TMS	TRAFFIC MONITORING STATION
ISL	INDUCTION SIGN LIGHTING	TOS	TRAFFIC OPERATIONS SYSTEM
LED	LIGHT EMITTING DIODE	Veh	VEHICLE
LMA	LUMINAIRE MAST ARM	VIVDS	VIDEO IMAGE VEHICLE DETECTION SYSTEM
LPS	LOW PRESSURE SODIUM	WIM	WEIGH-IN-MOTION
Ltg	LIGHTING	Xfmr	TRANSFORMER
Lum	LUMINAIRE		
M	METERED		
MAT	MAST ARM MOUNTING TOP ATTACHMENT		
MAS	MAST ARM MOUNTING SIDE ATTACHMENT		

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	43	49

*Theresa Gabriel*  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

Theresa Aziz Gabriel  
No. E15129  
Exp. 6-30-14  
ELECTRICAL  
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 10-28-13

**SOFFIT AND WALL MOUNTED LUMINAIRES**

- PENDANT, 70 W HPS UNLESS OTHERWISE SPECIFIED
- FLUSH, 70 W HPS UNLESS OTHERWISE SPECIFIED
- WALL SURFACE, 70 W HPS UNLESS OTHERWISE SPECIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO REMAIN UNMODIFIED
- EXISTING SOFFIT OR WALL LUMINAIRE TO BE MODIFIED AS SPECIFIED

**NOTE:**  
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	DEFINITIONS
$\Omega$	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(ac)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
$\mu$	MICRO
P	PICO
Hz	HERTZ

**MISCELLANEOUS ELECTROLIERS**

NEW	EXISTING	
		LUMINAIRE ON WOOD POLE
		NON-STANDARD ELECTROLIER (SEE PROJECT NOTES OR PROJECT PLANS)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

- NOTES:**
- HPS luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. HPS luminaires shall be 200 W when installed on other type standards or poles, unless otherwise specified.
  - LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
  - Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

**STANDARD ELECTROLIER**

NEW	EXISTING	STANDARD TYPE
		15
		15D
		15 STRUCTURE
		15D STRUCTURE
		21
		21D
		21 STRUCTURE
		21D STRUCTURE
		30
		31
		32

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

RSP ES-1A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1A**

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	44	49

*Theresa Gabriel*  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

Theresa  
Aziz Gabriel  
No. E15129  
Exp. 6-30-14  
ELECTRICAL  
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 10-28-13

**CONDUIT**

NEW	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 ATTACHED TO THE STRUCTURE OR SERVICE POLE

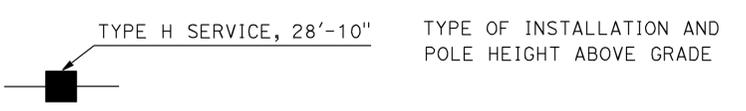
**SIGNAL EQUIPMENT**

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)
		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

**SERVICE EQUIPMENT**

NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

**POLE-MOUNTED SERVICE DESIGNATION**



**FLASHING BEACON**

NEW	EXISTING	
		FLASHING BEACON (ONE VEHICLE SIGNAL HEAD WITH BACKPLATE AND VISOR) "R" INDICATES RED INDICATION, "Y" INDICATES YELLOW INDICATION
		FLASHING BEACON WITH TYPE 15-FBS STANDARD AND A SIGN.
		FLASHING BEACON WITH TYPES 9, 9A OR 9B SIGN UNLESS OTHERWISE SPECIFIED OR INDICATED

**SIGNAL EQUIPMENT Cont**

NEW	EXISTING	
		GUARD POST
		TYPE 1 STANDARD WITH RAMP METERING SIGN
		OPTICAL DETECTOR FOR THE EMERGENCY VEHICLE DETECTION SYSTEM

**NOTES:**

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

**ILLUMINATED OVERHEAD SIGN**

NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE

RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

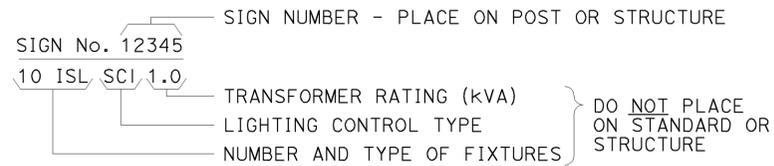
**REVISED STANDARD PLAN RSP ES-1B**

2010 REVISED STANDARD PLAN RSP ES-1B

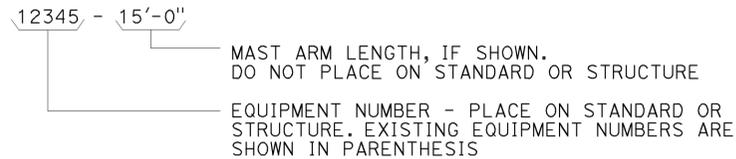
TO ACCOMPANY PLANS DATED 10-28-13

### EQUIPMENT IDENTIFICATION

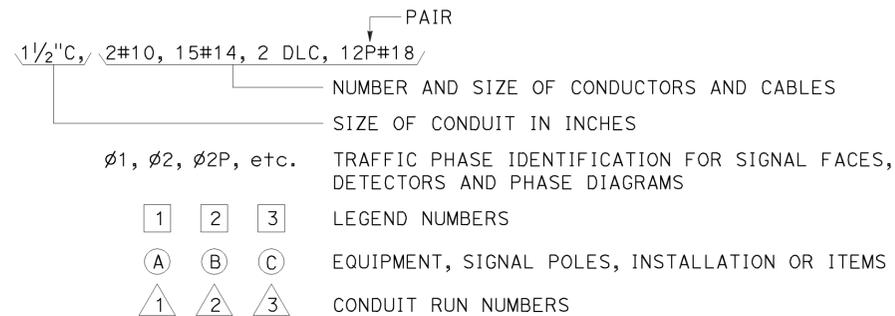
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



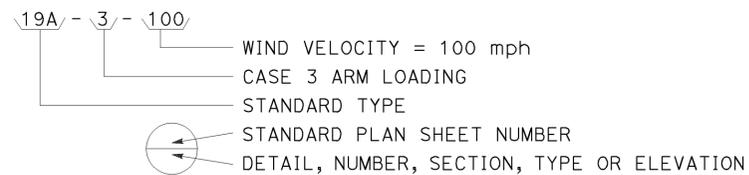
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



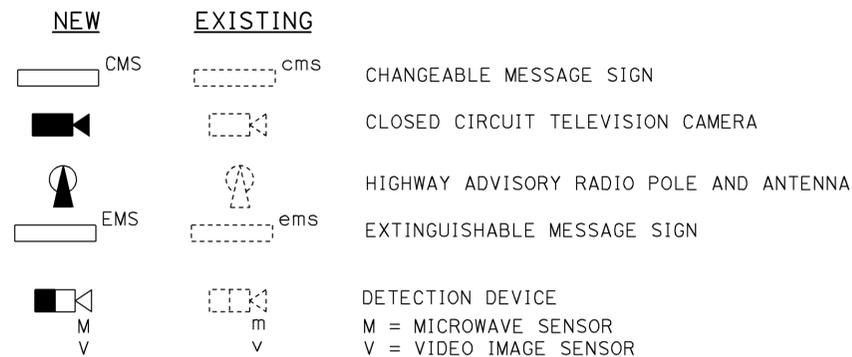
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



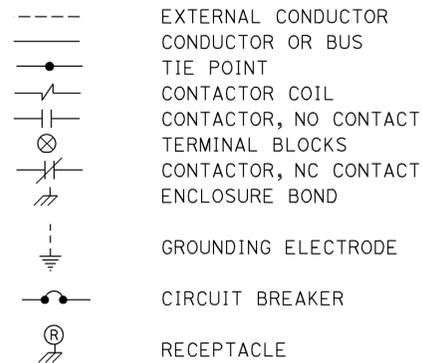
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



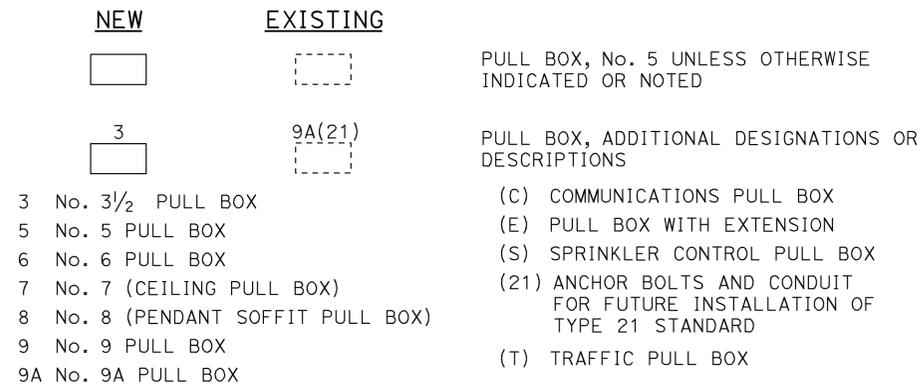
### MISCELLANEOUS EQUIPMENT



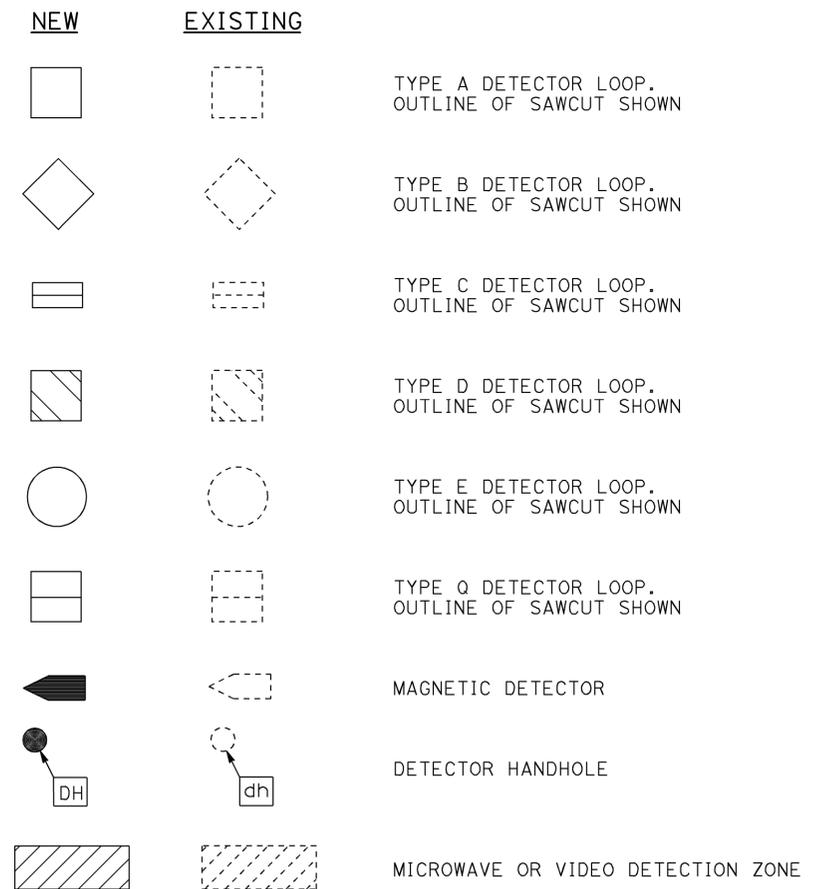
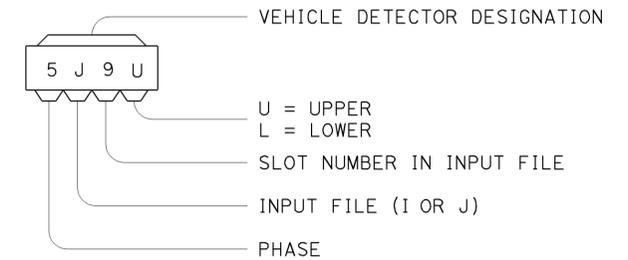
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

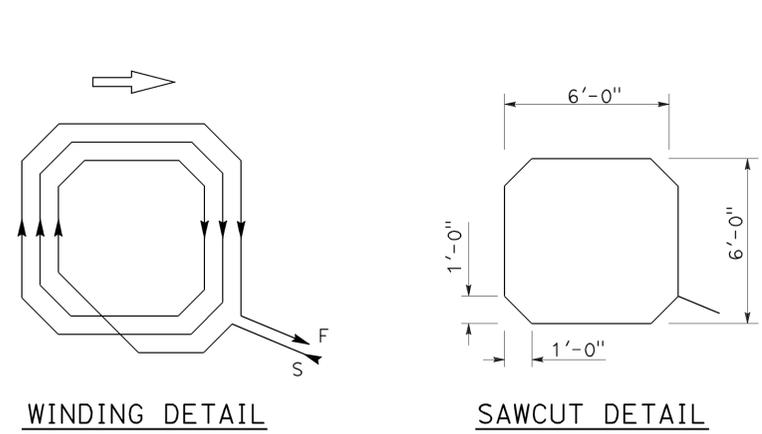
NO SCALE

RSP ES-1C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

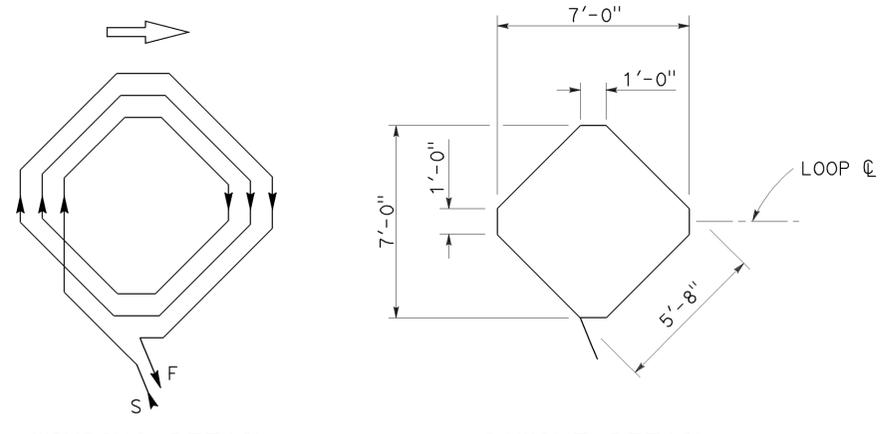
**REVISED STANDARD PLAN RSP ES-1C**

2010 REVISED STANDARD PLAN RSP ES-1C

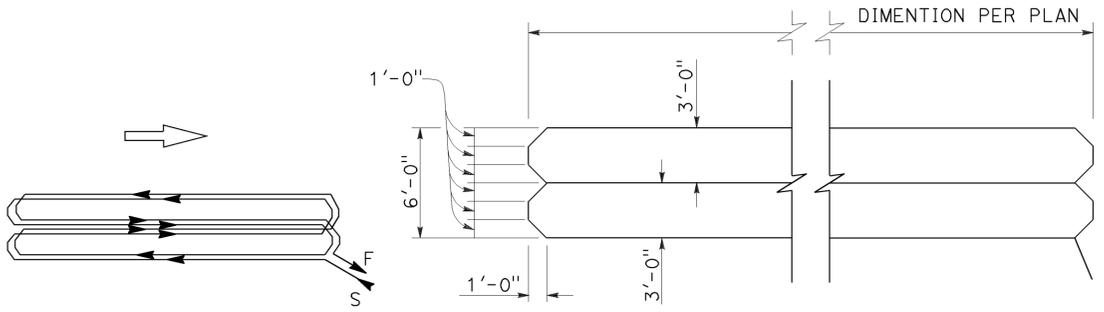
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	46	49
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
TO ACCOMPANY PLANS DATED <u>10-28-13</u>					



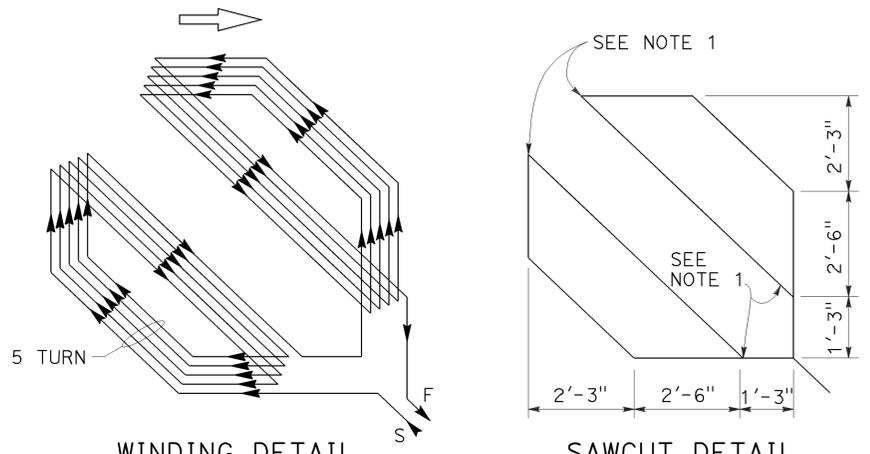
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE A LOOP DETECTOR CONFIGURATION**



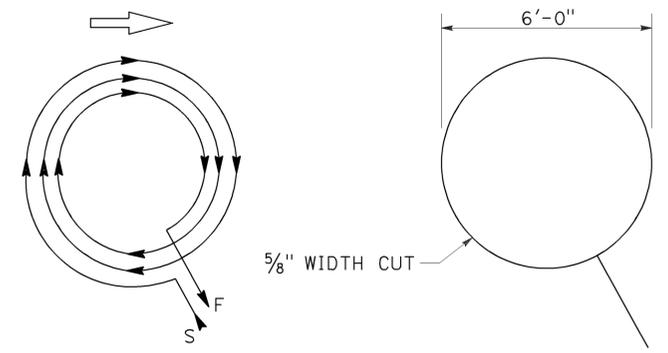
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE B LOOP DETECTOR CONFIGURATION**



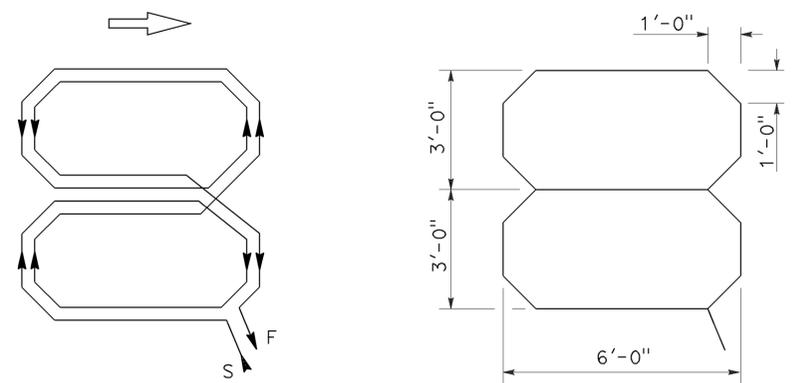
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE C LOOP DETECTOR CONFIGURATION**



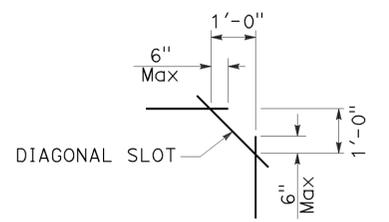
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE D LOOP DETECTOR CONFIGURATION**



WINDING DETAIL  
SAWCUT DETAIL  
**TYPE E LOOP DETECTOR CONFIGURATION**



WINDING DETAIL  
SAWCUT DETAIL  
**TYPE Q LOOP DETECTOR CONFIGURATION**



**PLAN VIEW OF  
DIAGONAL SLOT  
AT CORNERS**

- NOTES:**
1. Round corners of acute angle sawcuts to prevent damage to conductors.
  2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(DETECTORS)**  
NO SCALE

RSP ES-5B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5B  
DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

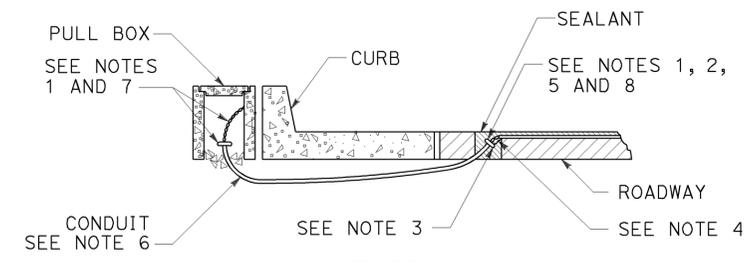
**2010 REVISED STANDARD PLAN RSP ES-5B**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	47	49

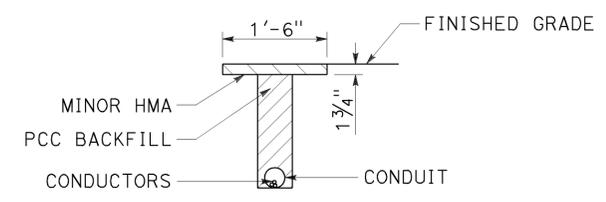
*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 10-28-13

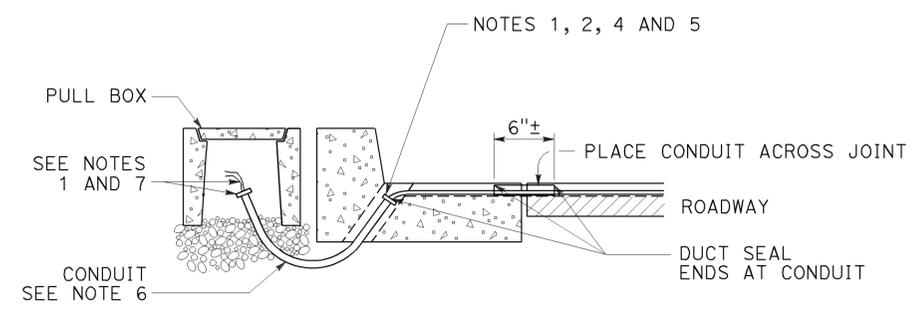
2010 REVISED STANDARD PLAN RSP ES-5D



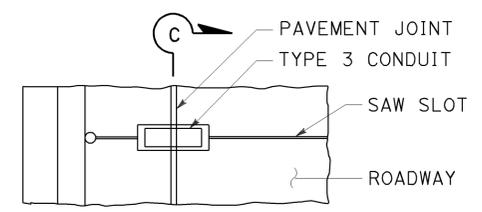
**TYPE A  
CURB TERMINATION DETAIL**



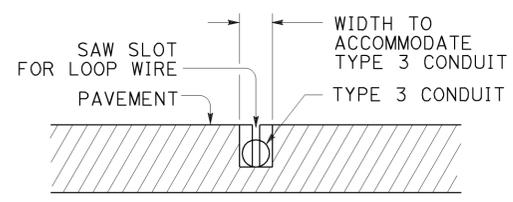
**"T" TRENCH  
DETAIL T**



**CROSS SECTION**

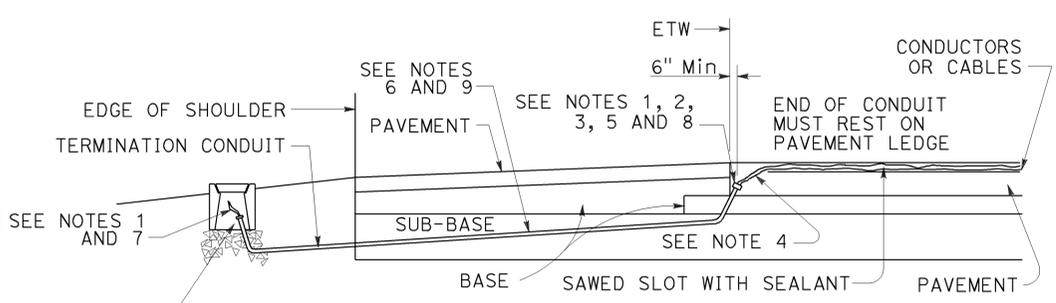


**PLAN VIEW**

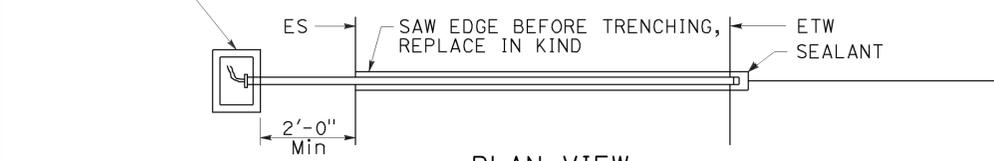


**SECTION C-C**

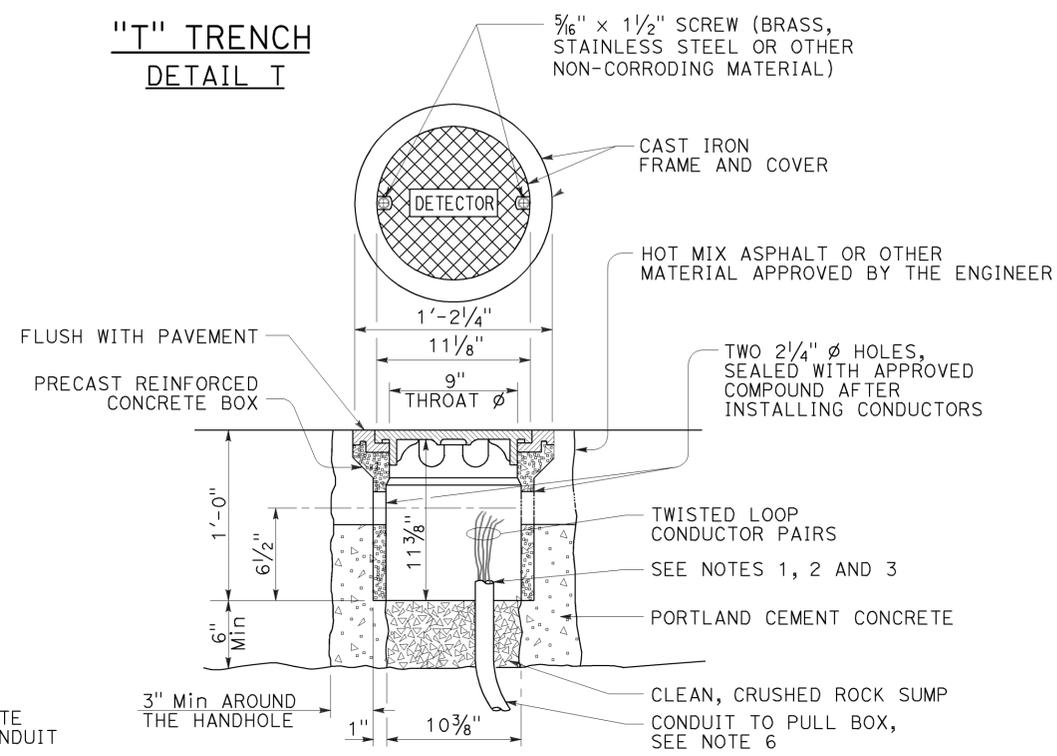
**TYPE B  
CURB TERMINATION DETAIL**



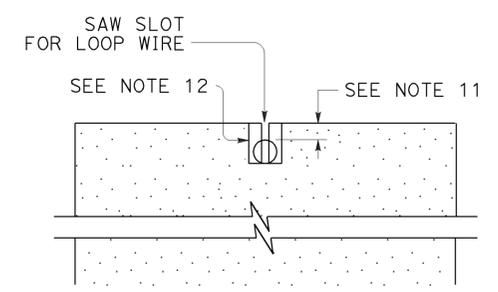
**CROSS SECTION**



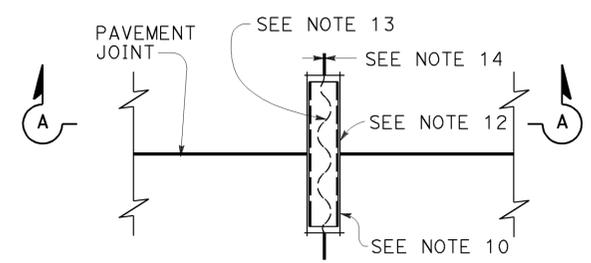
**PLAN VIEW  
SHOULDER TERMINATION DETAILS**



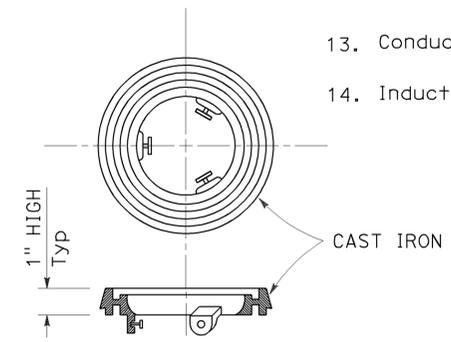
**DETECTOR HANDHOLE DETAIL**



**SECTION A-A**



**PLAN VIEW  
TYPICAL LOOP LEAD-IN DETAIL  
AT PAVEMENT JOINT**



**LOCKING GRADE RING**

**NOTES:**

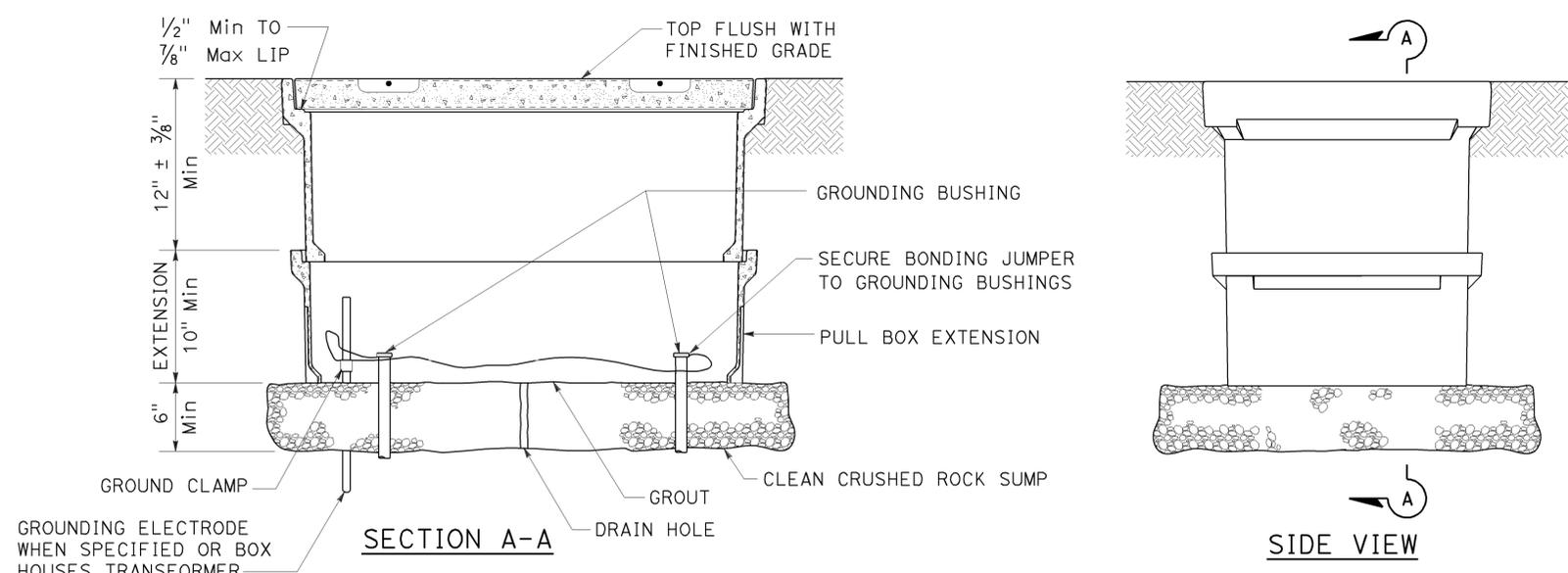
- Bushing shall be used at end of conduit.
- Tape detector conductors or cables 3" each side of bushings.
- Install duct seal compound to each end of termination conduit before installing sealant.
- Round all sharp edges where detector conductors or cables have to pass.
- End of conduit shall be 3/8" below roadway surface.
- |                 |                 |
|-----------------|-----------------|
| Conduit size    | Loop conductors |
| 1"C minimum     | 1 to 2 pairs    |
| 1 1/2"C minimum | 3 to 4 pairs    |
| 2"C minimum     | 5 or more pairs |
- Splice detector conductors or cables to detector lead-in-cable.
- Location of detector handhole when shown on plans.
- When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 2'-0" into the shoulder pavement.
- 3/4"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
- 1/2" Minimum between top of conduit and pavement surface.
- Sawcut shall not exceed 1" in width and 1/8" longer than conduit to be installed.
- Conductors with 1/2" minimum slack inside conduit.
- Inductive loop detector saw slot.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(CURB TERMINATION  
AND HANDHOLE)**  
NO SCALE

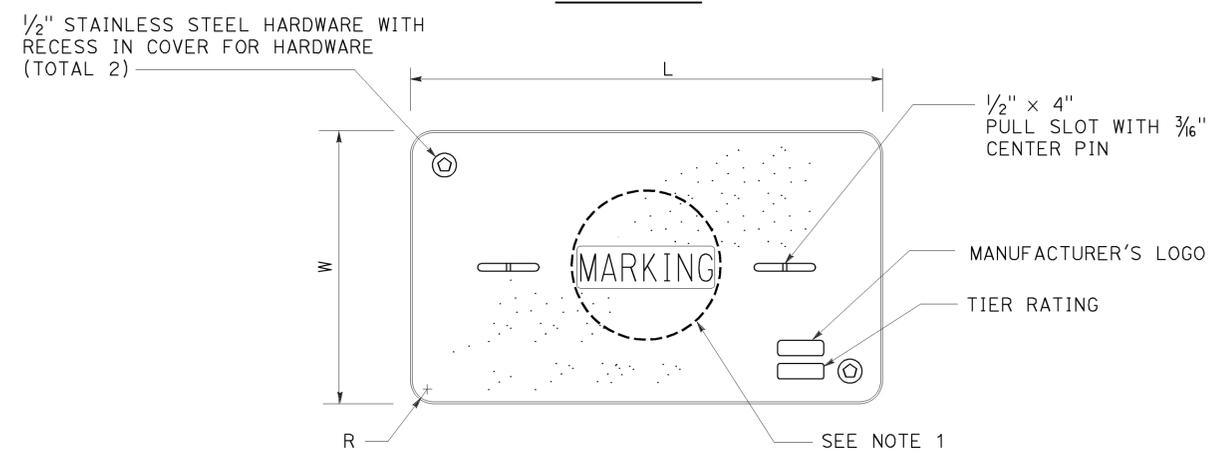
RSP ES-5D DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5D  
DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-5D**

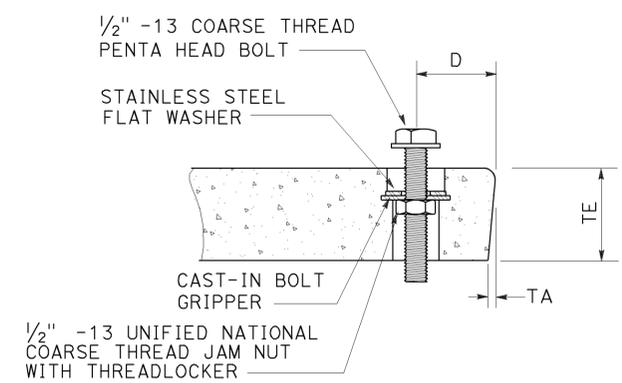
2010 REVISED STANDARD PLAN RSP ES-8A



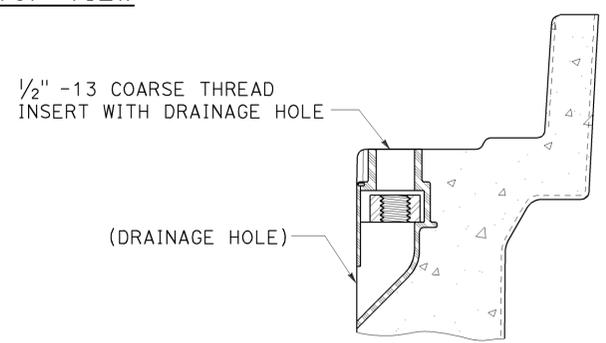
**INSTALLATION DETAILS**  
DETAIL A



**COVER TOP VIEW**



**TYPICAL COVER CAPTIVE BOLT**  
OR SIMILAR



**TYPICAL THREADED INSERT**  
OR SIMILAR

**NOTES ON PULL BOXES:**

- Pull box covers must be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
  - No. 3/2 pull box.
    - "SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
    - "ST LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
  - No. 5, 6, 9 or 9A pull box.
    - "TRAFFIC SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
    - "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
    - "STREET LIGHTING-HIGH VOLTAGE" - Street or sign lighting circuits where voltage is above 600 V.
    - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
    - "RAMP METER" - Ramp meter circuits.
    - "COUNT STATION" - Count or speed monitor circuits.
    - "COMMUNICATIONS" - Communication circuits.
    - "TOS COMMUNICATIONS" - TOS communication line.
    - "TOS POWER" - TOS power.
    - "TDC POWER" - Telephone demarcation cabinet power.
    - "CCTV" - Closed circuit television circuits.
    - "TMS" - Traffic monitoring station circuits.
    - "CMS" - Changeable message sign circuits.
    - "HAR" - Highway advisory radio circuits.
- The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions (L and W) plus 1/8" or greater.
- Covers and boxes must be interchangeable with California Standard. When interchanged with a standard, the top surfaces must be flush within 1/8". Top outside radius of covers and pull boxes must have a 1/8" radius.
- Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.

TO ACCOMPANY PLANS DATED 10-28-13

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MAXIMUM WEIGHT	L	W	R	TE	TA	D	MAXIMUM WEIGHT
No. 3/2	12"	N/A	40 lb	1' - 3 3/8"	10 1/8"	1 3/8"	2"	1/8"	1 3/4"	30 lb
No. 5	12"	10"	55 lb	1' - 11 1/4"	1' - 1 3/4"	1 3/8"	2"	1/8"	1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 6 1/2"	1' - 5 1/2"	1 3/8"	2"	1/8"	2"	85 lb

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(PULL BOX)**  
NO SCALE

RSP ES-8A DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

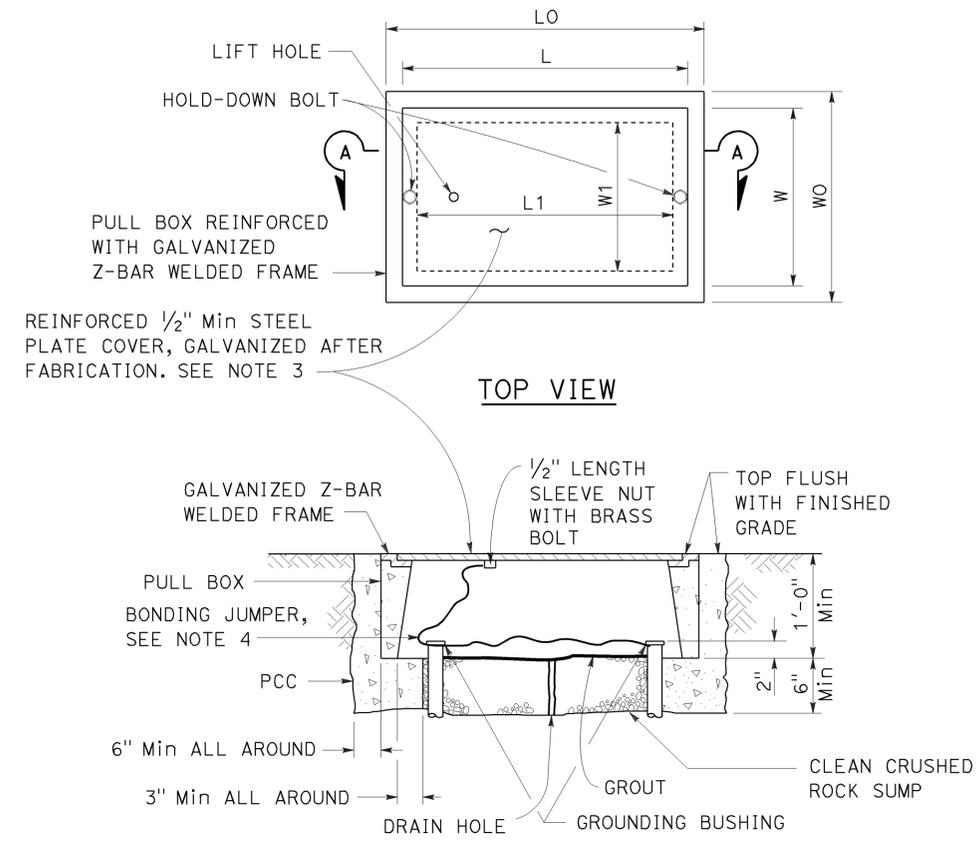
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Kin	198	R14.7/R17.9	49	49

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 No. E14512  
 Exp. 6-30-12  
 ELECTRICAL  
 STATE OF CALIFORNIA

January 20, 2012  
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 10-28-13



**No. 3 1/2(T), No. 5(T) AND No. 6(T) TRAFFIC PULL BOX**

**NOTES ON PULL BOXES:**

- Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
- Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
- Pull box covers must be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.
  - No. 3 1/2(T) pull box.
    - "SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
    - "ST LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
  - No. 5(T) or 6(T) pull box.
    - "TRAFFIC SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
    - "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
    - "STREET LIGHTING-HIGH VOLTAGE" - Street or sign lighting circuits where voltage is above 600 V.
    - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
    - "RAMP METER" - Ramp meter circuits.
    - "COUNT STATION" - Count or speed monitor circuits.
    - "COMMUNICATION" - Communication circuits.
    - "TOS COMMUNICATIONS" - TOS communications line.
    - "TOS POWER" - TOS power.
    - "TDC POWER" - Telephone demarcation cabinet power.
    - "CCTV" - Closed circuit television circuits.
    - "TMS" - Traffic monitoring station circuits.
    - "CMS" - Changeable message sign circuits.
    - "HAR" - Highway advisory radio circuits.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes must be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces must be flush within 1/8".

PULL BOX	BOX						COVER					
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	W0	L0	L1	W1	L **	W **	R	EDGE THICKNESS	EDGE TAPER	
No. 3 1/2(T)	1 1/2"	1'-0"	1'-5" ± 1"	1'-8 7/8" ±	1'-2 1/2" ±	10 5/8" ± 1"	1'-8" ±	1'-1 3/4" ±	0"	1/2"	NONE	
No. 5(T)	1 3/4"	1'-0"	1'-11 1/2" ± 1"	2'-5 1/2" ±	1'-7" ±	1'-1" ± 1"	2'-3" ±	1'-4" ±	0"	1/2"	NONE	
No. 6(T)	2"	1'-0"	2'-6" ± 1"	2'-11 1/2" ±	1'-11 1/2" ±	1'-5" ± 1"	2'-9" ±	1'-8" ±	0"	1/2"	NONE	

\* EXCLUDING CONDUIT WEB      \*\* TOP DIMENSION

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (TRAFFIC RATED PULL BOX)**  
 NO SCALE

RSP ES-8B DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-8B