

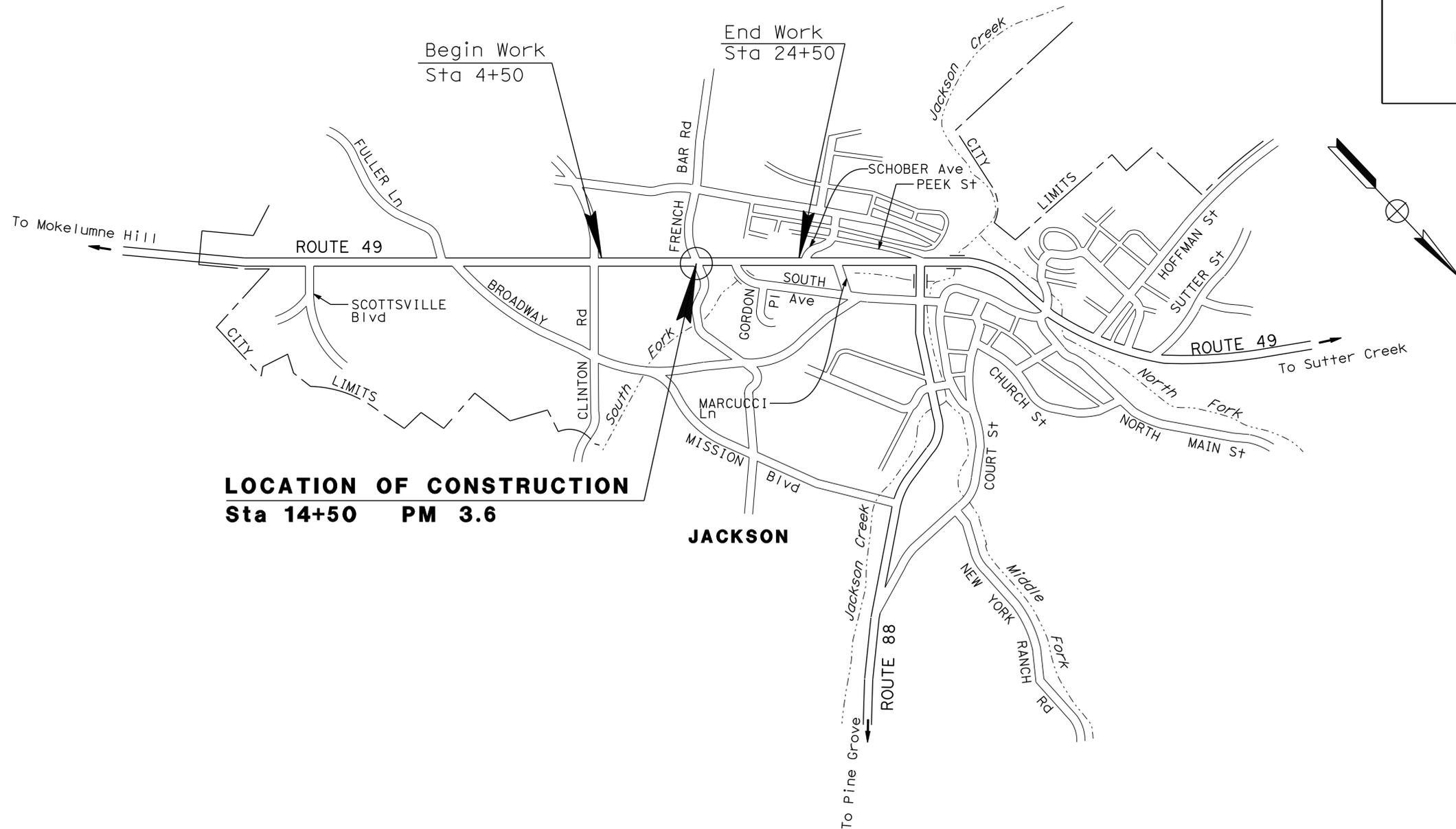
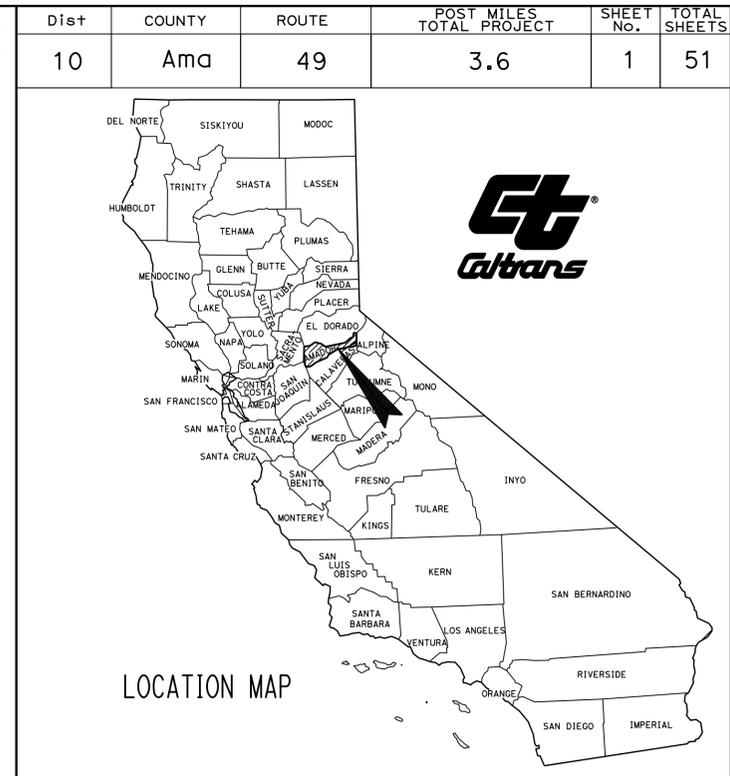
INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	LAYOUTS
3-4	CONSTRUCTION DETAILS
5-7	DRAINAGE PLANS, PROFILES, DETAILS AND QUANTITIES
8	UTILITY PLAN
9	CONSTRUCTION AREA SIGNS
10-12	PAVEMENT DELINEATION PLAN, SIGN PLAN, SIGN DETAILS, AND SIGN QUANTITIES
13	SUMMARY OF QUANTITIES
14-18	ELECTRICAL PLANS AND QUANTITIES
19-20	SPECIAL ELECTRICAL STRUCTURES
21-51	REVISED STANDARD PLANS

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

STATE OF CALIFORNIA ACHSSTPG-P049(167)E
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN AMADOR COUNTY
IN JACKSON
AT FRENCH BAR ROAD

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



LOCATION OF CONSTRUCTION
Sta 14+50 PM 3.6

JACKSON

NO SCALE

PROJECT MANAGER SAM SHERMAN	DESIGN ENGINEER JOSE HUERTA
---------------------------------------	---------------------------------------

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

6/1/15
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER

HONGLOAN LUONG
 No. C63864
 Exp. 09/30/16
 CIVIL
 STATE OF CALIFORNIA

June 1, 2015
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

CONTRACT No.	10-OW3604
PROJECT ID	1000020631

DATE PLOTTED => 23-JUL-2015
 TIME PLOTTED => 11:20
 05-28-15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

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

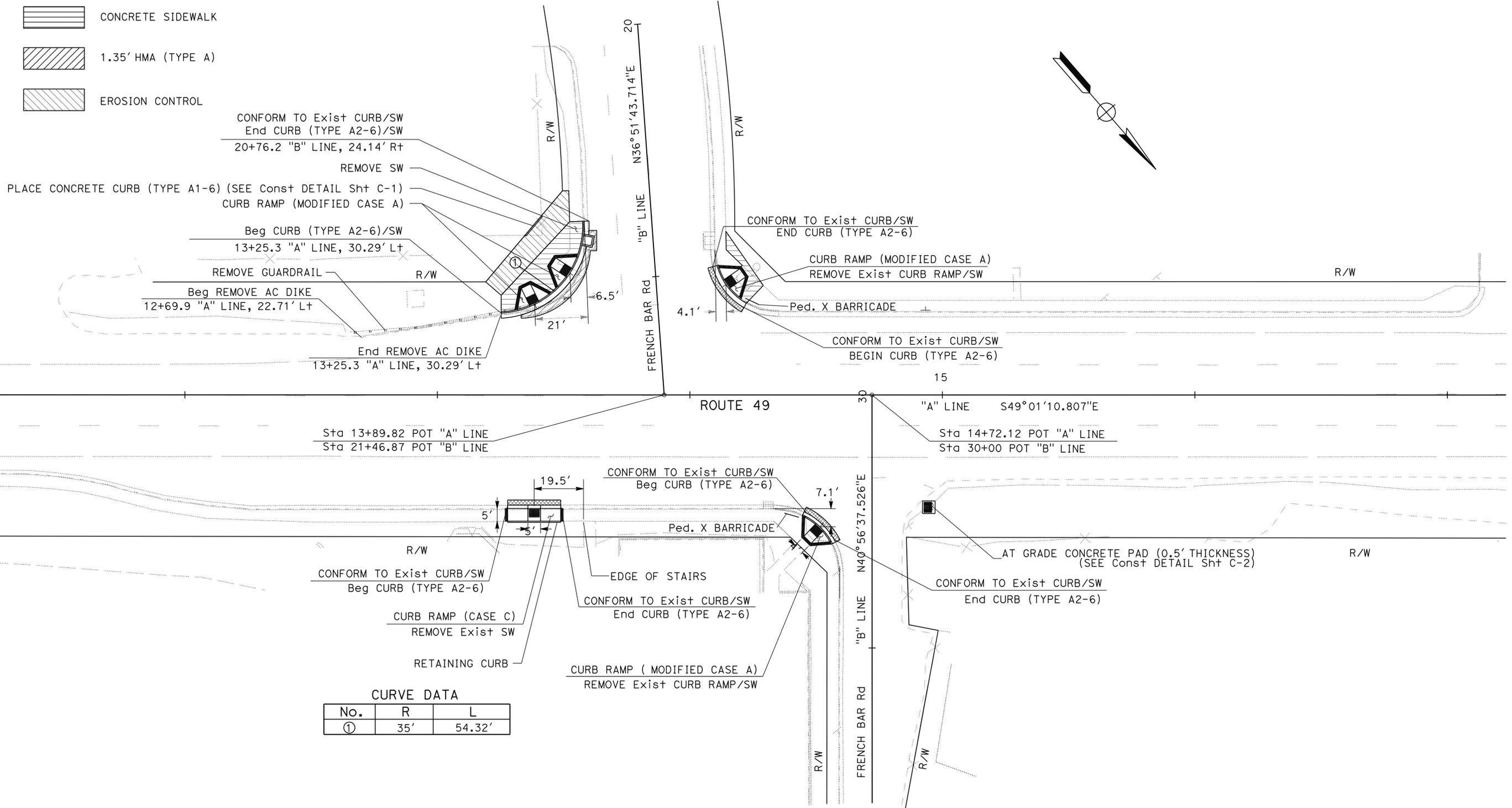
PAVEMENT CLIMATE REGION
 INLAND VALLEY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	2	51

HONGLOAN LUONG
 REGISTERED CIVIL ENGINEER
 DATE 6/1/15
 PLANS APPROVAL DATE 6-1-15
 No. C63964
 Exp. 9/30/17
 CIVIL
 STATE OF CALIFORNIA

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

- LEGEND:**
- REPLACE AC SURFACING
 - CONCRETE SIDEWALK
 - 1.35' HMA (TYPE A)
 - EROSION CONTROL



CURVE DATA

No.	R	L
①	35'	54.32'

LAYOUT
 SCALE: 1" = 20' **L-1**

LAST REVISION DATE PLOTTED => 11-JUN-2015
 05-27-15 TIME PLOTTED => 13:32

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	3	51

<i>Hongloan Luong</i> REGISTERED CIVIL ENGINEER	6/1/15 DATE
6-1-15 PLANS APPROVAL DATE	

HONGLOAN LUONG No. C63864 Exp. 9/30/17 CIVIL

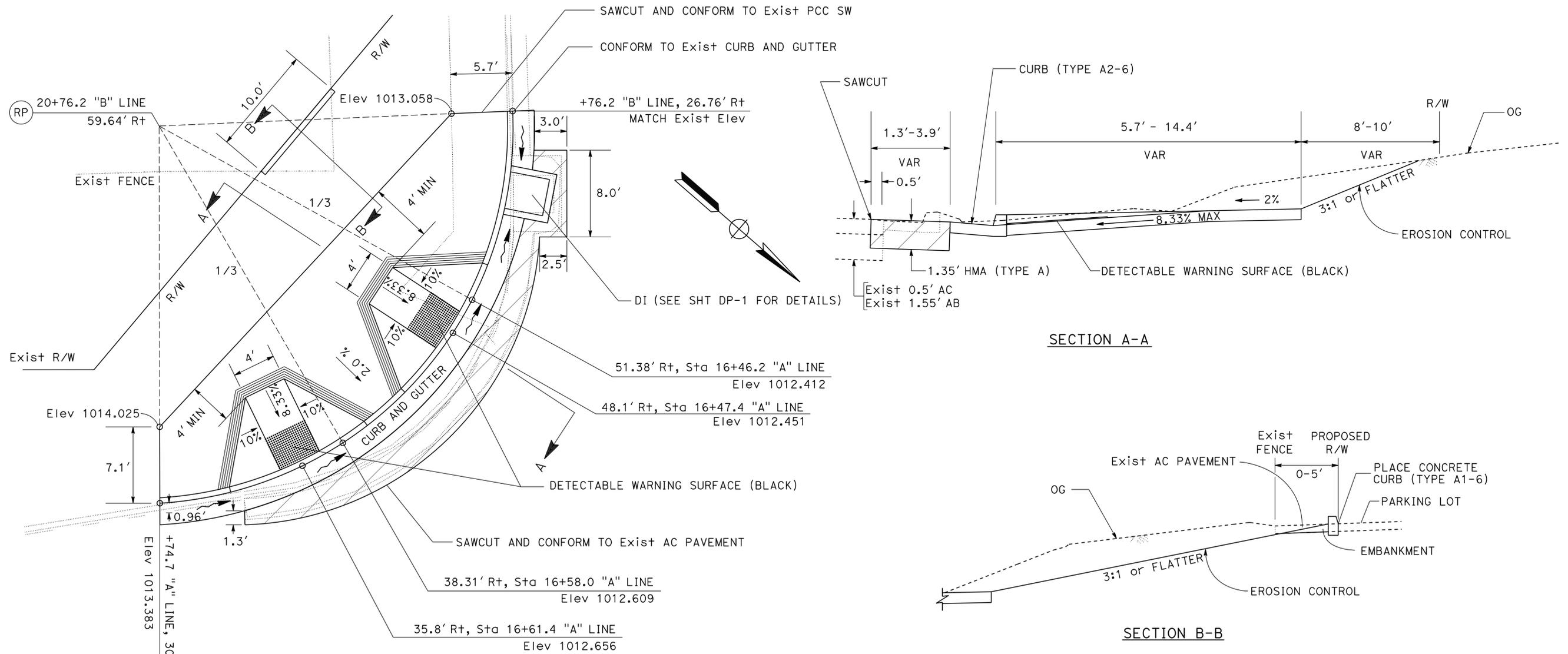
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

- CURB RAMP SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND 3'-0" DEPTH OF THE RAMP.
- THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FLOWLINE.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

-  REPLACE AC SURFACING
-  HMA (TYPE A)



**CURB RAMP (MODIFIED CASE A)
SOUTHWEST CORNER**

CONSTRUCTION DETAILS
NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: JOSE HUERTA
 CALCULATED/DESIGNED BY: KENNY HOANG
 CHECKED BY: HONGLOAN LUONG
 REVISED BY: KH
 DATE REVISED: 3/24/15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 JOSE HUERTA

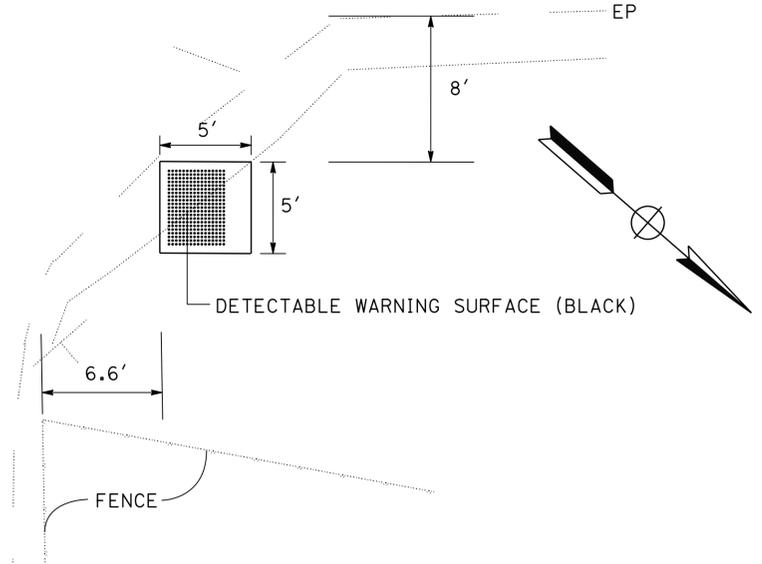
CALCULATED-DESIGNED BY
 CHECKED BY

KENNY HOANG
 HONGLOAN LUONG

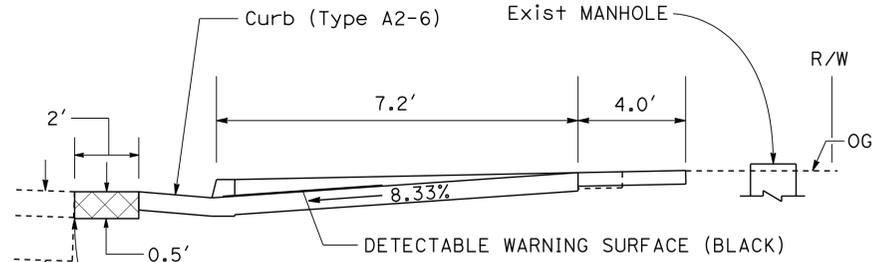
REVISED BY
 DATE REVISED

KH
 3/24/15

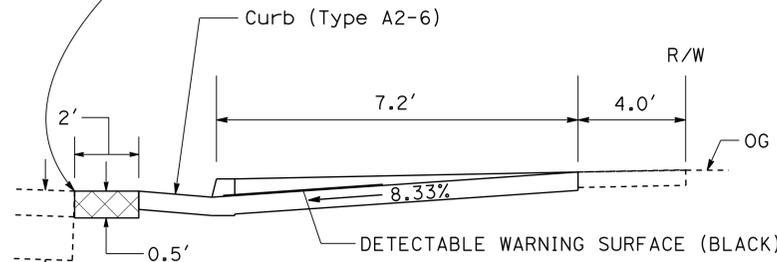
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



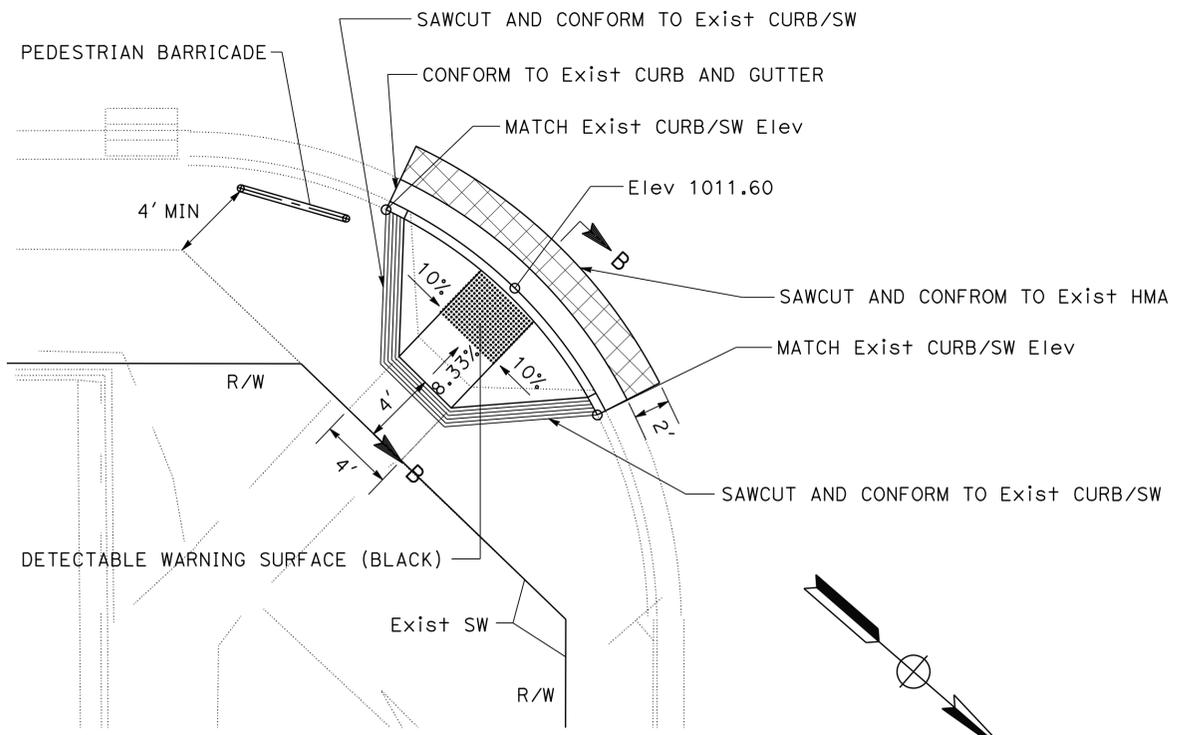
**CONCRETE PAD (0.5' THICKNESS)
 NORTHEAST CORNER**



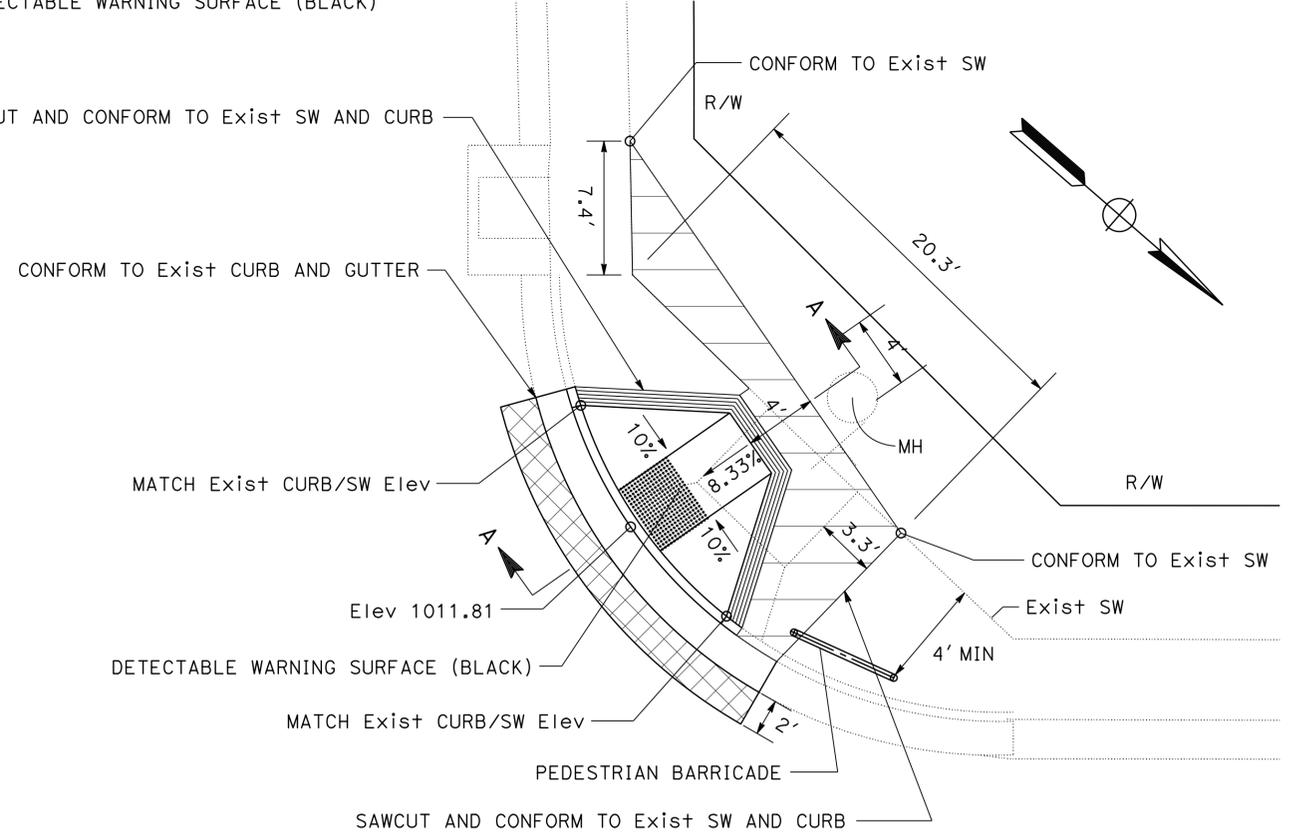
SECTION A-A



SECTION B-B



**CURB RAMP (MODIFIED CASE A)
 SOUTHEAST CORNER**



**CURB RAMP (MODIFIED CASE A)
 NORTHWEST CORNER**

CONSTRUCTION DETAILS
 NO SCALE

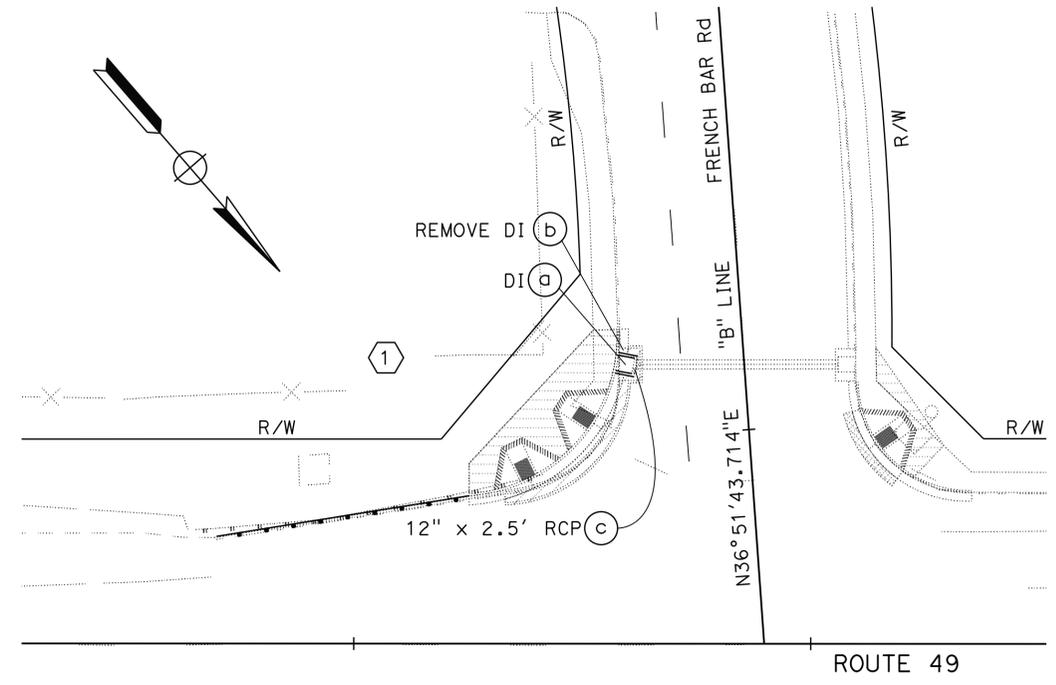
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	4	51

HONGLOAN LUONG
 REGISTERED CIVIL ENGINEER
 No. C63864
 Exp. 9/30/17
 CIVIL
 STATE OF CALIFORNIA

6/1/15
 DATE
 6-1-15
 PLANS APPROVAL DATE

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR JOSE HUERTA
 CALCULATED/DESIGNED BY CHECKED BY
 KENNY HOANG HONGLOAN LUONG
 REVISED BY DATE REVISED
 KH 3/25/15

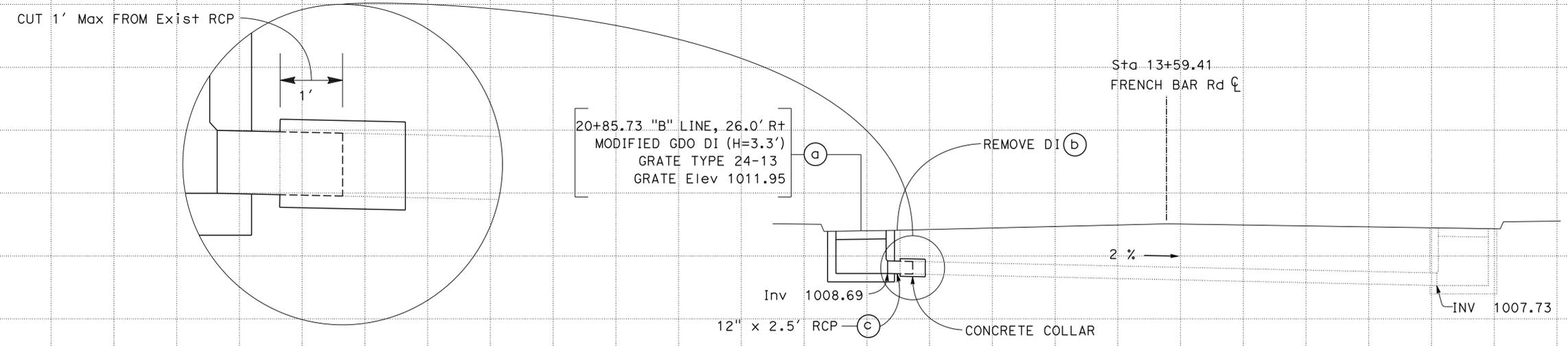


SOUTHWEST CORNER
SCALE: 1" = 20'

DRAINAGE ITEMS

DRAINAGE SYSTEM	DRAINAGE UNIT									DESCRIPTION	LOCATION
		12" REINFORCED CONCRETE PIPE	REMOVE INLET	MINOR CONCRETE (MINOR STRUCTURE)	CONCRETE COLLAR (N)	Misc IRON & STEEL	DRAINAGE INLET MARKER	HEIGHT OF INLET (N)	MAX COVER		
		LF	EA	CY	EA	LB	EA	LF	FT		
1	a		1								20+85.76 "B" LINE, 25.45' Lt
	b			1.7		374	1	3.3		MODIFIED GDO DI	20+85.76 "B" LINE, 25.45' Lt
	c	2.5			1				2.5	12" RCP	
		2.5	1	1.7		374	1			TOTAL	

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



DRAINAGE SYSTEM No. 1
Sta 20+85.73 "B" LINE

SCALE: VERT. 1"=5'
HORIZ. 1"=5'

DRAINAGE PLAN, PROFILE AND QUANTITIES
SCALE AS SHOWN
DP-1

LAST REVISION DATE PLOTTED => 11-JUN-2015
 05-27-15 TIME PLOTTED => 13:33

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 JOSE HUERTA

CALCULATED/DESIGNED BY
 CHECKED BY

KENNY HOANG
 HONGLOAN LUONG

REVISED BY
 DATE REVISED

KH
 03/25/15

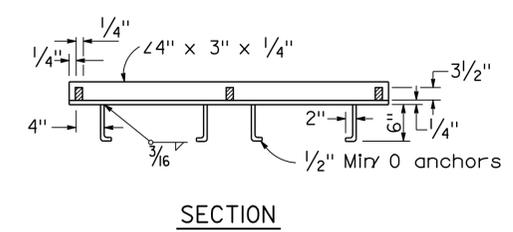
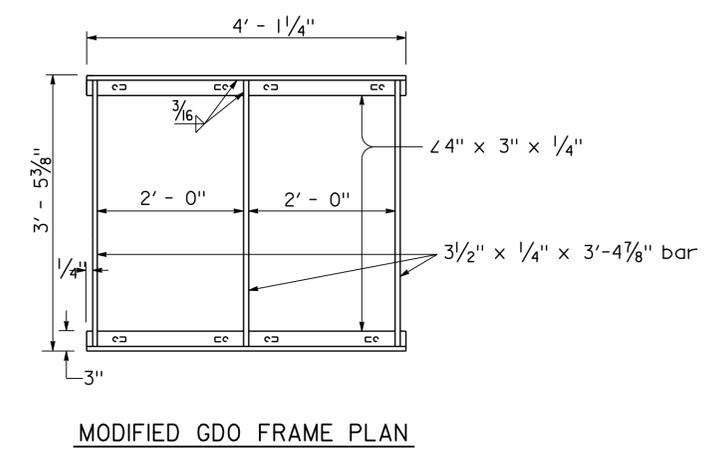
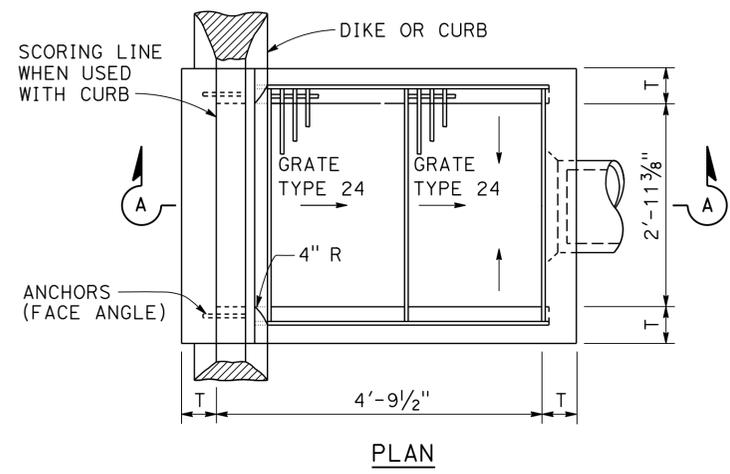
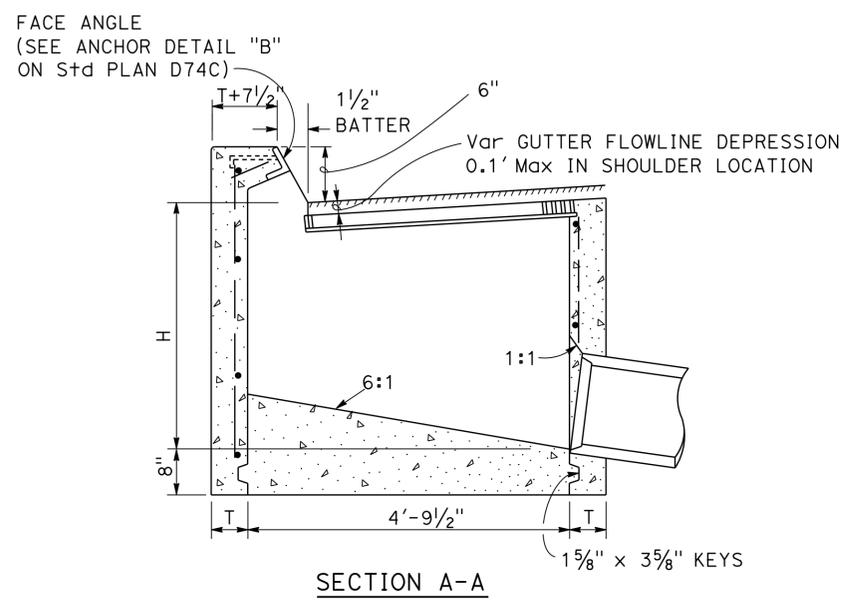
NOTE:
 FOR MORE INFORMATION SEE STANDARD PLAN D74B, D74C AND D78B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	7	51

REGISTERED CIVIL ENGINEER DATE 6/1/15
 HONGLOAN LUONG
 No. C63864
 Exp. 9/30/17
 CIVIL
 STATE OF CALIFORNIA

6-1-15
 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.



MODIFIED GDO INLET

DRAINAGE DETAILS
 NO SCALE
DD-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 JOSE HUERTA

CALCULATED-DESIGNED BY
 CHECKED BY

KENNY HOANG
 HONGLOAN T. LUONG

REVISOR BY
 DATE REVISED

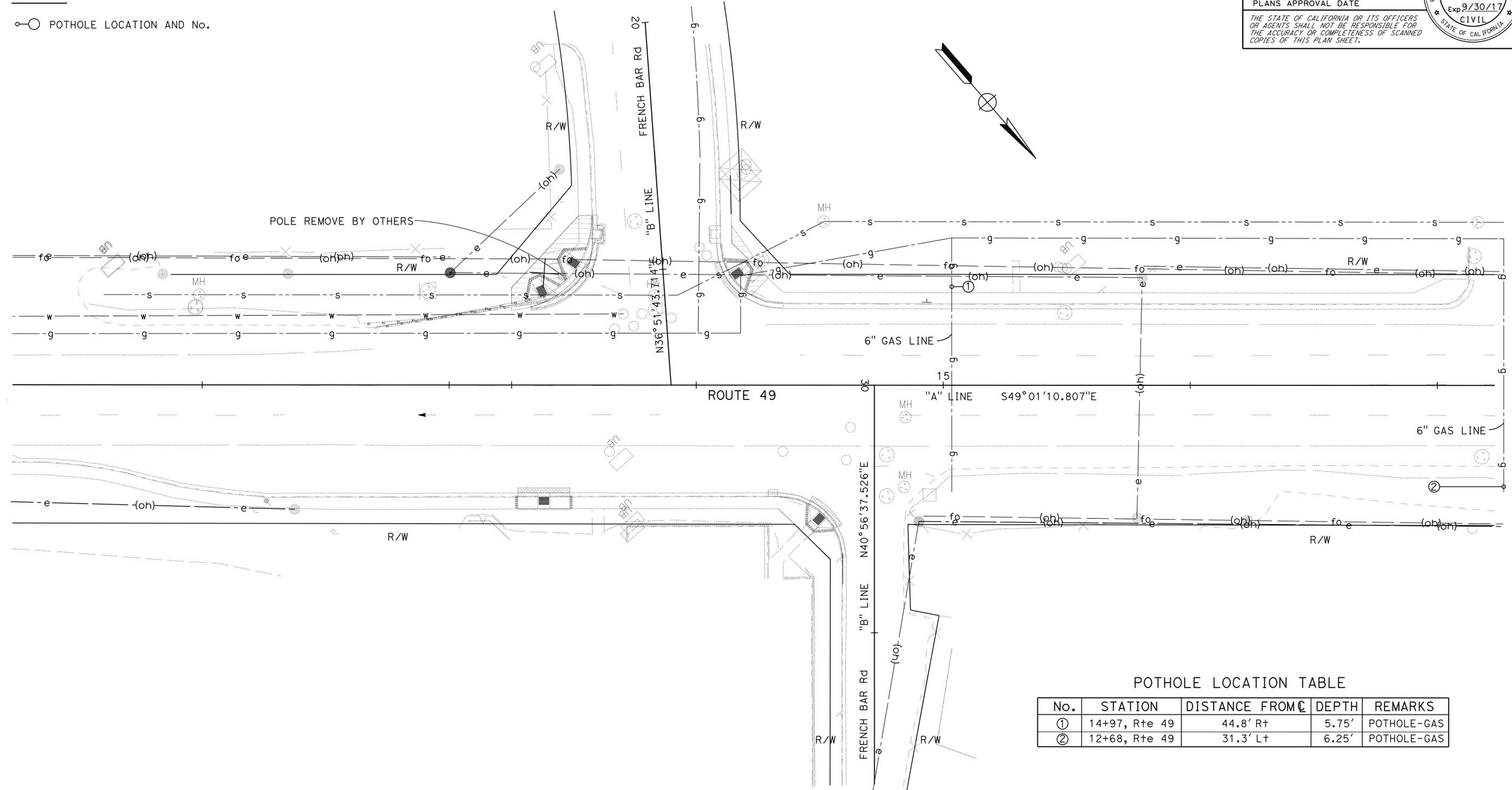
KH
 03/25/15

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

LEGEND:
 ○ POTHOLE LOCATION AND No.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	8	51

REGISTERED CIVIL ENGINEER DATE 6/1/15
 HONGLOAN LUONG
 No. C63864
 Exp 9/30/17
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
 PLANS APPROVAL DATE 6-1-15
 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.



POTHOLE LOCATION TABLE

No.	STATION	DISTANCE FROM C	DEPTH	REMARKS
①	14+97, Rte 49	44.8' Rt	5.75'	POTHOLE-GAS
②	12+68, Rte 49	31.3' Lt	6.25'	POTHOLE-GAS

APPROVED FOR UTILITY INFORMATION ONLY

UTILITY PLAN
 SCALE: 1" = 20'

U-1

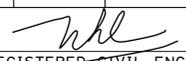
LAST REVISION DATE PLOTTED => 04-SEP-2015
 07-08-14 TIME PLOTTED => 09:34

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

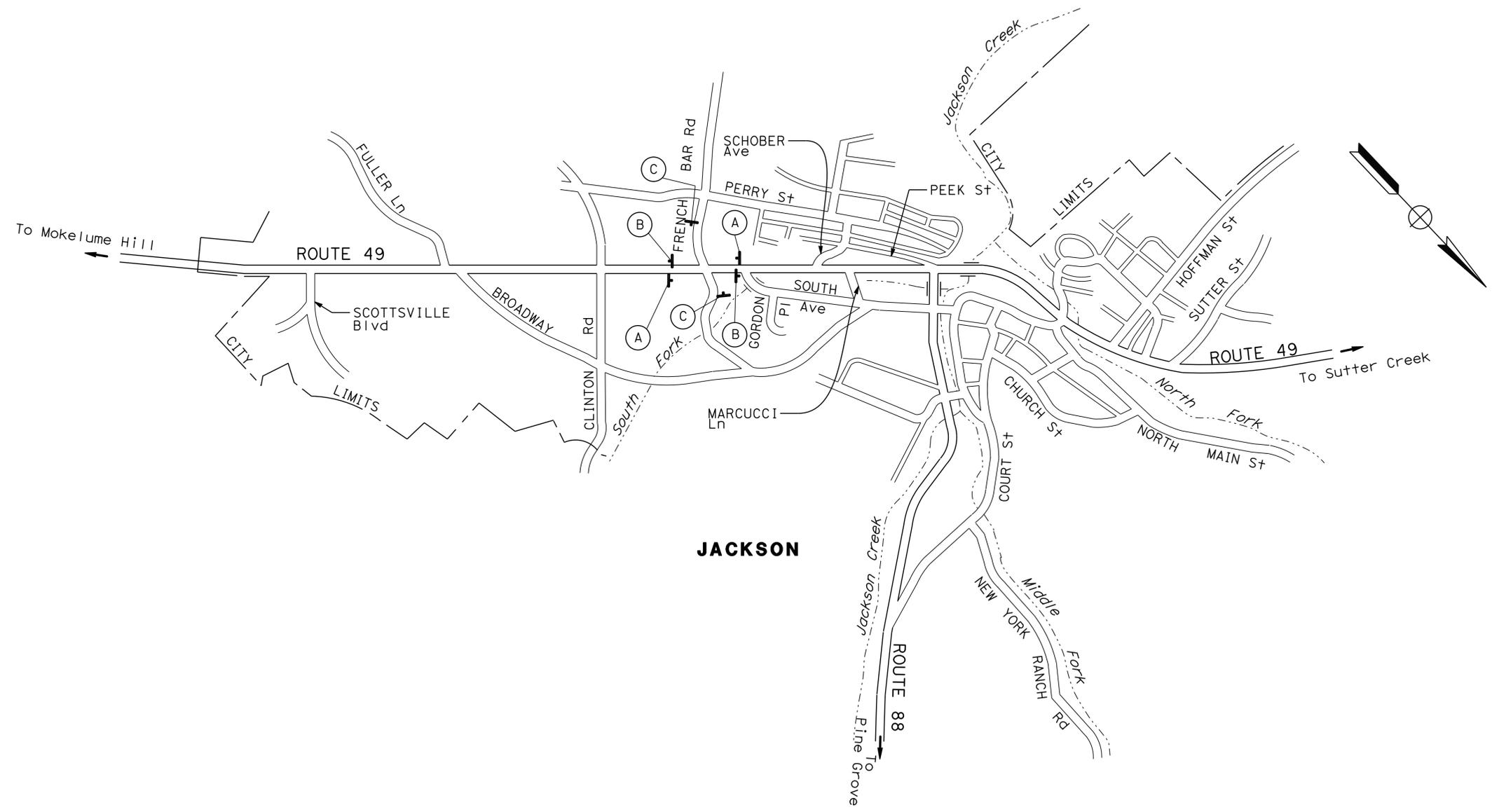
SIGN No.	SIGN CODE		PANEL SIZE	SIGN MESSAGE	No. OF POST AND POST SIZE	No. OF SIGNS
	FEDERAL	CALIFORNIA				
(A)	W20-1		48" x 48"	ROAD WORK AHEAD	1 - 6" x 6"	2
(B)	G20-2		36" x 18"	END ROAD WORK	1 - 4" x 4"	2
(C)	W20-1		36" x 36"	ROAD WORK AHEAD	1 - 4" x 4"	2

SIGN LOCATIONS SHOWN ARE APPROXIMATE, EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Amc	49	3.6	9	51


 REGISTERED CIVIL ENGINEER DATE 6/1/15
 PLANS APPROVAL DATE 6-1-15
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
 HUE NGUYEN
 No. 74484
 Exp. 12/31/15
 CIVIL
 STATE OF CALIFORNIA



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: MOHAMMED OATAMI
 CALCULATED/DESIGNED BY: [blank] CHECKED BY: [blank]
 HUE NGUYEN RAJINI TEKALKOTE
 REVISED BY: [blank] DATE REVISED: [blank]
 HN 3-24-15

CONSTRUCTION AREA SIGNS

NO SCALE **CS-1**

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

LAST REVISION DATE PLOTTED => 11-JUN-2015
 05-28-15 TIME PLOTTED => 13:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	10	51

<i>nhl</i>	6/1/15
REGISTERED CIVIL ENGINEER	DATE
6-1-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
HUE NGUYEN
No. 74484
Exp. 12/31/15
CIVIL
STATE OF CALIFORNIA

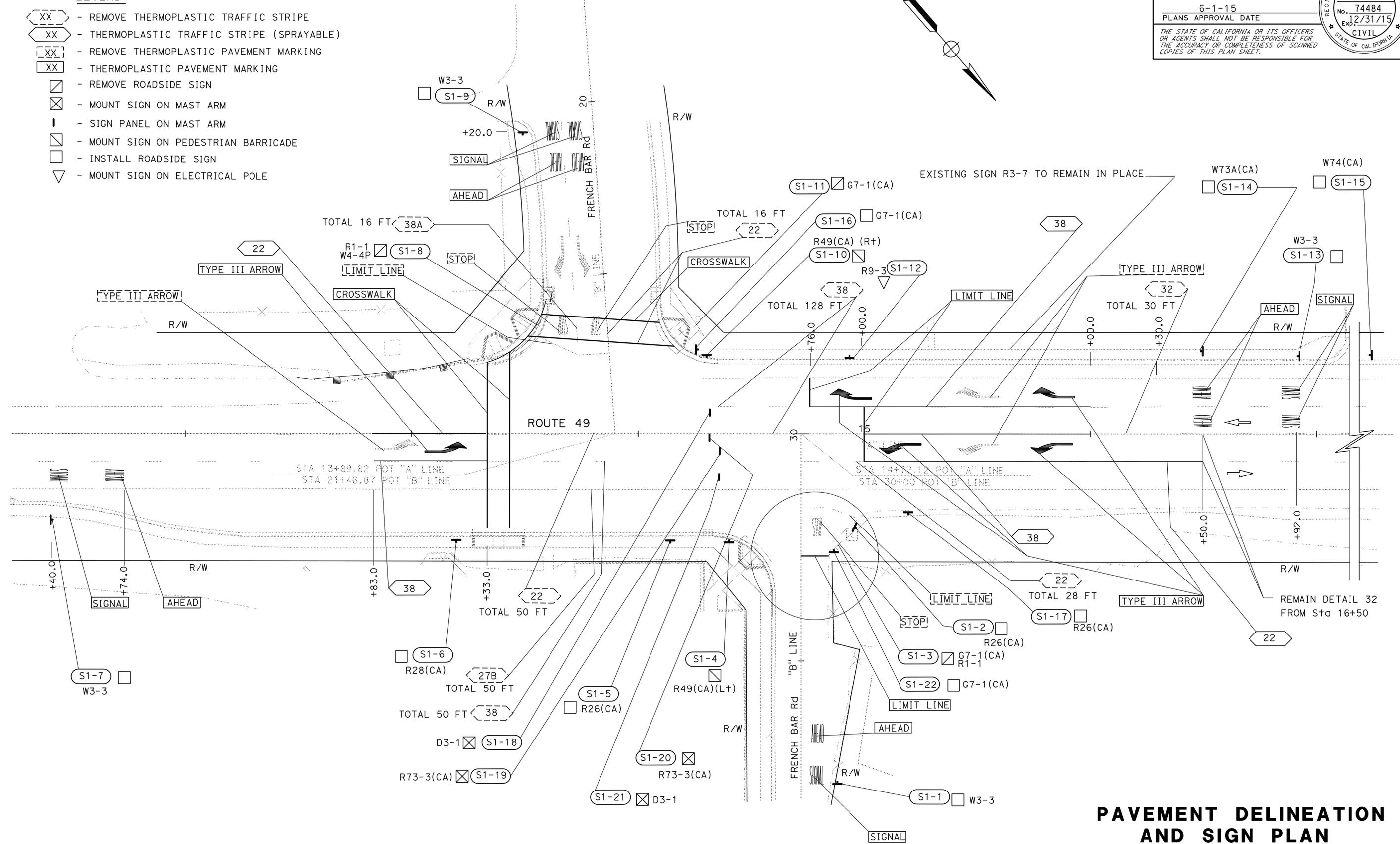
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

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

LEGEND:

- XX - REMOVE THERMOPLASTIC TRAFFIC STRIPE
- XX - THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)
- XX - REMOVE THERMOPLASTIC PAVEMENT MARKING
- XX - THERMOPLASTIC PAVEMENT MARKING
- ☒ - REMOVE ROADSIDE SIGN
- ☒ - MOUNT SIGN ON MAST ARM
- | — - SIGN PANEL ON MAST ARM
- ☒ - MOUNT SIGN ON PEDESTRIAN BARRICADE
- - INSTALL ROADSIDE SIGN
- ▽ - MOUNT SIGN ON ELECTRICAL POLE



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	TRAFFIC DESIGN
FUNCTIONAL SUPERVISOR	MOHAMMED DATAM
CALCULATED/DESIGNED BY	CHECKED BY
RAJINI TEKALKOTE	HUE NGUYEN
REVISOR	DATE
HN	3-24-15
HN	5-19-15

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

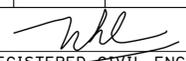
PAVEMENT DELINEATION AND SIGN PLAN

NO SCALE

PD-1



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	11	51


 REGISTERED CIVIL ENGINEER DATE 6/1/15
 PLANS APPROVAL DATE 6-1-15

REGISTERED PROFESSIONAL ENGINEER
 HUE NGUYEN
 No. 74484
 Exp. 12/31/15
 CIVIL
 STATE OF CALIFORNIA

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PAVEMENT DELINEATION QUANTITIES

SHEET No.	LOCATION	REMOVE THERMOPLASTIC TRAFFIC STRIPE LF	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE) LF	REMOVE THERMOPLASTIC PAVEMENT MARKING			REMOVE PAVEMENT MARKER EA	THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)		PAVEMENT MARKER (RETRO-REFLECTIVE)		THERMOPLASTIC PAVEMENT MARKING				
				LIMIT LINE SQFT	STOP SQFT	TYPE III ARROW SQFT		DETAIL 22	DETAIL 38	TYPE D	TYPE G	LIMIT LINE SQFT	AHEAD SQFT	SIGNAL SQFT	CROSSWALK SQFT	TYPE III ARROW SQFT
								4" YELLOW SOILD	8" WHITE SOILD							
				LF	LF	SQFT		SQFT	SQFT	EA	LF	LF	EA	EA	SQFT	SQFT
PD-1	STA 12+40.0 TO STA 13.90.0	150	100			42	9	50	50	6	3		31	32	150	42
	STA 13+90.0 TO STA 17+00.0	512	316			84	26	150	224	14	11	36	62	64		168
	FRENCH BAR RD	32	32	61	66		3					12	93	96	117	
SUBTOTAL		694	448	61	66	126	38	200	274	20	14	48	186	192	267	210
TOTAL		694	448	253			38	474		34		903				

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: MOHAMMED OATAMI
 CALCULATED/DESIGNED BY: HUE NGUYEN
 CHECKED BY: RAJINI TEKALKOTE
 REVISIONS: 3-24-15
 REVISIONS: 3-24-15
 REVISIONS: 3-24-15

PAVEMENT DELINEATION QUANTITIES

PDQ-1

LAST REVISION DATE PLOTTED => 11-JUN-2015
 05-28-15 TIME PLOTTED => 13:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	13	51

REGISTERED CIVIL ENGINEER *Hongloan Luong* DATE 6/1/15
 PLANS APPROVAL DATE 6-1-15

REGISTERED PROFESSIONAL ENGINEER
 HONGLOAN LUONG
 No. C63864
 Exp. 9/30/17
 CIVIL
 STATE OF CALIFORNIA

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

ROADWAY ITEMS

LOCATION (Rte 49)	ROADWAY EXCAVATION	EMBANKMENT (N)	HMA (TYPE A)	REPLACE AC SURFACING	TACK COAT (N)	MINOR CONCRETE (CURB, SIDEWALK AND CURB RAMP)	REMOVE GUARDRAIL	TREATED WOOD WASTE	REMOVE CONCRETE	REMOVE AC DIKE	PEDESTRIAN BARRICADE	DETECTABLE WARNING SURFACE
	CY	CY	TON	CY	TON	CY	LF	LB	CY	LF	EA	SQFT
NE CORNER (CONCRETE PAD)						0.5						12
SE CORNER (CURB)				0.7		2.1			2.1		1	12
SE CORNER (MID-BLOCK CURB)				0.8		3.1			2.6			12
NW CORNER	0.7			0.8	0.005	3.7			3.0	64	1	12
SW CORNER (CURB & SW)	22.5	1.4	14.2			8.7			4.2			24
SW CORNER							77	1070				
SW CORNER (A1-6 CURB)						0.3						
TRAF SIGN QTY (SQ-1)								73				
TOTAL	23.2		14.2	2.3		18.4	77	1143	11.9	64	2	72

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

PRE/POST CONSTRUCTION SURVEYS

SHEET No.	LOCATION	STATION	NUMBER OF CONSTRUCTION SURVEYS	DESCRIPTION
			EA	
C2	RTE 49 "A" LINE - SE CORNER	15+48.47	1	CURB RAMP
C1	RTE 49 "A" LINE - SW CORNER	16+53.66	2	CURB RAMPS
C2	RTE 49 "A" LINE - NW CORNER	15+85.72	1	CURB RAMP
TOTAL			4	

TEMPORARY DRAINAGE INLET PROTECTION

LOCATION (RTE 49)	EA
SE CORNER	1
NW CORNER	1
SW CORNER	1
TOTAL	3

EROSION CONTROL

LOCATION (RTE 49)	WOOD MULCH
	CY
SW CORNER	4

SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: JOSE HUERTA
 CALCULATED/DESIGNED BY: KENNY HOANG
 CHECKED BY: HONGLOAN T. LUONG
 REVISED BY: KH
 DATE REVISED: 3/26/15



Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Amc	49	3.6	14	51

6/1/15
 REGISTERED ELECTRICAL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE

JASPAL SINGH
 No. E 16657
 Exp. 8-30-16
 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:

1 120/240 V, 1Ø, 3-WIRE, TYPE III-CF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

Ctid No. 10260490003600S

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	---
60	120	1	TRAFFIC SIGNAL	YES	---
30	120	1	SPARE	YES	---
-	-	3	SPACE	YES	---

Ctid No. 10260490003600L

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	---
30	240	2	HIGHWAY LIGHTING	YES	V
15	120	1	LIGHTING CONTROL	YES	---
15	120	1	TDC	YES	---
15	120	1	SPARE	YES	---
-	-	3	SPACE	YES	---

- 2 DEPARTMENT-FURNISHED MODEL 2070E CONTROLLER ASSEMBLY.
- 3 FURNISH AND INSTALL THE BBS AND WSEM.
- 4 GPEVD RECEIVER, SEE INSTALLATION DETAIL ON SHEET SES-1.
- 5 IP CAMERA ASSEMBLY ATTACHED TO THE SIDE OF THE Sig POLE. USE MISCELLANEOUS MOUNTING DETAILS SHOWN ON ES-7R, DETAIL D.
- 6 TYPE C TELEPHONE DEMARCATION CABINET.
- 7 YAGI ANTENNA, SEE INSTALLATION DETAIL ON SHEET SES-2.
- 8 PULLBOX PER UTILITY REQUIREMENTS.
- 9 NOT USED
- 10 2"C, 2#4 (SIGNAL), 2#6 (Ltg), 2#10 (TDC)
- 11 TYPE I PEDESTRIAN BARRICADE. INSTALL R49 (CA) ON BARRICADE.
- 12 SPLICE LOOP DETECTORS AS SHOWN IN DETAIL A ON SHEET E-2.
- 13 Exist 2-4"C, 8-12CSC, 8-3CSC, 24 DLC, ADD 1-LLC
- 14 Exist 1-4"C, 5-12CSC, 5-3CSC, 15 DLC, ADD 1-LLC
- 15 YAGI ANTENNA, INSTALL ON Exist SIGNAL POLE AS PER DETAIL ON SHEET SES-2.
- 16 Exist 3"C, ADD GPEVD CABLE
- 17 Exist 2-4"C, ADD GPEVD CABLE
- 18 1½"C, 2#10 (TDC)
- 19 2"C, 1-TELEPHONE CABLE
- 20 2"C, PT (TELEPHONE CABLE BY UTILITY)
- 21 3"C, PT (CONDUCTORS BY UTILITY)
- 22 3"C, 3#1/0
- 23 SEE SIGN PLANS FOR SIGN DETAILS.
- 24 Exist Ltg ON PG&E POLE MUST REMAIN IN PLACE UNTIL Ltg POLE © IS INSTALLED. COORDINATE WITH PG&E.
- 25 COORDINATE WITH PG&E AND AT&T FOR ALL UTILITY SERVICE CONNECTION REQUIREMENTS.

CONDUIT AND CONDUCTOR SCHEDULE

CONDUCTOR DESIGNATION	CONDUIT RUN NUMBER AND SIZE	CONDUIT RUN NUMBER AND SIZE													
		1	2	3	4	5	6	7	8						
Veh-Ped 12CSC	(A) 4,4P	6	1	1	1	1									
	(B) 1,3,5,6,6P	2	2	2	2										
	(C) 3,6	1	1	1	1	1									
	(D) 3,2P	2	1	1	1		1	1	1	1					
	(E) 1,2,4,5,2P	2	2					2	2						
	(F) 2,4,4P	4	1	1	1				1	1					
	(G) 6P	4	1	1	1										
	(H) PBAP	6	1	1	1	1									
	(I) PBAP	2	1	1	1				1	1					
	TOTAL		9	6	9	6	4	2	3	1	1	3	2	4	3
AWG	CIRCUIT														
#4	SIGNAL	2													
#6	LIGHTING		2	2	2			2	2	2					
#10	TDC			2	2										
LLC		1	1												
APS CABLE				2											
CAT 5E CABLE		1	1	1	1										
IP CAMERA POWER CABLE		1	1	1	1										
DLC	PHASE														
	Ø1	2	2	2	2	2									
	Ø2	1	1										1		
	Ø2 ADV/INT	4	4										4		
	Ø3	2	2					2	2	2					
	Ø4	3	3	3											
	Ø5	2	2										2		
Ø6	2	2	2	2	2										
Ø6 ADV/INT	4	4	4	4	4										
TOTAL		20	20	11	8	8	2	2	9						

ABBREVIATIONS:

- PG&E- PACIFIC GAS AND ELECTRIC COMPANY
- AT&T- AMERICAN TELEPHONE AND TELEGRAPH
- GPEVD- GLOBAL POSITIONING EMERGENCY VEHICLE DETECTION
- IP- INTERNET PROTOCOL
- WSEM- WIRELESS SERIAL ETHERNET MODEM
- LLC- LOW LOSS COAXIAL CABLE
- PBAP- PUSH BUTTON ASSEMBLY POST

SYMBOLS:

- ⊖ GPS EVUD
- ⚡ YAGI ANTENNA

POLE AND EQUIPMENT SCHEDULE

No.	STANDARD		Veh Sig Mtg	Ped Sig Mtg	APS ASSEMBLY		LED Lum	SPECIAL REQUIREMENTS
	TYPE	SMA LMA			Ø	DIRECTION		
(A)	I-A	- -	TV-I-T	SP-I-T	6	→	-	
(B)	29-5-100	50' 15'	MAS MAS	SV-3-T	SP-I-T	-	-	RW-I [IS] R73-3(CA) AND D3 [4] [5] [23]
(C)	16-3-100	20' -	MAS	SV-2-T	-	-	-	[IS] D3 AND R9-3 ON POLE [23]
(D)	15TS	- 15'	-	SV-I-T	SP-I-T	2	→	RW-I
(E)	27-4-100	45' -	MAS MAS	SV-3-T	SP-I-T	2	←	[IS] R73-3(CA) AND D3 [23]
(F)	16-3-100	25' -	MAS	SV-2-T	SP-I-T	4	←	[IS] D3 [23]
(G)	15TS	- 15'	-	SV-I-T	SP-I-T	4	←	RW-I [7]
(H)	PBAP	- -	-	-	-	6	←	-
(I)	PBAP	- -	-	-	-	2	→	-

LEGENDS, SYMBOLS, SCHEDULES AND ABBREVIATIONS

NO SCALE

E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 JASPAL SINGH
 REVISOR BY
 06/01/15
 DATE REVISOR
 FRED IYASERE
 CHECKED BY
 ALI BAKHDOUD
 FUNCTIONAL SUPERVISOR

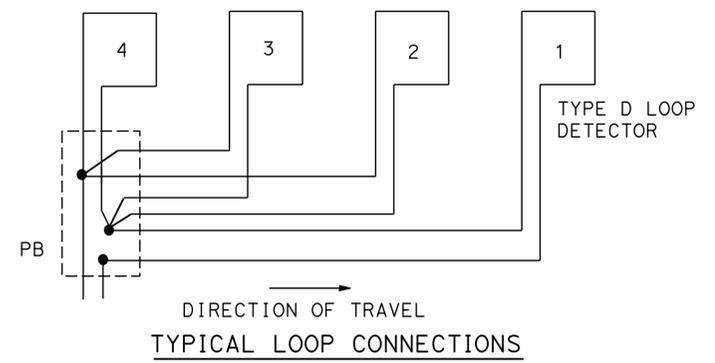
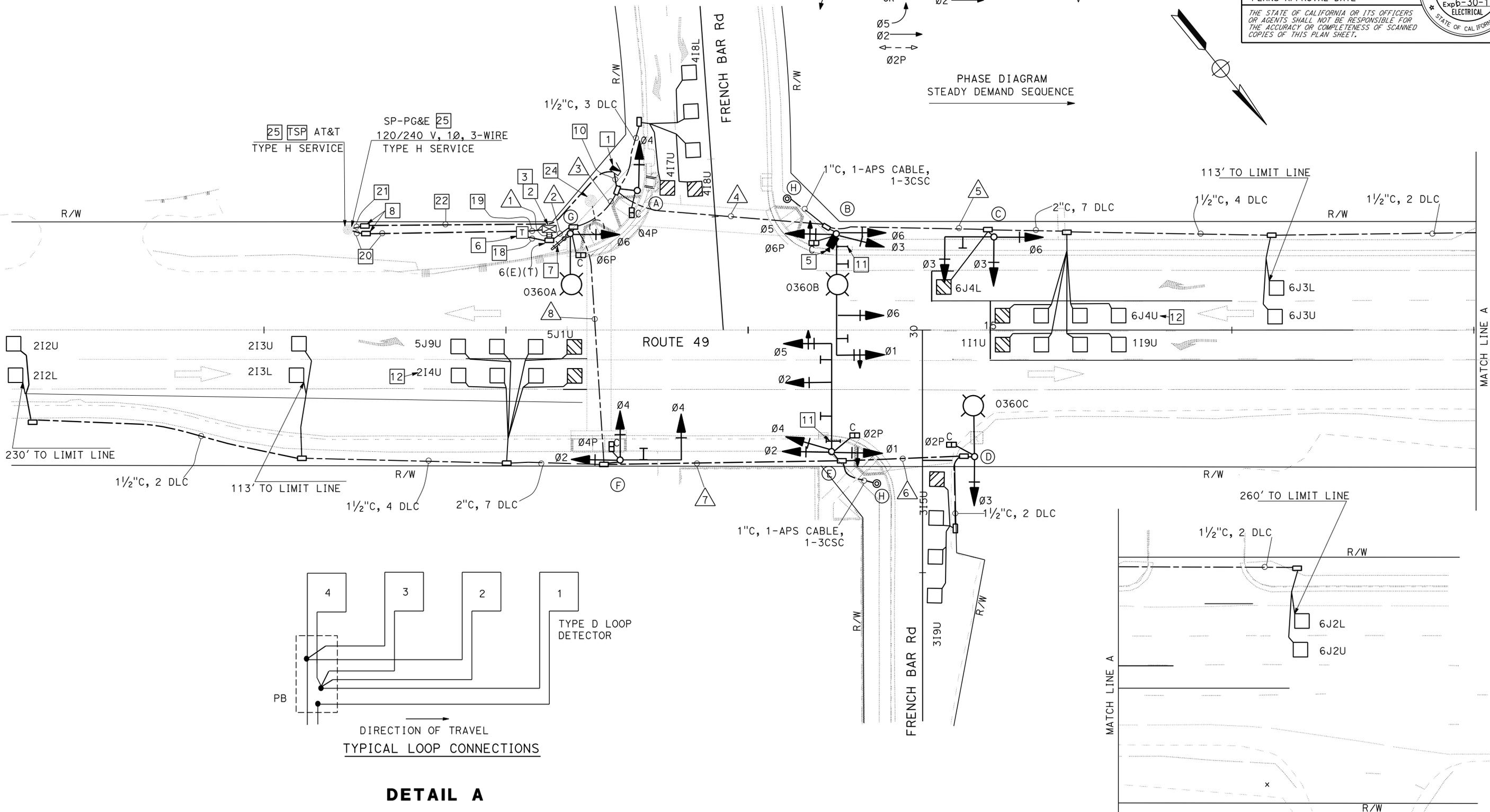
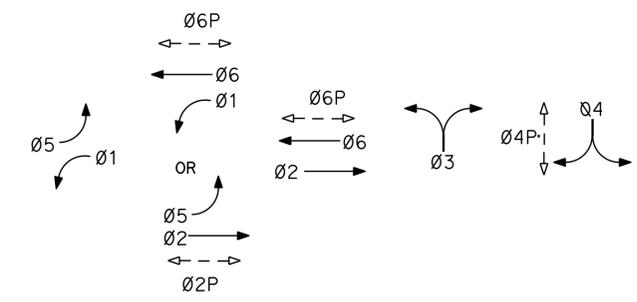
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 TIME PLOTTED => 13:33

Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Ama	49	3.6	15	51

<i>Jaspal Singh</i>	6/1/15
REGISTERED ELECTRICAL ENGINEER	DATE
6-1-15	
PLANS APPROVAL DATE	

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

- NOTES:**
- ALL PULL BOXES ADJACENT TO SIGNAL STANDARD MUST BE No. 6(E)(T), ALL OTHER PULL BOXES MUST BE No. 5(T), UNLESS OTHERWISE NOTED.
 - FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



SIGNAL AND LIGHTING

SCALE: 1"=20'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
CALCULATED/DESIGNED BY: JASPAL SINGH
CHECKED BY: FRED IYASERE
REVISED BY: JS
DATE REVISED: 06/01/15

APPROVED FOR ELECTRICAL WORK ONLY



LAST REVISION | DATE PLOTTED => 11-JUN-2015
TIME PLOTTED => 13:33

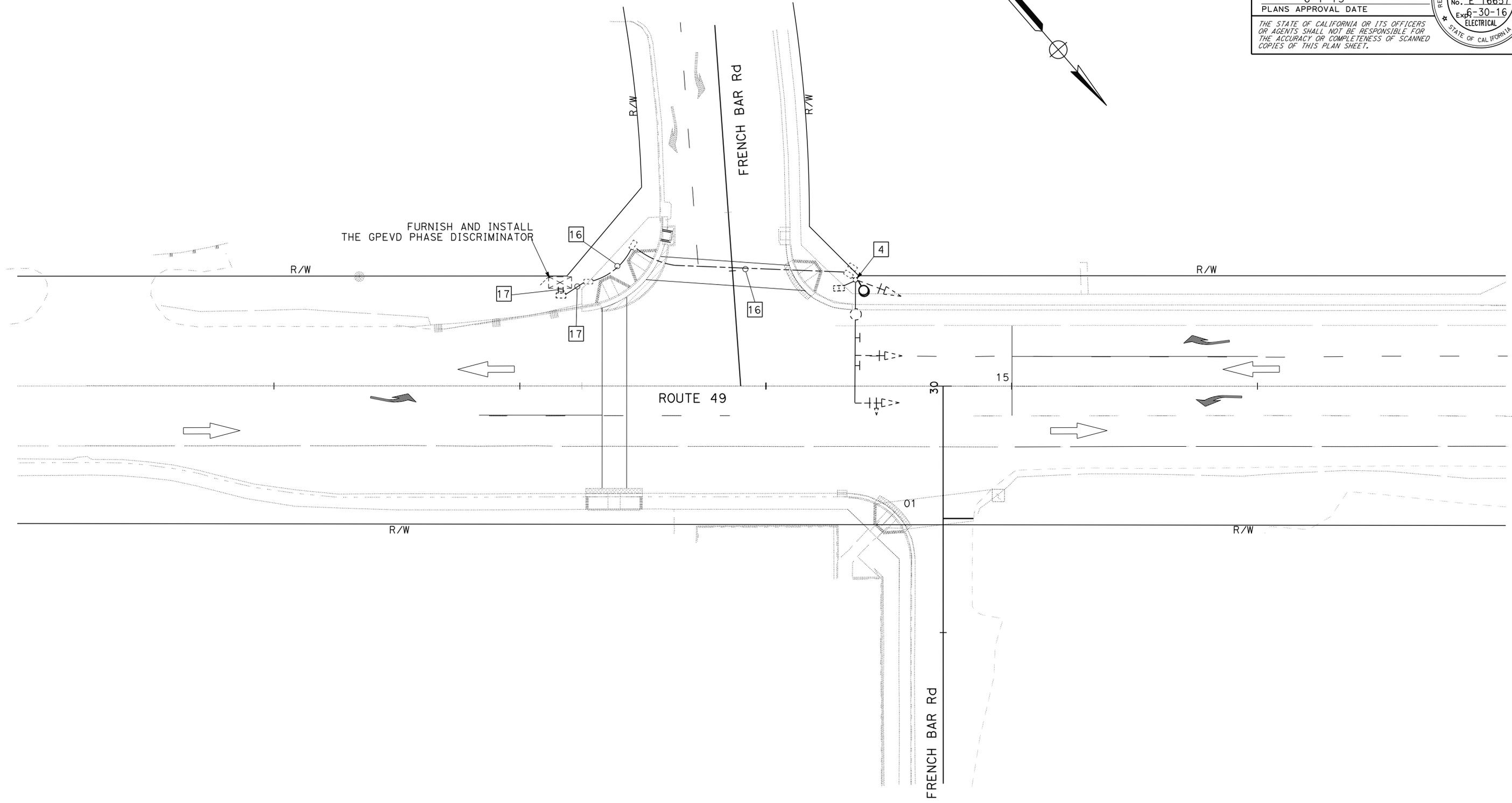
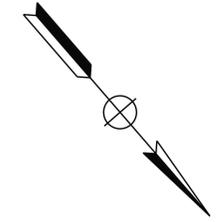
Dist	COUNTY	LOCATION CODE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Amo	49	3.6	16	51

<i>Jaspal Singh</i>	6/1/15
REGISTERED ELECTRICAL ENGINEER	DATE
6-1-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
JASPAL SINGH
 No. E 16657
 Exp. 8-30-16
 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:**
- ELECTRIAL EQUIPMENT SHOWN AS Exist TO BE INSTALLED ON SHEET E-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: JASPAL SINGH
 CHECKED BY: FRED IYASERE
 REVISED BY: JS
 DATE REVISED: 06/01/15

GLOBAL POSITIONING EMERGENCY VEHICLE DETECTION SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=20'

E-3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Am	49	3.6	17	51

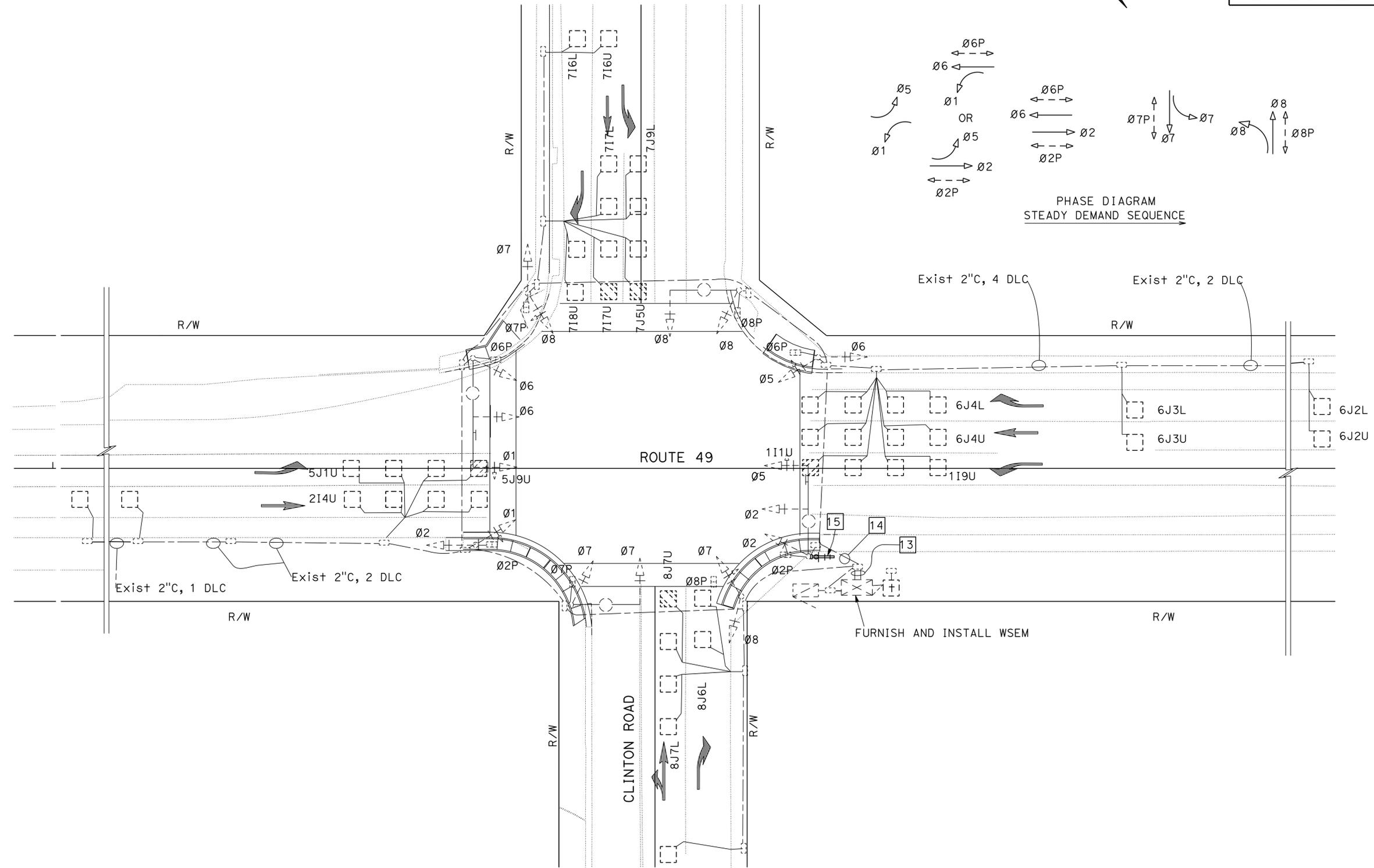
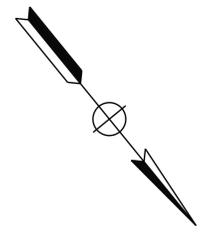
<i>Jaspal Singh</i>	6/1/15
REGISTERED ELECTRICAL ENGINEER	DATE
6-1-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
JASPAL SINGH
 No. E 16657
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

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NOTES:

1. DETAILS OF Exist SIGNAL ARE NOT SHOWN.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



FURNISH AND INSTALL WSEM

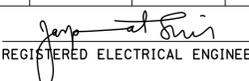
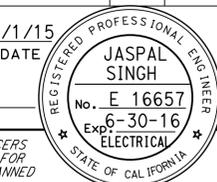
MODIFY SIGNAL

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISOR	DATE
Caltrans ELECTRICAL DESIGN	ALT BAKHDOUD	JASPAL SINGH FRED IYASERE	JS	06/01/15

APPROVED FOR ELECTRICAL WORK ONLY



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Amo	49	3.6	18	51
 REGISTERED ELECTRICAL ENGINEER DATE 6/1/15					
PLANS APPROVAL DATE 6-1-15					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTE:

THE QUANTITIES SHOWN IN THE TABLES ARE NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY. FOR COMPLETE ELECTRICAL WORK, SEE ELECTRICAL PLANS.

SIGNAL AND LIGHTING

SHEET No.	No. 5 (T) PB	No. 6 (E)(T) PB	PG&E PB	AT&T PB	TYPE A LOOP DETECTORS	TYPE D LOOP DETECTORS	1 1/2" C TYPE 3	2" C TYPE 3	3" C TYPE 3	4" C TYPE 1	3" C TYPE 1	No. 1/0 CONDUCTOR (AL)	No. 4 CONDUCTOR (AL)	No. 6 CONDUCTOR (AL)	DLC	3CSC	12CSC	LLC	Tel CABLE	CAT 5E CABLE	IP CAMERA POWER CABLE
	EA						LF														
E-2	9	8	1	1	26	8	420	120	460	15	12	350	120	760	5050	520	1200	60	180	180	180

SIGNAL AND LIGHTING

SHEET No.	TYPE III-CF SERVICE EQUIPMENT ENCLOSURE	TYPE III-CF SERVICE EQUIPMENT ENCLOSURE FOUNDATION	TYPE C TDC CABINET	TYPE C TDC FOUNDATION	BBS	TYPE 1A STANDARD WITH Sig EQUIPMENT	TYPE 27-4-100 STANDARD WITH Sig EQUIPMENT	TYPE 29-5-100 STANDARD WITH Sig EQUIPMENT	TYPE 16-3-100 STANDARD WITH Sig EQUIPMENT	TYPE 15TS STANDARD WITH Sig EQUIPMENT	TYPE 1A STANDARD FOUNDATION	TYPE 29-5-100 STANDARD FOUNDATION	TYPE 27-4-100 STANDARD FOUNDATION	TYPE 16-3-100 STANDARD FOUNDATION	TYPE 15TS STANDARD FOUNDATION
	EA														
E-2	1	1	1	1	1	1	1	1	2	2	1	1	1	2	2

SIGNAL AND LIGHTING

SHEET No.	PBAP WITH APS	PBAP FOUNDATION	MODEL 332L CONTROLLER CABINET FOUNDATION	IP CAMERA ASSEMBLY	YAGI ANTENNA
	EA				
E-2	2	2	1	1	1

GLOBAL POSITIONING EMERGENCY VEHICLE DETECTION SYSTEM

SHEET No.	GPEVD RECEIVER	GPEVD PHASE DISCRIMINATOR	GPEVD CABLE	No. 10 CONDUCTOR (CU)
	EA		LF	
E-3	1	1	80	80

MODIFY SIGNAL

SHEET No.	YAGI ANTENNA	LLC
	EA	LF
E-4	1	150

ELECTRICAL QUANTITIES

E-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUN
 JASPAL SINGH
 FRED IYASERE
 CALCULATED/DESIGNED BY: JAS
 CHECKED BY: JS
 REVISOR: JS
 DATE REVISED: 06/01/15

LAST REVISION: 6-1-15
 DATE PLOTTED => 17-JUN-2015
 TIME PLOTTED => 13:27

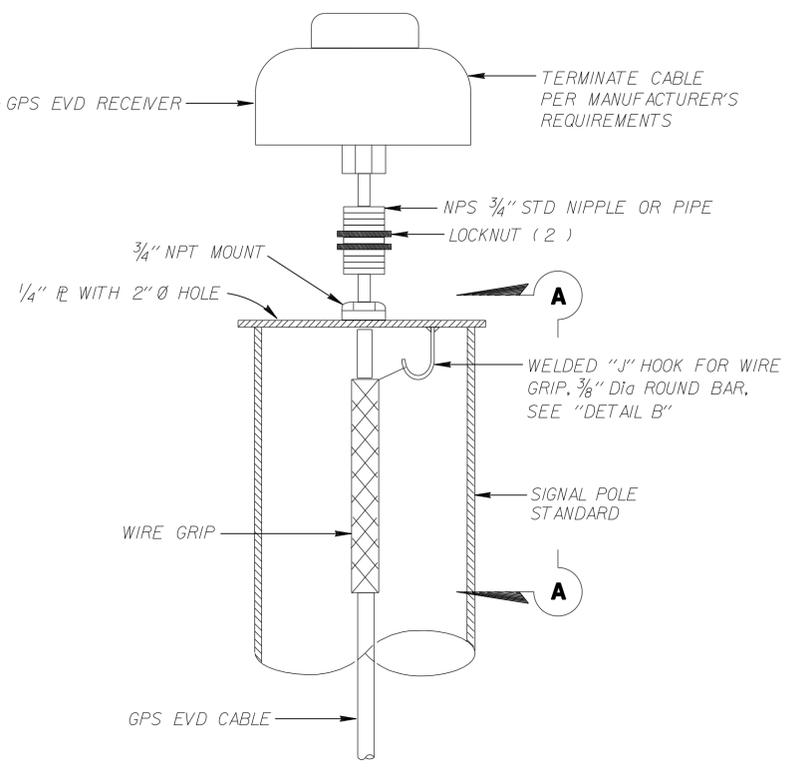
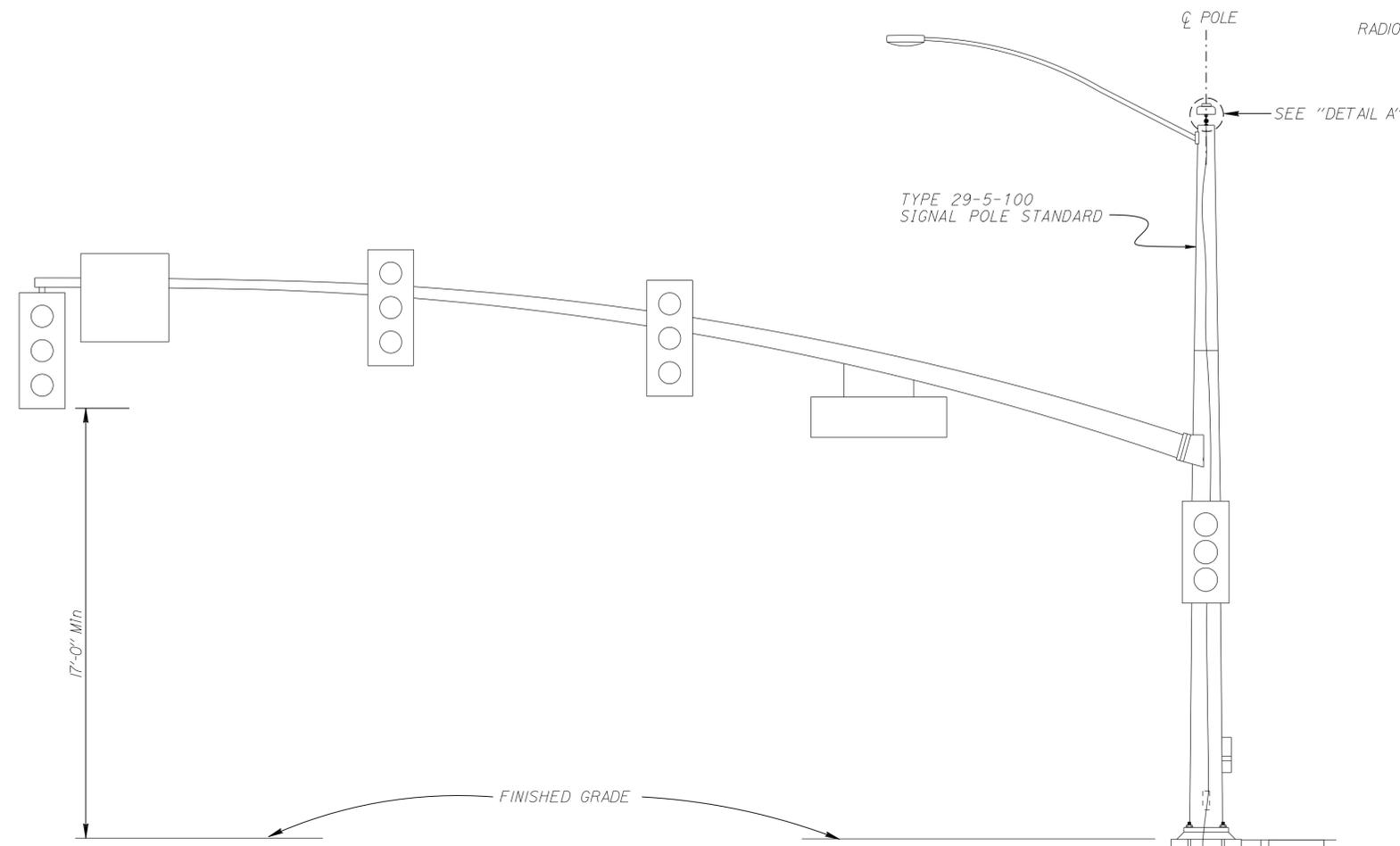
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Amc	49	3.6	19	51

Eliseo Lopez
 REGISTERED CIVIL ENGINEER 8-28-14 DATE

6-1-15
 PLANS APPROVAL DATE

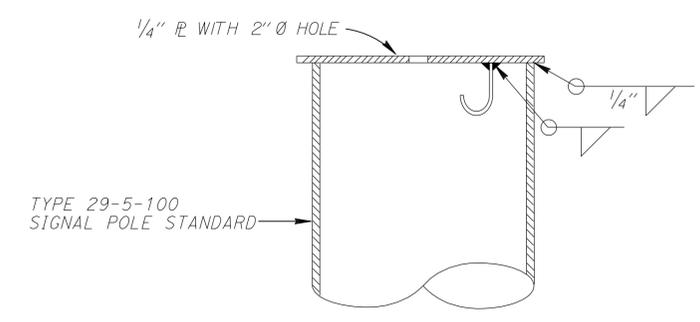
REGISTERED PROFESSIONAL ENGINEER
 ELISEO LOPEZ
 No. C72910
 Exp. 12/31/16
 CIVIL
 STATE OF CALIFORNIA

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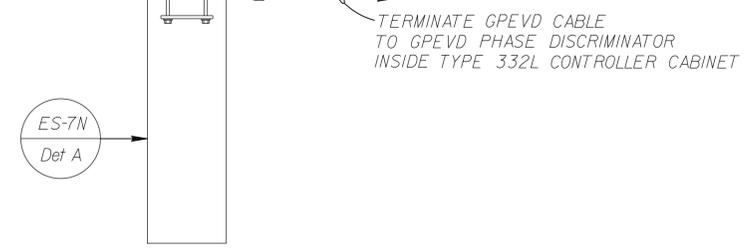


**RADIO-GPS EVD
 RECEIVER MOUNTING
 DETAIL A**

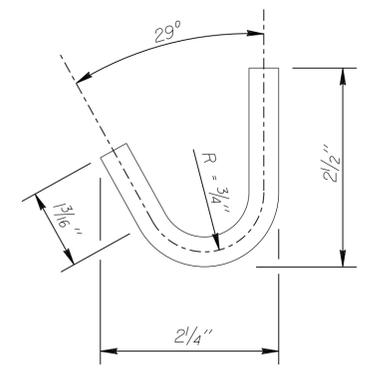
- ABBREVIATIONS:**
- EVD - Emergency Vehicle Detector
 - GPS - Global Positioning Satellite
- NOTES:**
- Exact mounting location of the Radio-GPS EVD Receiver must be approved by the Engineer per manufacturer's recommendations.
 - Location of cable entrances on signal pole must be a minimum of 1'-0" from any flange or base plate.
 - Hybrid cable entrances on signal pole must be drilled for watertight coupling as required.
 - Hybrid cable must have a drip loop at the entrance into signal pole, luminaire mast arm and signal mast arm.
 - Use the manufacturer's Effective Projected Area (EPA) for the Radio-GPS EVD receiver attachment. The maximum EPA shall be 1.6 square feet.
 - For details not shown, see 2010 "STANDARD PLANS" and 2010 "REVISED STANDARD PLANS".



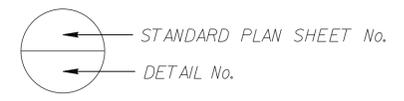
SECTION A-A



**ELEVATION
 TYPE 29-5-100**



**J HOOK
 DETAIL B**



NO SCALE

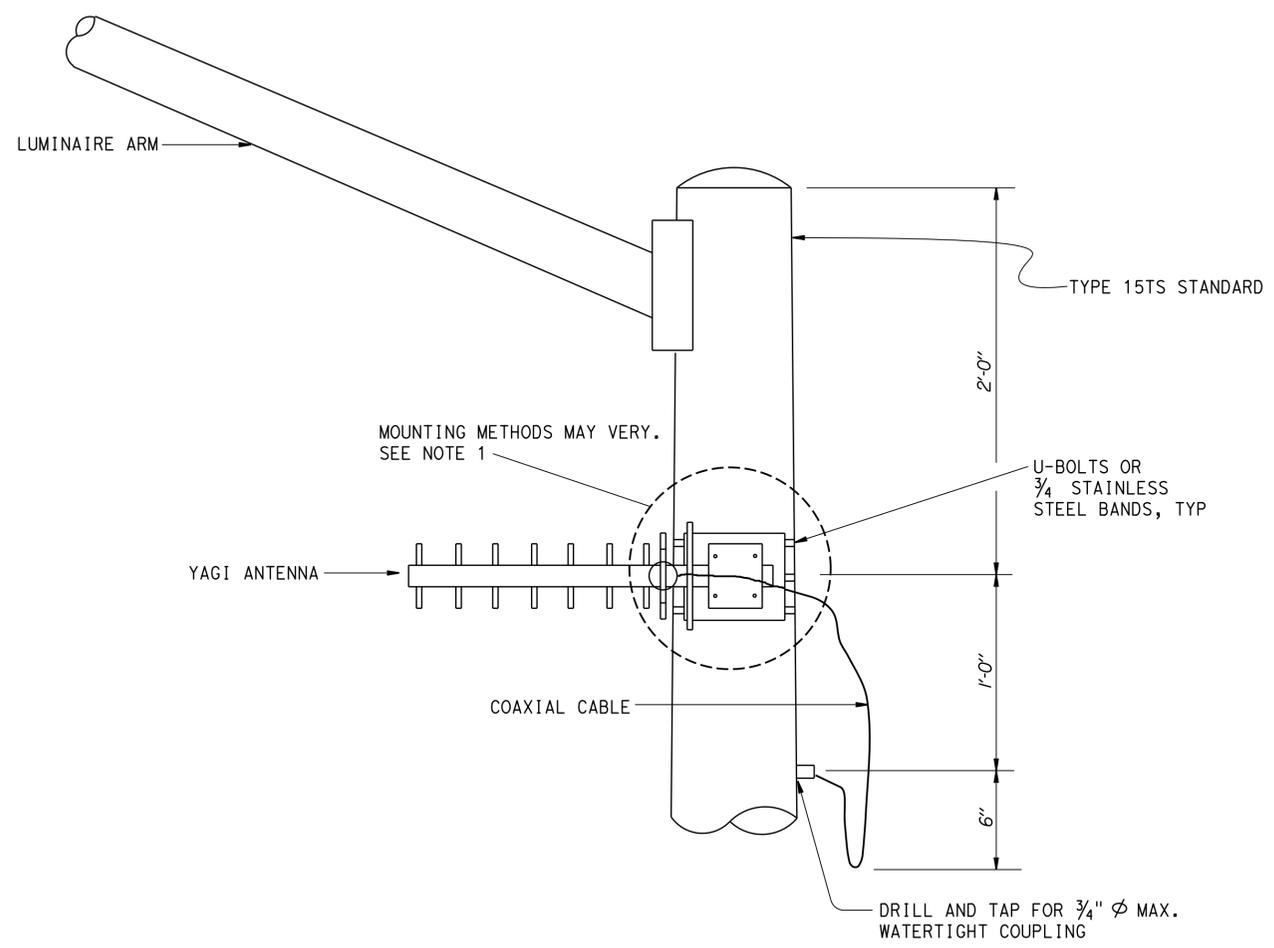
BRANCH CHIEF JEFFREY B WOODY	DESIGN BY ELISEO LOPEZ	CHECKED MAHFOUD LICHA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH A	BRIDGE NO. N/A	RADIO - GPS EVD RECEIVER MOUNTING DETAILS	SES-1
	DETAILS BY JINLI GUO	CHECKED MAHFOUD LICHA			POST MILE 3.6		
(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3619 PROJECT NUMBER & PHASE: 1000020631-1	CONTRACT NO.: 10-OW3601	REVISION DATES	SHEET OF
				0	1	2	3
				DISREGARD PRINTS BEARING EARLIER REVISION DATES		8/14/14	5/29/15
				FILE => spec_des_br_prj/2014sd/10-0w3601/10-0w3601-ses1.dgn		1	2

DATE PLOTTED => 11-JUN-2015 13:34 USERNAME => s120300

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Amc	49	3.6	20	51

Eliseo Lopez
 REGISTERED CIVIL ENGINEER DATE 8-28-14
 PLANS APPROVAL DATE 6-1-15
 No. C72910
 Exp. 12/31/16
 CIVIL
 STATE OF CALIFORNIA

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GENERAL NOTES:

LOADING

WIND LOADING: (3-SECOND GUST) 100MPH

NOTES:

1. MANUFACTURER'S MOUNTING PLATE OR ADAPTORS MUST BE POSITIVELY CONNECTED WITH FLAT WASHER, LOCK WASHERS, AND NUTS OR EQUIVALENT. MOUNTING PLATE AND ADAPTOR MUST BE SUBMITTED BY CONTRACTOR FOR ENGINEER'S APPROVAL.

**ELEVATION
TYPE 15TS**

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

NO SCALE

BRANCH CHIEF JEFFREY B WOODY	DESIGN	BY ELISEO LOPEZ	CHECKED MAHFOUD LICHA	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH A	BRIDGE NO.	TYPE 15TS POLE COUPLING MOUNTING DETAIL	SES-2
	DETAILS	BY JINLI GUO	CHECKED MAHFOUD LICHA			N/A		
	QUANTITIES	BY	CHECKED			POST MILE 3.6		

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 UNIT: 3619 PROJECT NUMBER & PHASE: 1000020631-1 CONTRACT NO.: 10-0w3601 DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES 8/18/14 8/22/14 8/28/14 SHEET 2 OF 2

FILE => spec_des_br_prj/2012sd/04-4A9251/10-0w3601-ses2.dgn

DATE PLOTTED => 17-JUN-2015 TIME PLOTTED => 14:01 USERNAME => s120300

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	21	51

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Grace M. Tsushima
REGISTERED PROFESSIONAL ENGINEER
No. C49814
Exp. 9-30-14
CIVIL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 6-1-15

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 ³ , 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.

REVISED STANDARD PLAN RSP A10B

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
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
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
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

M

P continued

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	PREFORMED 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
Qty	QUANTITY
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

Q

R

S

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
T	SEMI-TANGENT
Tan	TANGENT
TBB	THRIE BEAM BARRIER
Tbr	TIMBER
TC	TOP OF CURB
TCB	TRAFFIC CONTROL BOX
TCE	TEMPORARY CONSTRUCTION EASEMENT
TeI	TELEPHONE
Temp	TEMPORARY
TG	TOP OF GRADE
Tot	TOTAL
TP	TELEPHONE POLE
TPB	TREATED PERMEABLE BASE
TPM	TREATED PERMEABLE MATERIAL
Trans	TRANSITION

T

T continued

TS	TRANSVERSE, TRAFFIC SIGNAL, TUBULAR STEEL
Typ	TYPICAL
UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS
V	VALVE, DESIGN SPEED
Var	VARIABLE, VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Vert	VERTICAL
Via	VIADUCT
Vol	VOLUME
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
X Sec	CROSS SECTION
Xing	CROSSING
Yr	YEAR
Yrs	YEARS

U

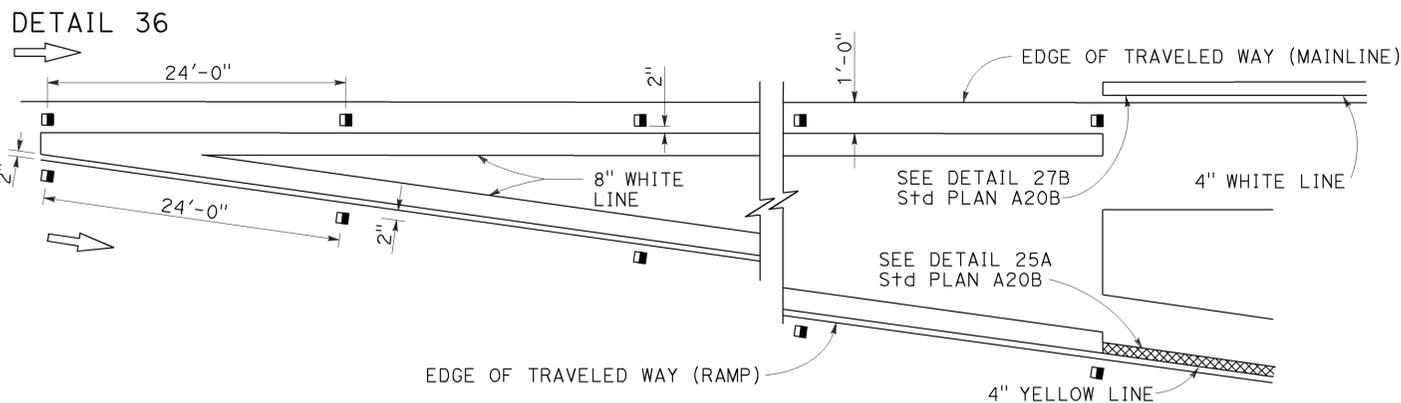
V

W

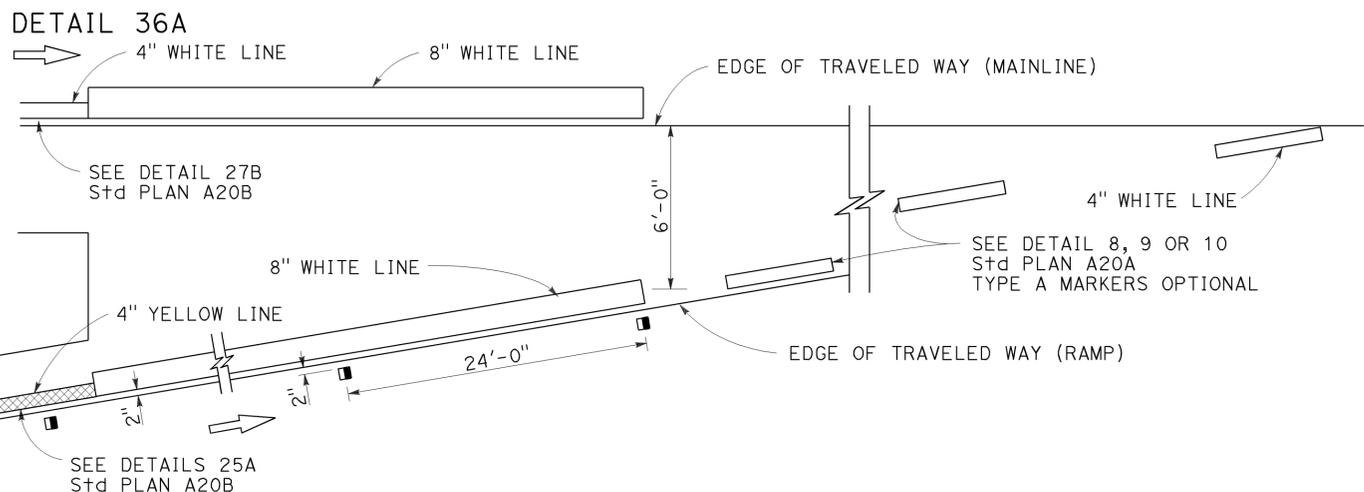
X

Y

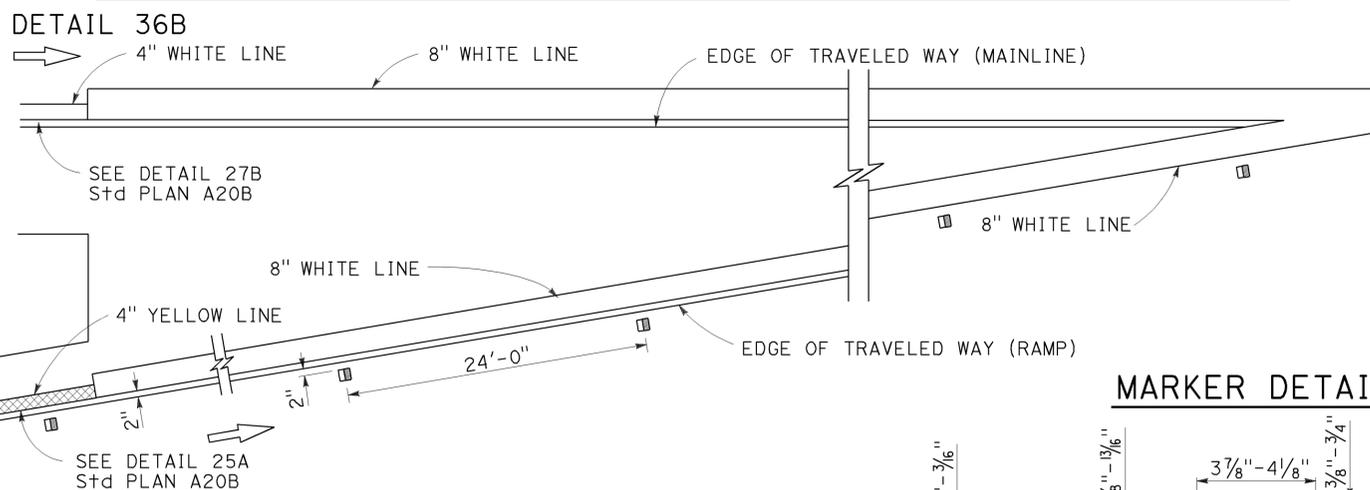
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

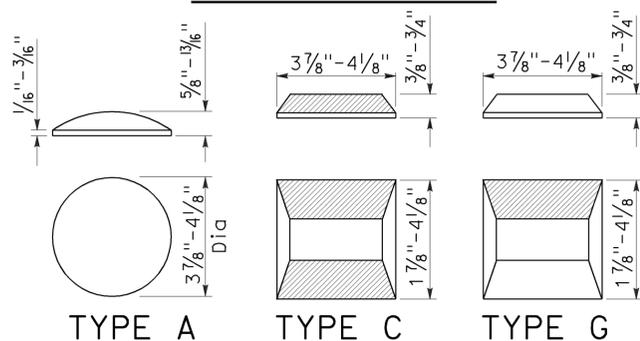


MARKER DETAILS

LEGEND:

MARKERS

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



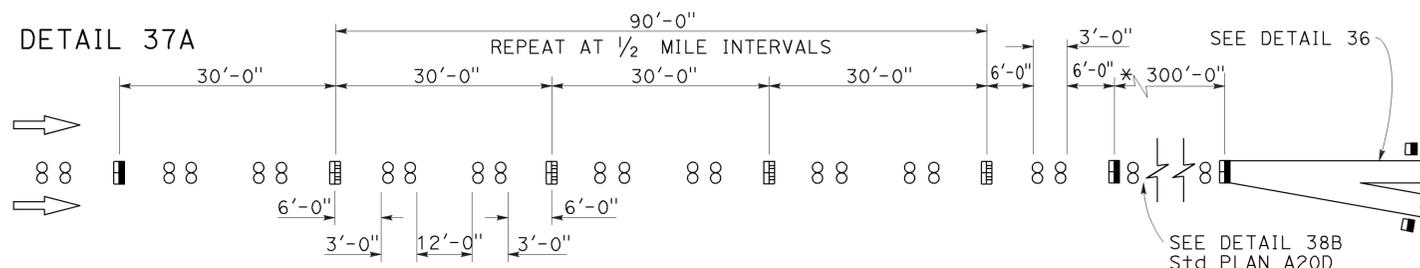
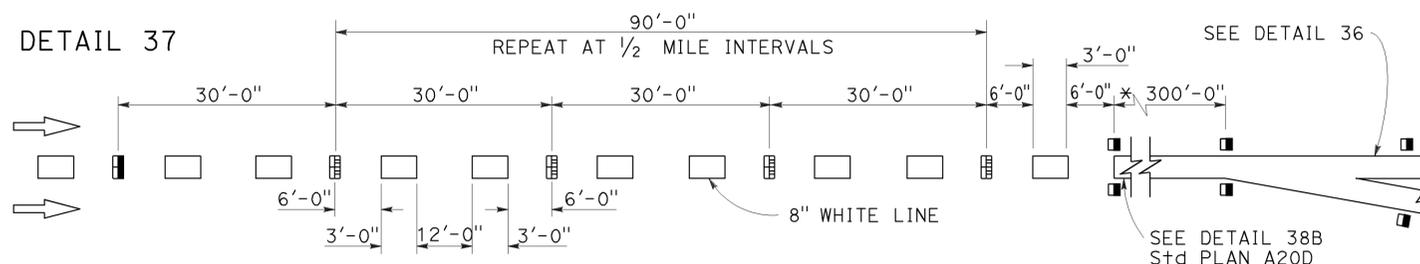
RETROREFLECTIVE FACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	22	51

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.

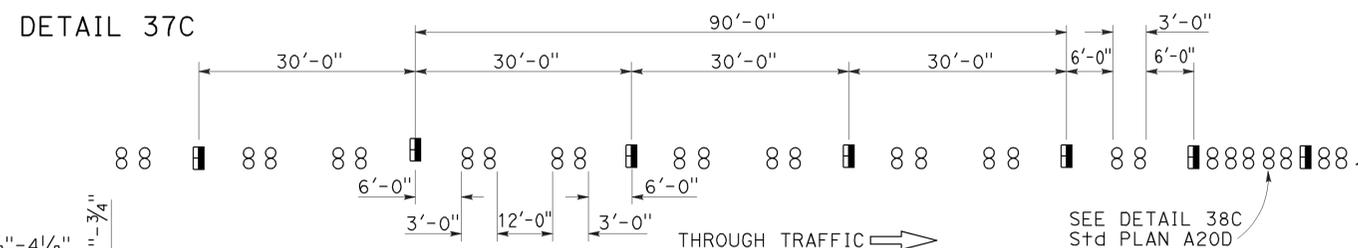
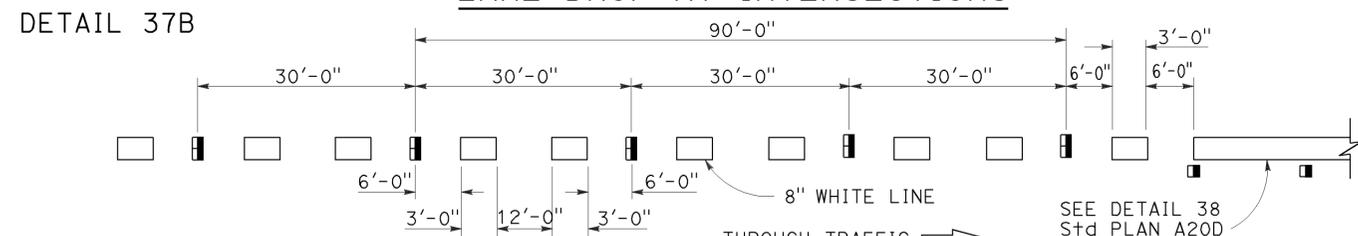
TO ACCOMPANY PLANS DATED 6-1-15

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

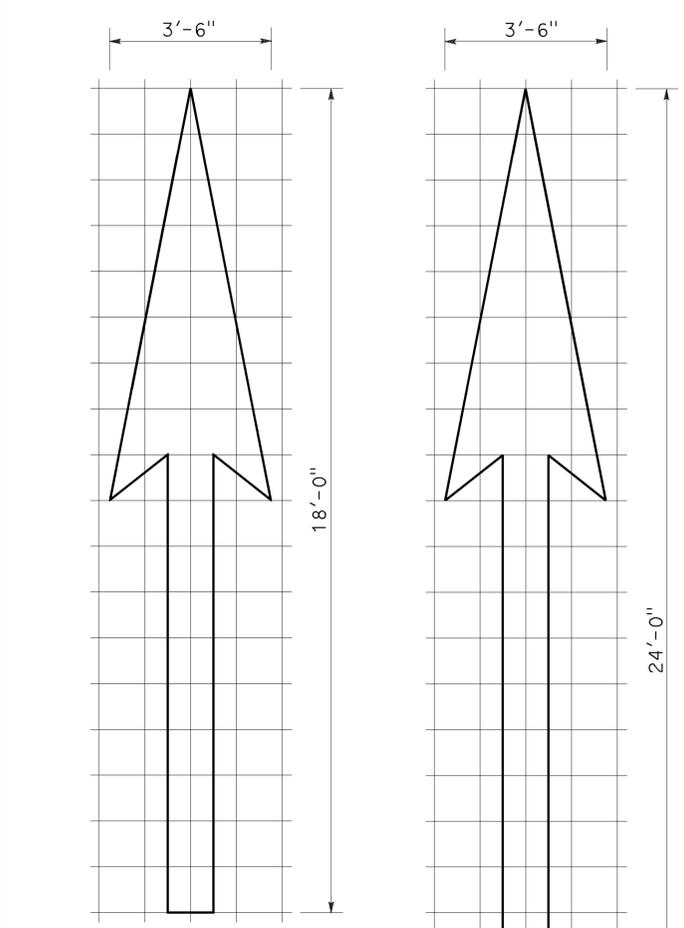
2010 REVISED STANDARD PLAN RSP A20C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	23	51

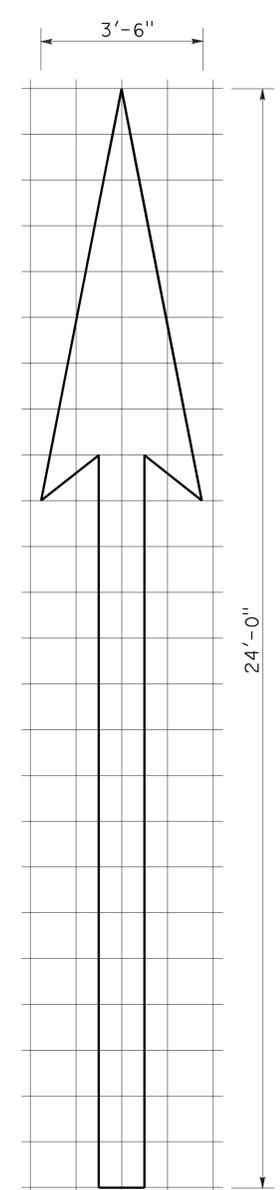
Roberto L. McLaughlin
 REGISTERED CIVIL ENGINEER
 April 20, 2012
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

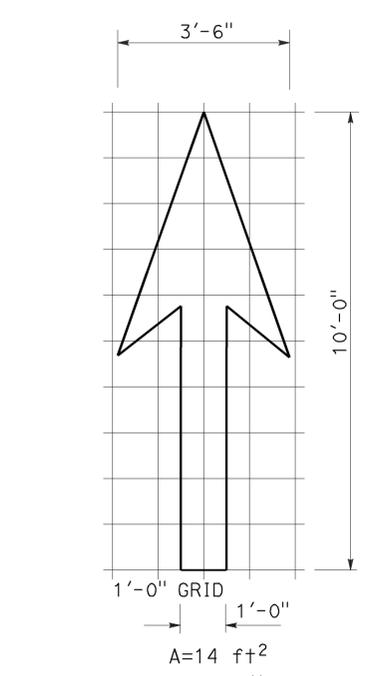
TO ACCOMPANY PLANS DATED 6-1-15



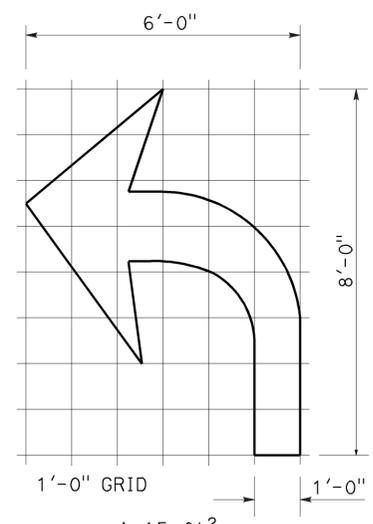
TYPE I 18'-0" ARROW
A=25 ft²



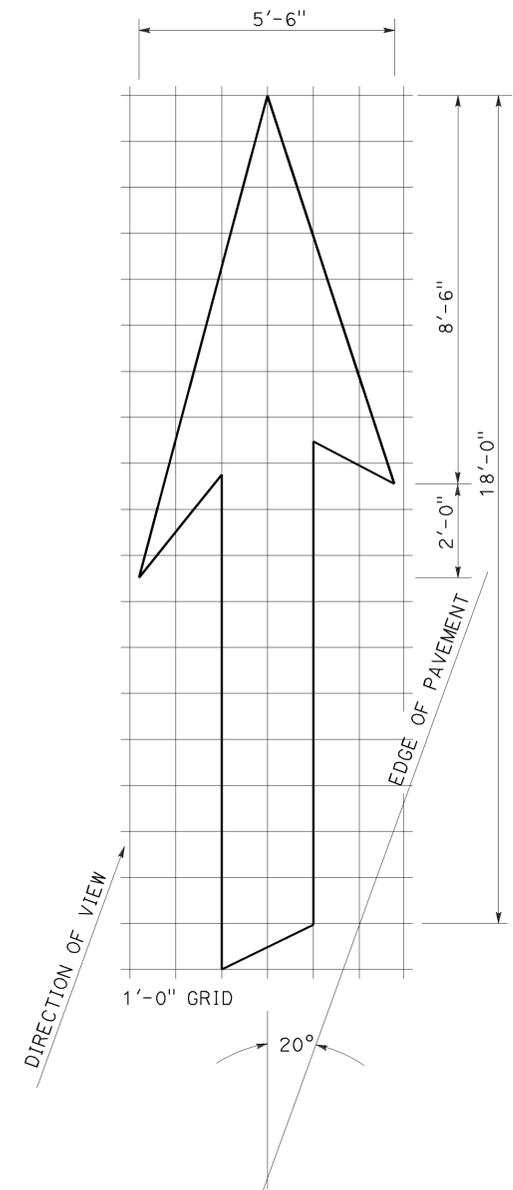
TYPE I 24'-0" ARROW
A=31 ft²



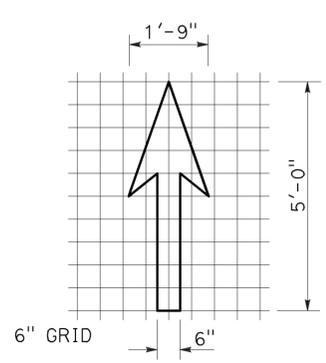
TYPE I 10'-0" ARROW
A=14 ft²



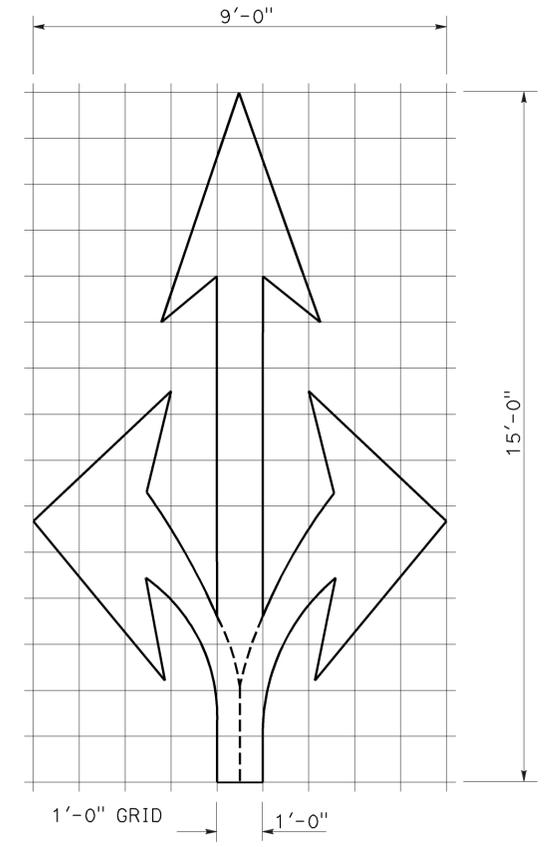
TYPE IV (L) ARROW
A=15 ft²
(For Type IV (R) arrow, use mirror image)



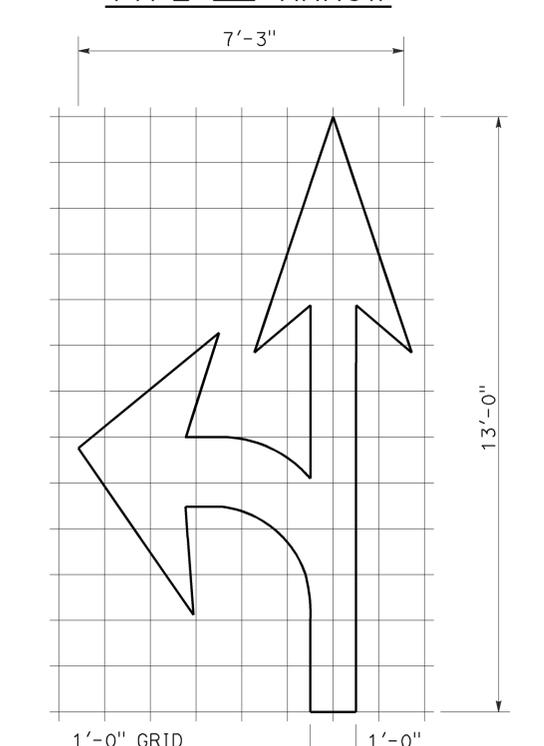
TYPE VI ARROW
A=42 ft²
Right lane drop arrow
(For left lane, use mirror image)



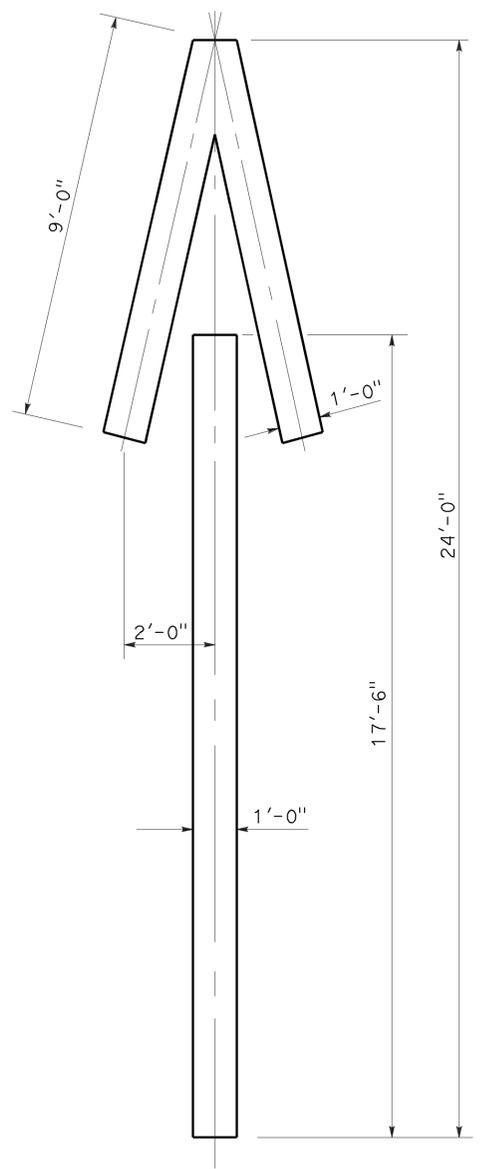
BIKE LANE ARROW
A=3.5 ft²



TYPE VIII ARROW
A=36 ft²



TYPE VII (L) ARROW
A=27 ft²
(For Type VII (R) arrow, use mirror image)



TYPE V ARROW
A=33 ft²

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

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

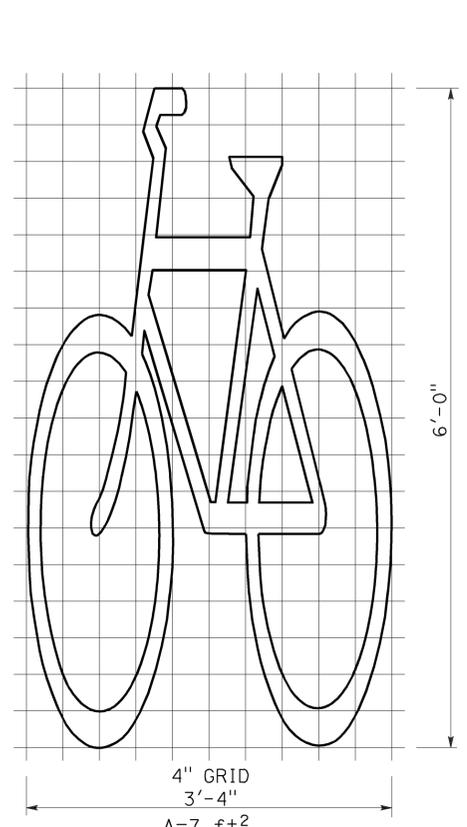
RSP A24A DATED APRIL 20, 2012 SUPERSEDES STANDARD PLAN A24A DATED MAY 20, 2011 - PAGE 13 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A24A

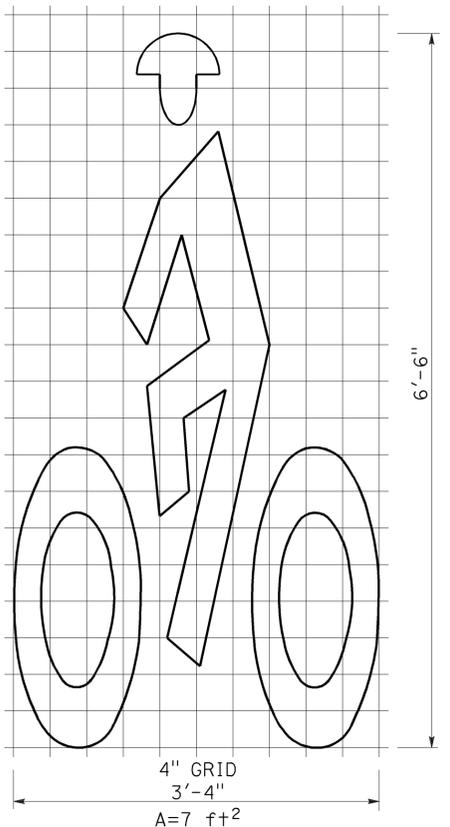
2010 REVISED STANDARD PLAN RSP A24A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	24	51

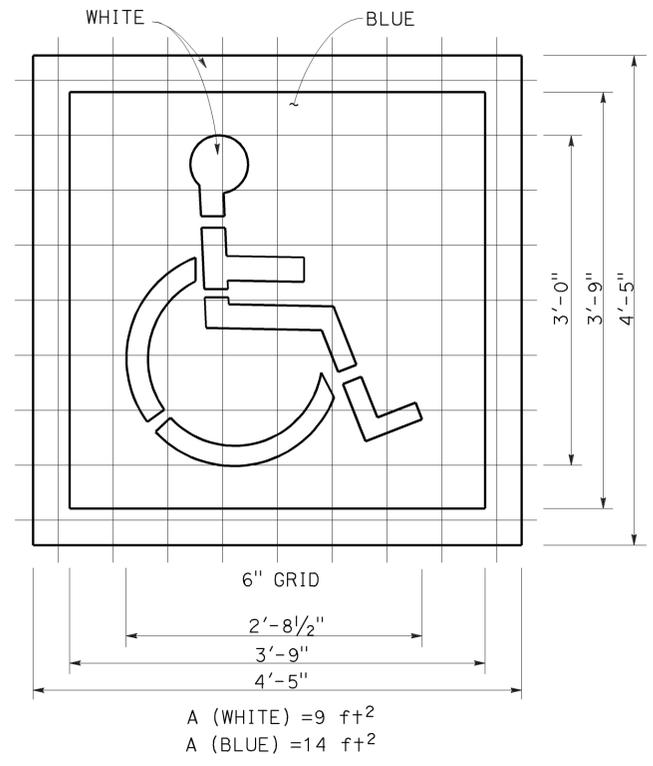
Robert L. McLaughlin
 REGISTERED CIVIL ENGINEER
 October 19, 2012
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



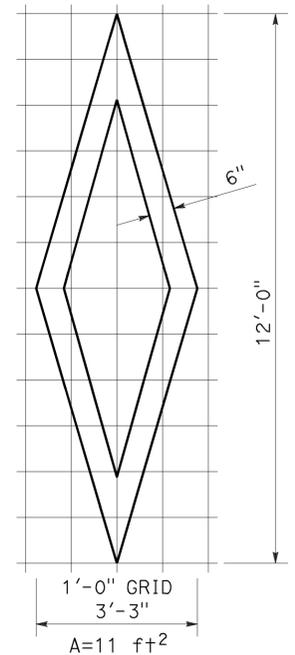
BIKE LANE SYMBOL WITHOUT PERSON



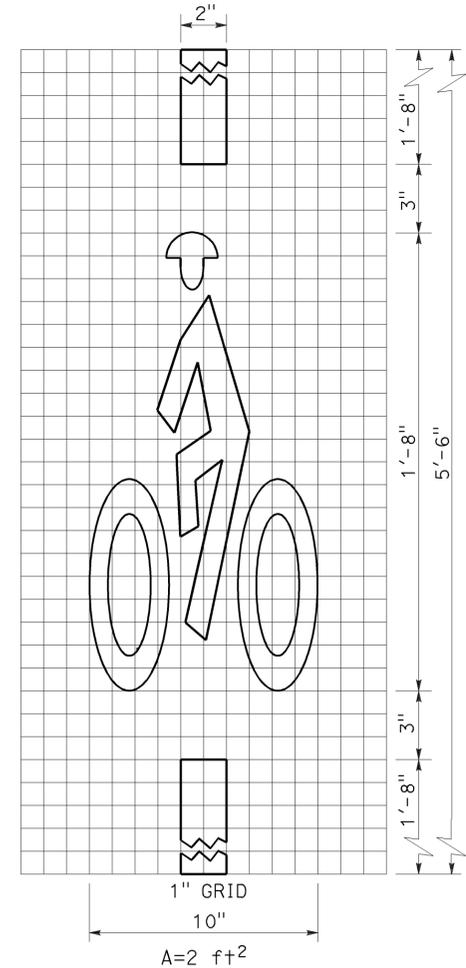
BIKE LANE SYMBOL WITH PERSON



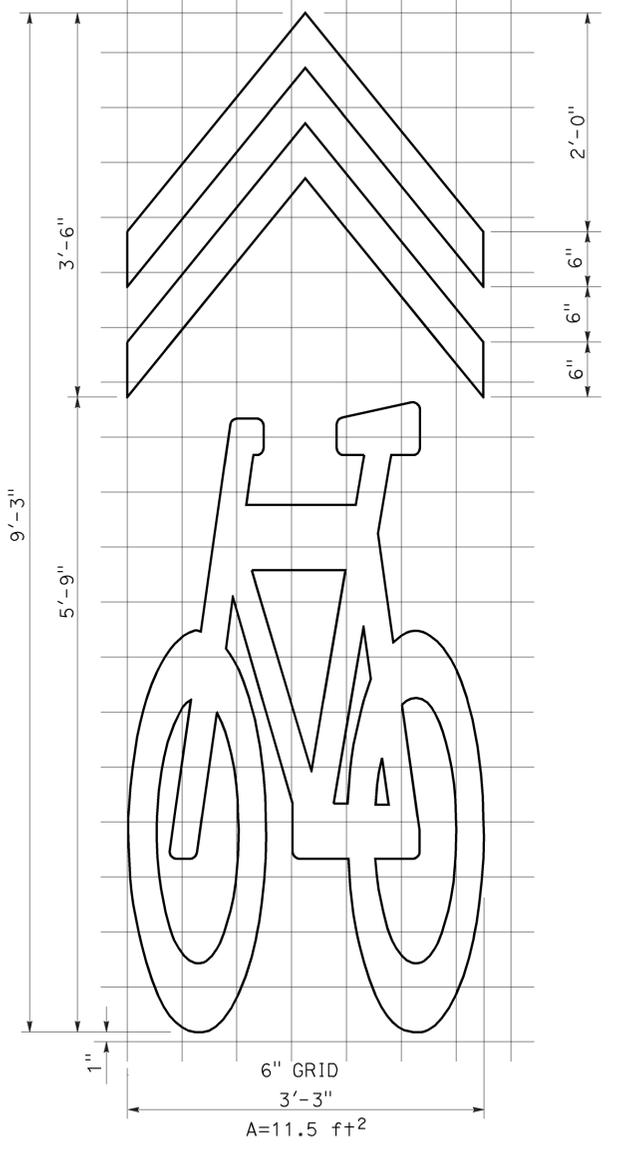
INTERNATIONAL SYMBOL OF ACCESSIBILITY (ISA) MARKING



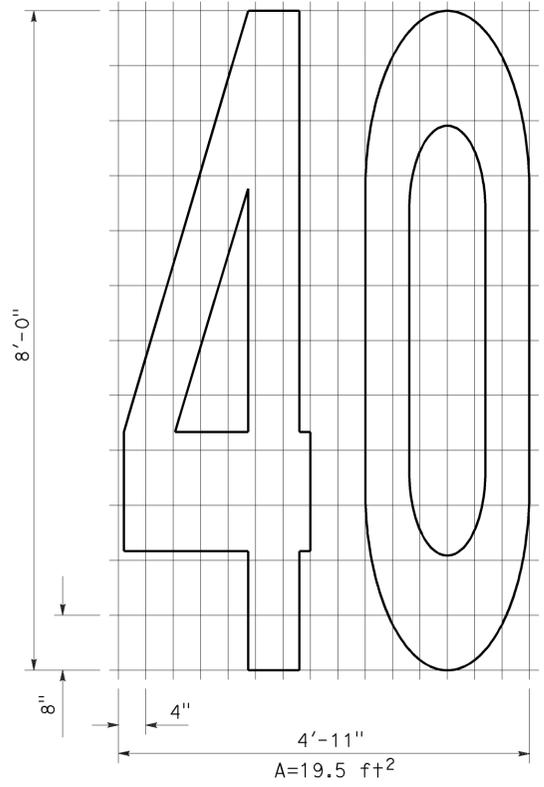
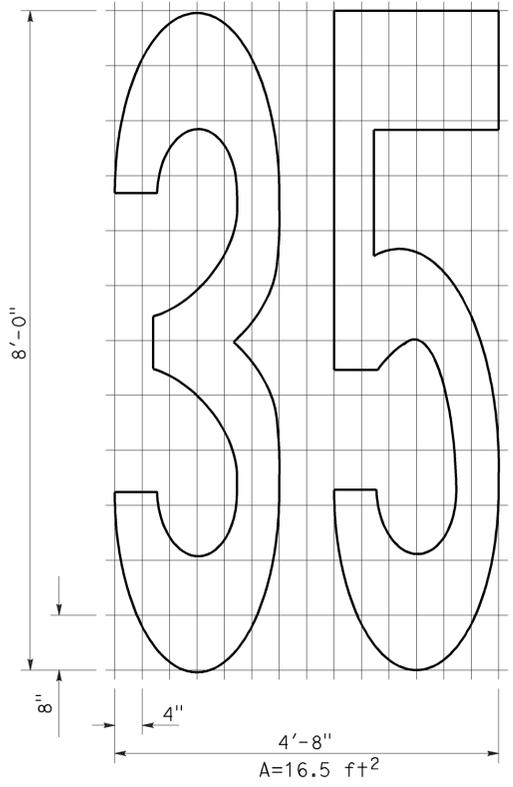
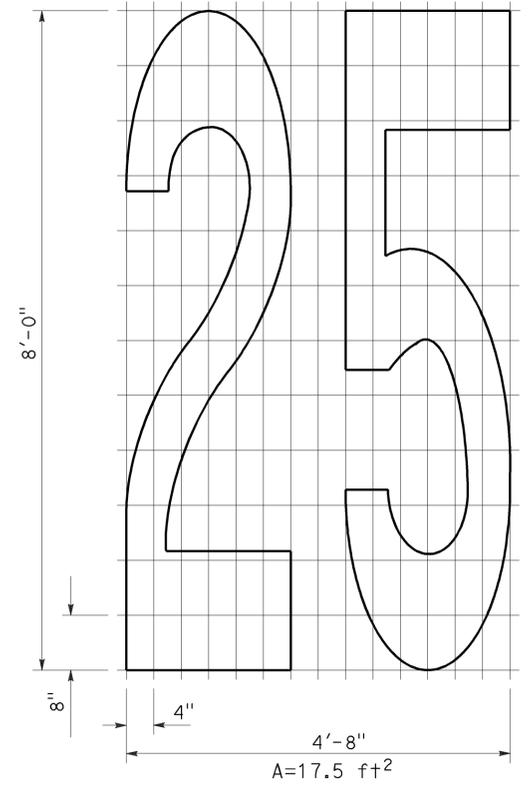
DIAMOND SYMBOL



BICYCLE LOOP DETECTOR SYMBOL



SHARED ROADWAY BICYCLE MARKING



NUMERALS

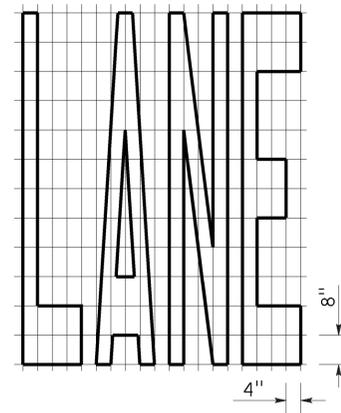
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
PAVEMENT MARKINGS SYMBOLS AND NUMERALS
 NO SCALE

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

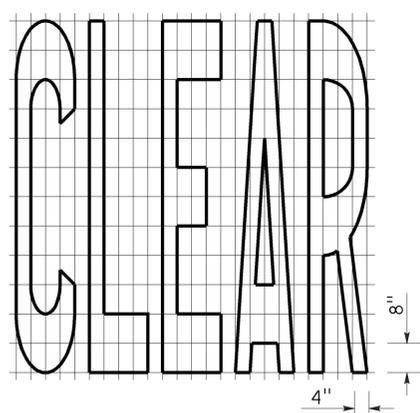
REVISED STANDARD PLAN RSP A24C

2010 REVISED STANDARD PLAN RSP A24C

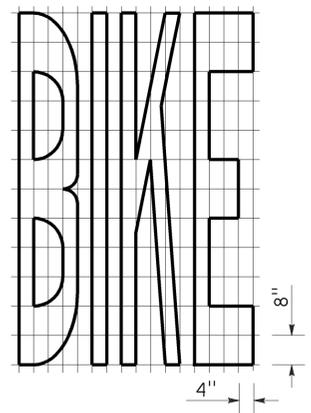
TO ACCOMPANY PLANS DATED 6-1-15



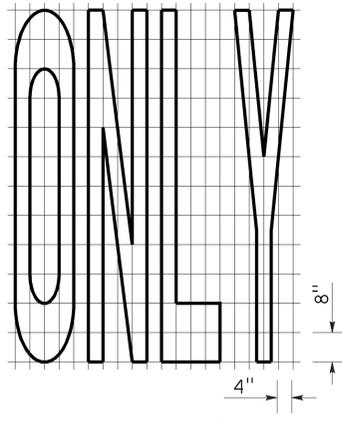
A=24 ft²



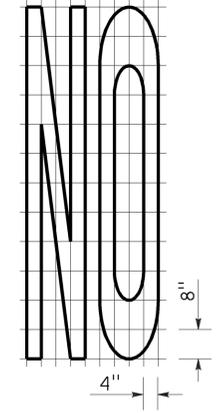
A=27 ft²



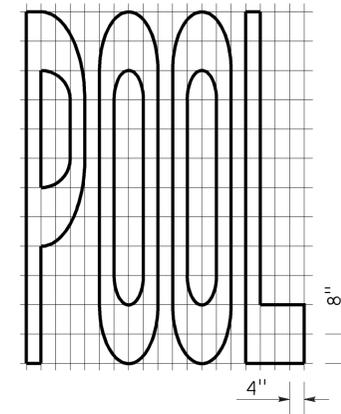
A=21 ft²



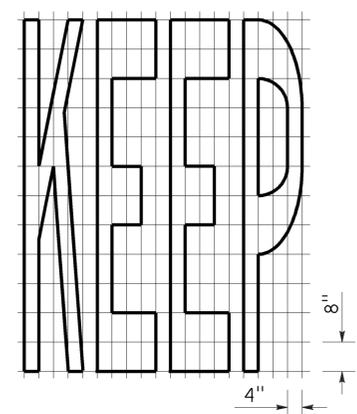
A=22 ft²



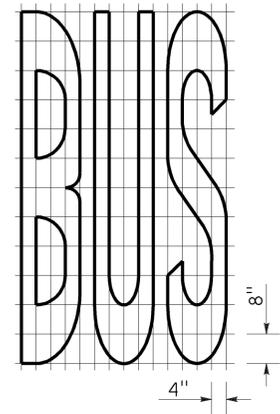
A=14 ft²



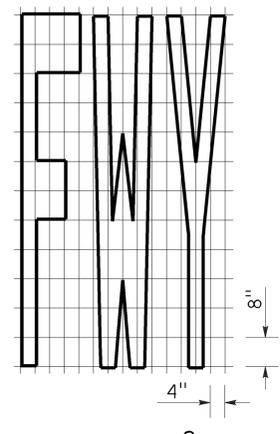
A=23 ft²



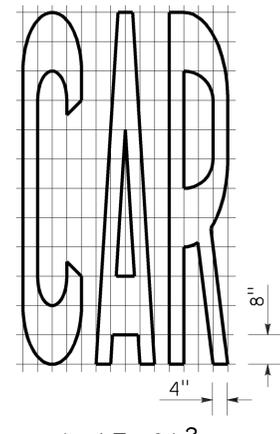
A=24 ft²



A=20 ft²

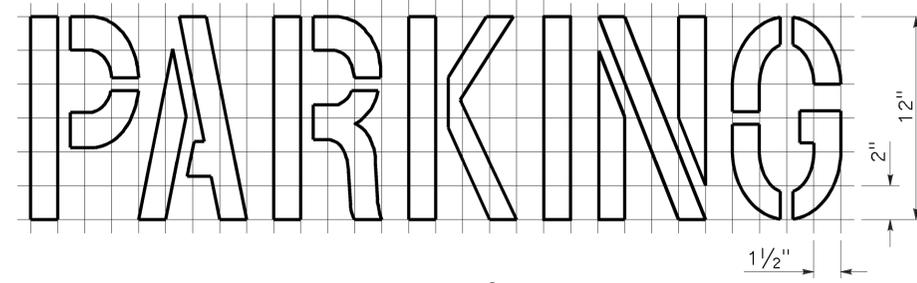
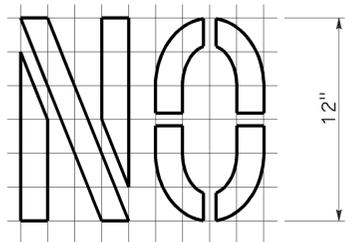


A=16 ft²

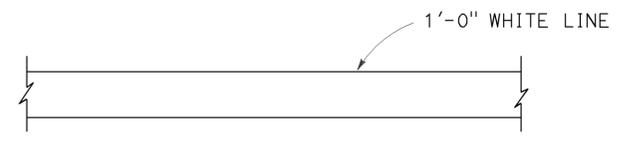


A=17 ft²

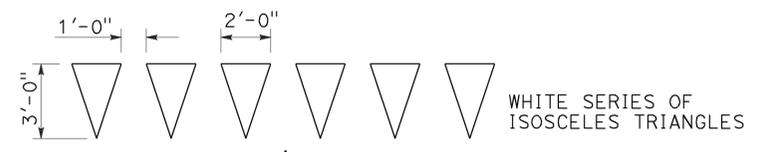
WORD MARKINGS			
ITEM	ft ²	ITEM	ft ²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft²
See Notes 6 and 7



LIMIT LINE (STOP LINE)



DIRECTION OF TRAVEL
YIELD LINE

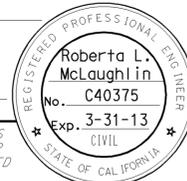
NOTES:

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.

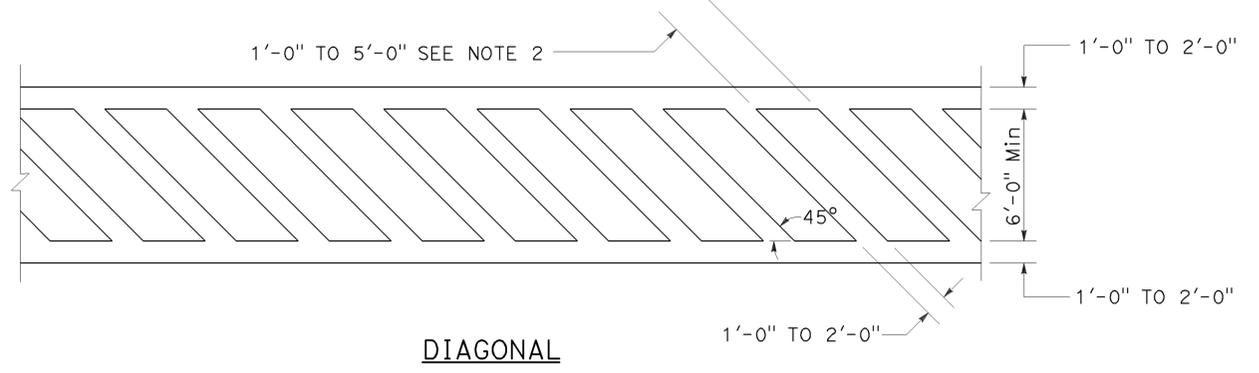
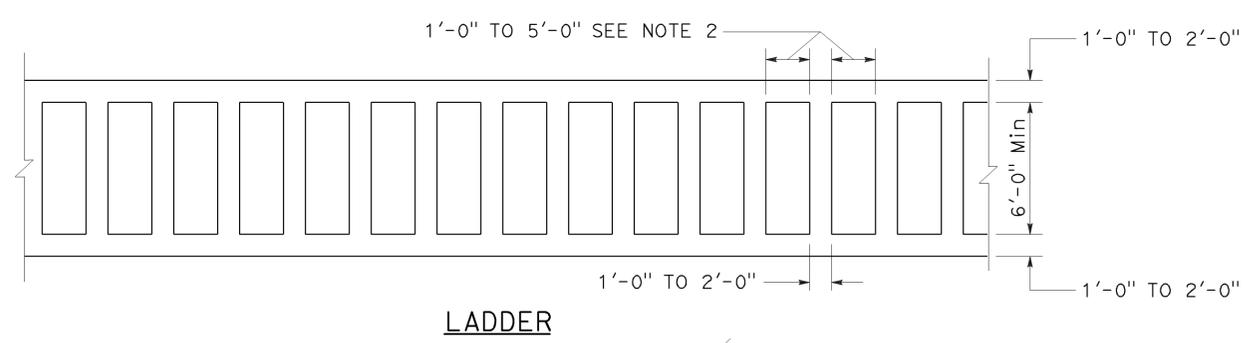
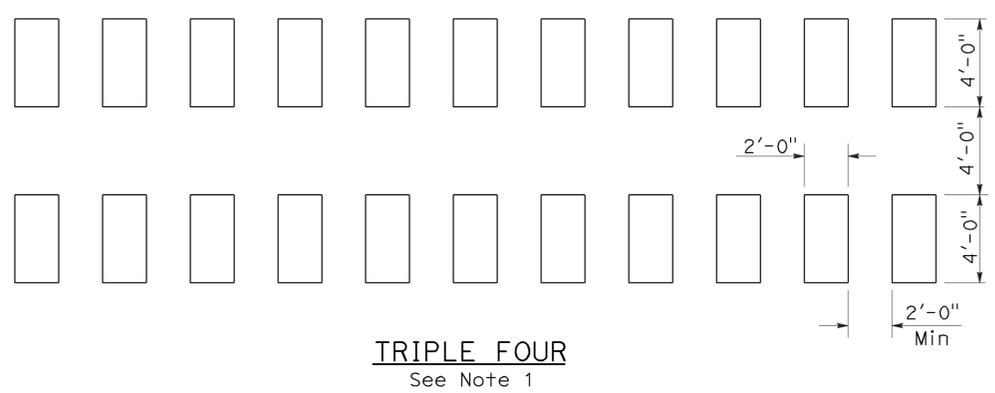
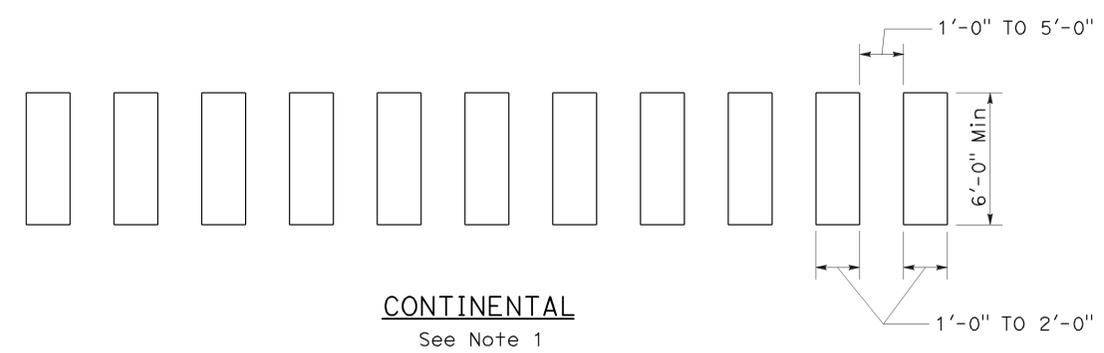
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES**
NO SCALE

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	26	51

 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>		

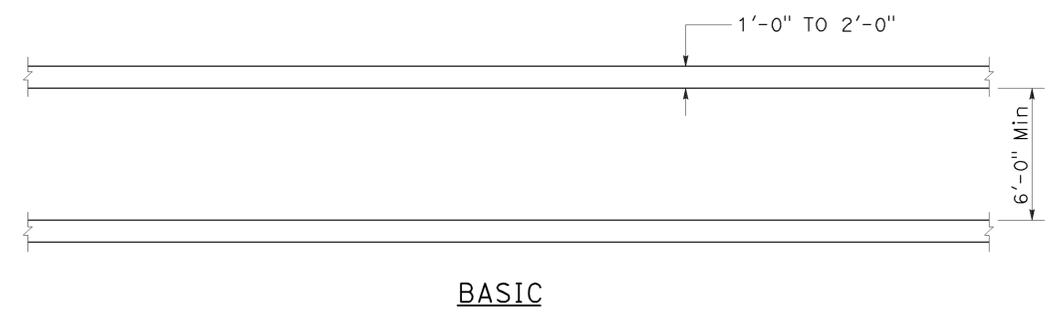
TO ACCOMPANY PLANS DATED 6-1-15



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.



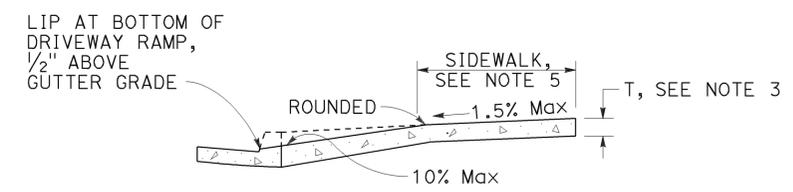
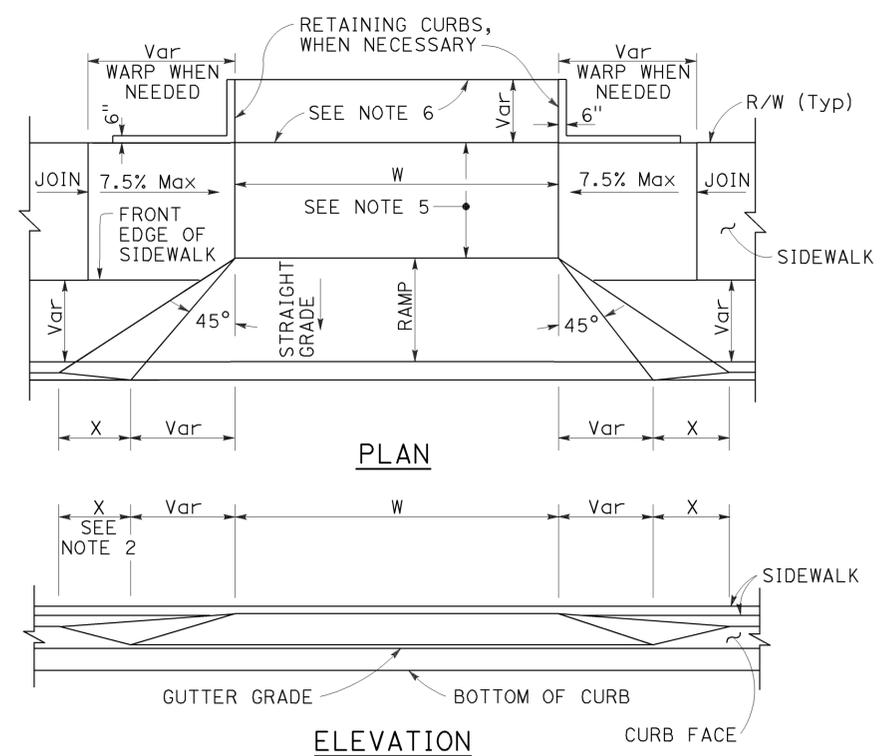
BASIC

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**PAVEMENT MARKINGS
CROSSWALKS**

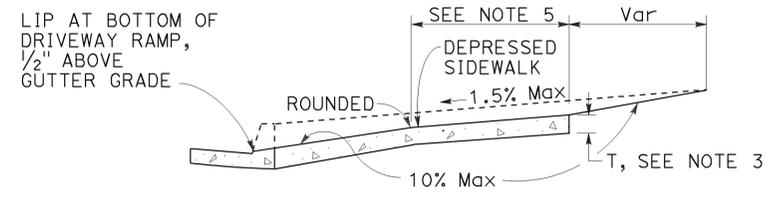
NO SCALE
RSP A24F DATED JULY 20, 2012 SUPPLEMENTS THE
STANDARD PLANS BOOK DATED 2010.



TO ACCOMPANY PLANS DATED 6-1-15



CASE A
Typical driveway, sidewalk not depressed



CASE B
Driveway with depressed sidewalk

SECTIONS

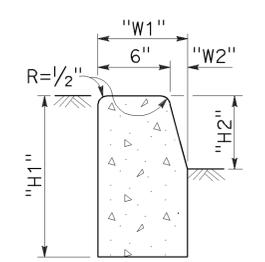
TABLE A

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"

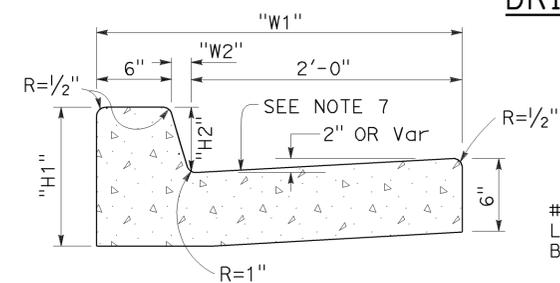
CURB QUANTITIES

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

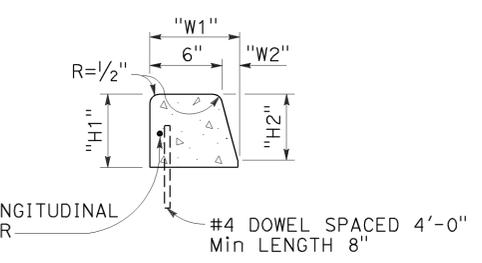
DRIVEWAYS



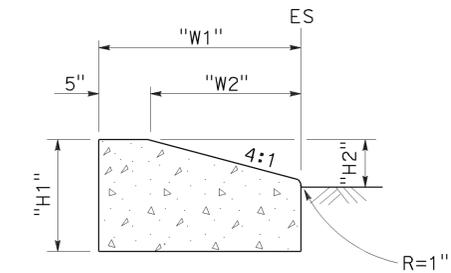
TYPE A1 CURBS
See Table A



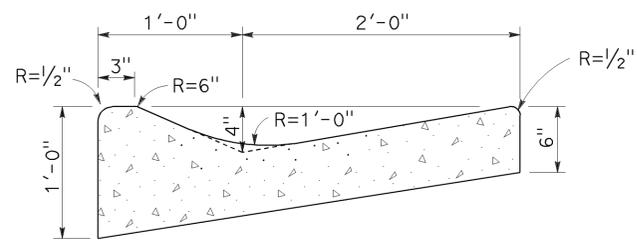
TYPE A2 CURBS
See Table A



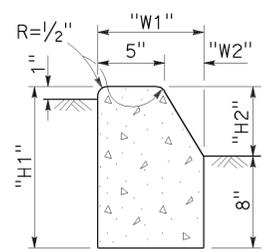
TYPE A3 CURBS
Superimposed on existing pavement
See Table A



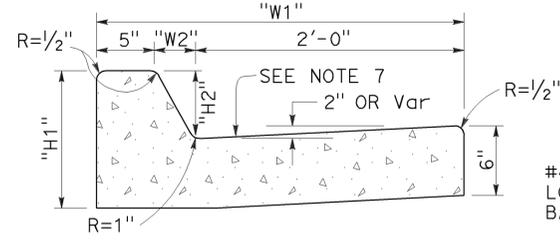
TYPE D CURBS
See Table A



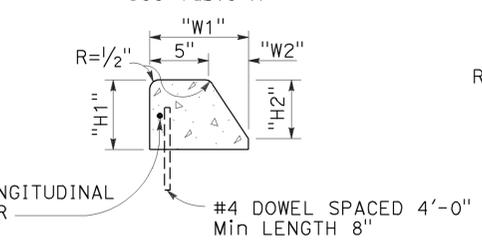
TYPE E CURB



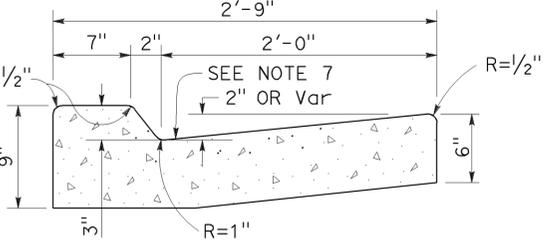
TYPE B1 CURBS
See Table A



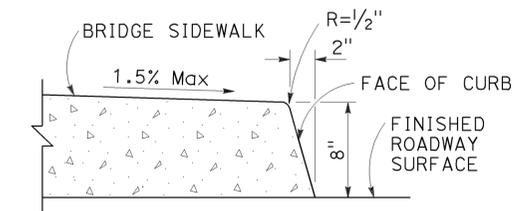
TYPE B2 CURBS
See Table A



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.
 - $\chi=3'-0"$ 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

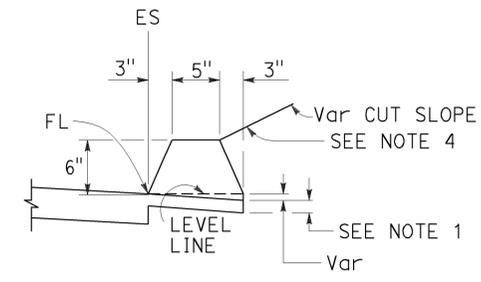
RSP A87A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A87A
DATED MAY 20, 2011 - PAGE 119 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A87A

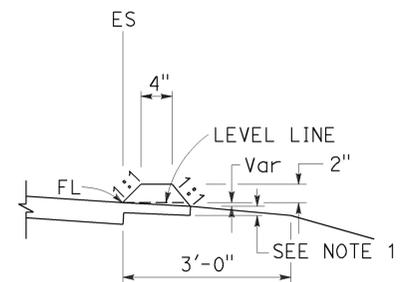
2010 REVISED STANDARD PLAN RSP A87A



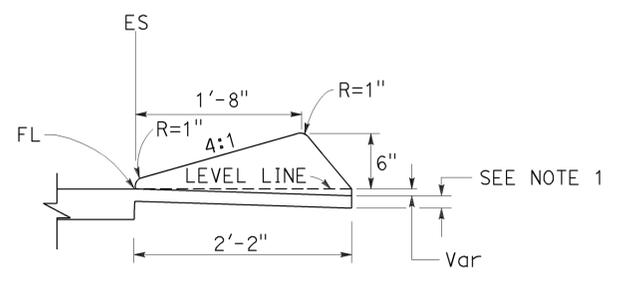
TO ACCOMPANY PLANS DATED 6-1-15



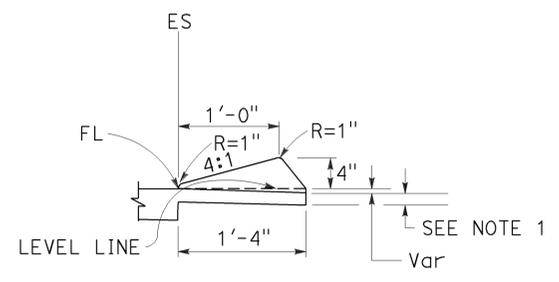
TYPE A
See Note 3



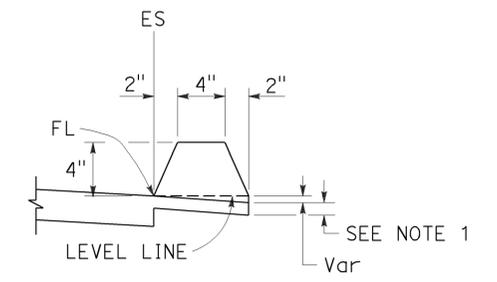
TYPE C



TYPE D

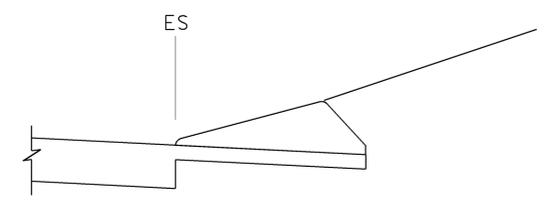


TYPE E

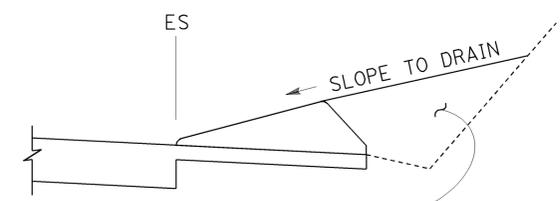


TYPE F
See Note 5

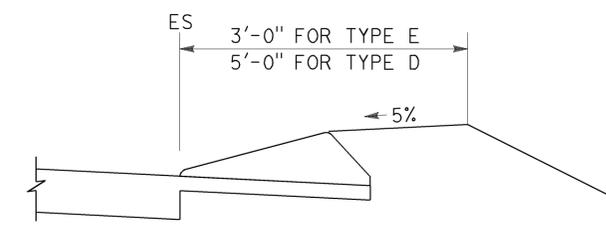
DIKES



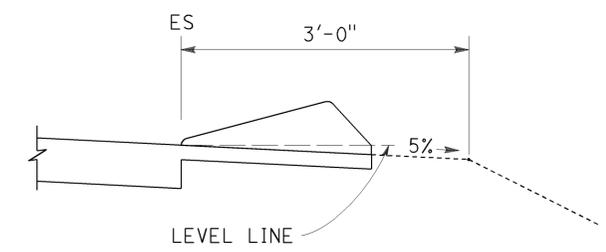
CASE C-1
Cut Slope



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.

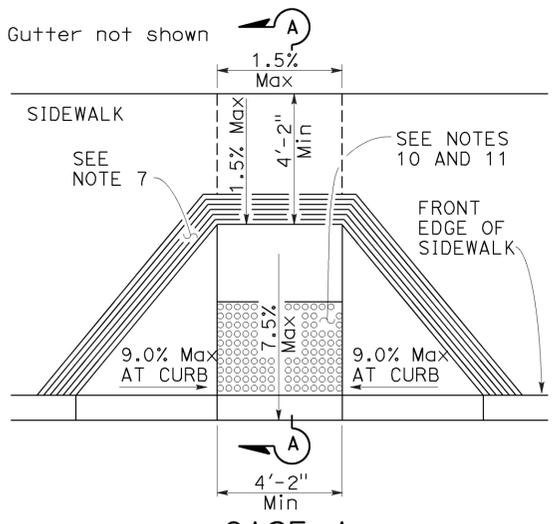
REVISED STANDARD PLAN RSP A87B

2010 REVISED STANDARD PLAN RSP A87B

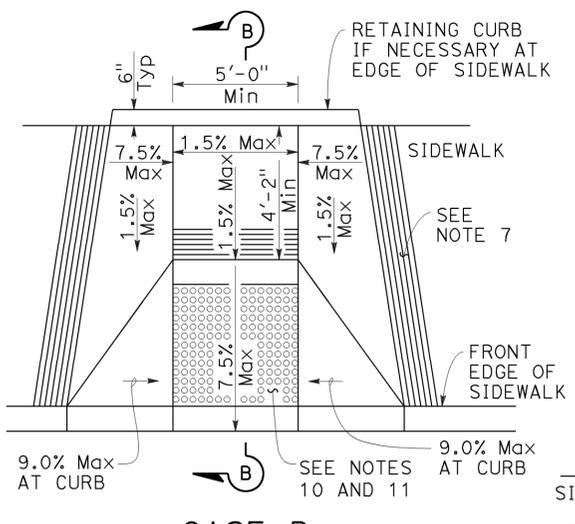
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	29	51

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

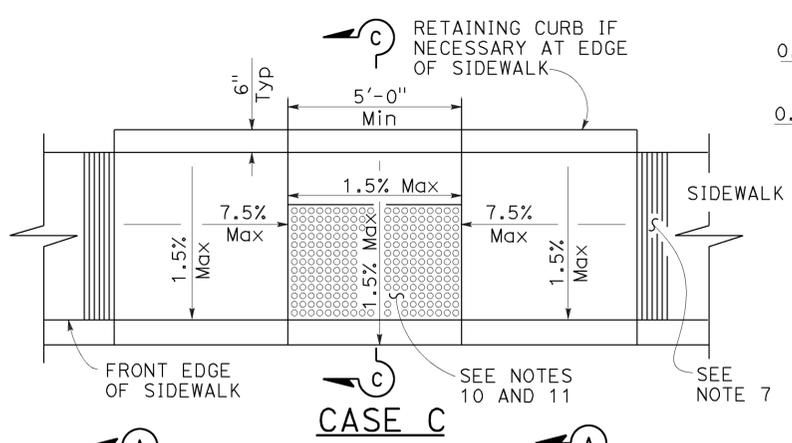
March 21, 2014
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



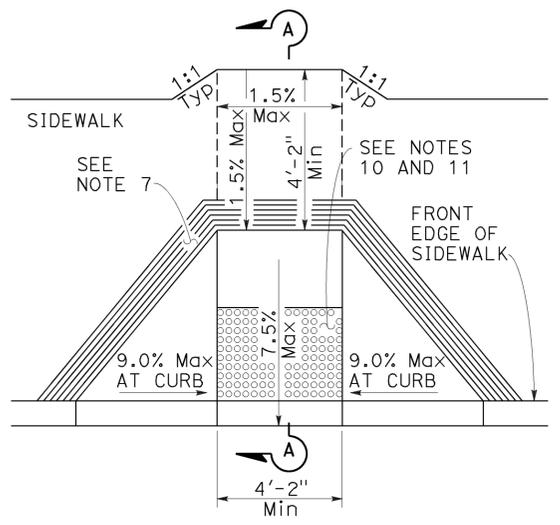
CASE A



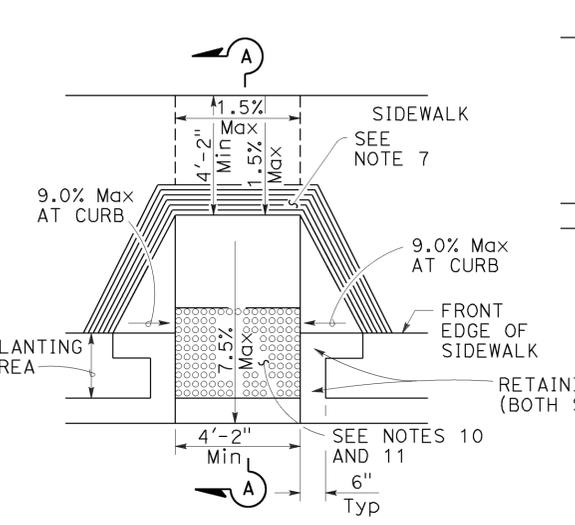
CASE B



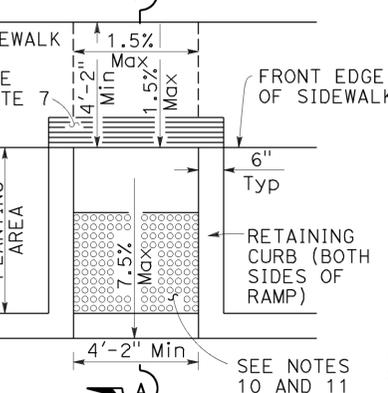
CASE C



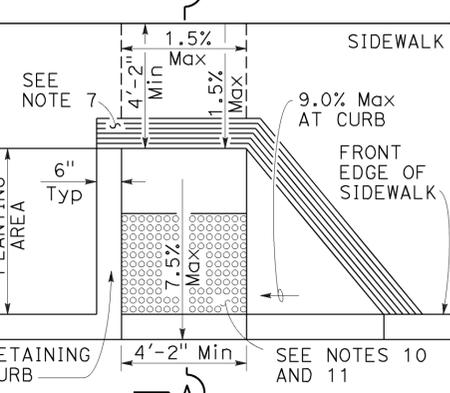
CASE D



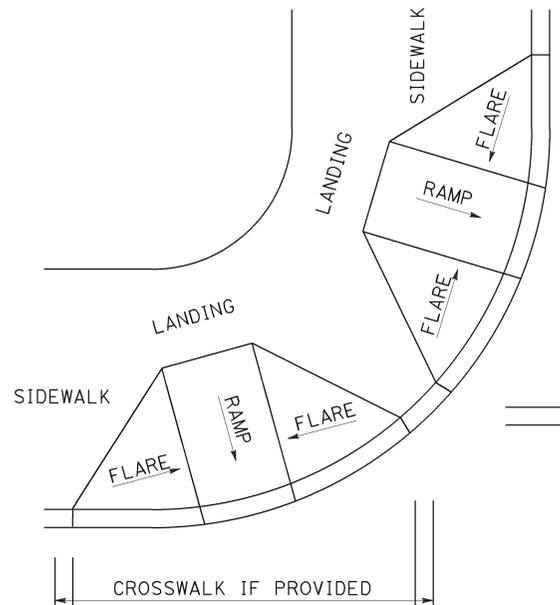
CASE E



CASE F



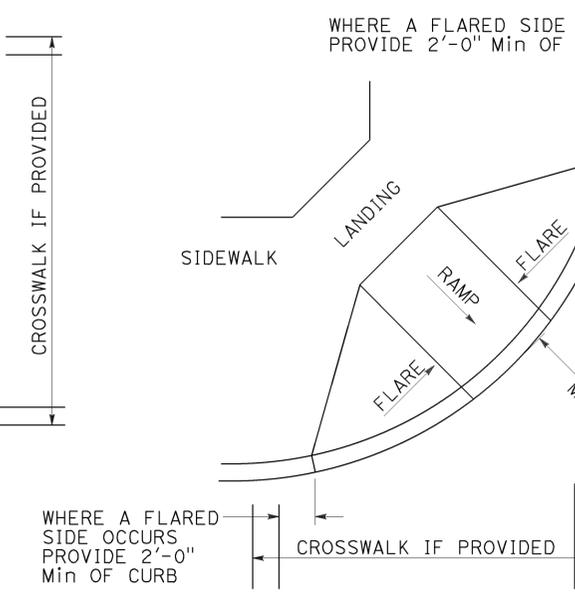
CASE G



DETAIL A

TYPICAL TWO-RAMP CORNER INSTALLATION

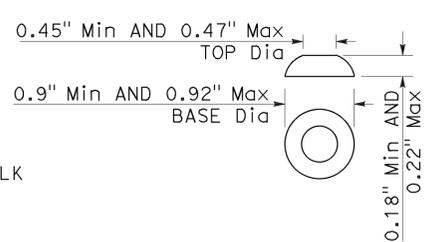
See Note 1



DETAIL B

TYPICAL ONE-RAMP CORNER INSTALLATION

See Notes 1 and 3

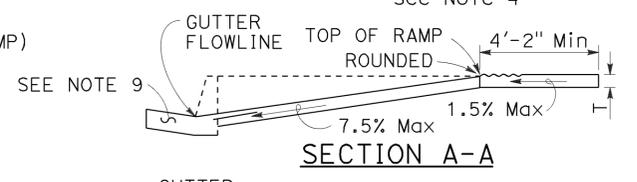


RAISED TRUNCATED DOME

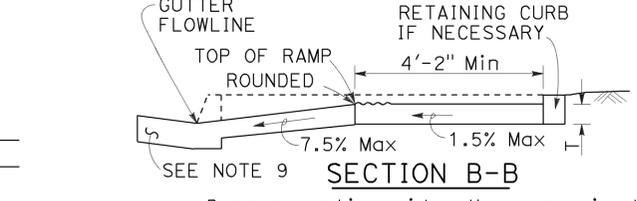
TO ACCOMPANY PLANS DATED 6-1-15

NOTES:

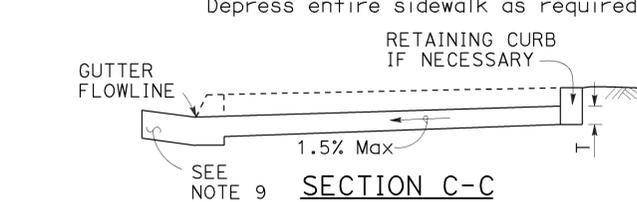
- As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions 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. A 4'-0" wide detectable warning surface may be used on a 4'-2" wide curb ramp. Detectable Warning Surfaces shall conform to 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.



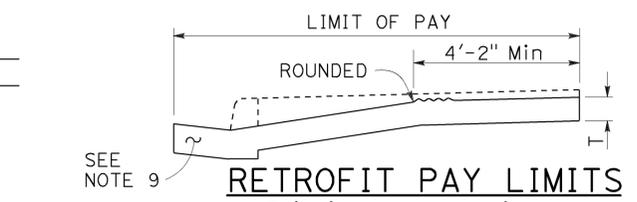
SECTION A-A



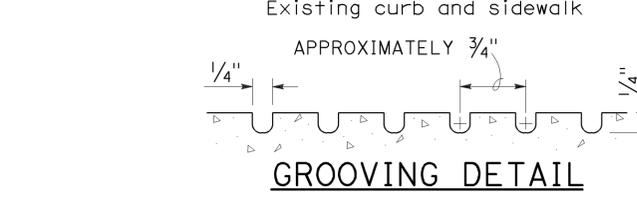
SECTION B-B



SECTION C-C



RETROFIT PAY LIMITS



GROOVING DETAIL



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

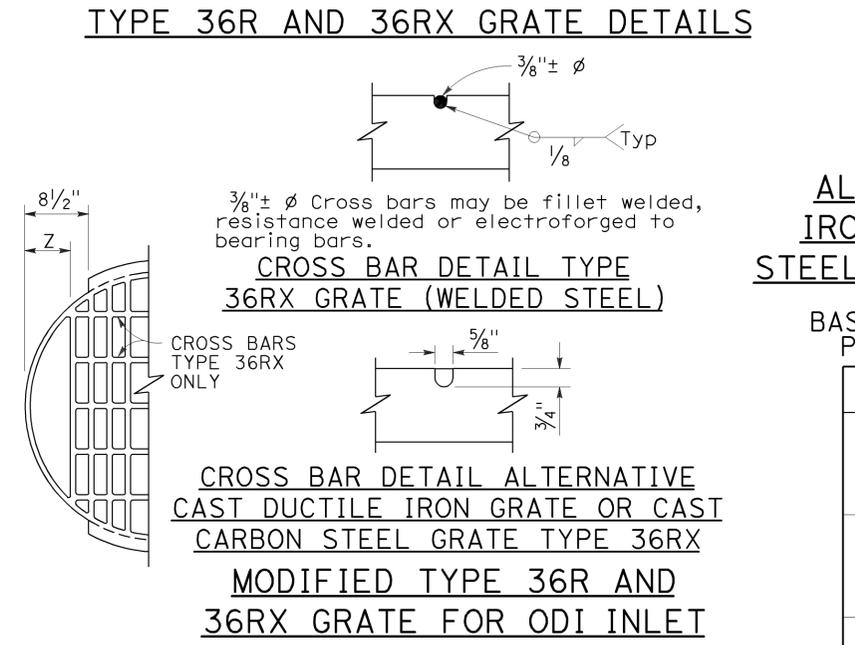
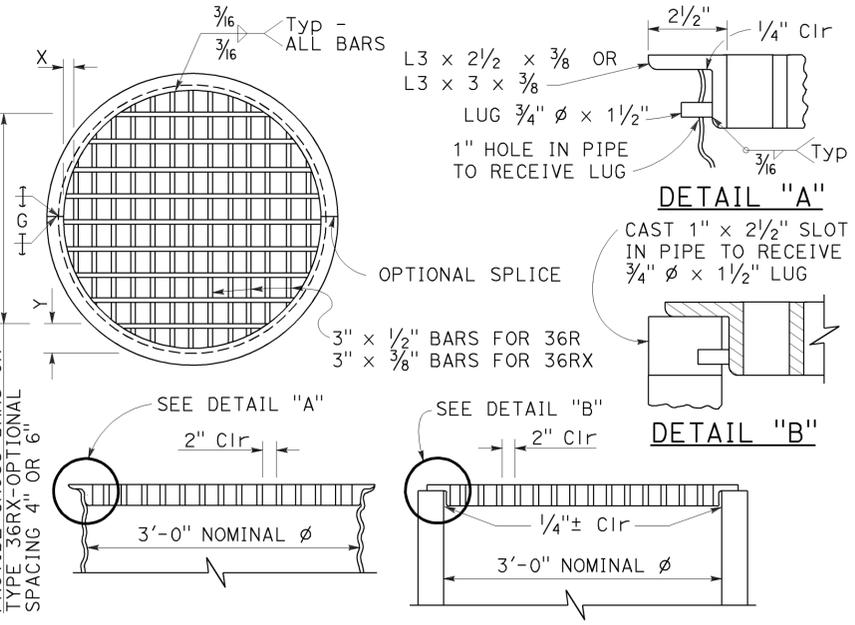
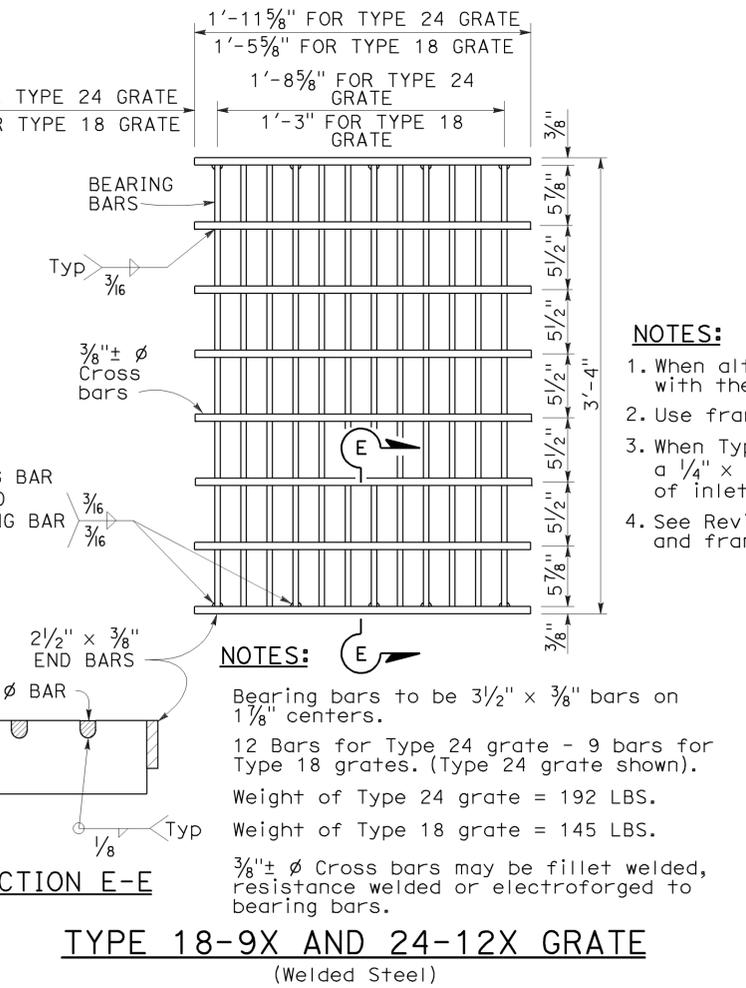
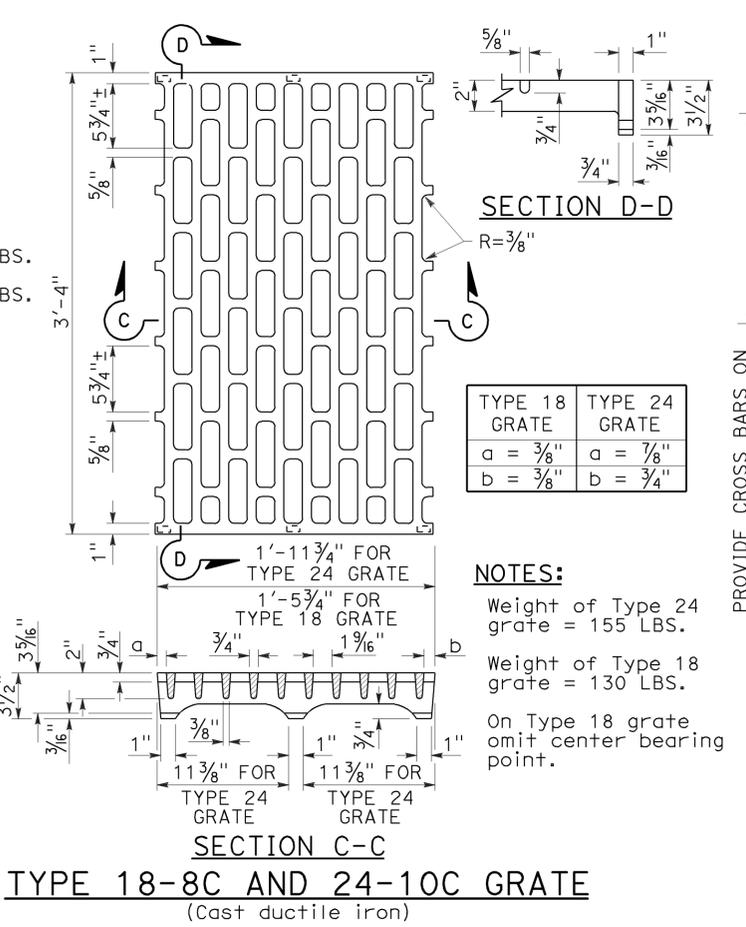
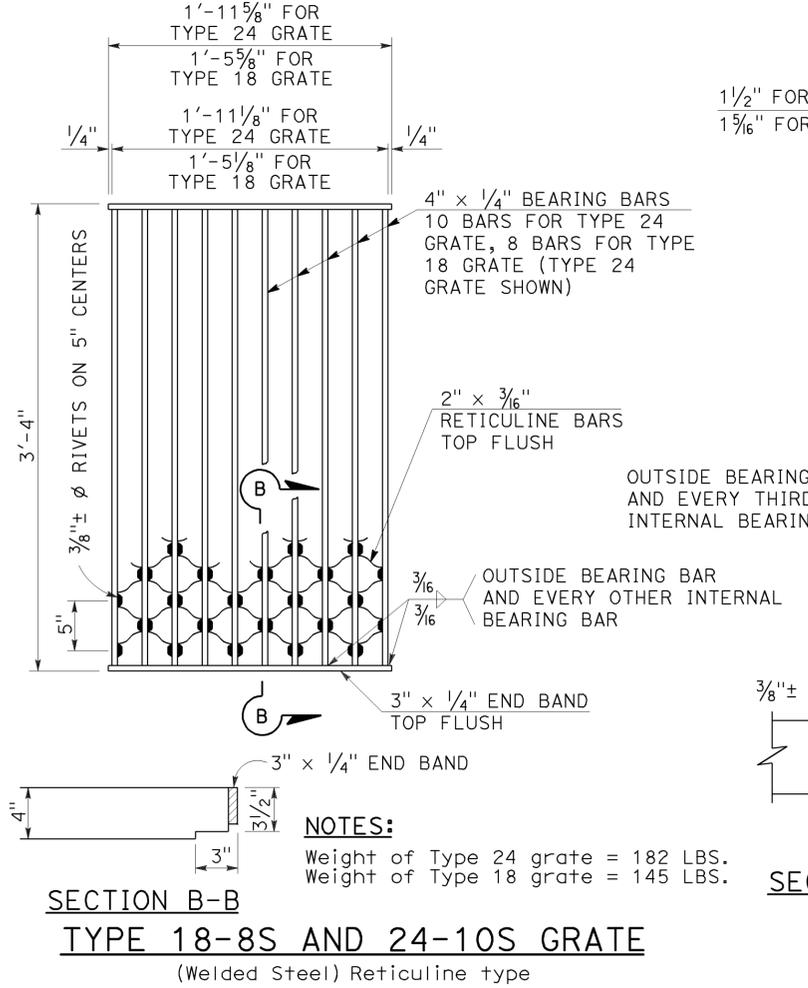
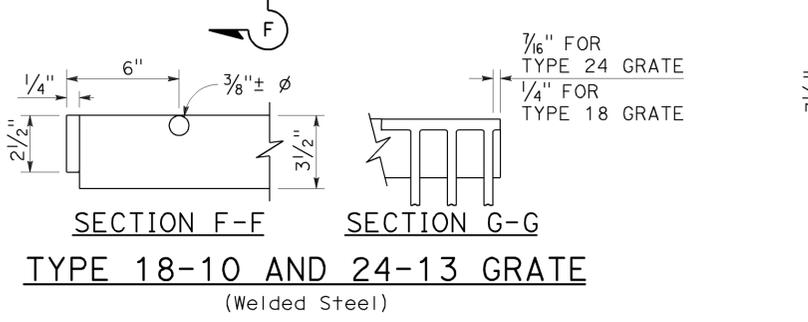
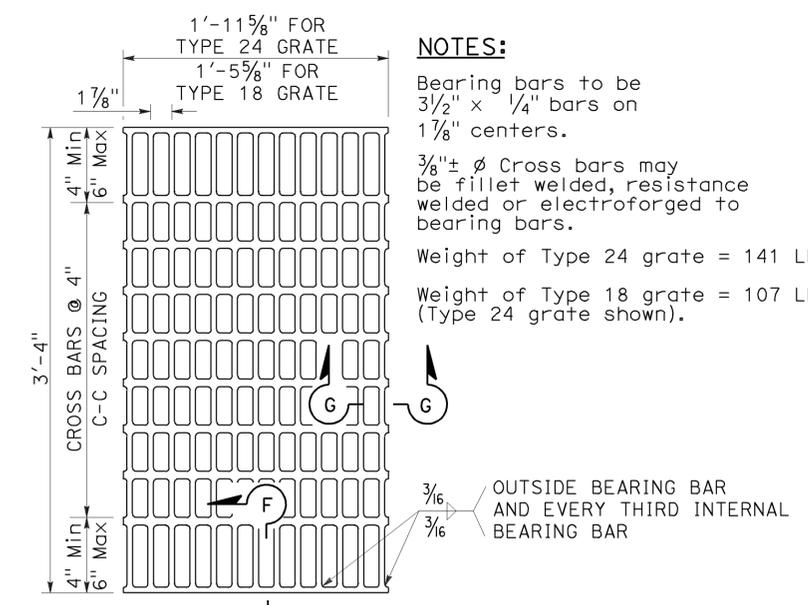
See Note 10

CURB RAMP DETAILS
NO SCALE

RSP A88A DATED MARCH 21, 2014 SUPERSEDES RSP A88A DATED JULY 19, 2013 AND STANDARD PLAN A88A DATED MAY 20, 2011 - PAGE 121 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A88A

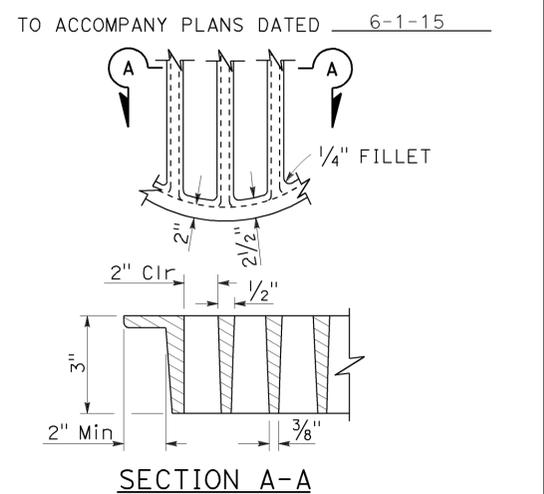
2010 REVISED STANDARD PLAN RSP A88A



- NOTES:**
- When alternative grates are allowed - Final pay based on alternative with the lesser weight.
 - Use frame shown on Standard Plan D74A, D74B or RSP D77A as appropriate.
 - When Type 24-10S, 24-12X or 24-13 grates are used with GDO Inlets, a 1/4" x 3/2" x 3'-4 7/8" steel bar shall be welded across the center of inlet frame to separate the individual grates.
 - See Revised Standard Plan RSP D77A for connecting chain to welded grate and frame. When chain is required, do not use cast ductile iron grate.

GRATE BAR SPACING TABLE

TYPE	NO. OF BARS	CLEAR BAR SPACING	X	Y		Z
				4" SPACING	6" SPACING	
36R	13	2"	2 1/8"	-	-	-
36RX (STEEL)	15	2"	9/16"	3 3/4"	5 3/4"	-
36RX (CAST)	13	2"	2 1/8"	3 3/4"	5 3/4"	-
36R Mod	12	2"	2 1/8"	-	-	5"
36RX Mod (STEEL)	13	2"	9/16"	3 3/4"	5 3/4"	5 1/16"
36RX Mod (CAST)	12	2"	2 1/8"	3 3/4"	5 3/4"	5"



BASIS FOR Misc IRON AND STEEL FINAL PAY WEIGHTS FOR DRAINAGE INLETS

INLET TYPE	GRATE TYPE	No. OF GRATES	WEIGHT LB
GDO (SEE NOTE 4)	24-10C	2	391
	24-10S	2	456
	24-12X	2	473
	24-13	2	374
G0, G0L, G1, G2, G3, G4 (TYPE 24)	24-10C	1	202
	24-10S	1	229
	24-12X	1	239
	24-13	1	188
G4 (TYPE 18) G5, G6	18-8S	1	187
	18-9X	1	187
GT1, GT2	18-8S	2	374
	18-9X	2	374
	18-10	2	298
GT3, GT4	24-10C	2	404
	24-10S	2	458
	24-12X	2	478
ODI	24-13	2	376
	36RX (Mod)	1	196
GMP, GCP, GCPI	36RX	1	215
	36R (Mod)	1	220
GMP, GCP, GCPI	36R	1	236
TRASH RACK			22
GRATE CHAIN			3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

GRATE DETAILS No. 2
NO SCALE

RSP D77B DATED APRIL 19, 2013 SUPERSEDES RSP D77B DATED JULY 20, 2012 AND STANDARD PLAN D77B DATED MAY 20, 2011 - PAGE 165 OF THE STANDARD PLANS BOOK DATED 2010.

TO ACCOMPANY PLANS DATED 6-1-15

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
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 TABLES
 FOR LANE AND RAMP CLOSURES**
 NO SCALE

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

2010 REVISED STANDARD PLAN RSP T9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	32	51

Devinder Singh
 REGISTERED CIVIL ENGINEER
 No. C50470
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

October 17, 2014
 PLANS APPROVAL DATE

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

NOTES:

See Revised Standard Plan RSP T9 for tables.

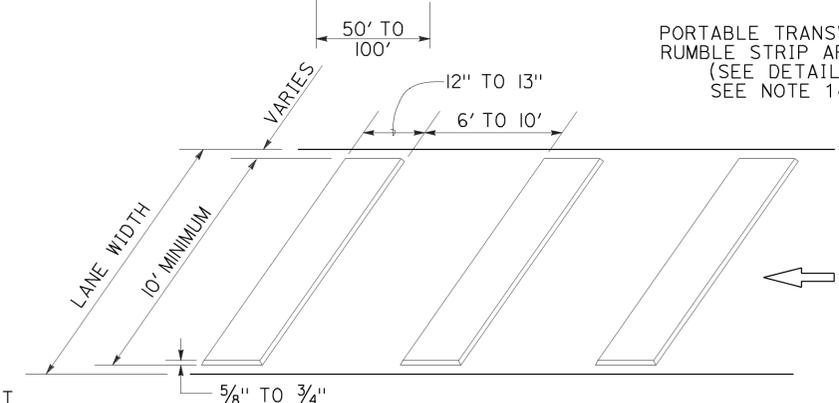
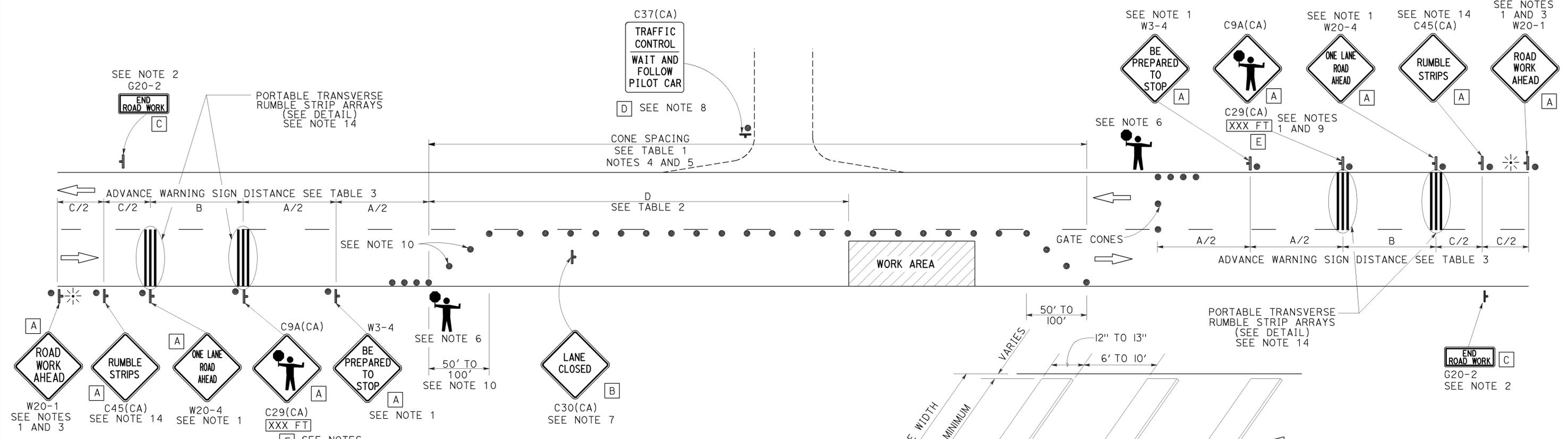
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.

California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL

TO ACCOMPANY PLANS DATED 6-1-15



- NOTES:**
- Each advance warning sign in each direction of travel 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.
 - A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
 - If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a W20-4 sign for the first advance warning sign.
 - All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
 - Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
 - Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging-station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.

- Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
- When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
- An optional C29(CA) sign may be placed below the C9A(CA) sign.
- Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.
- The color of the portable transverse rumble strips shall be black or orange. Use 2 arrays, each array shall consist of 3 rumble strips.
- Portable transverse rumble strips shall not be placed on sharp horizontal or vertical curves nor shall they be placed through pedestrian crossings.
- If the portable transverse rumble strips become out of alignment (skewed) by more than 6 inches, measured from one end to the other, they shall be readjusted to bring the placement back to the original location.
- Portable transverse rumble strips are not required if any one of the following conditions is satisfied:
 - Work duration occupies a location for four hours or less
 - Posted speed limit is below 45 MPH
 - Work is of emergency nature
 - Work zone is in snow or icy weather conditions

LEGEND

- TRAFFIC CONE
- ⊥ TEMPORARY TRAFFIC CONTROL SIGN
- ⚡ PORTABLE FLASHING BEACON
- 👤 FLAGGER

SIGN PANEL SIZE (Min)

A	48" x 48"
B	30" x 30"
C	36" x 18"
D	36" x 42"
E	20" x 7"

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM
FOR LANE CLOSURE ON
TWO LANE CONVENTIONAL
HIGHWAYS**

NO SCALE

RSP T13 DATED OCTOBER 17, 2014 SUPERSEDES RSP T13 DATED JULY 18, 2014
AND RSP T13 DATED APRIL 19, 2013 AND STANDARD PLAN T13 DATED
MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP T13

LEGEND:

AB	ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS
BC	INSTALL PULL BOX IN EXISTING CONDUIT RUN
BP	PEDESTRIAN BARRICADE, TYPE AS INDICATED ON PLAN
CB	INSTALL CONDUIT INTO EXISTING PULL BOX
CC	CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED
CF	CONDUIT TO REMAIN FOR FUTURE USE. REMOVE CONDUCTORS. INSTALL PULL TAPE
DH	DETECTOR HANDHOLE
FA	FOUNDATION TO BE ABANDONED
IS	INSTALL SIGN ON SIGNAL MAST ARM
NS	NO SLIP BASE ON STANDARD
PEC	PHOTOELECTRIC CONTROL
PEU	PHOTOELECTRIC UNIT
RC	EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR
RE	REMOVE ELECTROLIER, FUSES AND BALLAST. TAPE ENDS OF CONDUCTORS
RL	RELOCATE EQUIPMENT
RR	REMOVE AND REUSE EQUIPMENT
RS	REMOVE AND SALVAGE EQUIPMENT
SC	SPLICE NEW TO EXISTING CONDUCTORS
SD	SERVICE DISCONNECT
TSP	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
10	Ama	49	3.6	33	51

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-14
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.

TO ACCOMPANY PLANS DATED 6-1-15

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
Ω	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
μ	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
10	Ama	49	3.6	34	51

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 6-1-15

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

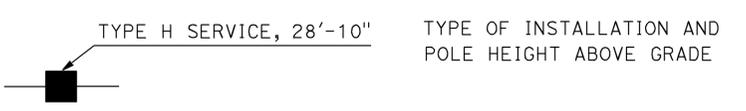
SIGNAL EQUIPMENT

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

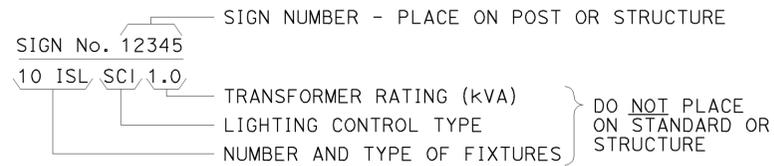
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

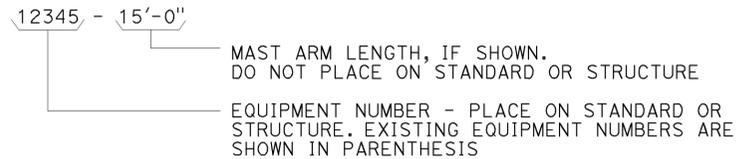
2010 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

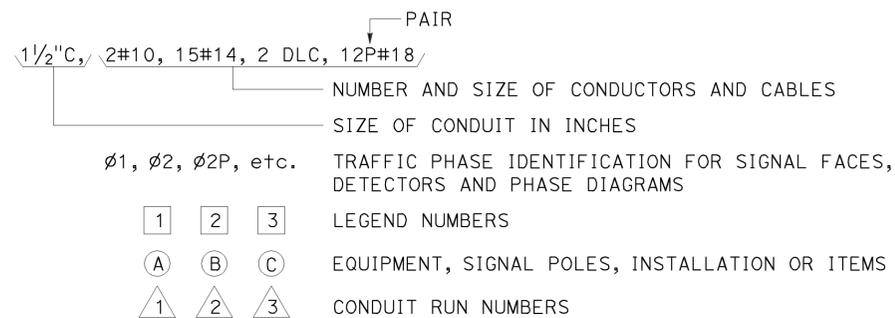
ILLUMINATED SIGN IDENTIFICATION NUMBER:



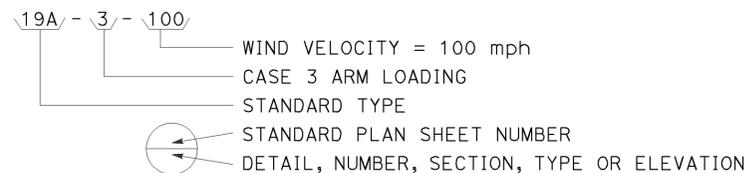
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



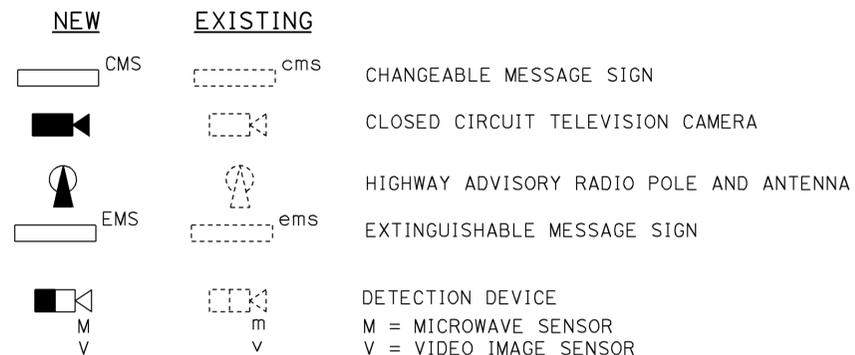
CONDUIT AND CONDUCTOR IDENTIFICATION:



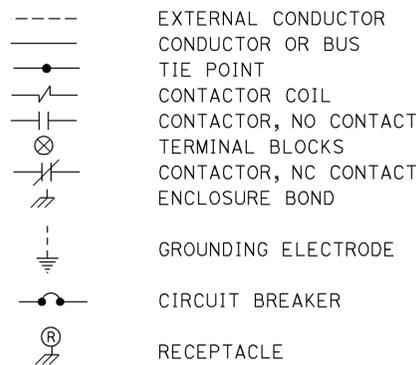
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



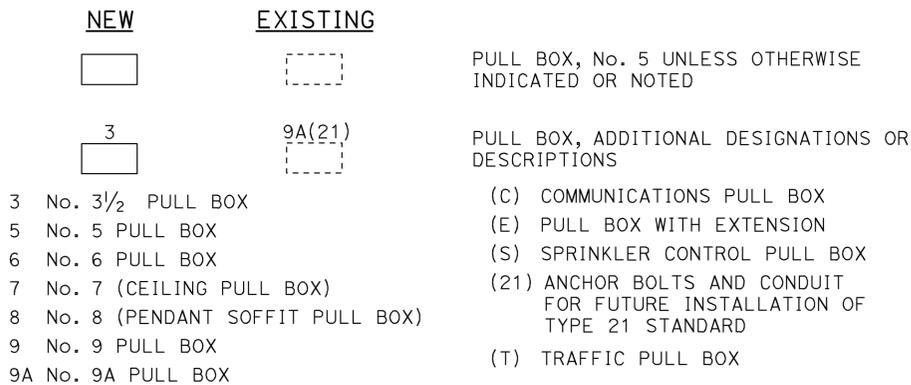
MISCELLANEOUS EQUIPMENT



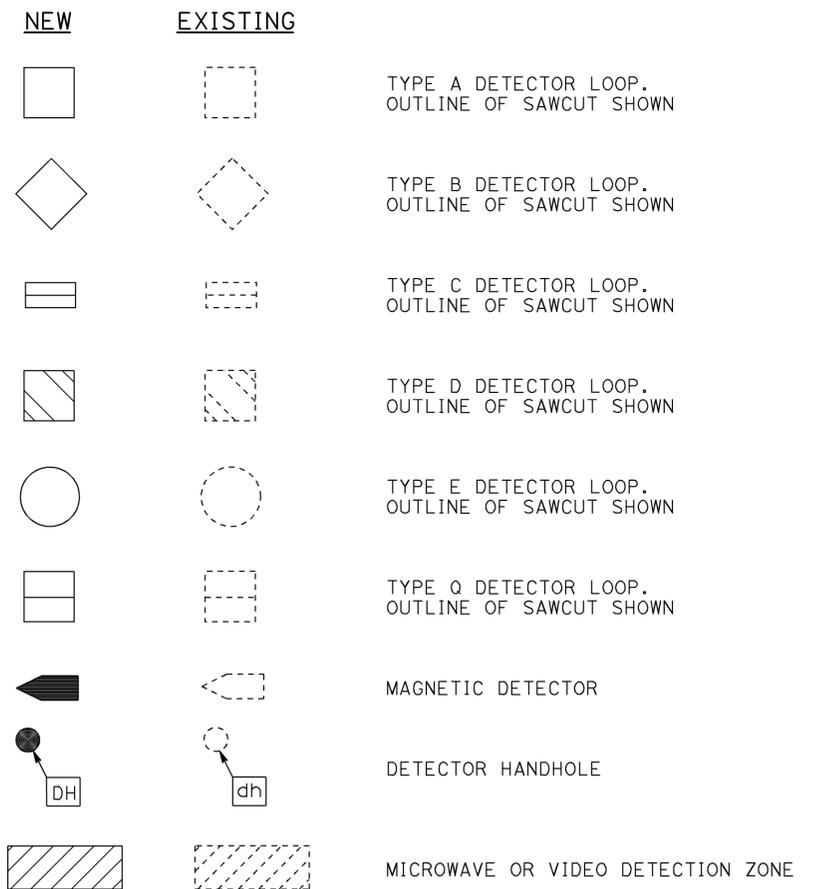
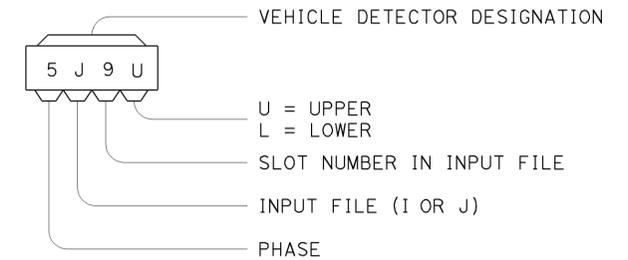
WIRING DIAGRAM LEGEND



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

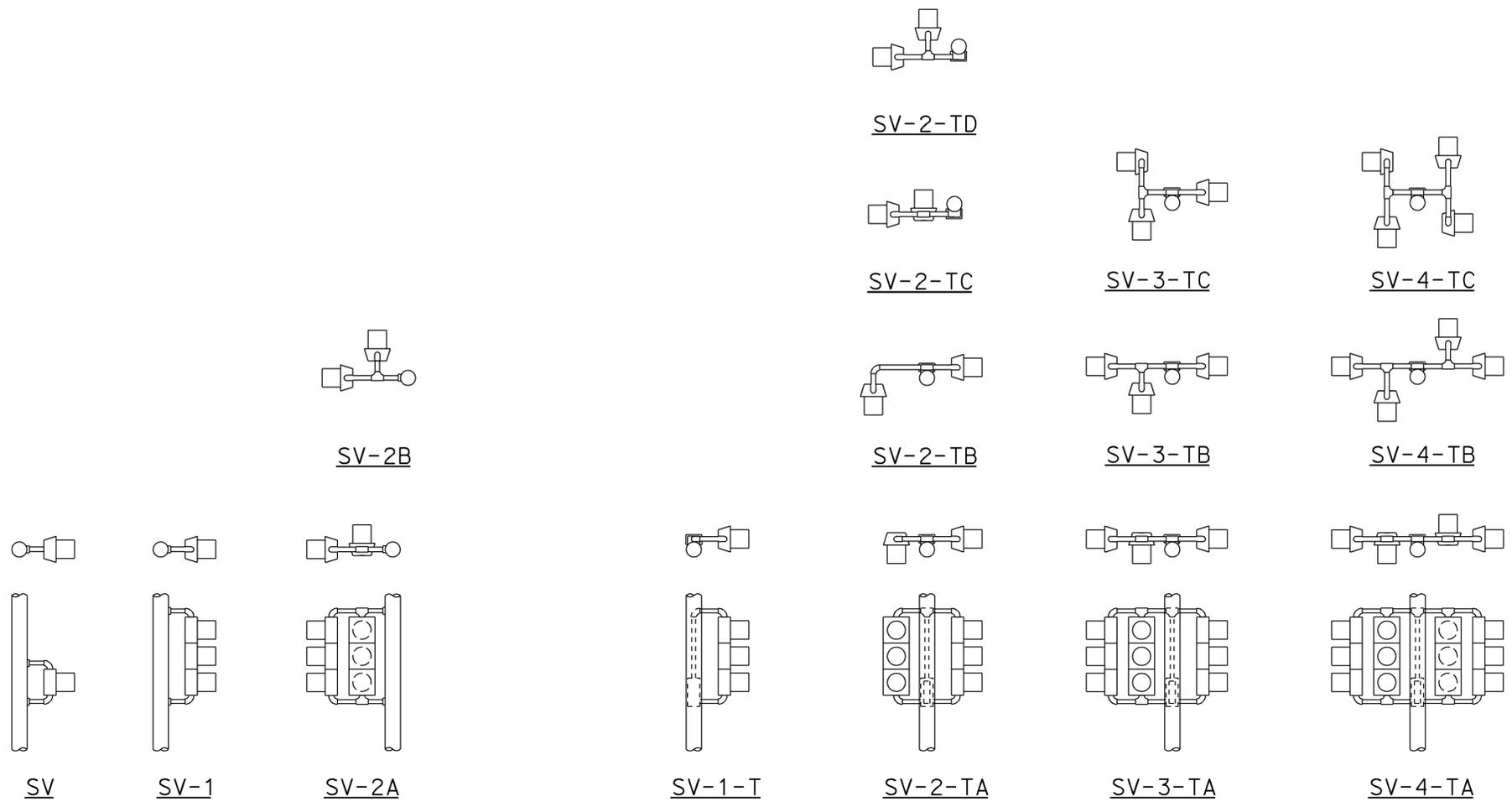
2010 REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	36	51

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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TO ACCOMPANY PLANS DATED 6-1-15

PLAN VIEW OF OTHER SIDE MOUNTINGS



ABBREVIATIONS:

- SV SIDE MOUNTED VEHICLE SIGNALS
- T TERMINAL COMPARTMENT
- TV TOP MOUNTED VEHICLE SIGNALS
- 1, 2, 3, 4 NUMBER OF SIGNAL FACES (3 - SECTION, UNLESS OTHERWISE INDICATED)
- A, B, C, D CONFIGURATION OF SIGNALS

NOTES:

1. Mountings shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals and backplate installation.
3. See Standard Plans ES-4D and ES-4E for attachment fitting details.

PLAN VIEW OF TOP MOUNTINGS

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (VEHICULAR SIGNAL HEADS
 AND MOUNTINGS)**

NO SCALE

RSP ES-4A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-4A DATED MAY 20, 2011 - PAGE 443 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4A

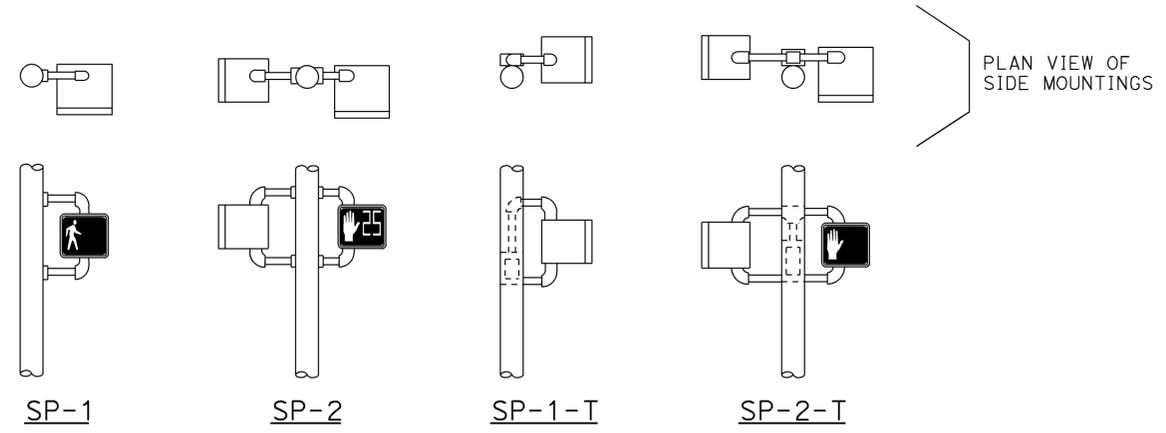
2010 REVISED STANDARD PLAN RSP ES-4A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Ama	49	3.6	37	51

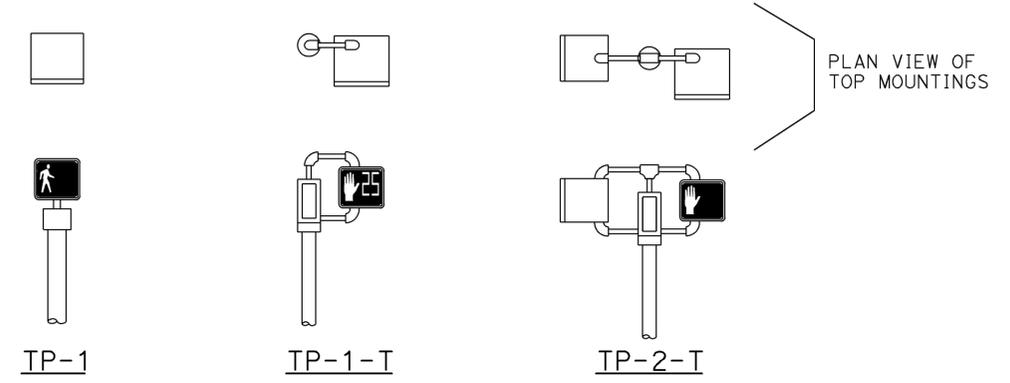
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 17, 2014
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 6-1-15



SIDE MOUNTINGS



TOP MOUNTINGS

PEDESTRIAN SIGNALS AND MOUNTINGS

DETAIL A

NOTES:

1. Mounting shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals.
3. See Standard Plan ES-4D for attachment fittings details.

ABBREVIATIONS:

- 1, 2 NUMBER OF SIGNAL FACES
- SP SIDE MOUNTED PEDESTRIAN SIGNAL
- T TERMINAL COMPARTMENT
- TP TOP MOUNTED PEDESTRIAN SIGNAL



PERSON WALKING INTERVAL FLASHING UPRaised HAND INTERVAL STEADY UPRaised HAND INTERVAL

PEDESTRIAN SIGNAL MODULE WITH COUNTDOWN

DETAIL B



PERSON WALKING INTERVAL STEADY UPRaised HAND INTERVAL

PEDESTRIAN SIGNAL MODULE WITHOUT COUNTDOWN

DETAIL C

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (PEDESTRIAN SIGNAL)**

NO SCALE

RSP ES-4B DATED OCTOBER 17, 2014 SUPERSEDES RSP ES-4B DATED JULY 19, 2013 AND STANDARD PLAN ES-4B DATED MAY 20, 2011 - PAGE 444 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4B

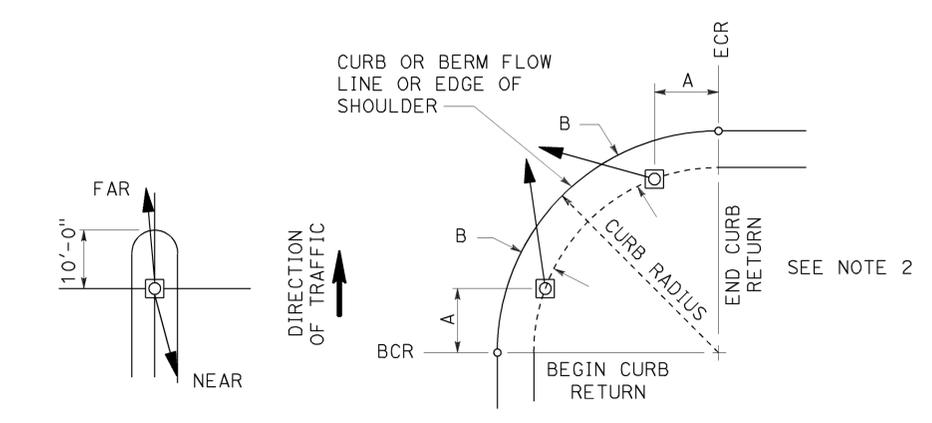
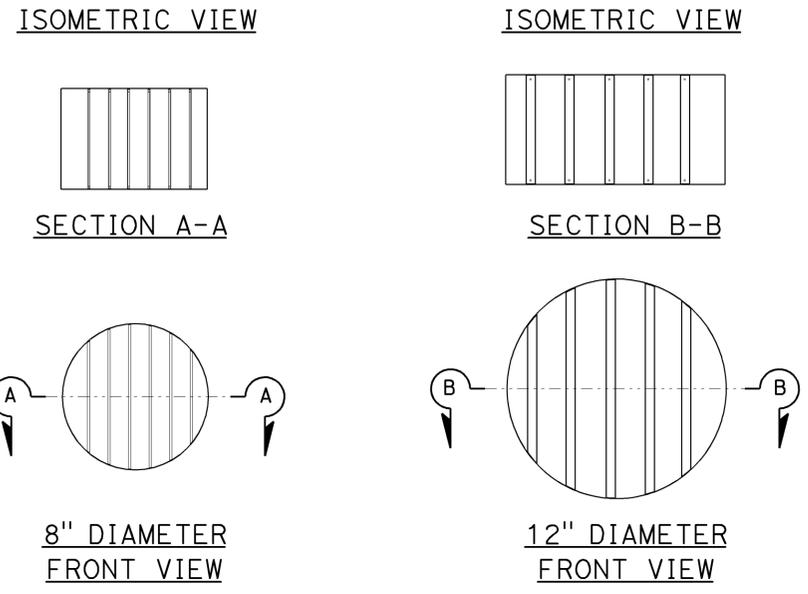
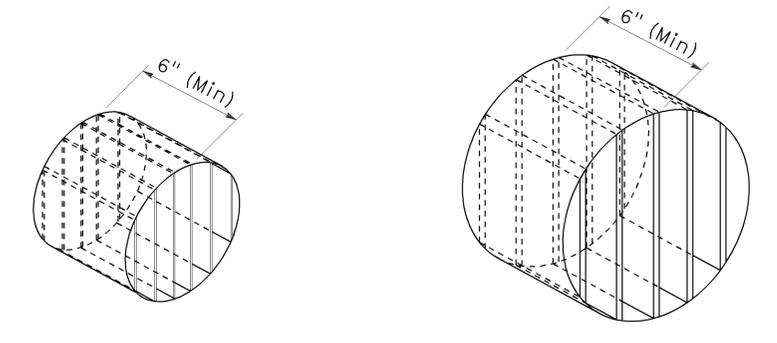
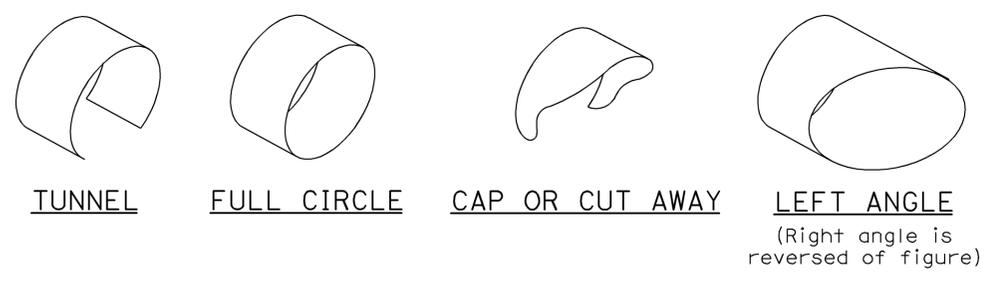
2010 REVISED STANDARD PLAN RSP ES-4B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	38	51

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

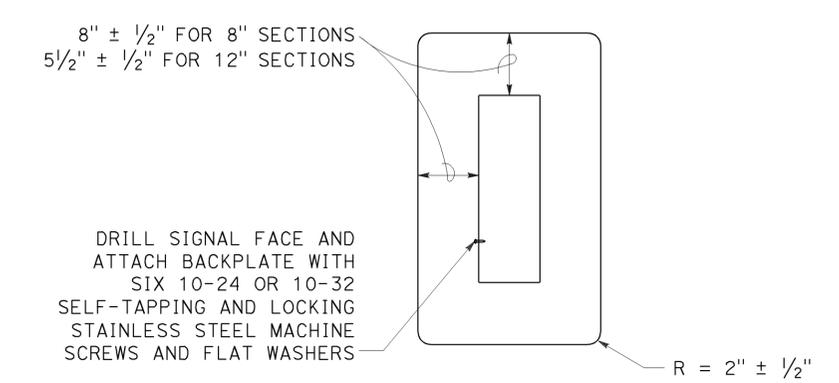
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TO ACCOMPANY PLANS DATED 6-1-15



- NOTES:**
1. Typical signal pole placement unless dimensioned on plans.
 2. For A and B dimensions, see Pole Schedule, or as directed by the Engineer.

VISORS



8" AND 12" SECTIONS

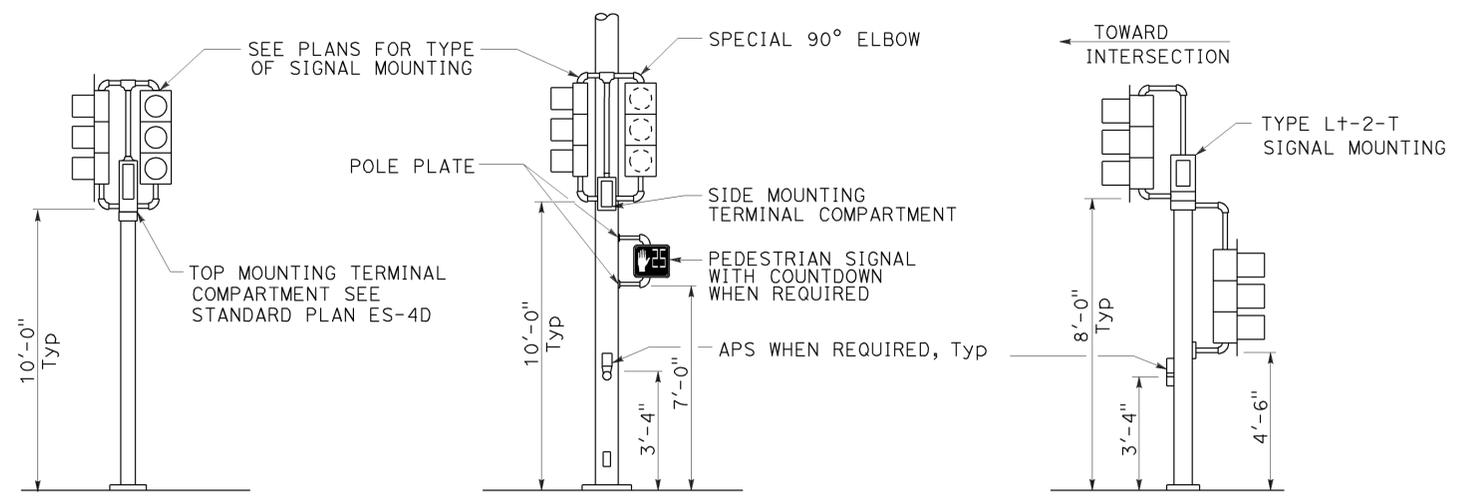
BACKPLATE

1/16" minimum thickness
 3001-14 aluminum or plastic when specified

DIRECTIONAL LOUVER

Directional louvers shall be oriented as directed by the Engineer and secured in place with one plated brass machine screw and nut.

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



TOP MOUNTED SIGNALS (TV)

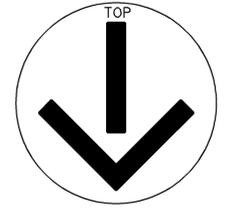
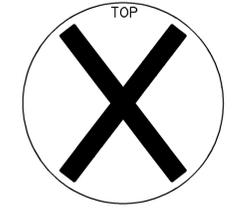
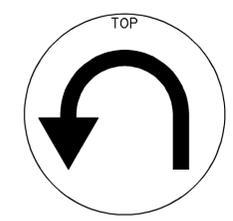
Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

SIDE MOUNTED SIGNALS (SV AND SP)

Normally used on standards with luminaire or signal mast arm

LEFT TURN LANE SIGNAL

Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans



SIGNAL FACES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (VEHICULAR SIGNAL HEADS AND MOUNTINGS)

NO SCALE

RSP ES-4C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-04C DATED MAY 20, 2011 - PAGE 445 OF THE STANDARD PLANS BOOK DATED 2010.

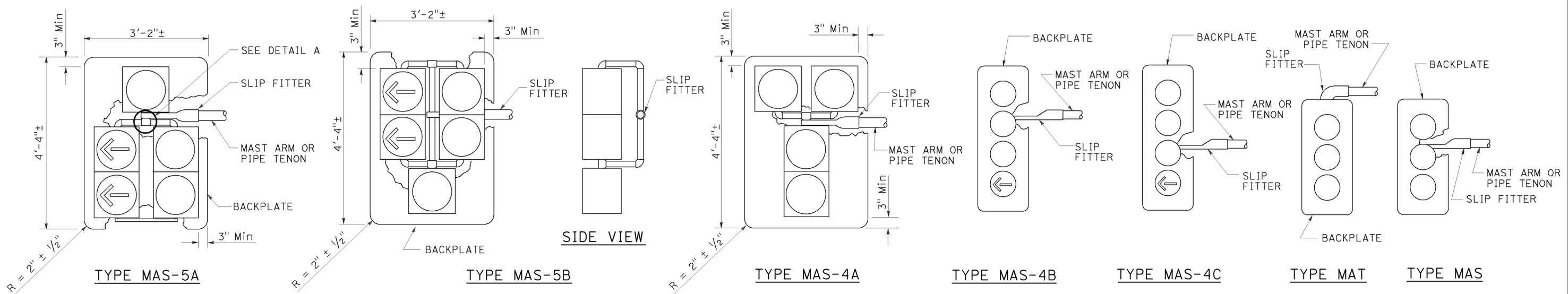
2010 REVISED STANDARD PLAN RSP ES-4C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	39	51

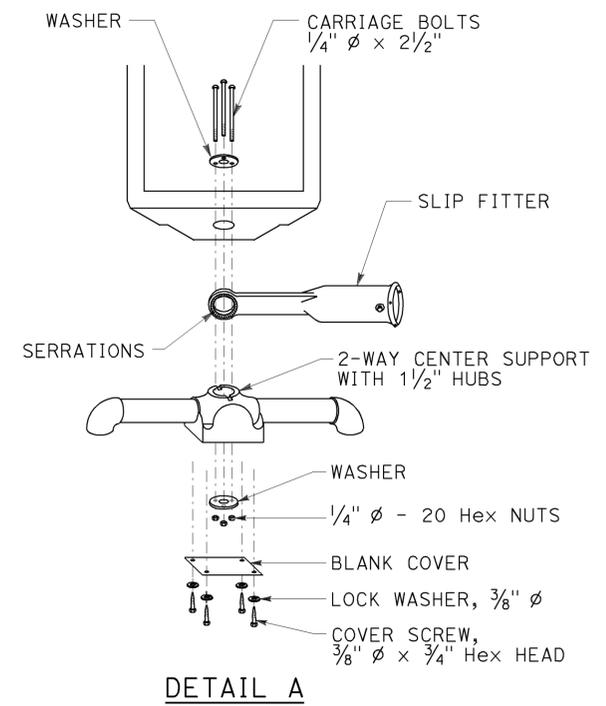
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

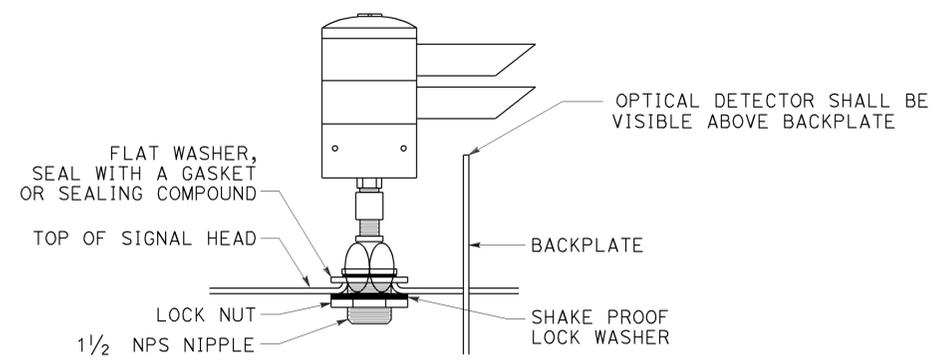
TO ACCOMPANY PLANS DATED 6-1-15



MAST ARM MOUNTINGS



DETAIL A



DETAIL B

OPTICAL DETECTOR MOUNTING FOR EMERGENCY VEHICLE DETECTION SYSTEM

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (VEHICULAR SIGNAL HEADS AND
 OPTICAL DETECTOR MOUNTING)**

NO SCALE

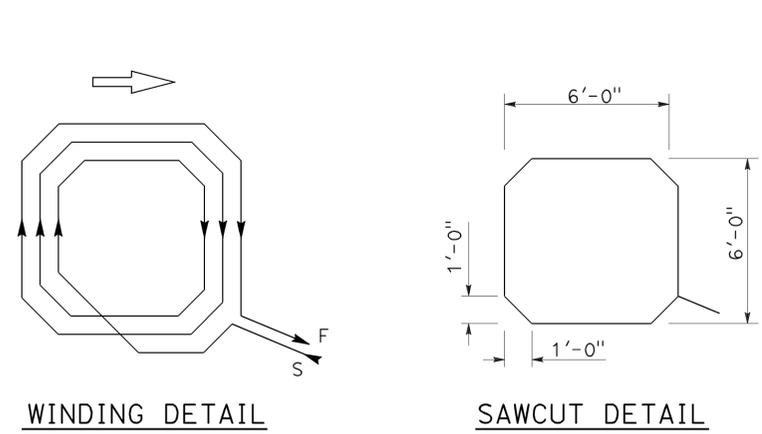
RSP ES-4E DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-4E DATED MAY 20, 2011 - 447 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4E

2010 REVISED STANDARD PLAN RSP ES-4E

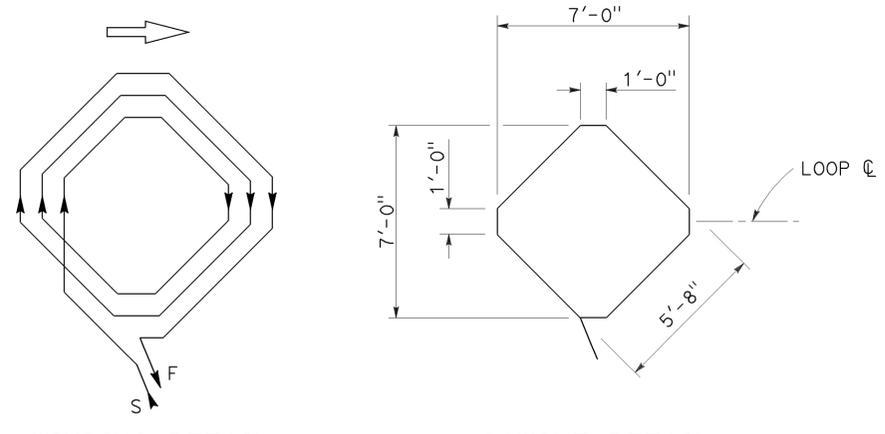
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	40	51
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
REGISTERED PROFESSIONAL ENGINEER Theresa Aziz Gabriel No. E15129 Exp. 6-30-14 ELECTRICAL STATE OF CALIFORNIA					

TO ACCOMPANY PLANS DATED 6-1-15



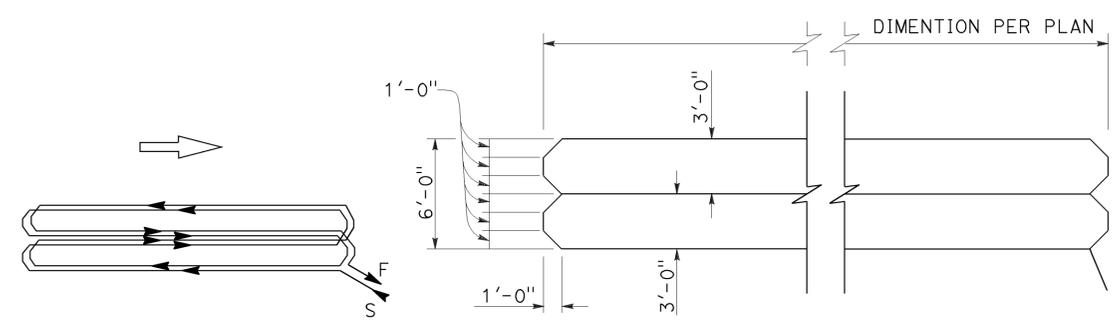
WINDING DETAIL SAWCUT DETAIL

TYPE A LOOP DETECTOR CONFIGURATION



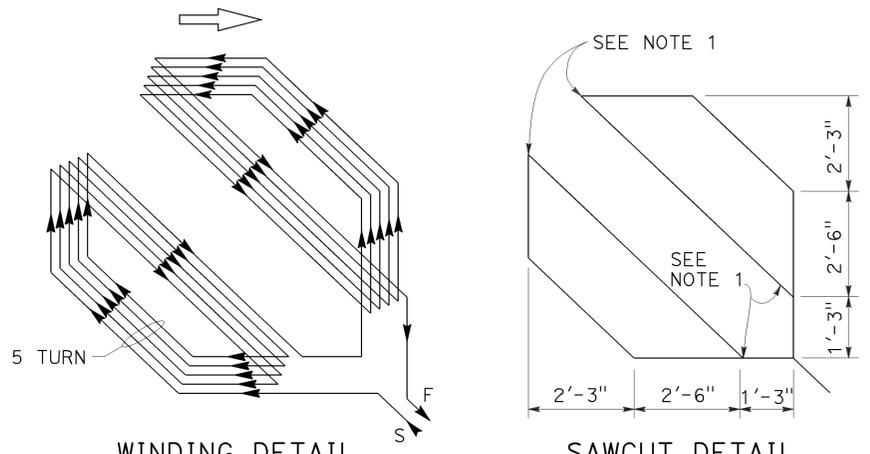
WINDING DETAIL SAWCUT DETAIL

TYPE B LOOP DETECTOR CONFIGURATION



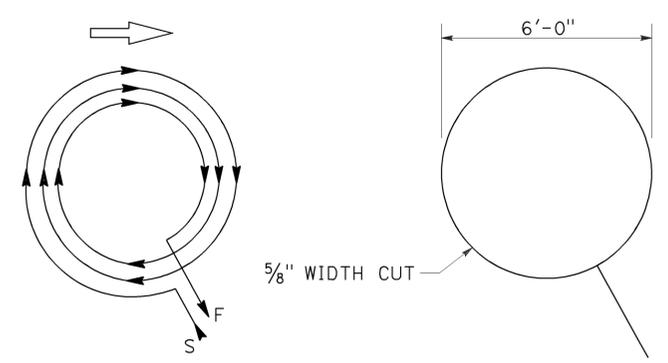
WINDING DETAIL SAWCUT DETAIL

TYPE C LOOP DETECTOR CONFIGURATION



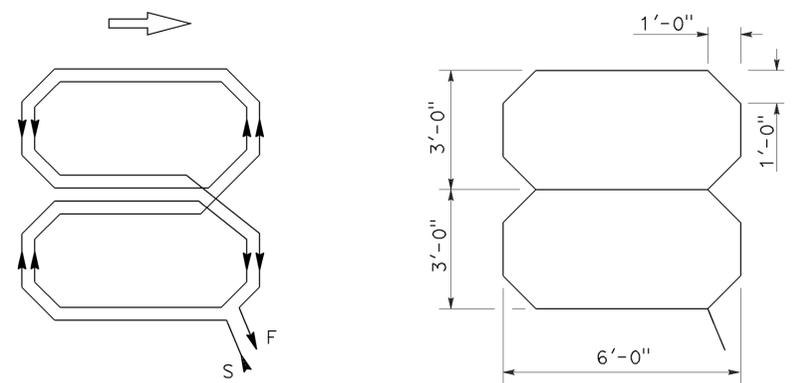
WINDING DETAIL SAWCUT DETAIL

TYPE D LOOP DETECTOR CONFIGURATION



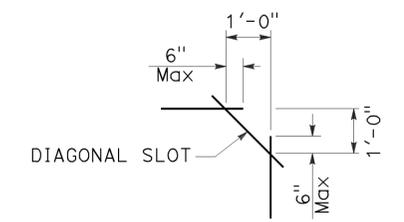
WINDING DETAIL SAWCUT DETAIL

TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL SAWCUT DETAIL

TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

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.

REVISED STANDARD PLAN RSP ES-5B

- 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.

2010 REVISED STANDARD PLAN RSP ES-5B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	41	51

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE

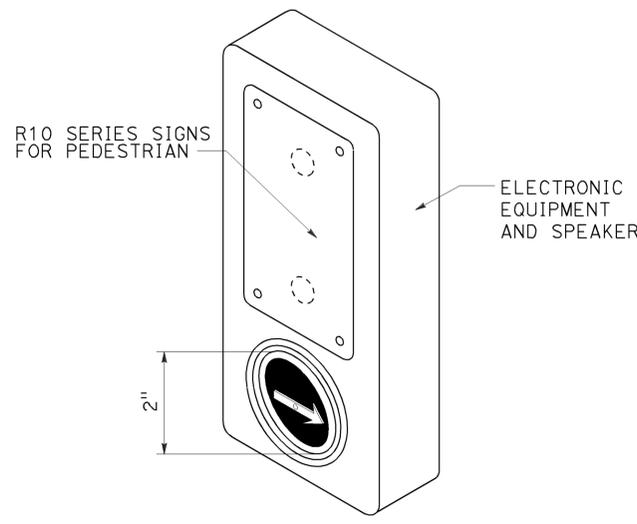
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

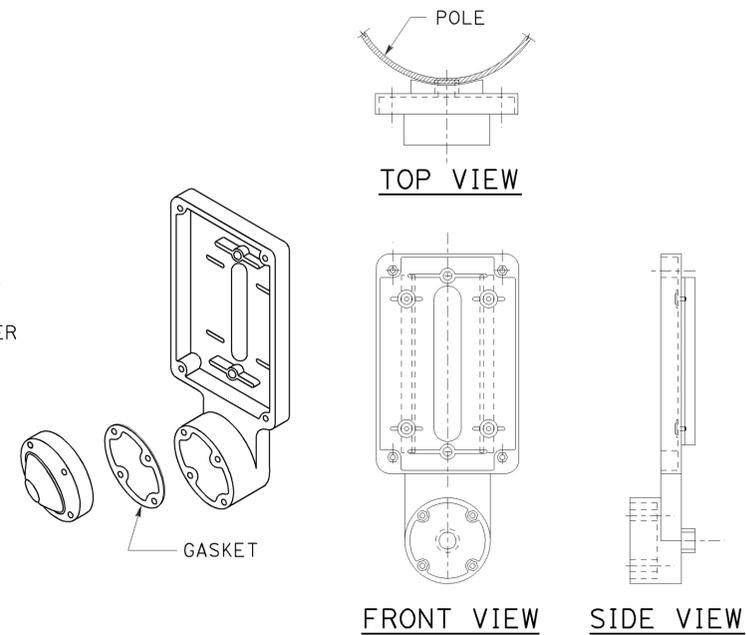
TO ACCOMPANY PLANS DATED 6-1-15

NOTES:

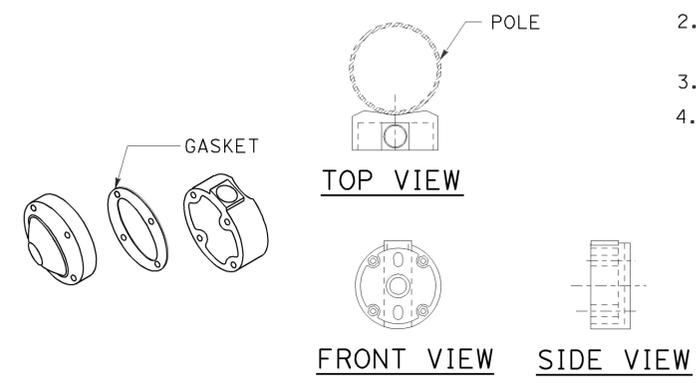
1. Back casting shape to fit curvature of pole.
2. Provide cover fitting for top of post, when PBA is mounted on push button assembly post.
3. Install push button on crosswalk side of standard.
4. Use R10 series regulatory signs and plaques for pedestrian and bicycle facilities.



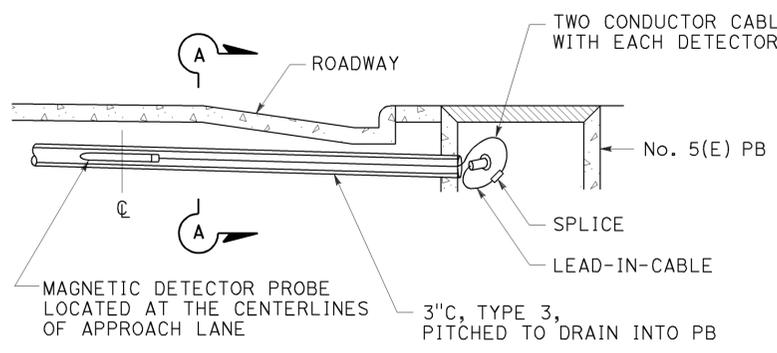
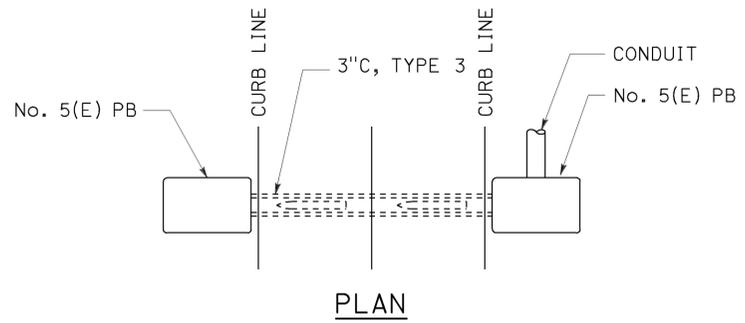
ACCESSIBLE PEDESTRIAN SIGNAL
DETAIL A
 (See note 1 to 4)



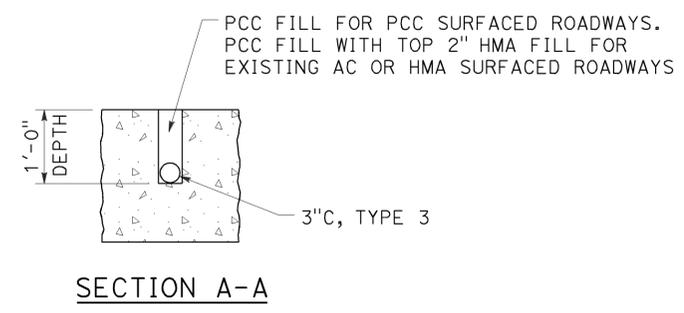
TYPE B PUSH BUTTON ASSEMBLY
DETAIL B
 (See note 1 to 4)



TYPE C PUSH BUTTON ASSEMBLY
DETAIL C
 (See note 1 to 4)



MAGNETIC VEHICLE DETECTOR
INSTALLATION DETAILS
DETAIL D



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS
(ACCESSIBLE PEDESTRIAN SIGNAL,
PUSH BUTTON ASSEMBLIES AND
MAGNETIC VEHICLE DETECTOR)

NO SCALE

RSP ES-5C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5C DATED MAY 20, 2011 - PAGE 450 OF THE STANDARD PLANS BOOK DATED 2010.

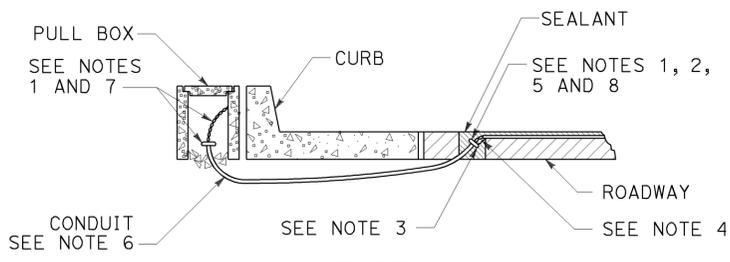
REVISED STANDARD PLAN RSP ES-5C

2010 REVISED STANDARD PLAN RSP ES-5C

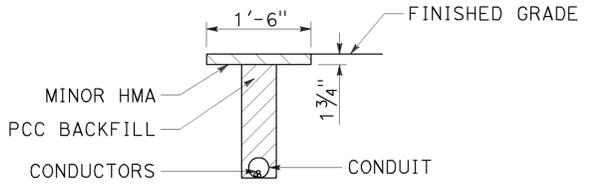
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	42	51

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.

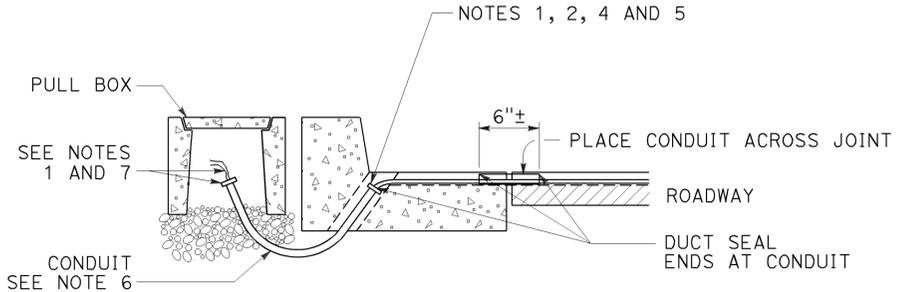
2010 REVISED STANDARD PLAN RSP ES-5D



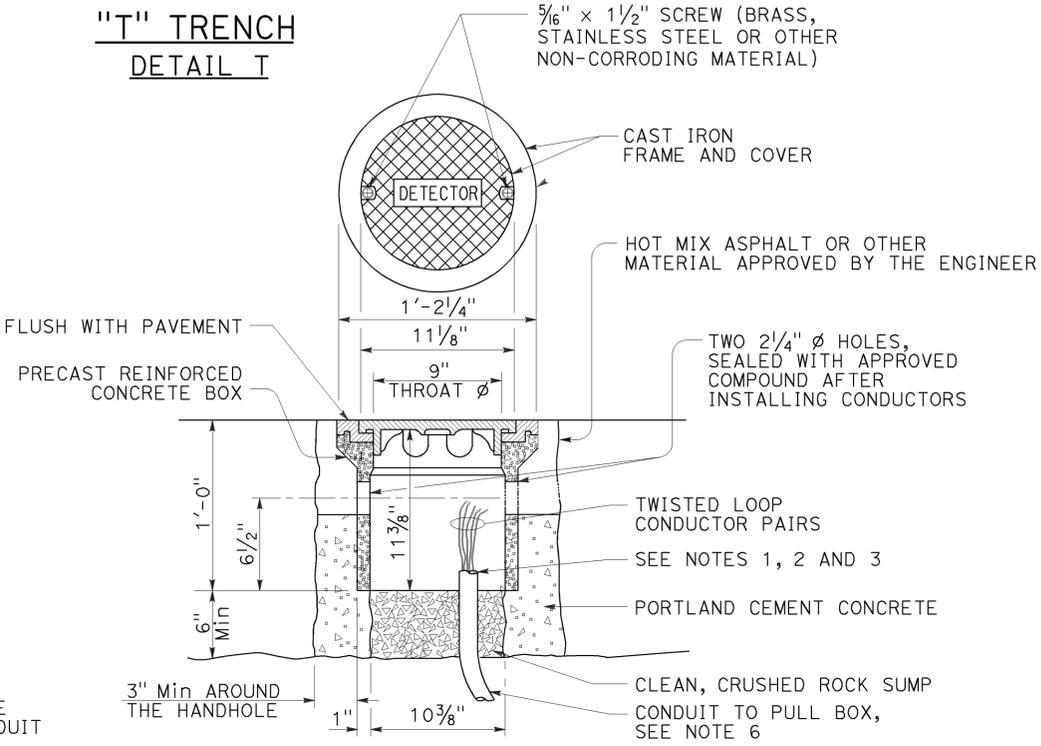
**TYPE A
CURB TERMINATION DETAIL**



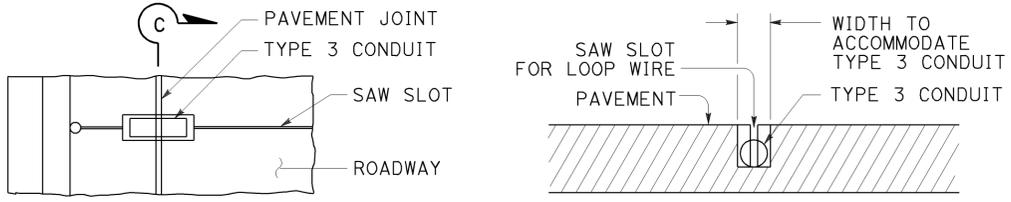
**"T" TRENCH
DETAIL 1**



CROSS SECTION



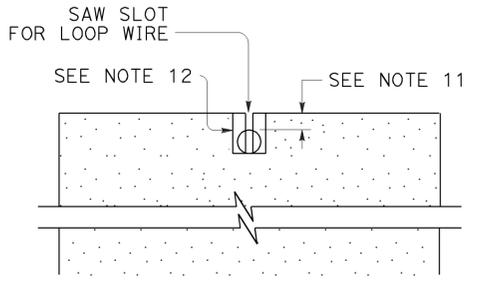
DETECTOR HANDHOLE DETAIL



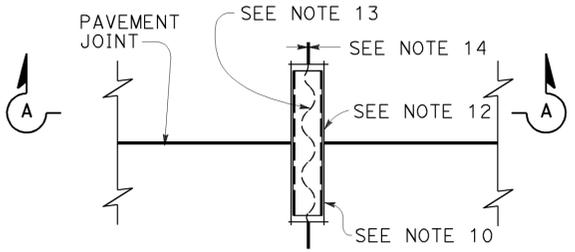
PLAN VIEW

SECTION C-C

**TYPE B
CURB TERMINATION DETAIL**

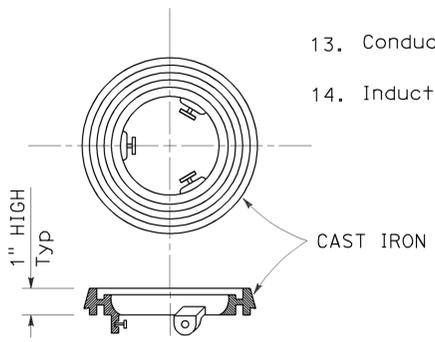


SECTION A-A

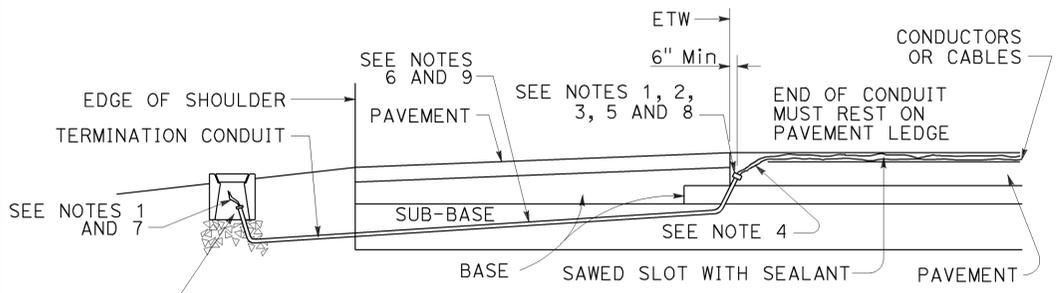


PLAN VIEW

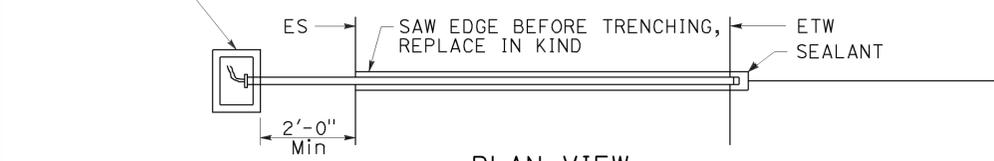
**TYPICAL LOOP LEAD-IN DETAIL
AT PAVEMENT JOINT**



LOCKING GRADE RING



CROSS SECTION



**PLAN VIEW
SHOULDER TERMINATION DETAILS**

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

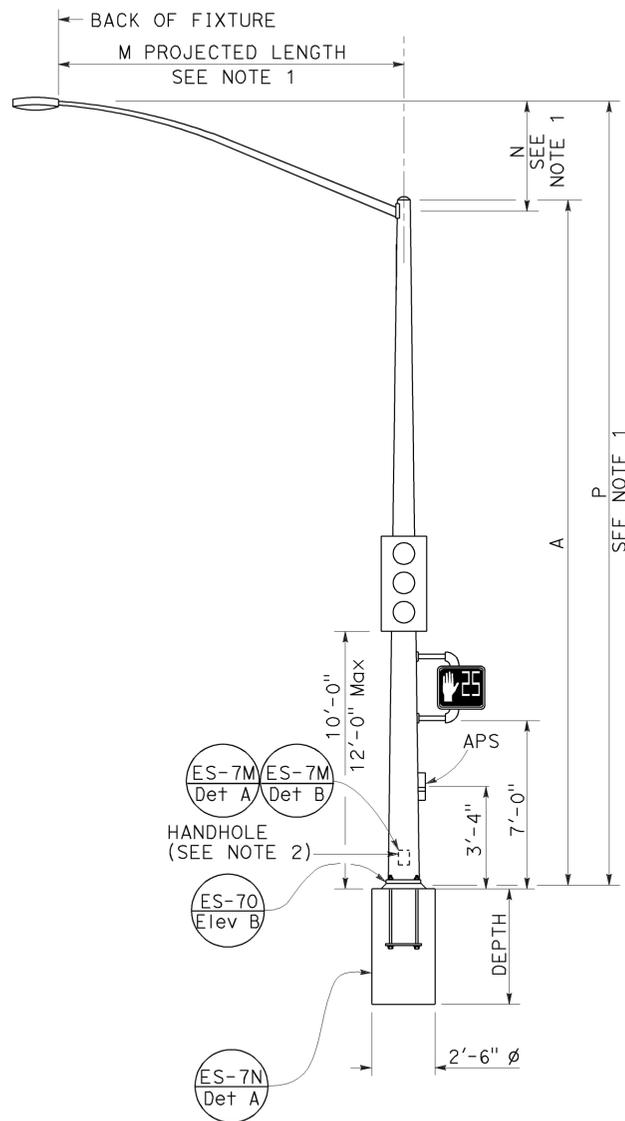
RSP ES-5D DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5D
DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5D

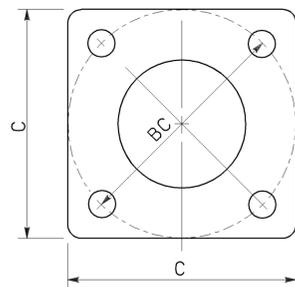
NOTES:

- For additional notes, details and data for Type 15TS and Type 21TS Standards, see Standard Plan ES-6A.
- Handhole shall be located on the downstream side of traffic.

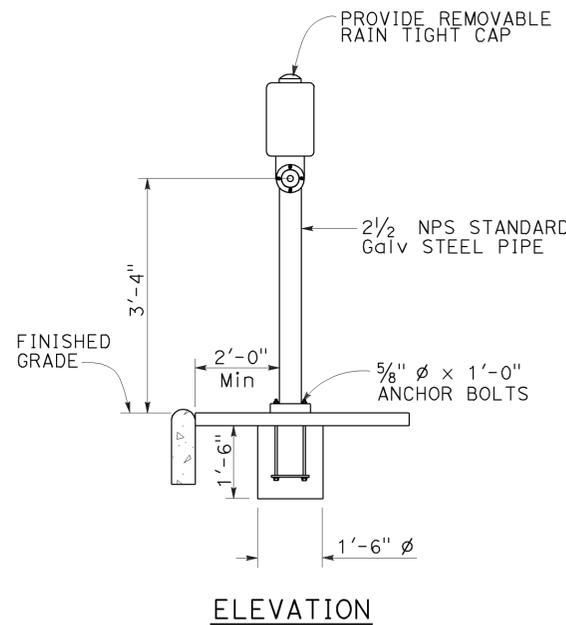
TO ACCOMPANY PLANS DATED 6-1-15



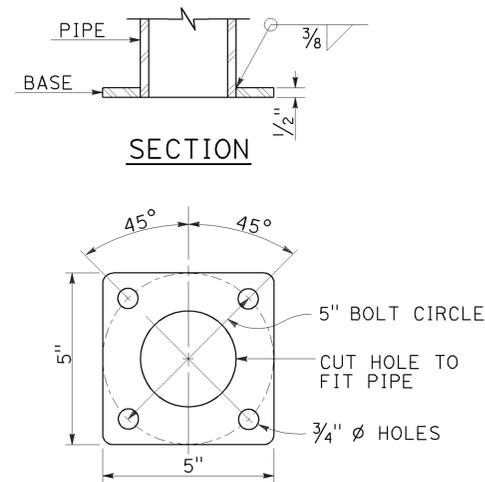
TYPE 15TS AND 21TS STANDARD
ELEVATION A
 (See Note 1)



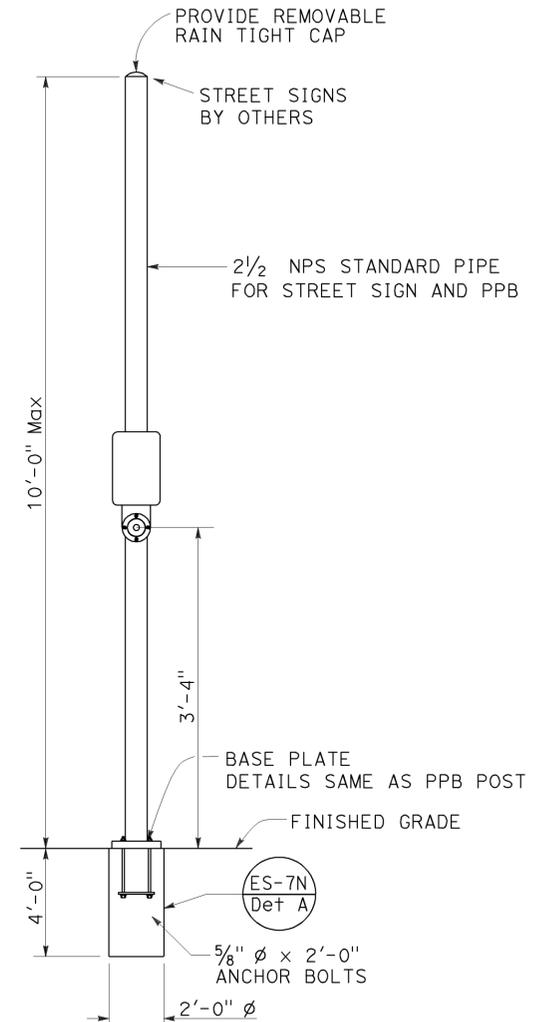
BASE PLATE
TYPE 15TS AND 21TS
DETAIL A



PUSH BUTTON ASSEMBLY POST
DETAIL B



BASE PLATE
PBA POST



COMBINED STREET SIGN
PUSH BUTTON ASSEMBLY POST
DETAIL C

POLE TYPE	POLE DATA			WALL THICKNESS	BASE PLATE DATA			CIDH DEPTH
	A HEIGHT	Min OD			C	BC = BOLT CIRCLE	THICKNESS	
15TS	30'-0"	8"	3 1/16"	0.1793"	1'-1 1/2"	1'-0"	2"	1 1/2" diameter x 42"
21TS	35'-0"	9 3/8"	3 3/16"		1'-3"	1'-2"		

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

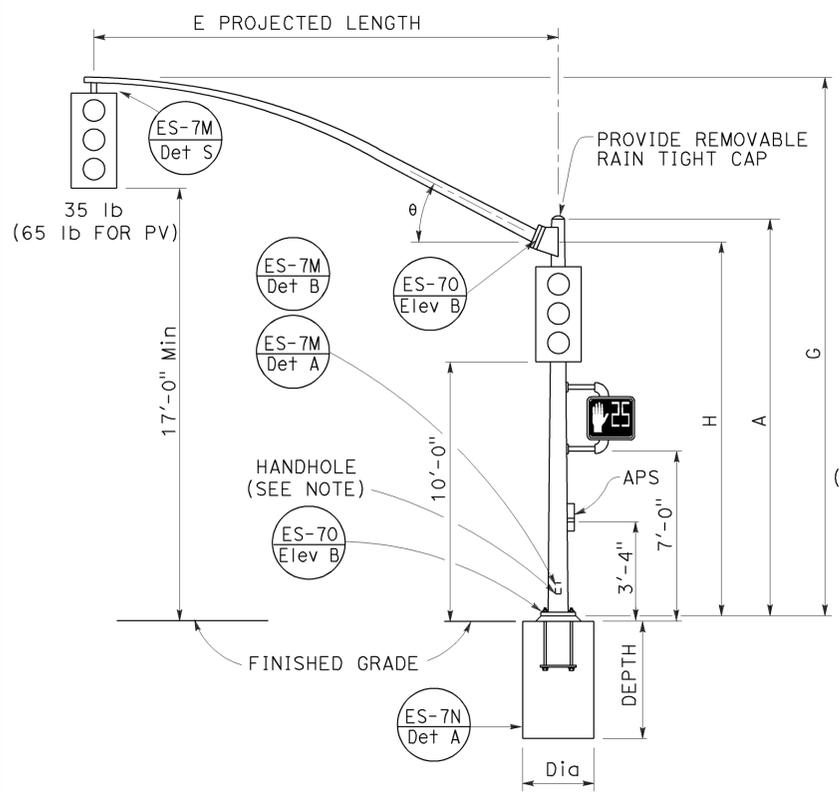
ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD, TYPE TS,
AND PUSH BUTTON ASSEMBLY POST)

NO SCALE

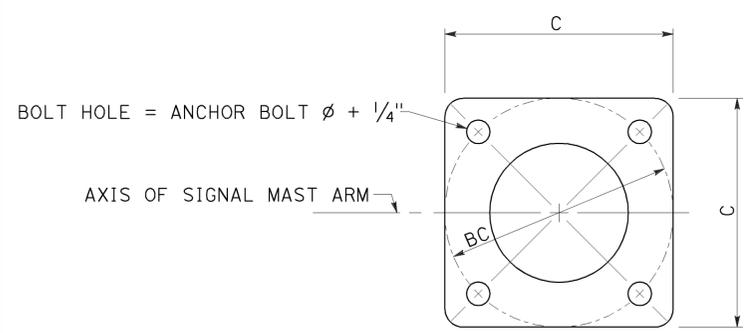
RSP ES-7A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7A
 DATED MAY 20, 2011 - PAGE 462 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7A

2010 REVISED STANDARD PLAN RSP ES-7A

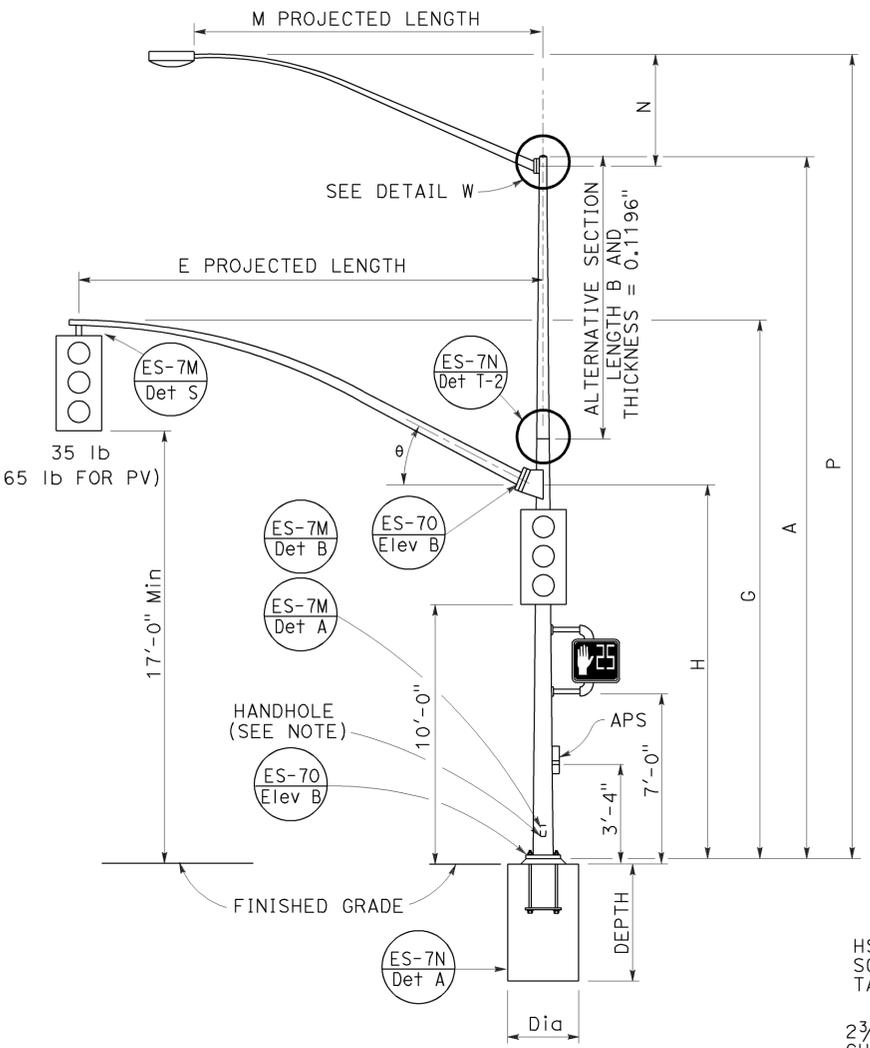


TYPE 16-1-100, 18-1-100
ELEVATION A



BASE PLATE
DETAIL D

E PROJECTED LENGTH	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM P THICKNESS	L POLE P THICKNESS	θ
15'-0"	21'-8"±	17'-6"	7 3/8"	0.1196"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°
20'-0"										
25'-0"	22'-8"±	16'-0"	8"	0.1196"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°
30'-0"										

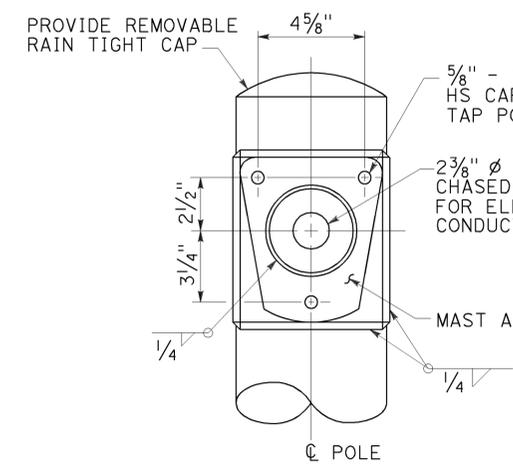


TYPE 19-1-100, 19A-1-100
ELEVATION B

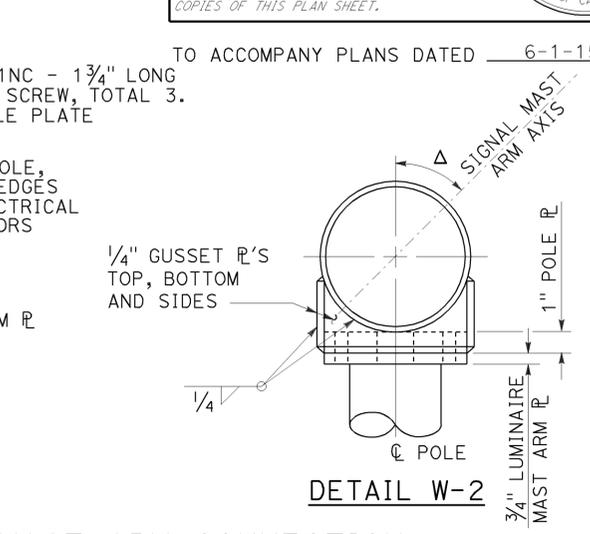
M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT
				30'-0" POLE
				35'-0" POLE
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±
10'-0"	3'-3"±	3 3/8"		32'-9"±
12'-0"	4'-3"±	3 7/8"		33'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±

Δ = LUMINAIRE MAST ARM SKEW -90° TO +90°
DEFAULT 0°

NOTE:
Handhole shall be located on the downstream side of traffic.



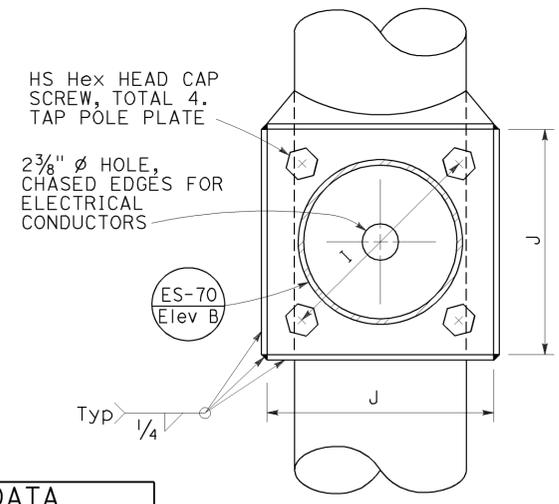
DETAIL W-1



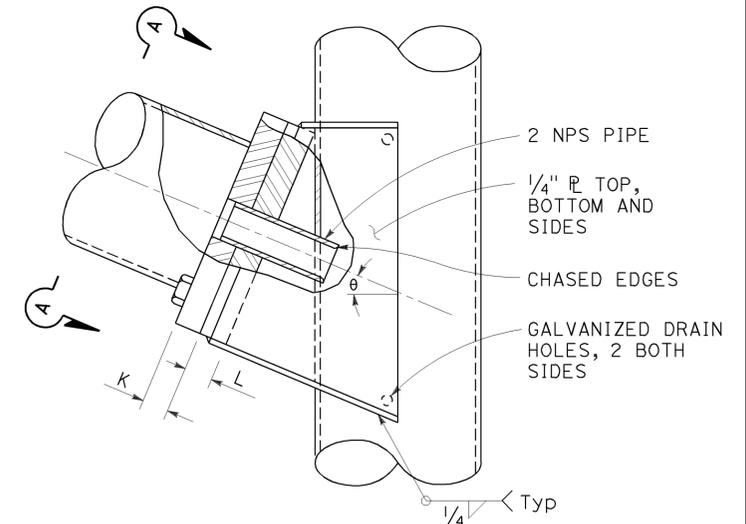
DETAIL W-2

LUMINAIRE MAST ARM CONNECTION

DETAIL W



VIEW A-A



ELEVATION C

SIGNAL MAST ARM CONNECTION

DETAIL C

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

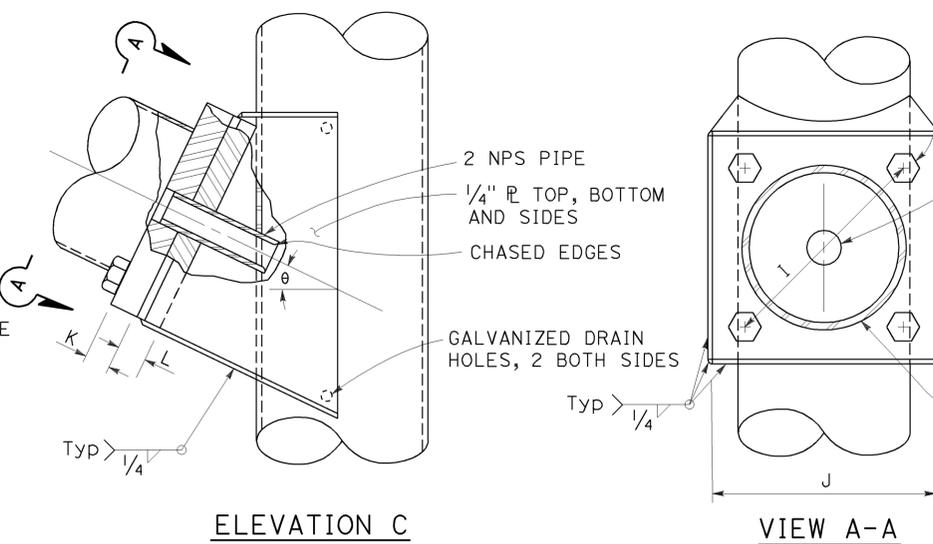
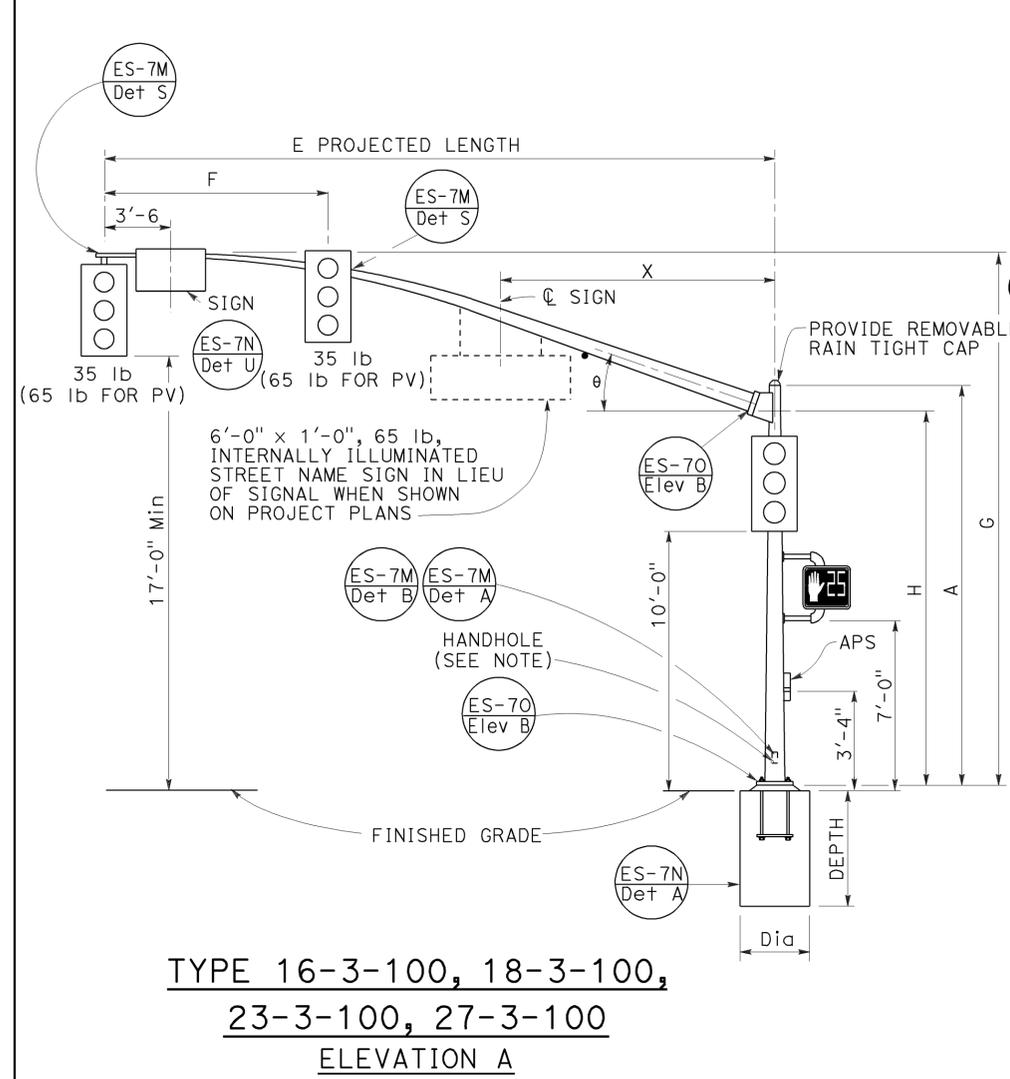
ELECTRICAL SYSTEMS (SIGNAL AND LIGHTING STANDARD, CASE 1 SIGNAL MAST ARM LOADING, WIND VELOCITY = 100 MPH AND SIGNAL MAST ARM LENGTHS 15' TO 30')
NO SCALE

RSP ES-7C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7C DATED MAY 20, 2011 - PAGE 464 OF THE STANDARD PLANS BOOK DATED 2010.

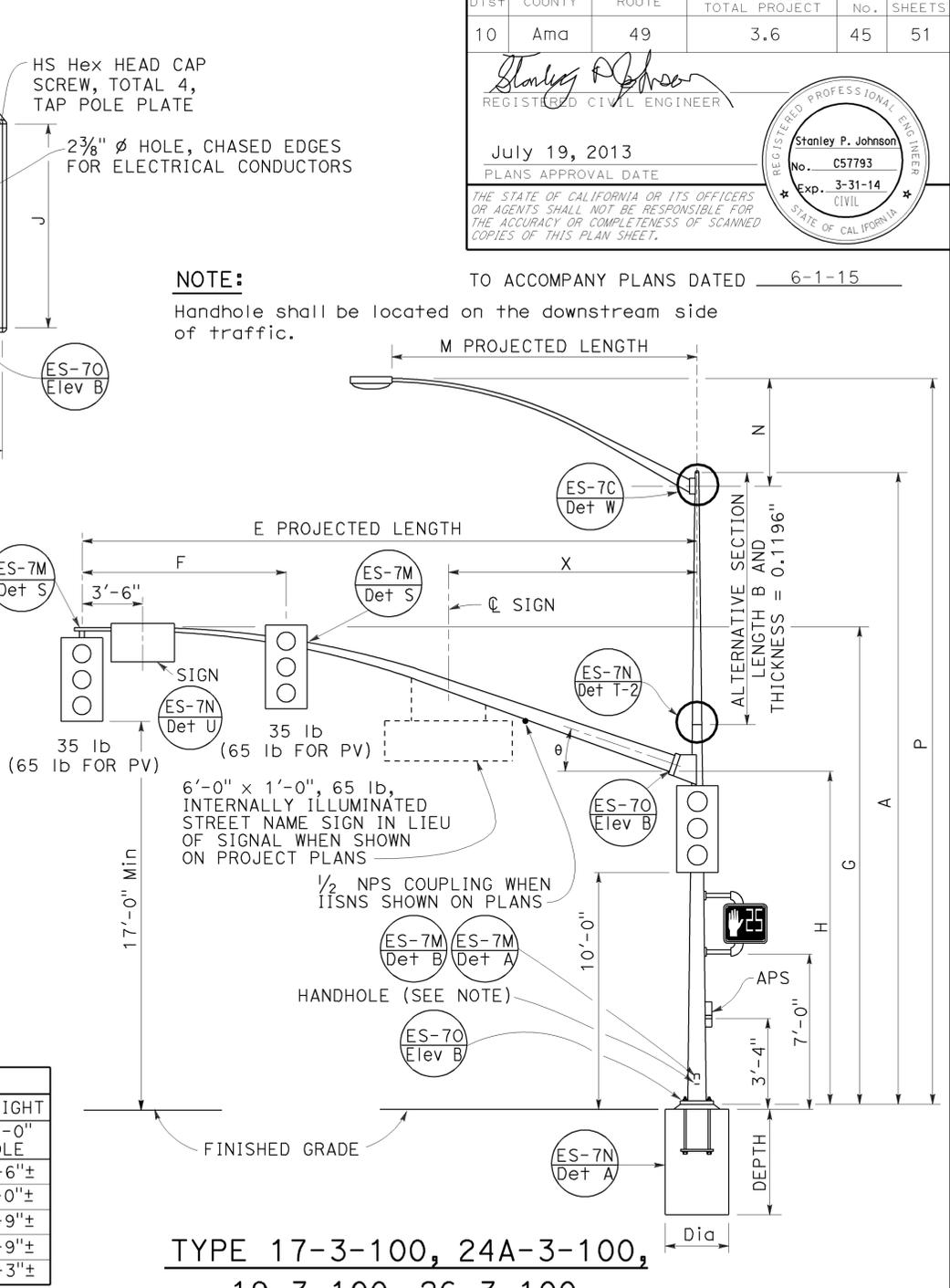
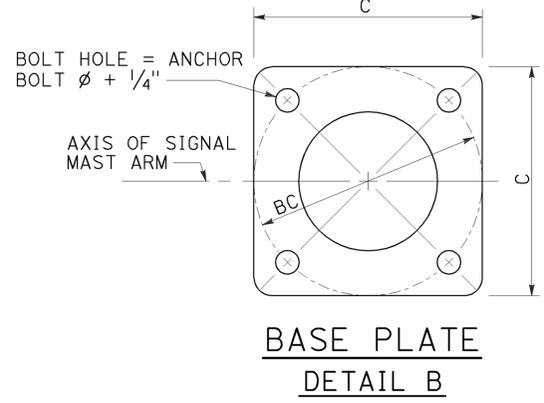
REVISED STANDARD PLAN RSP ES-7C

INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

2010 REVISED STANDARD PLAN RSP ES-7C



SIGNAL MAST ARM CONNECTION
DETAIL A



E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM R THICKNESS	L POLE R THICKNESS	θ	X Max
15'-0"	8'-0"	21'-8"±	17'-6"	7 3/8"	0.1793"							-
20'-0"		21'-8"±		7 3/8"		12"		1'-0"	1 1/4"	1 1/2"	23°	
25'-0"		22'-8"±		7 3/8"								10'-6"
30'-0"	12'-0"	22'-8"±		8"			1 1/4"-7NC-3"					
35'-0"	14'-0"	23'-0"±	16'-0"	8 3/4"	0.2391"						21°	
40'-0"				9 3/8"		13"		1'-1"	1 1/2"	1 3/4"	15°	13'-0"
45'-0"	15'-0"	23'-8"±		10 1/16"								

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT
6'-0"	2'-0"±	3 1/4"		30'-0" POLE
8'-0"	2'-6"±	3 1/2"		35'-0" POLE
10'-0"	3'-3"±	3 3/8"	0.1196"	31'-6"±
12'-0"	4'-3"±	3 7/8"		32'-0"±
15'-0"	4'-9"±	4 1/4"		32'-9"±
				33'-9"±
				34'-3"±
				36'-6"±
				37'-0"±
				37'-9"±
				38'-9"±
				39'-3"±

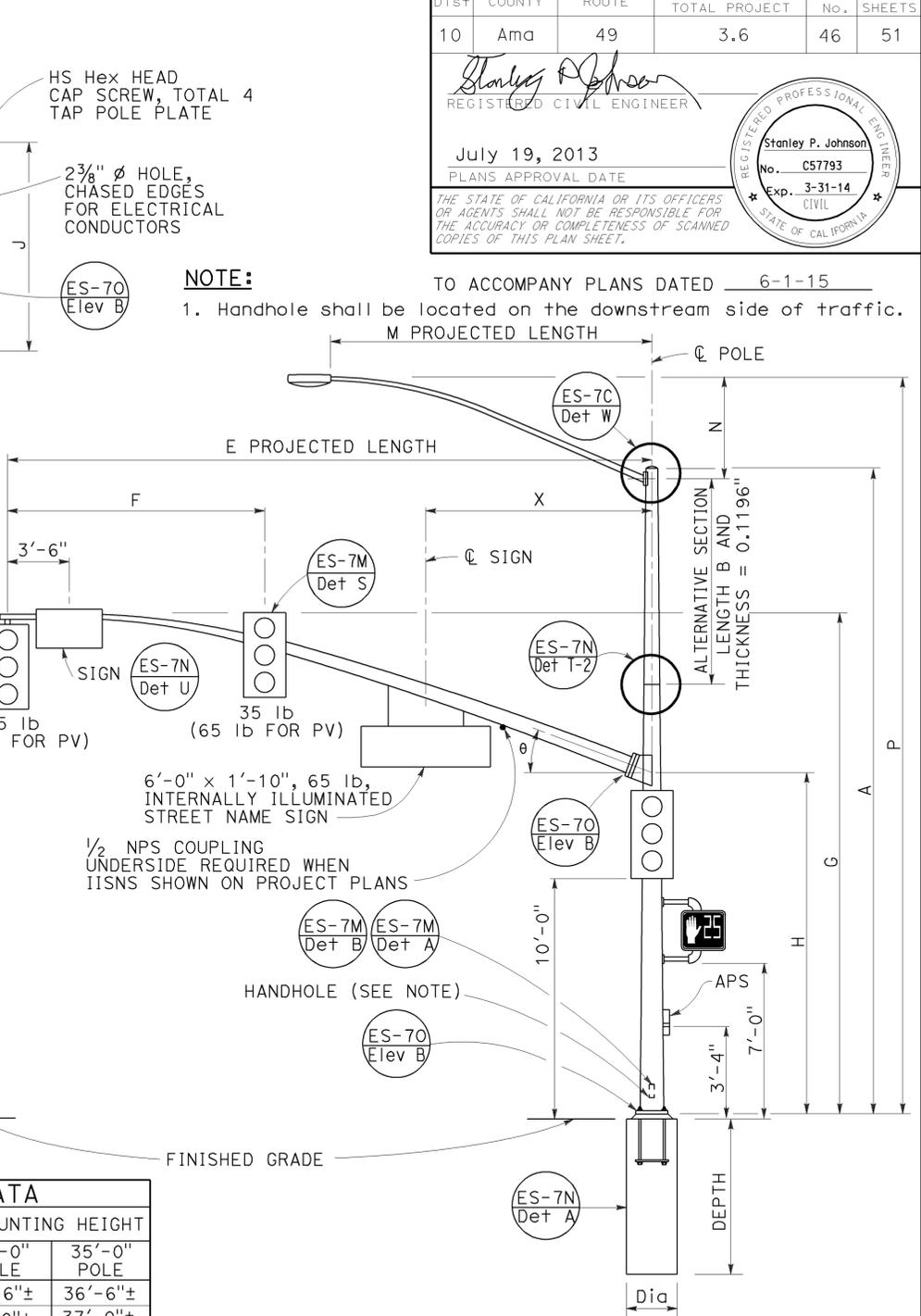
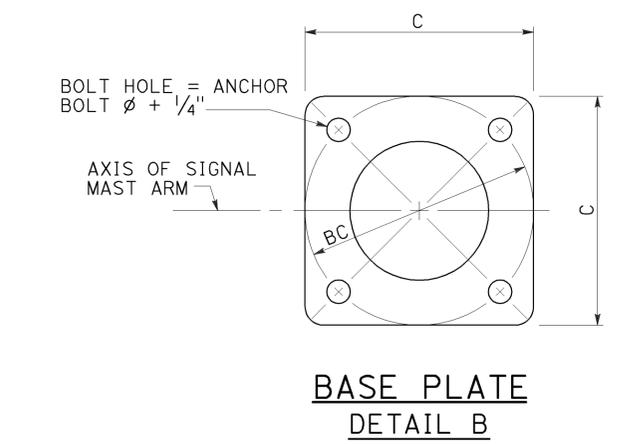
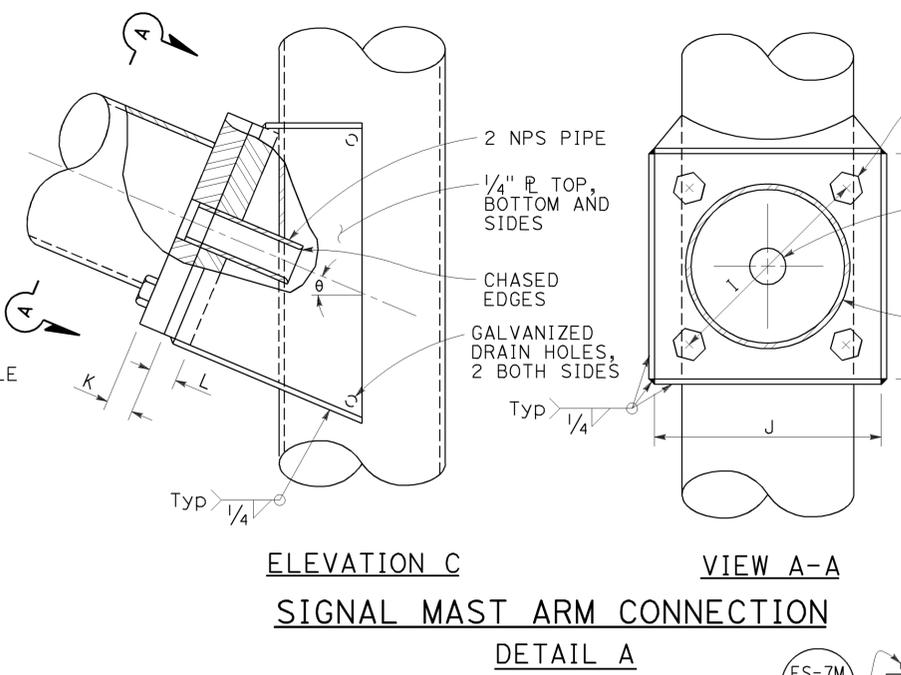
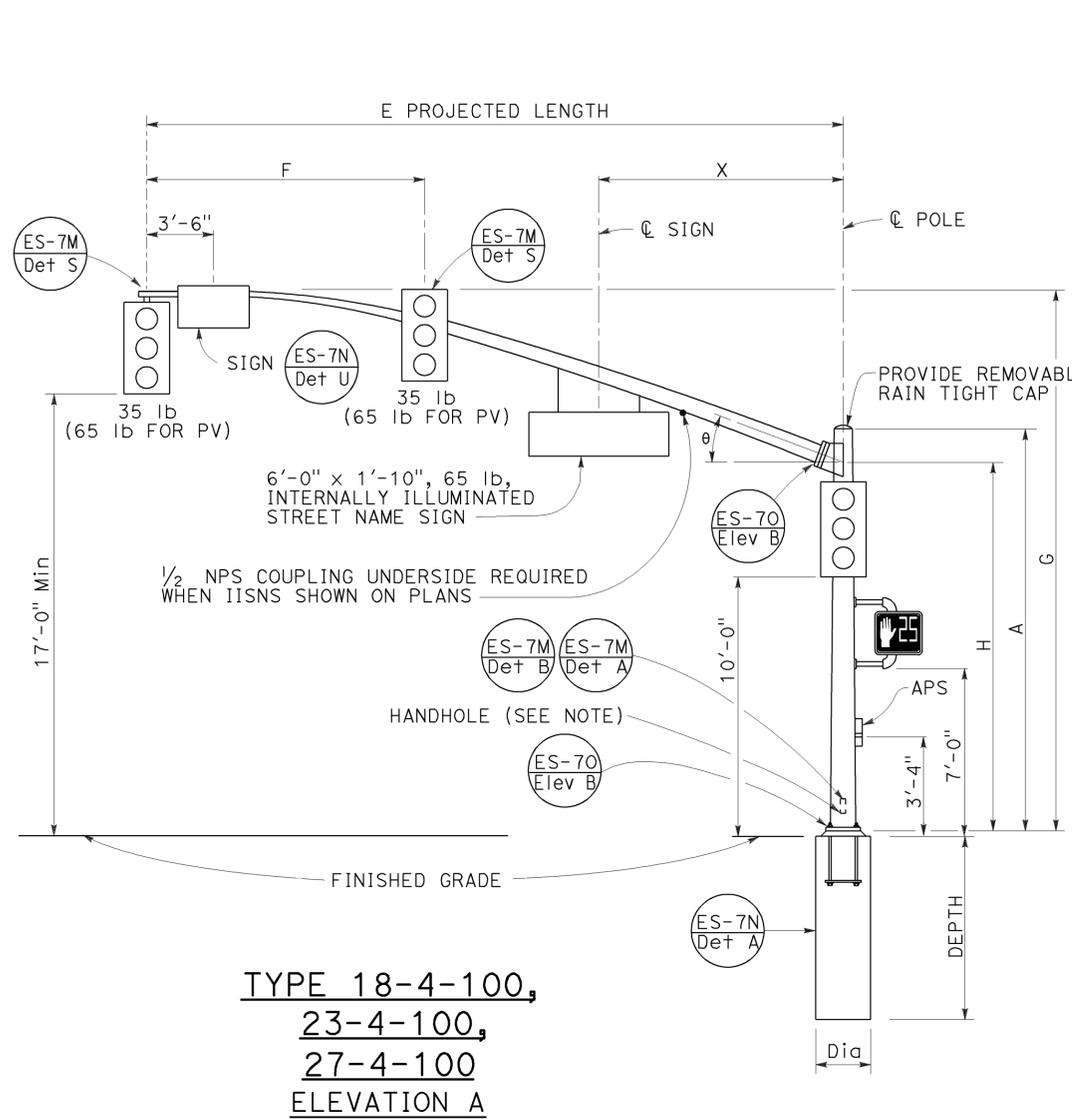
POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA						BASE PLATE DATA				CIDH PILE FOUNDATION						
			A HEIGHT	Min OD		THICKNESS	ALTERNATIVE SECTION			C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	DIAMETER	DEPTH	REINFORCED	
				BASE	TOP		B LENGTH	BOTTOM	TOP										
16-3-100			18'-6"		8 1/16"	0.1793"	NONE							NONE	15'-0"		8'-6"		
17-3-100			30'-0"	10 3/4"	6 7/16"		10'-0"	7 7/8"	6 7/16"	1'-5 1/2"				6'-15' 12'-0"	20'-0"				
18-3-100			17'-0"		8 9/16"		NONE							NONE			9'-6"		
19-3-100			30'-0"		7 11/16"		10'-0"	9 1/8"	7 11/16"					6'-15' 12'-0"	25'-0"				
19A-3-100			35'-0"		6 15/16"		15'-0"		6 15/16"					6'-15' 15'-0"	30'-0"				
23-3-100	3	100	17'-0"	1'-0"	9 9/16"	0.2391"	NONE			1'-7"	1'-5 1/2"	3"		NONE			3'-0"	11'-0"	YES
24-3-100			30'-0"		7 11/16"		10'-0"	9 1/8"	7 11/16"					6'-15' 12'-0"	35'-0"				
24A-3-100			35'-0"		6 15/16"		15'-0"	9 1/8"	6 15/16"					6'-15' 15'-0"					
26-3-100			30'-0"		7 13/16"		10'-0"	9 1/4"	7 13/16"					6'-15' 12'-0"	40'-0"				
26A-3-100			35'-0"	1'-2"	7 1/16"	0.3125"	15'-0"		7 1/16"	1'-11"	1'-9"			6'-15' 15'-0"	45'-0"		3'-6"	12'-0"	
27-3-100			17'-0"		9 11/16"		NONE							NONE					

INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

REVISED STANDARD PLAN RSP ES-7E

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD, CASE 3 SIGNAL MAST ARM LOADING, WIND VELOCITY=100 MPH AND SIGNAL MAST ARM LENGTHS 15' TO 45')
NO SCALE
RSP 7E DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN 7E DATED MAY 20, 2011 - PAGE 466 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-7E



**TYPE 18-4-100,
23-4-100,
27-4-100
ELEVATION A**

**TYPE 19-4-100, 19A-4-100,
24-4-100, 24A-4-100,
26-4-100, 26A-4-100
ELEVATION B**

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS CAP SCREWS	J PLATE SIZE	K MAST ARM THICKNESS	L POLE THICKNESS	theta	X Max
25'-0"	10'-0"	22'-8"±	16'-0"	7 3/8"	0.2391"	12"	1 1/4"-7NC-3"	1'-0"	1 1/4"	1 1/2"	23°	10'-6"
30'-0"	12'-0"	23'-0"±		8"								
35'-0"	14'-0"	23'-0"±		8 1/16"								
40'-0"	15'-0"	23'-8"±		9 3/8"								
45'-0"	15'-0"	23'-8"±		10 1/4"								

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT	
				30'-0" POLE	35'-0" POLE
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 3/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±	4"		33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA					BASE PLATE DATA				LUMINAIRE MAST ARM			SIGNAL MAST ARM			CIDH PILE FOUNDATION		
			A HEIGHT	Min OD		THICKNESS	ALTERNATIVE SECTION			C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	LUMINAIRE MAST ARM	SIGNAL MAST ARM	Dia	DEPTH	REINFORCED		
				BASE	TOP		B LENGTH	BOTTOM	TOP											
18-4-100	4	100	17'-0"	12 1/8"	9 1/16"	NONE	1'-7"	1'-5 1/2"	3"	2" ø x 42"	NONE	25'-0", 30'-0"	3'-0"	11'-0"	YES					
19-4-100			30'-0"		7 1/16"	10'-0"										9 1/8"	7 1/16"			
19A-4-100			35'-0"		6 15/16"	15'-0"										6 15/16"				
23-4-100			17'-0"		9 9/16"	NONE										9 1/8"	7 1/16"			
24-4-100			30'-0"		7 1/16"	10'-0"														
24A-4-100			35'-0"	6 15/16"	15'-0"	6 15/16"														
26-4-100			30'-0"	8 3/16"	10'-0"	8 3/16"														
26A-4-100			35'-0"	7 7/16"	15'-0"	7 7/16"														
27-4-100			17'-0"	10 1/16"	NONE	23"	21"	2 1/2" ø x 42"	40'-0", 45'-0"	3'-6"	12'-0"									

INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD,
CASE 4 SIGNAL MAST ARM LOADING,
WIND VELOCITY=100 MPH AND SIGNAL
MAST ARM LENGTHS 25' TO 45')**

NO SCALE

RSP ES-7F DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7F
DATED MAY 20, 2011 - PAGE 467 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7F

2010 REVISED STANDARD PLAN RSP ES-7F

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	47	51

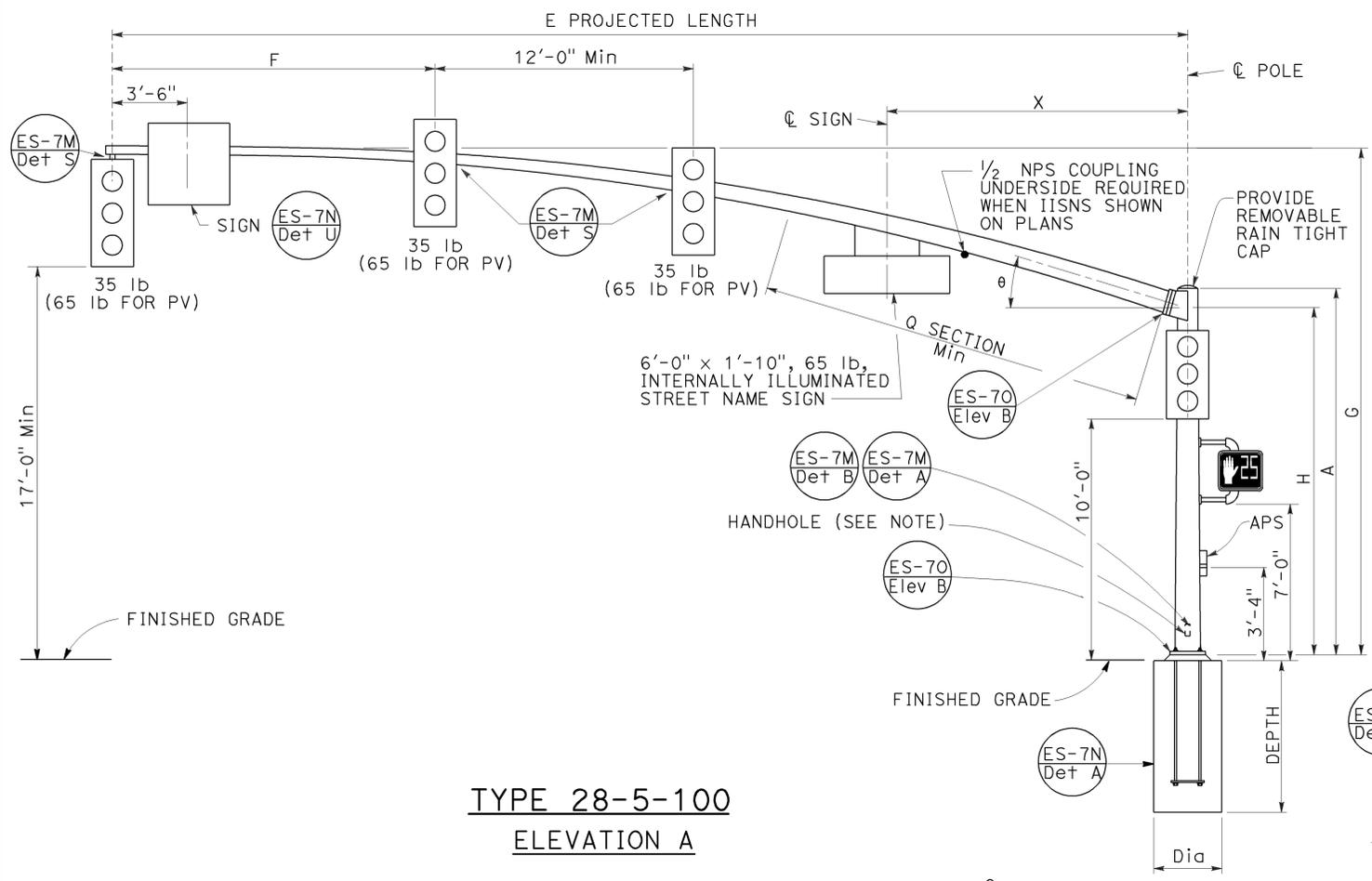
Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 No. C57793
 Exp. 3-31-14
 STATE OF CALIFORNIA

July 19, 2013
 PLANS APPROVAL DATE

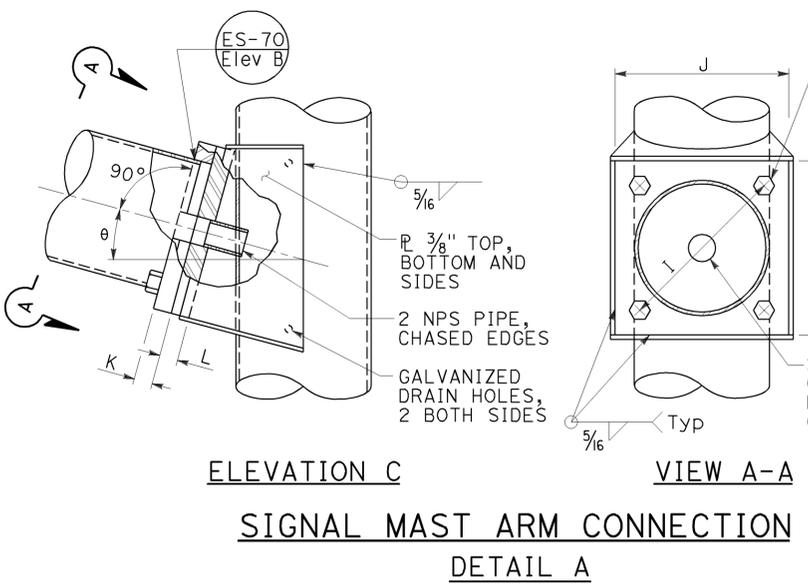
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 6-1-15

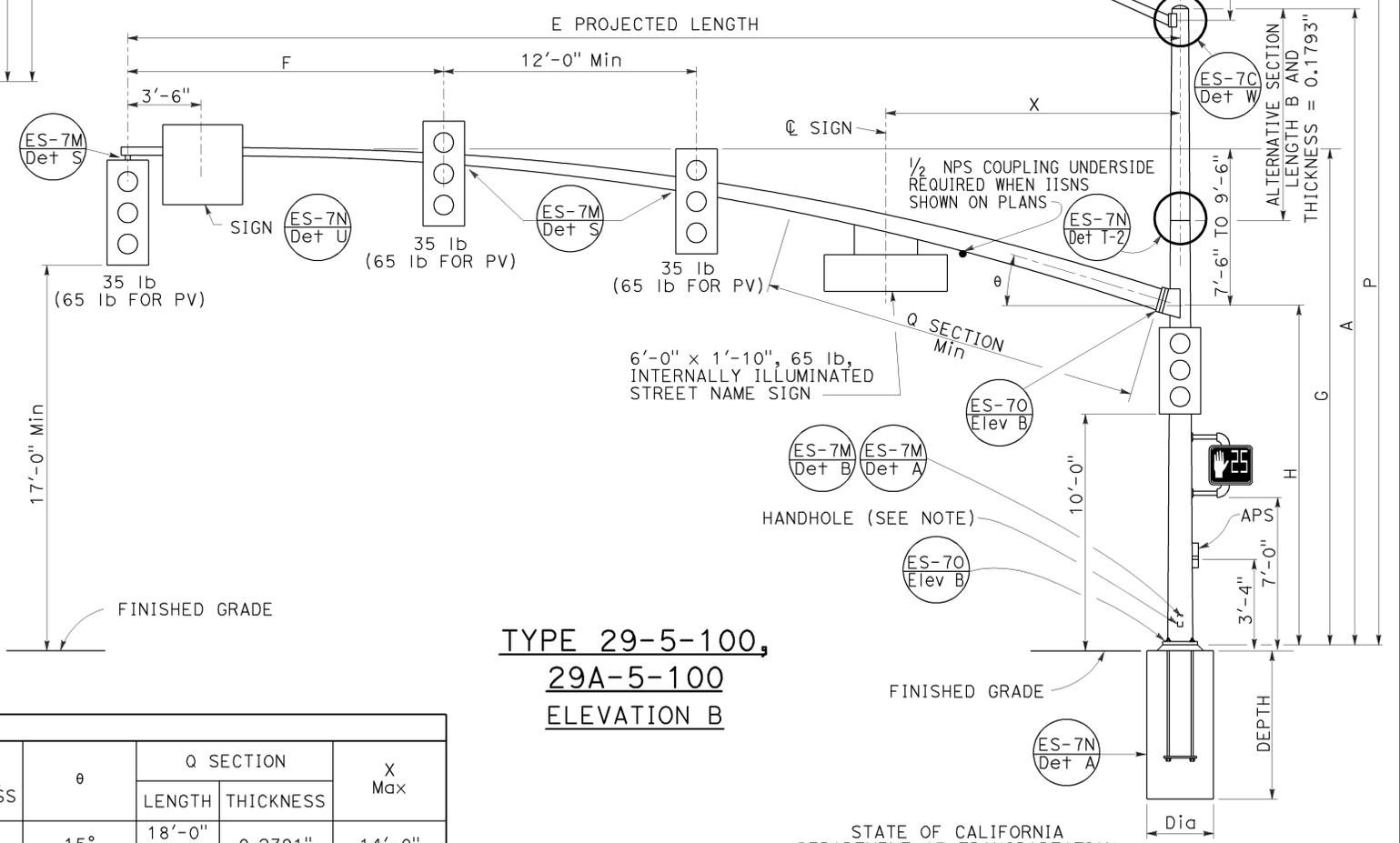
NOTE:
 Handhole shall be located on the downstream side of traffic.



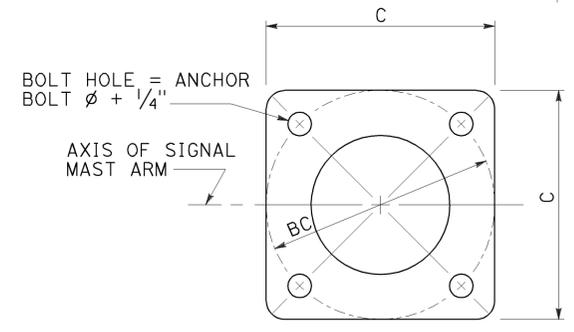
TYPE 28-5-100
ELEVATION A



ELEVATION C
VIEW A-A
SIGNAL MAST ARM CONNECTION
DETAIL A



TYPE 29-5-100,
29A-5-100
ELEVATION B



BASE PLATE
DETAIL B

M PROJECTED LENGTH	N RISE	Min OD AT POLE	THICKNESS	P MOUNTING HEIGHT	
				30'-0" POLE	35'-0" POLE
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 7/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±	3 7/8"		33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

E PROJECTED LENGTH	F Min SPACING	G MOUNTING HEIGHT	H	Min OD AT POLE	THICKNESS	I BOLT CIRCLE	HS. CAP SCREWS	J PLATE SIZE	K MAST ARM P THICKNESS	L POLE P THICKNESS	θ	Q SECTION		X Max
												LENGTH	THICKNESS	
50'-0" 55'-0"	15'-0"	23'-7"± TO 25'-7"±	16'-0"	11 7/16" 1'-1/4"	0.1793"	16"	1 1/2"-6NC-3 1/4"	1'-4"	1 3/4"	1 3/4"	15°	18'-0" 23'-0"	0.2391"	14'-0"

POLE TYPE	LOAD CASE	WIND VELOCITY (mph)	POLE DATA				BASE PLATE DATA				LUMINAIRE MAST ARM	SIGNAL MAST ARM	CIDH PILE FOUNDATION						
			A HEIGHT	Min OD BASE	Min OD TOP	THICKNESS	B LENGTH	ALTERNATIVE SECTION BOTTOM	ALTERNATIVE SECTION TOP	C			BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE	Dia	DEPTH	REINFORCED	
28-5-100	5	100	17'-0"	11 9/16"	0.3125"	NONE	11 1/8"	9 11/16"	23"	21"	3"	2 1/2" φ × 42"	NONE	50'-0" 55'-0"	3'-6"	12'-0"	YES		
29-5-100			30'-0"	14"		9 11/16"							10'-0"					9 11/16"	6'-15" [15'-0"]
29A-5-100			35'-0"	14"		8 5/16"							15'-0"					8 5/16"	

INDICATES MAST ARM LENGTH TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD,
CASE 5 SIGNAL MAST ARM LOADING,
WIND VELOCITY=100 MPH AND SIGNAL
MAST ARM LENGTHS 50' TO 55')
 NO SCALE

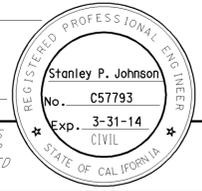
RSP ES-7G DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7G
 DATED MAY 20, 2011 - PAGE 468 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7G

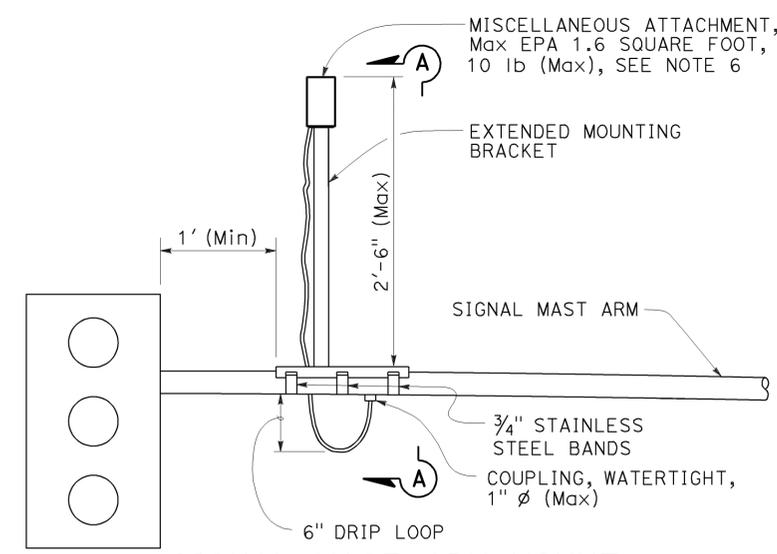
2010 REVISED STANDARD PLAN RSP ES-7G

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	48	51

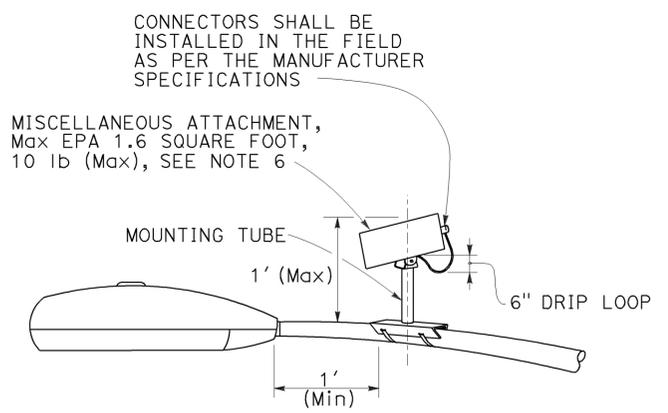
Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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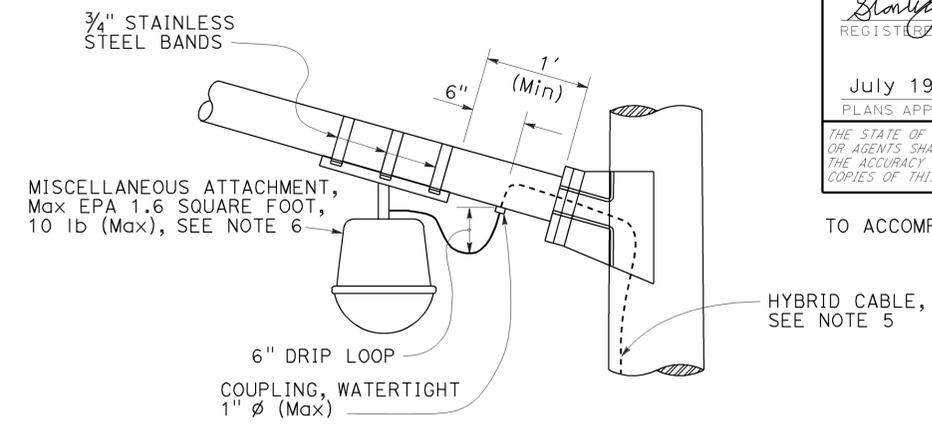
TO ACCOMPANY PLANS DATED 6-1-15



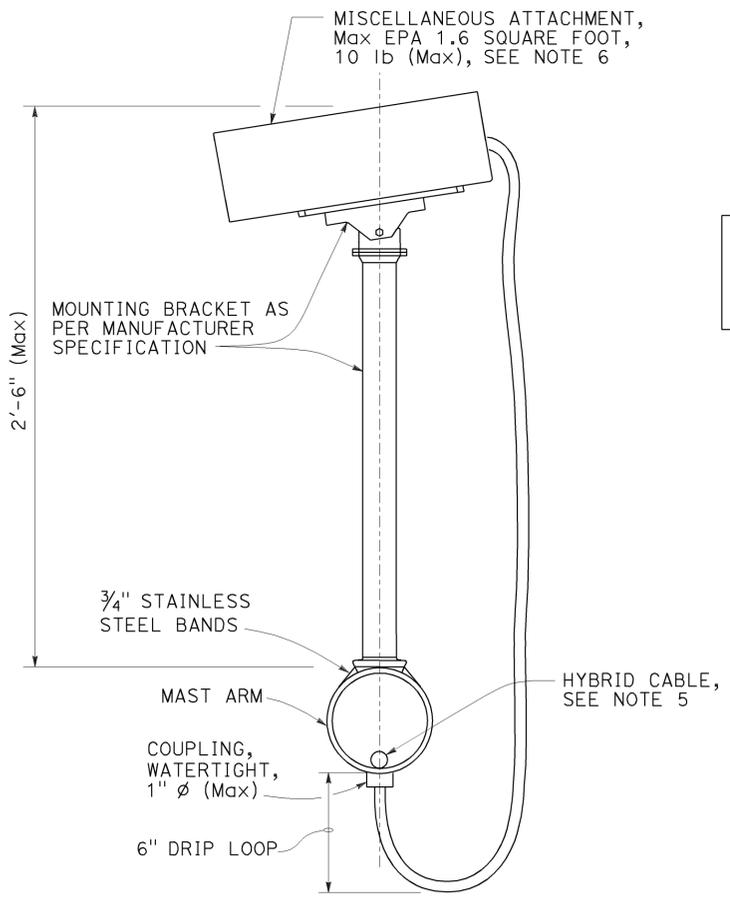
**SIGNAL MAST ARM MOUNT
DETAIL A**



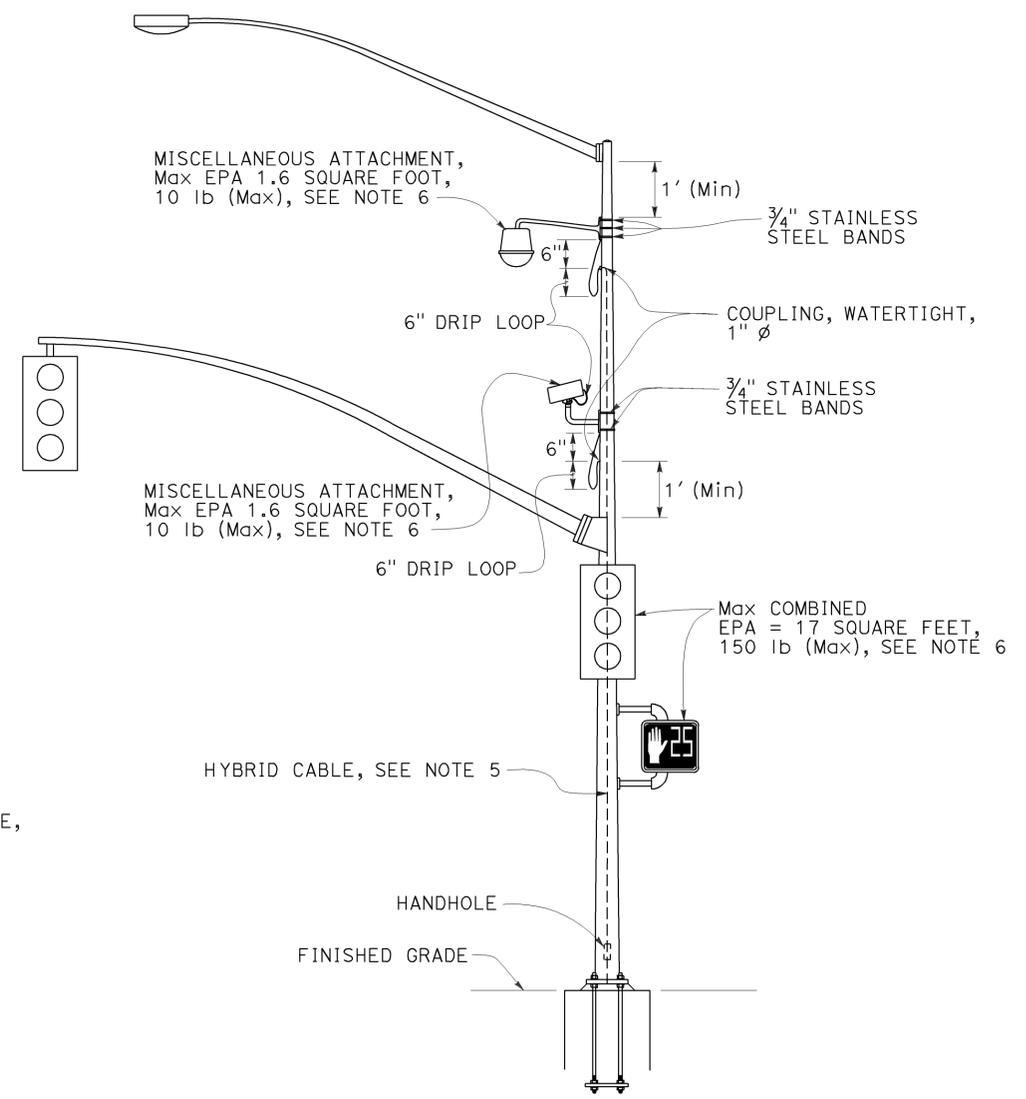
**LUMINAIRE MAST ARM MOUNT
DETAIL B**



**LUMINAIRE MAST ARM MOUNT
DETAIL C**



SECTION A-A



**SIGNAL POLE MOUNT
DETAIL D**

NOTES:

- Exact mounting location of miscellaneous attachment and bracket shall be approved by the Engineer per manufacturer's recommendation.
- Location of cable entrances on signal pole shall be a minimum of 1' from any flange or base plate.
- Hybrid cable entrances on signal pole shall be drilled for weathertight coupling as required.
- Hybrid cable shall have a drip loop at the entrance into signal pole, luminaire mast arm and signal mast arm.
- A single hybrid cable shall run continuous and shall not be twisted from the miscellaneous attachment to the controller cabinet. No splices shall be allowed.
- Use the manufacturer's Effective Projected Area (EPA) for miscellaneous attachment. The maximum EPA for each miscellaneous attachment shall be 1.6 square feet.
- Maximum of two miscellaneous attachments per traffic signal structure.
- Maximum of one miscellaneous attachment per mast arm.
- Miscellaneous attachment shall be mounted using clamping devices.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING,
MISCELLANEOUS ATTACHMENT)**

NO SCALE

RSP ES-7R DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7R DATED MAY 20, 2011 - PAGE 479 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7R

2010 REVISED STANDARD PLAN RSP ES-7R

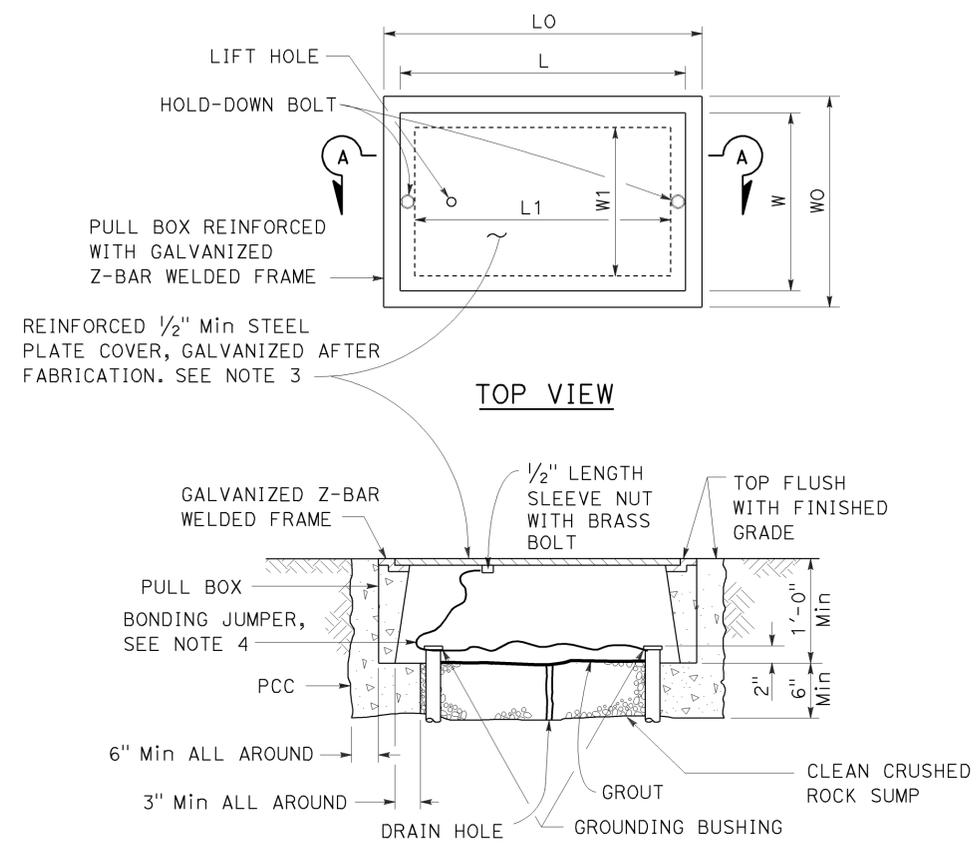
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
10	Ama	49	3.6	49	51

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.

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

TO ACCOMPANY PLANS DATED 6-1-15



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

NOTES:

- 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 shall 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 lighting or sign lighting circuits.
 - "LIGHTING" - Lighting 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 lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - "LIGHTING-HIGH VOLTAGE" - Lighting 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.
 - "BOOSTER PUMP" - Booster pump circuit.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8".

DIMENSION TABLE											
PULL BOX	PULL 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 3/8"±	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 PULL BOX)
 NO SCALE

RSP ES-8B DATED JULY 19, 2013 SUPERSEDES RSP ES-8B DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8B

2010 REVISED STANDARD PLAN RSP ES-8B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
10	Ama	49	3.6	50	51

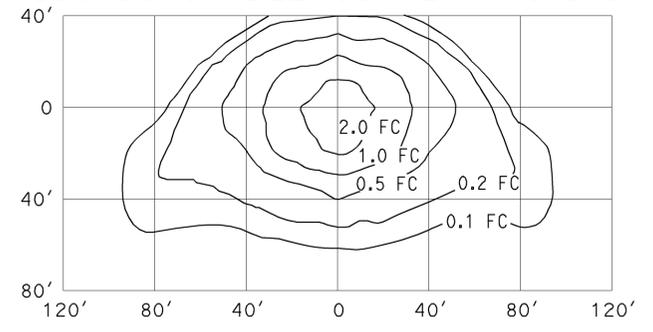
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

July 19, 2013
 PLANS APPROVAL DATE

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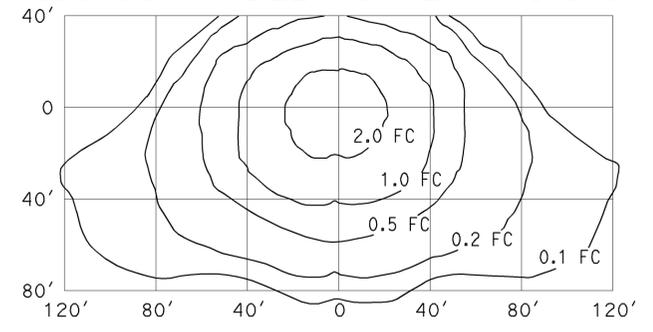
TO ACCOMPANY PLANS DATED 6-1-15

ISOFOOTCANDLE CURVE - MINIMUM



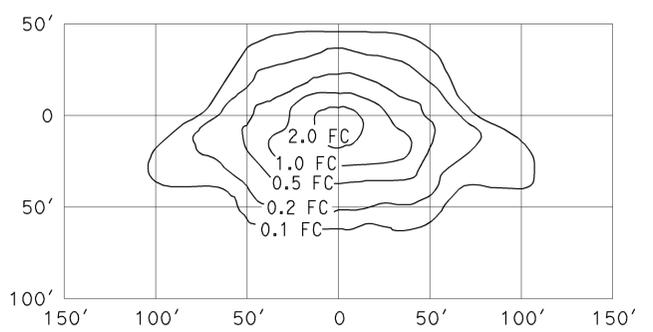
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 34' Mounting Height
 Lamp operated at 22,000 lm
 200-W high pressure sodium lamp
 ANSI Designation S66

ISOFOOTCANDLE CURVE - MINIMUM



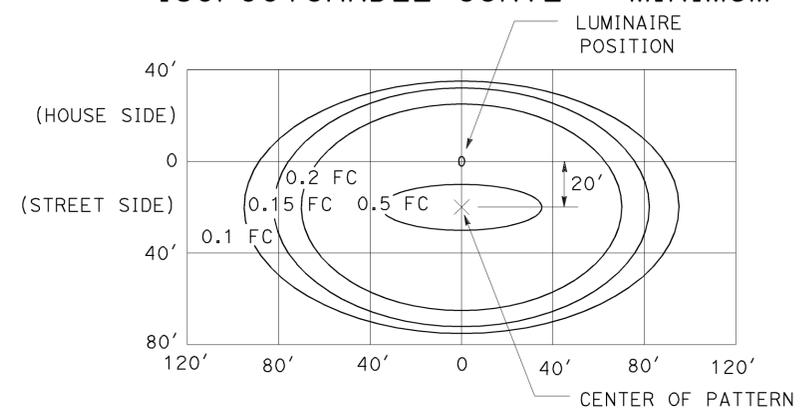
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 40' Mounting Height
 Lamp operated at 37,000 lm
 310-W high pressure sodium lamp
 ANSI Designation S67

ISOFOOTCANDLE CURVE - MINIMUM



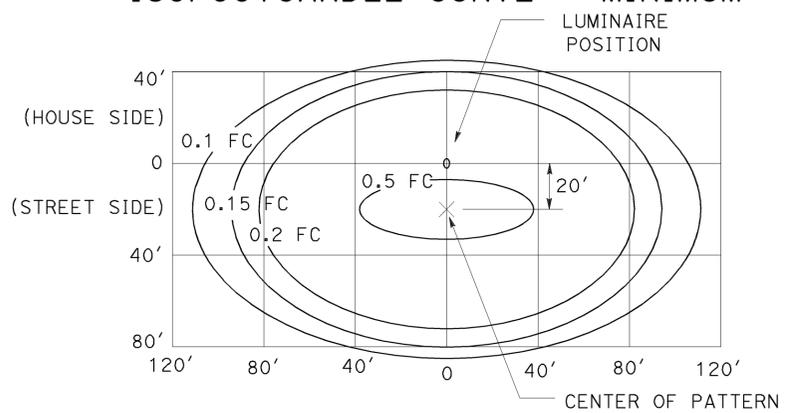
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 30' Mounting Height
 Lamp operated at 16,000 lm
 150-W high pressure sodium lamp
 ANSI Designation S55

ISOFOOTCANDLE CURVE - MINIMUM



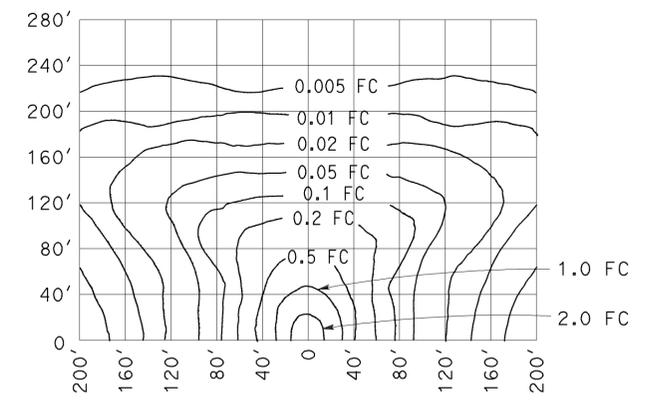
LED LUMINAIRE ROADWAY 1
 165-W at 34' Mounting Height

ISOFOOTCANDLE CURVE - MINIMUM



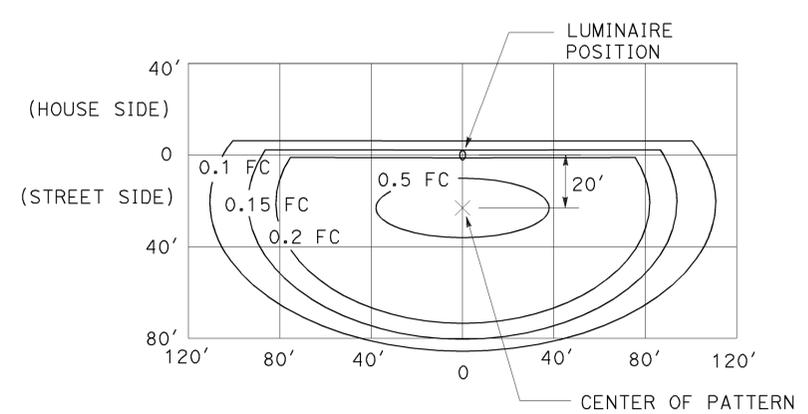
LED LUMINAIRE ROADWAY 2
 235-W at 40' Mounting Height

ISOFOOTCANDLE CURVE - MINIMUM



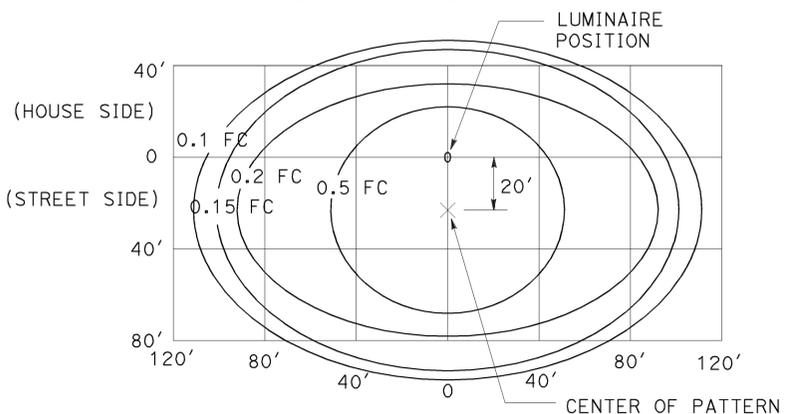
LOW PRESSURE SODIUM LUMINAIRE
 40' Mounting Height
 Lamp operated at 33,000 lm
 180-W low pressure sodium lamp

ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 3
 235-W at 40' Mounting Height
 with back side control

ISOFOOTCANDLE CURVE - MINIMUM

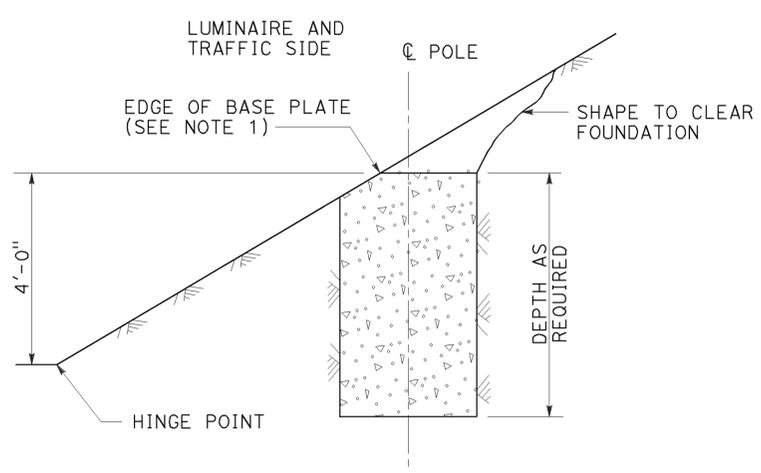
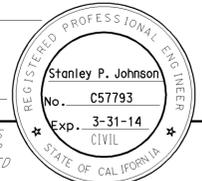


LED LUMINAIRE ROADWAY 4
 300-W at 40' Mounting Height

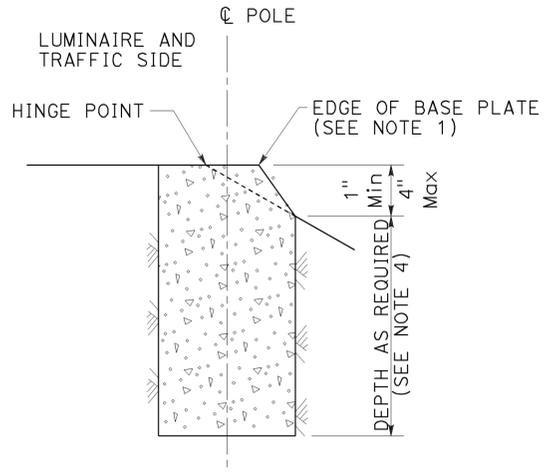
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (ISOFOOTCANDLE DIAGRAMS)**

NO SCALE
 RSP ES-10A DATED JULY 19, 2013 SUPERSEDES RSP ES-10A DATED JULY 20, 2012
 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

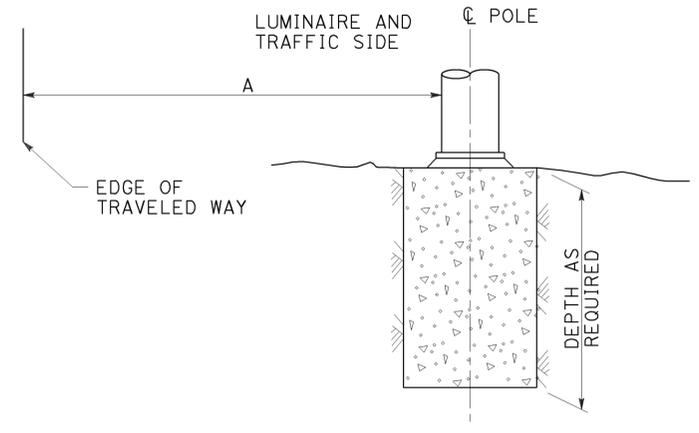
2010 REVISED STANDARD PLAN RSP ES-10A



**CUT SLOPES
 STEEPER THAN 4:1,
 LESS THAN 2:1
 DETAIL A-1**
 See Note 2 and 3



**FILL SLOPES
 STEEPER THAN 4:1,
 LESS THAN 2:1
 DETAIL A-2**
 See Note 2 and 3



**FLAT SECTIONS, CUT OR FILL SLOPES
 4:1 OR FLATTER
 DETAIL A-3**
 See Note 2

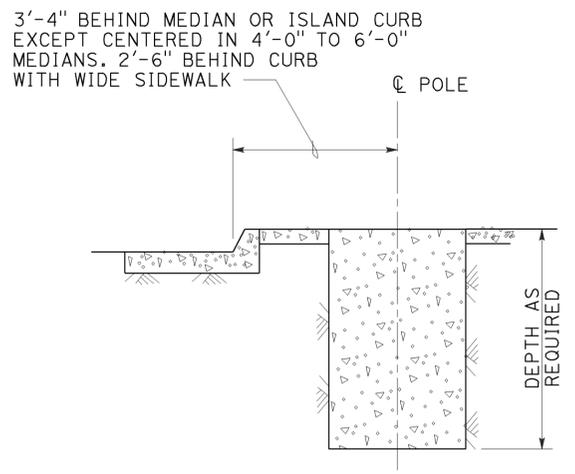
TO ACCOMPANY PLANS DATED 6-1-15

STANDARD TYPE	SETBACK (DIMENSION A)
32	30'-0" (Min)
31	20'-0" (Min)
15, 15D, 15-SB, 21, 21D, 30	ARM LENGTH (Min)

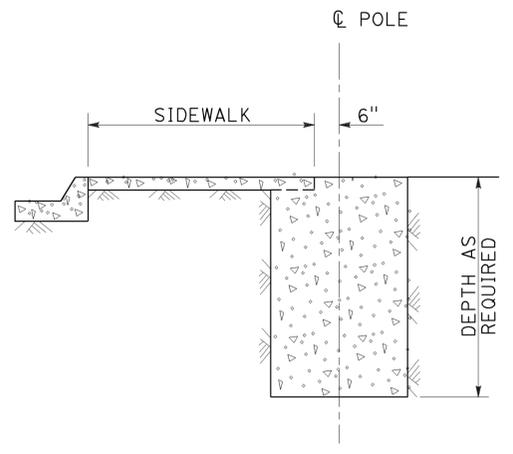
**FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT
 IN SIDEWALK, MEDIAN AND ISLAND AREAS
 DETAIL A**

NOTES:

- Where a portion of the foundation is above grade, the top edges shall have a 1" chamfer.
- Slopes shall be horizontal to vertical ratio (Horizontal : Vertical).
- Horizontal setbacks on cut and fill slopes steeper than 4:1 shall not exceed the distance shown for flat sections.
- CIDH embedment depth shall be increased beyond standard depths by the diameter of the CIDH.



**MEDIAN, ISLAND
 OR WIDE SIDEWALK
 DETAIL B-1**
 7' Wide and wider



**NARROW SIDEWALK
 DETAIL B-2**
 Less than 7' wide

**FOUNDATIONS IN SIDEWALK, MEDIAN AND ISLAND AREAS
 DETAIL B**

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

RSP ES-11 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-11
 DATED MAY 20, 2011 - PAGE 488 OF THE STANDARD PLANS BOOK DATED 2010.