

INDEX OF PLANS

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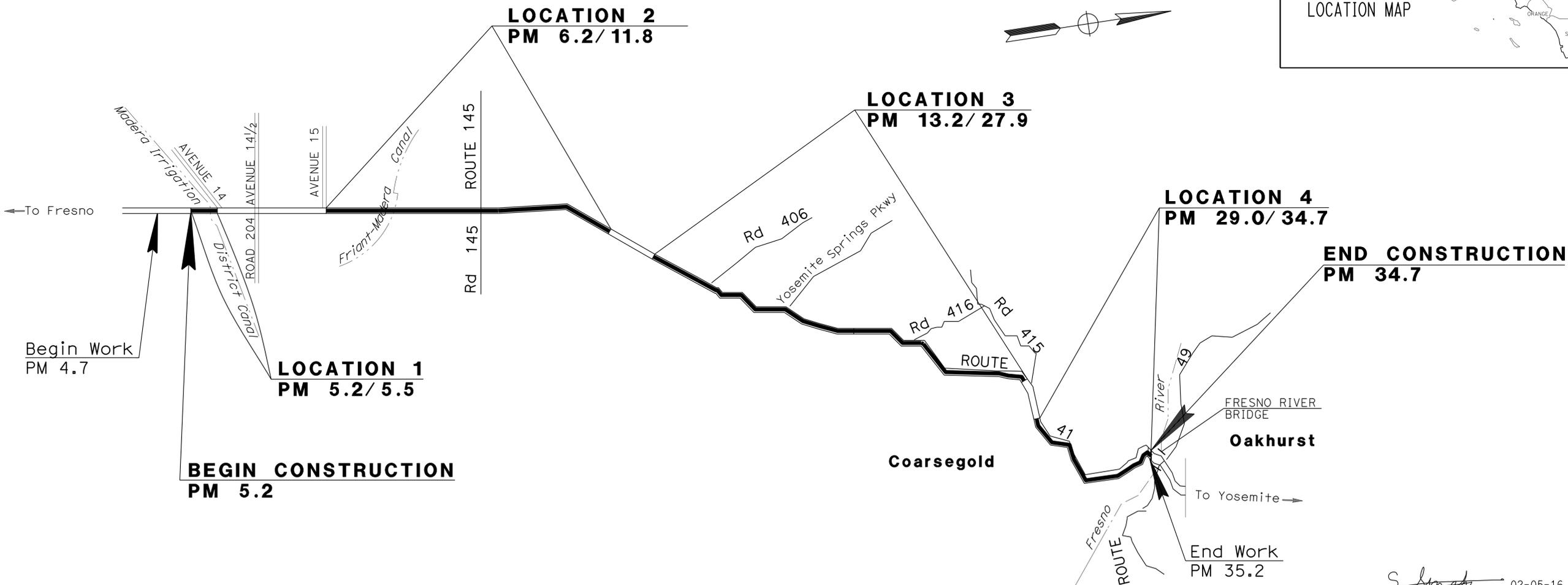
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN MADERA COUNTY NEAR COARSEGOLD
AT VARIOUS LOCATIONS FROM 0.3 MILE
SOUTH OF AVENUE 14 TO 0.8 MILE SOUTH OF ROUTE 49

ACNHP-P041(129)E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	1	37



TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



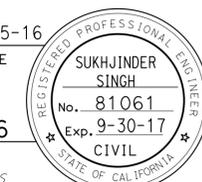
NO SCALE

PROJECT MANAGER
ANAND KAPOOR

DESIGN MANAGER
ERNIE PENUNA

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

S. Singh 02-05-16
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER



February 29, 2016
 PLANS APPROVAL DATE

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

CONTRACT No.	06-OT5004
PROJECT ID	0615000072

DATE PLOTTED => 22-APR-2016 TIME PLOTTED => 10:12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

REVISOR BY
 SUKHJINDER SINGH
 ERNIE PENUNA

CALCULATED/DESIGNED BY
 ERNIE PENUNA

FUNCTIONAL SUPERVISOR
 ERNIE PENUNA

NOTE:

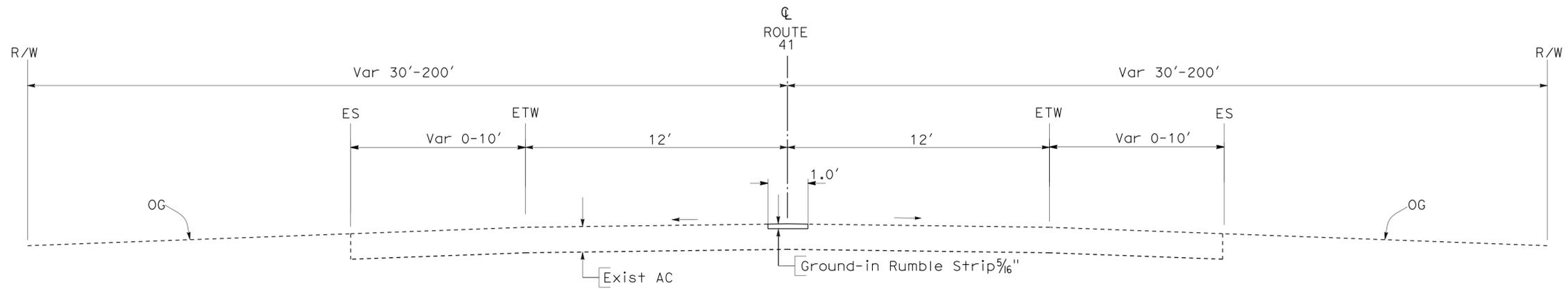
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	2	37

REGISTERED CIVIL ENGINEER DATE 02-05-16
 S. Singh
 PLANS APPROVAL DATE 2-29-16

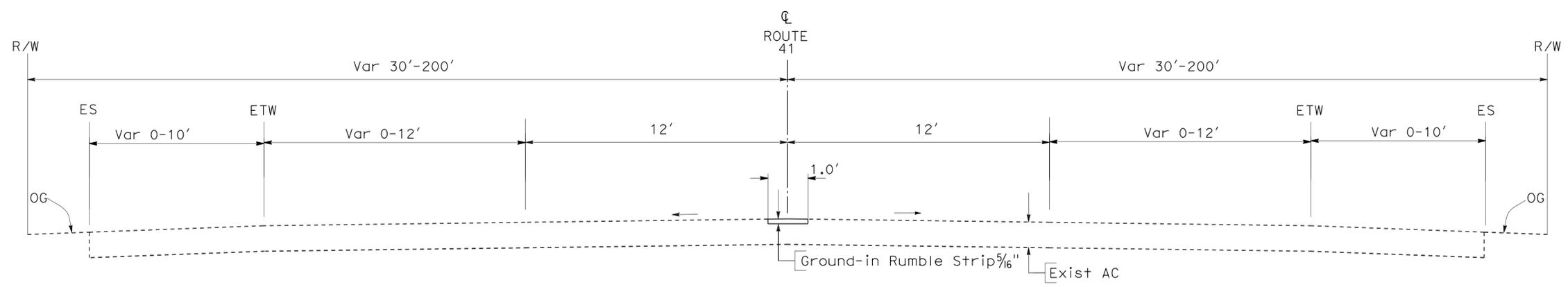
REGISTERED PROFESSIONAL ENGINEER
 SUKHJINDER SINGH
 No. 81061
 Exp. 9-30-17
 CIVIL
 STATE OF CALIFORNIA

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.



PM 5.2 TO PM 5.5
 PM 6.2 TO PM 11.8
 PM 13.2 TO PM 17.0
 PM 18.7 TO PM 20.9
 PM 21.5 TO PM 23.0
 PM 24.0 TO PM 25.7
 PM 26.6 TO PM 27.9
 PM 29.0 TO PM 31.7
 PM 32.7 TO PM 34.7

ROUTE 41



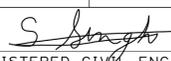
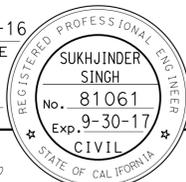
PM 17.0 TO PM 18.7
 PM 20.9 TO PM 21.5
 PM 23.0 TO PM 24.0
 PM 25.7 TO PM 26.6
 PM 31.7 TO PM 32.7

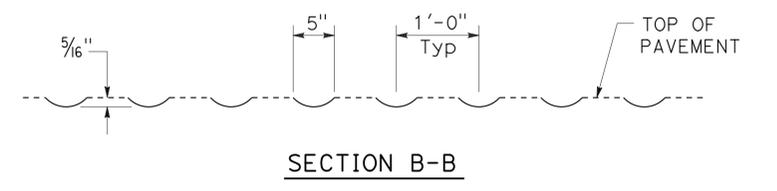
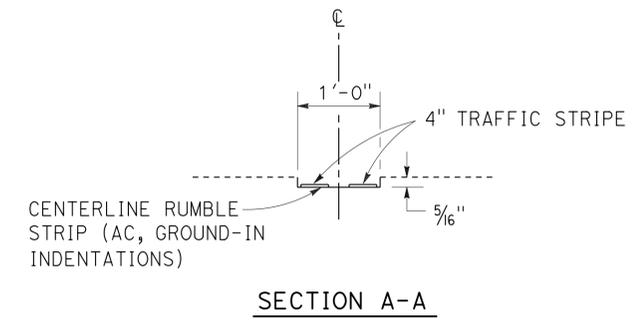
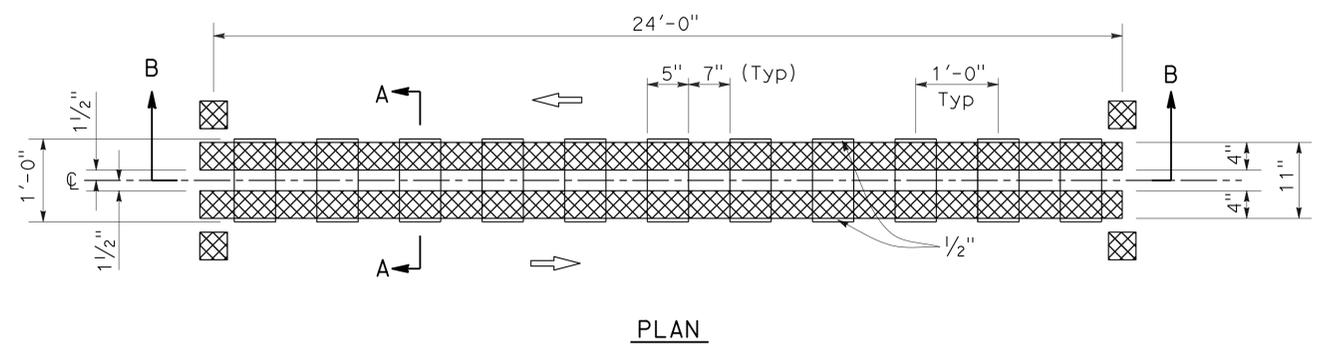
**ROUTE 41
 (AT PASSING LANES)**

TYPICAL CROSS SECTIONS

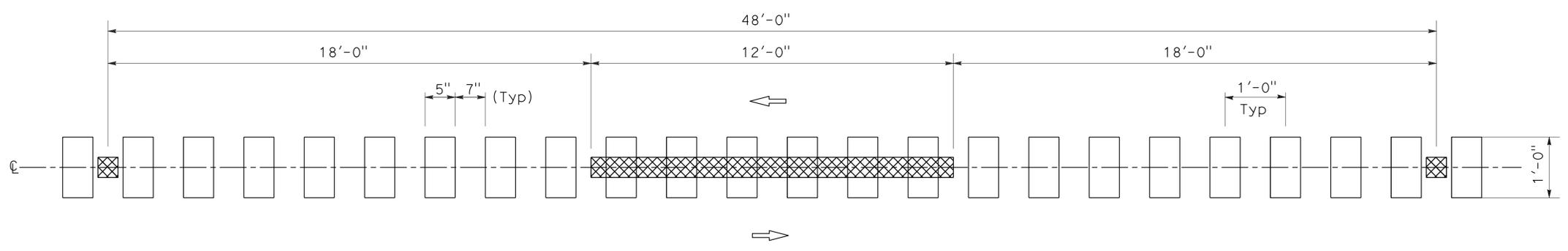
NO SCALE

X-1

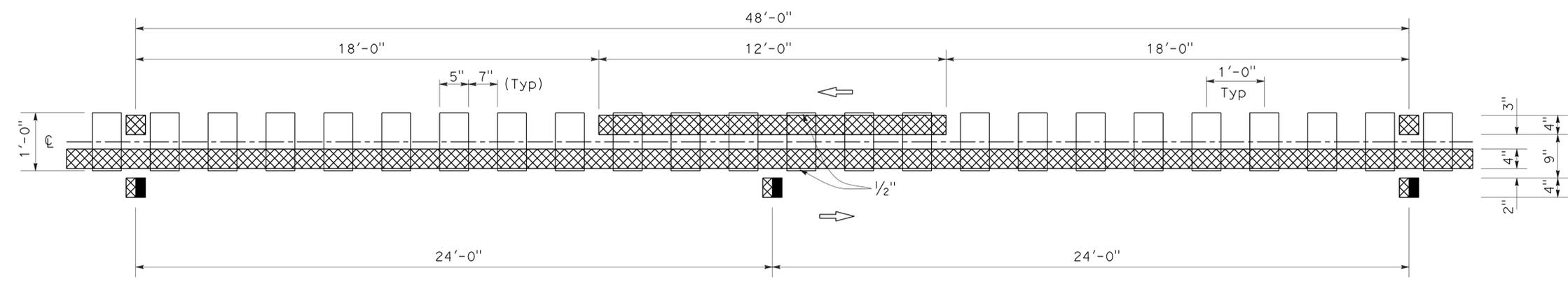
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	3	37
			02-05-16	DATE	
REGISTERED CIVIL ENGINEER			DATE		
2-29-16			PLANS APPROVAL DATE		
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



**CENTERLINE RUMBLE STRIPS WITH
DETAIL 22 TRAFFIC LINE**



**CENTERLINE RUMBLE STRIPS WITH
DETAIL 6 TRAFFIC LINE**

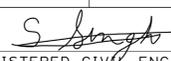


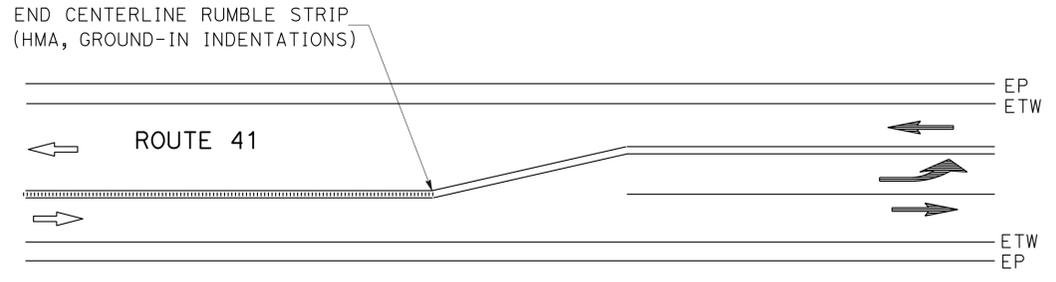
**CENTERLINE RUMBLE STRIPS WITH
DETAIL 19 TRAFFIC LINE**

CONSTRUCTION DETAIL

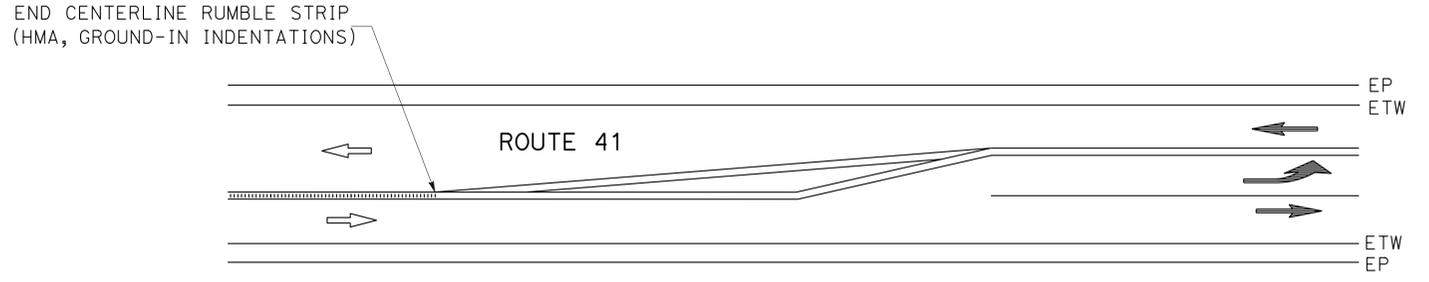
NO SCALE **C-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
Ernst & Young	
FUNCTIONAL SUPERVISOR	ERNIE PENUNA
CALCULATED/DESIGNED BY	CHECKED BY
SUKHINDER SINGH	ERNIE PENUNA
REVISOR BY	DATE REVISED

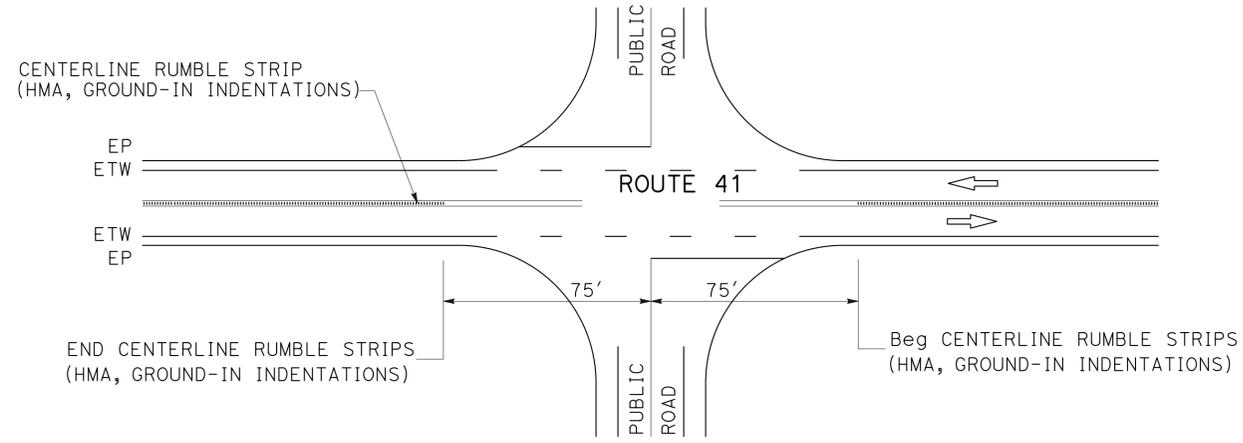
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	5	37
			02-05-16	DATE	
REGISTERED CIVIL ENGINEER			No. 81061		
2-29-16			Exp. 9-30-17		
PLANS APPROVAL DATE			CIVIL		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



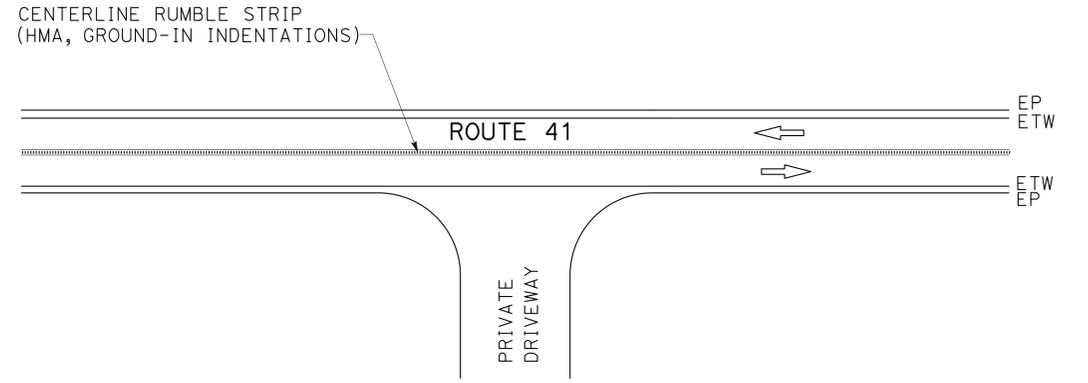
RUMBLE STRIP DETAILS AT LEFT TURN POCKETS



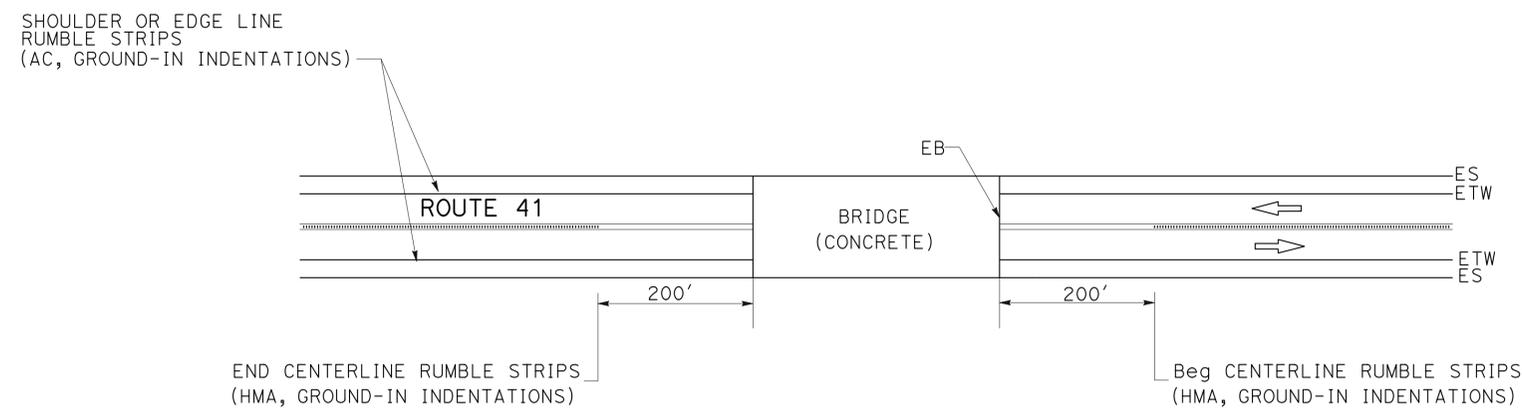
RUMBLE STRIP DETAILS AT LEFT TURN POCKETS



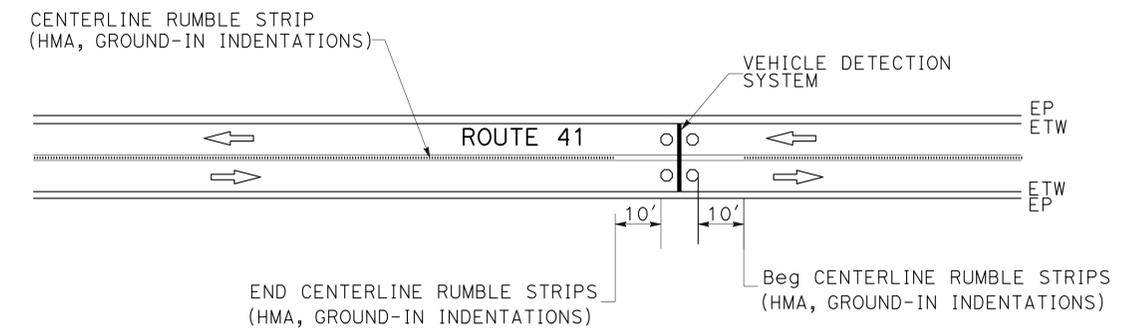
RUMBLE STRIP DETAILS AT PUBLIC ROAD INTERSECTIONS



RUMBLE STRIP DETAILS AT PRIVATE DRIVEWAYS



RUMBLE STRIP DETAILS AT BRIDGES (PM6.940, PM19.780, PM27.930)



VEHICLE DETECTION SYSTEM

CONSTRUCTION DETAIL

NO SCALE **C-3**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION DESIGN

x
x
x
x
x
x
x
x

REVISOR BY DATE

SUKHINDER SINGH ERNIE PENUNA

CALCULATED/DESIGNED BY CHECKED BY

FUNCTIONAL SUPERVISOR ERNIE PENUNA

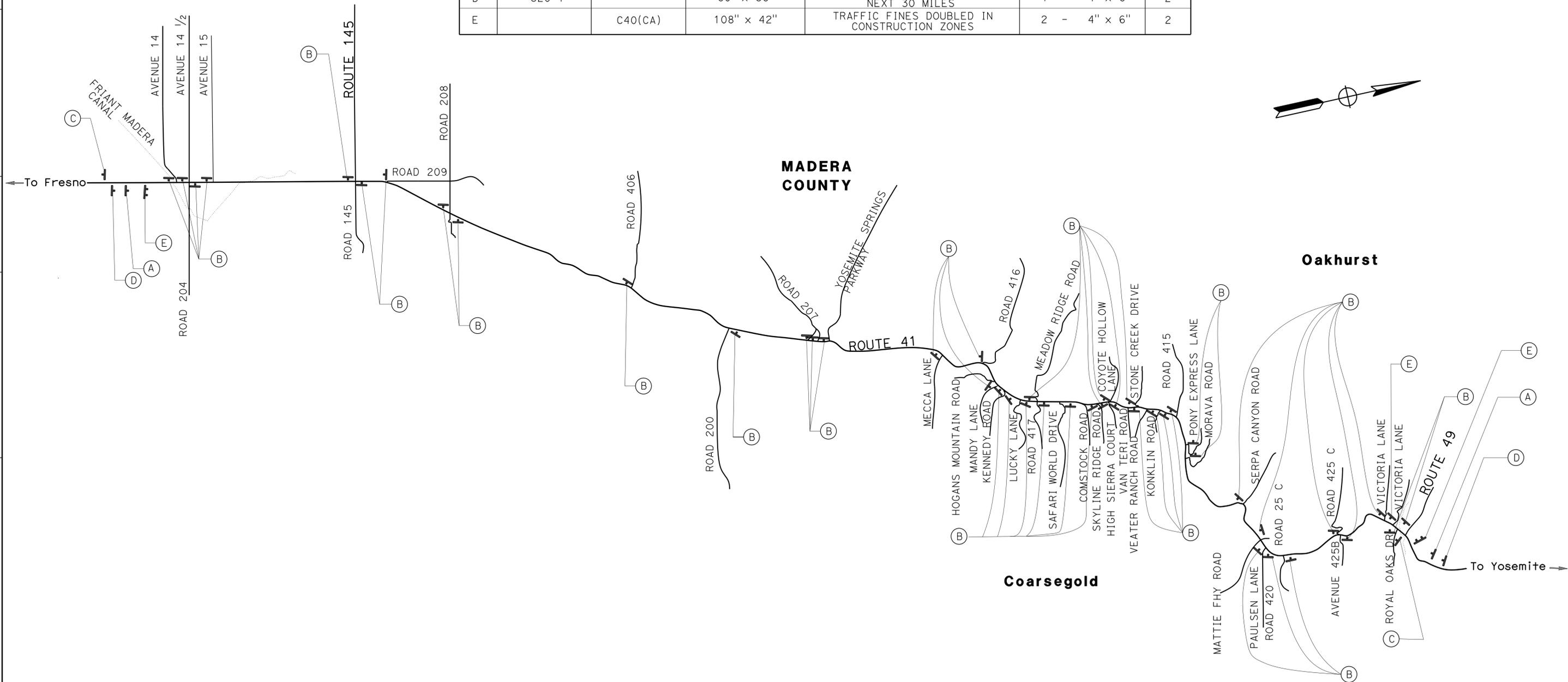
Caltrans

NOTES:

- EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.
- FOR SIGN "C40" (TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES), ALL LETTERS SHALL BE BLACK ON WHITE BACKGROUND.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POST AND SIZE	No. OF SIGNS
	FEDERAL	CALIFORNIA				
A	W20-1		48" x 48"	ROAD WORK AHEAD	2 - 4" x 6"	2
B	W20-1		36" x 36"	ROAD WORK AHEAD	1 - 4" x 4"	44
C		G20-2	36" x 18"	END ROAD WORK	1 - 4" x 4"	2
D	G20-1		60" x 36"	ROAD WORK NEXT 30 MILES	1 - 4" x 6"	2
E		C40(CA)	108" x 42"	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	2 - 4" x 6"	2



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN

FUNCTIONAL SUPERVISOR: MOHAMMED QATAMI
 CALCULATED/DESIGNED BY: SARAH LESNIKOWSKI, MAZIN AL ALI
 CHECKED BY: [Blank]
 REVISED BY: [Blank] DATE REVISED: [Blank]

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	7	37

9(A)-AL1 02-22-16
REGISTERED CIVIL ENGINEER DATE
2-29-16
PLANS APPROVAL DATE

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PAVEMENT DELINEATION QUANTITIES

ROUTE	LOCATION PM		DIRECTION	DETAIL No.	PAVEMENT MARKERS				REMOVE PAVEMENT MARKER	THERMOPLASTIC TRAFFIC STRIPE (ENHANCED WET NIGHT VISIBILITY)		PAINT TRAFFIC STRIPE (2-COATS)		REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)
					RETROREFLECTIVE					SOLID YELLOW	(BROKEN 36-12)	SOLID YELLOW	(BROKEN 36-12)	
	TYPE D	TYPE H			RECESSED		4"	4"						
					EA	EA				EA	EA	EA	EA	
41	5.20	5.29	↻	29	42				42	1,901			1,901	
	5.29	5.46		22	116				116	2,703			2,703	
	6.29	6.42		22	60				60	1,373			1,373	
	6.42	7.26		19	96	186			282	4,435	4,435		5,544	
	7.26	7.43		22	78				78	1,795			1,795	
	7.43	7.61		19	22	41			63	950	950		1,188	
	7.61	9.07		6	162				162		7,709		1,927	
	9.07	9.16		19	12	21			33	475	475		594	
	9.44	9.68		6	27				27		1,267		317	
	9.68	9.79		19	16	25			41	581	581		726	
	9.94	10.01		19	10	16			26	370	370		462	
	10.01	11.20		6	132				132		6,283		1,571	
	11.20	11.29		19	12	21			33	475	475		594	
	11.53	11.76		19	28	52			80	1,214	1,214		1,518	
	13.20	13.42		6	25				25		1,162		290	
	13.42	13.62		19	24	45			69	1,056	1,056		1,320	
	13.62	15.20		22	698				698	16,685			16,685	
	15.20	15.58		22	170				170	4,013			4,013	
	15.68	16.28		22	268				268	6,336			6,336	
	16.28	16.47		19	24	43			67	1,003	1,003		1,254	
	16.47	16.90		6	48				48		2,270		568	
	16.90	17.00		19	14	23			37	528	528		660	
	17.00	17.83		22	368				368	8,765			8,765	
	18.15	18.75		22		268			268		6,336		6,336	
	18.75	18.85		19		14	23		37		528	528	660	
	18.85	19.55		6		78			78		3,696		924	
	19.55	19.62		19		10	16		26		370	370	462	
	19.62	19.85		22		104			104		2,429		2,429	
	20.15	20.52		22		166			166		3,907		3,907	
	20.52	20.70		19		22	41		63		950	950	1,188	
	20.70	20.92		6		25			25			1,162	290	
	20.92	21.45		22		236			236		5,597		5,597	
	21.45	21.61		19		20	36		56		845	845	1,056	
	21.61	21.85		6		30			27			1,267	317	
	21.85	22.05		19		23			69		1,056	1,056	1,320	
	22.05	22.39		22		152			152		3,590		3,590	
	22.39	22.58		6		22			22			1,003	251	
	22.58	22.80		19		28	49		77		1,162	1,162	1,452	
	22.80	24.50		22		750			750		17,952		17,952	
	24.50	24.75		22		112			112		2,640		2,640	
	25.27	25.65		6		43			43			2,006	502	
	25.65	25.85		19		24	45		69		1,056	1,056	1,320	
	25.85	27.30		22		640			640		15,312		15,312	
	27.45	27.85		22		178			178		4,224		4,224	
	29.00	32.31		22		365			365			17,477	4,369	
	32.50	34.65		22		948			948		22,704		22,704	
SUBTOTAL					2452	473	4258	210	7436	54,658	29,778	90,658	32,578	160,905
TOTAL					2925		4468		7436	54,658	29,778	123,236		160,905

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
SARAH LESNIKOWSKI
MAZIN AL ALI
CALCULATED/DESIGNED BY
CHECKED BY
FUNCTIONAL SUPERVISOR
MOHAMMED OATAMI
REVISOR BY
DATE REVISED

PAVEMENT DELINEATION PDQ-1

LAST REVISION: DATE PLOTTED => 22-APR-2016
TIME PLOTTED => 10:12

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DESIGN

FUNCTIONAL SUPERVISOR
 ERNIE PENUNA

CALCULATED/DESIGNED BY
 CHECKED BY

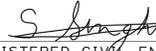
SUKHJINDER SINGH
 ERNIE PENUNA

REVISED BY
 DATE REVISED

**CENTERLINE RUMBLE STRIP
 (AC, GROUND-IN INDENTATIONS)**

Rte 41	
LOCATION	STA
PM 6.2 TO PM 11.8	296
PM 13.2 TO PM 17.0	201
PM 17.0 TO PM 18.7	90
PM 18.7 TO PM 20.9	116
PM 20.9 TO PM 21.5	32
PM 21.5 TO PM 23.0	79
PM 23.0 TO PM 24.0	53
PM 24.0 TO PM 25.7	90
PM 25.7 TO PM 26.6	48
PM 26.6 TO PM 27.9	69
PM 29.0 TO PM 31.7	143
PM 31.7 TO PM 32.7	53
PM 32.7 TO PM 34.7	106
TOTAL	1376

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	8	37

 02-22-16
 REGISTERED CIVIL ENGINEER DATE

2-29-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 SUKHJINDER SINGH
 No. 81061
 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.

SUMMARY OF QUANTITIES

Q-1

LAST REVISION | DATE PLOTTED => 22-APR-2016
 02-22-16 | TIME PLOTTED => 10:12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	10	37

Daniel Bahkhal 02-24-16
 REGISTERED ELECTRICAL ENGINEER DATE

2-29-16
 PLANS APPROVAL DATE

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LEGEND (FOR THIS SHEET ONLY):

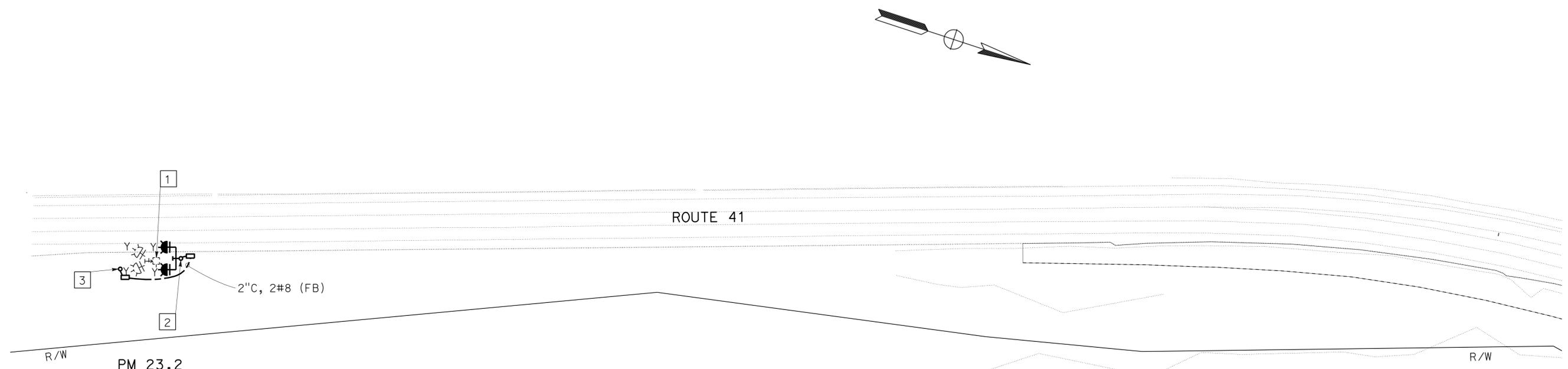
- 1 [RS] EXISTING ADVANCE FLASHING BEACON, PV PANELS, ENCLOSURE, AND WOOD POLE. [RL] W2-2 SIGN TO PROPOSED TYPE 15-FBS POLE.
- 2 ADVANCE FLASHING BEACON ON TYPE 15-FBS POLE. INSTALL 12 V(dc) YELLOW FLASHING LED SIGNAL MODULES. INSTALL RELOCATED W2-2 SIGN FROM SALVAGED FB WOOD POLE.
- 3 TYPE VDS 30 POLE WITH PV PANELS AND NEMA 3R ENCLOSURE, MINIMUM 20 FT FROM ETW. SEE DETAILS ON SHEET E-5.

NOTES:

- 1. ALL PULL BOXES MUST BE No. 5(E)(T) UNLESS OTHERWISE NOTED.
- 2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- 3. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL DESIGN

CALCULATED-DESIGNED BY	CHECKED BY	FUNCTIONAL SUPERVISOR	REVISOR	DATE
		ALI BAKHDOUD	KARIM ABDOLLAHIAN	11/18/15
			DANIEL VO	
			KA	



MODIFYING FLASHING BEACON SYSTEM

MODIFYING EXISTING ELECTRICAL SYSTEM

E-2

SCALE: 1"=50'

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans®
 ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR
 ALI BAKHDOD

CALCULATED-DESIGNED BY
 CHECKED BY

KARIM ABDOLLAHIAN
 DANIEL VO

REVISOR BY
 DATE REVISED

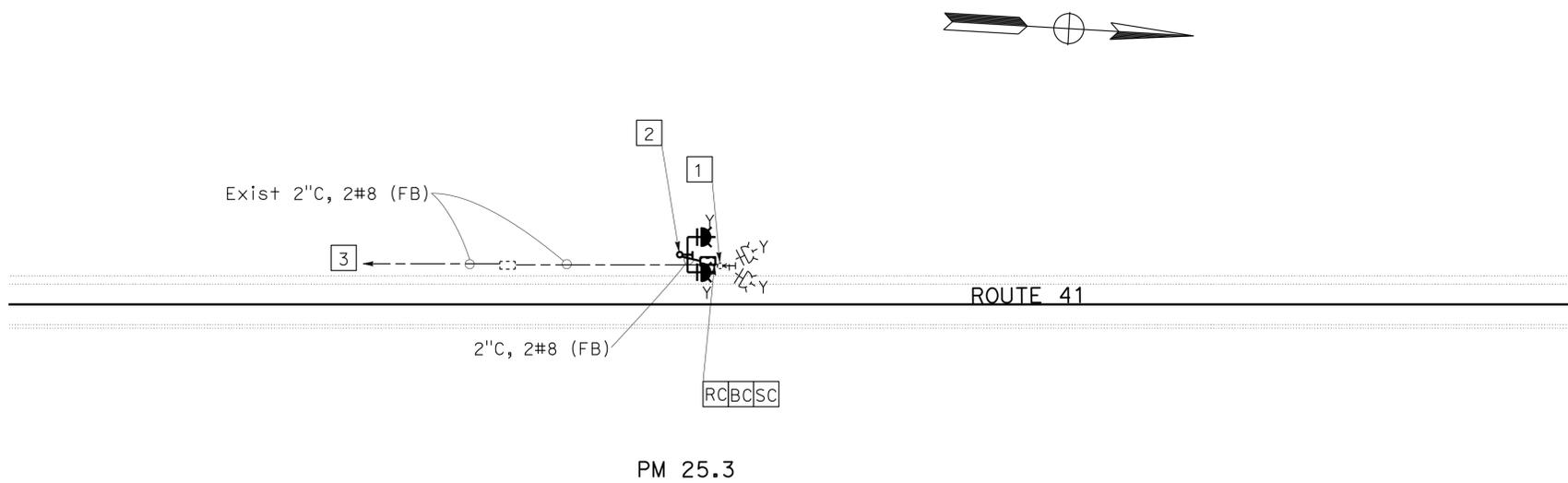
KA
 11/18/15

LEGEND (FOR THIS SHEET ONLY):

- 1 **RS** EXISTING ADVANCE FLASHING BEACON ON TYPE 1-A POLE. **RL** W3-3 SIGN TO PROPOSED TYPE 15-FBS POLE.
- 2 ADVANCE FLASHING BEACON ON TYPE 15-FBS POLE. INSTALL RELOCATED W3-3 SIGN FROM SALVAGED TYPE 1-A POLE.
- 3 TO EXIST SIGNAL CKT NOT SHOWN.

NOTES:

- 1. ALL PULL BOXES MUST BE No. 5(E)(T) UNLESS OTHERWISE NOTED.
- 2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- 3. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.



MODIFYING FLASHING BEACON SYSTEM

MODIFYING EXISTING ELECTRICAL SYSTEM
E-4

SCALE: 1"=50'

APPROVED FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	12	37

Daniel Vo 02-24-16
 REGISTERED ELECTRICAL ENGINEER DATE
 2-29-16
 PLANS APPROVAL DATE
 No. 17408
 Exp. 9/30/16
 ELECTRICAL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER

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.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	13	37

<i>Daniel Thanh Vo</i>	02-24-16
REGISTERED ELECTRICAL ENGINEER	DATE
2-29-16	
PLANS APPROVAL DATE	

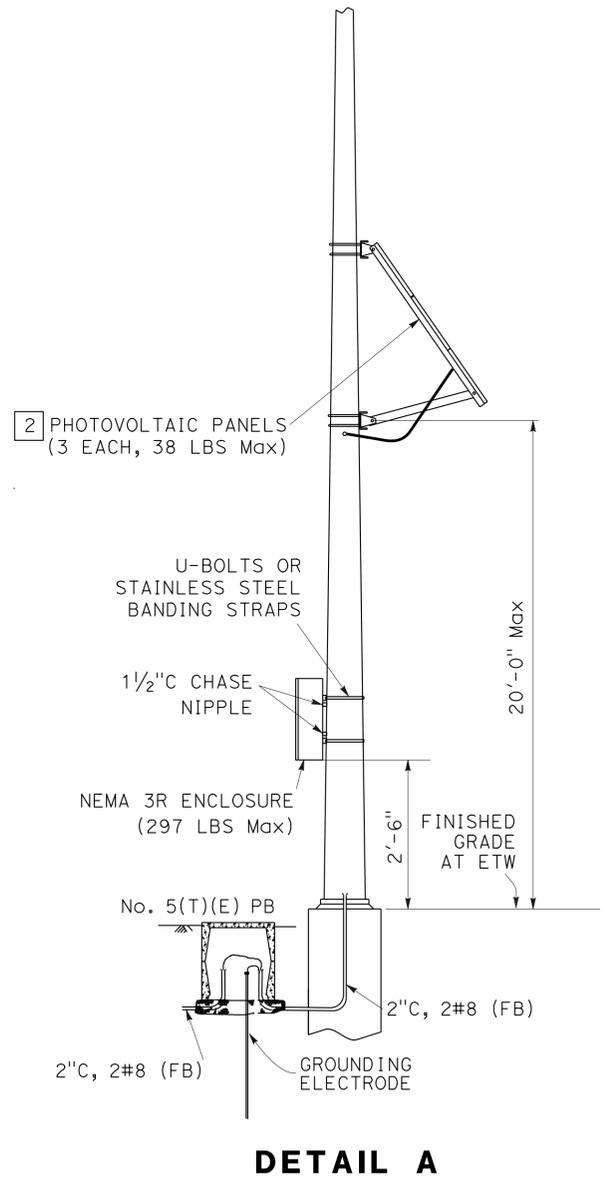
REGISTERED PROFESSIONAL ENGINEER
DANIEL THANH VO
No. 17408
Exp. 9/30/16
ELECTRICAL

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.

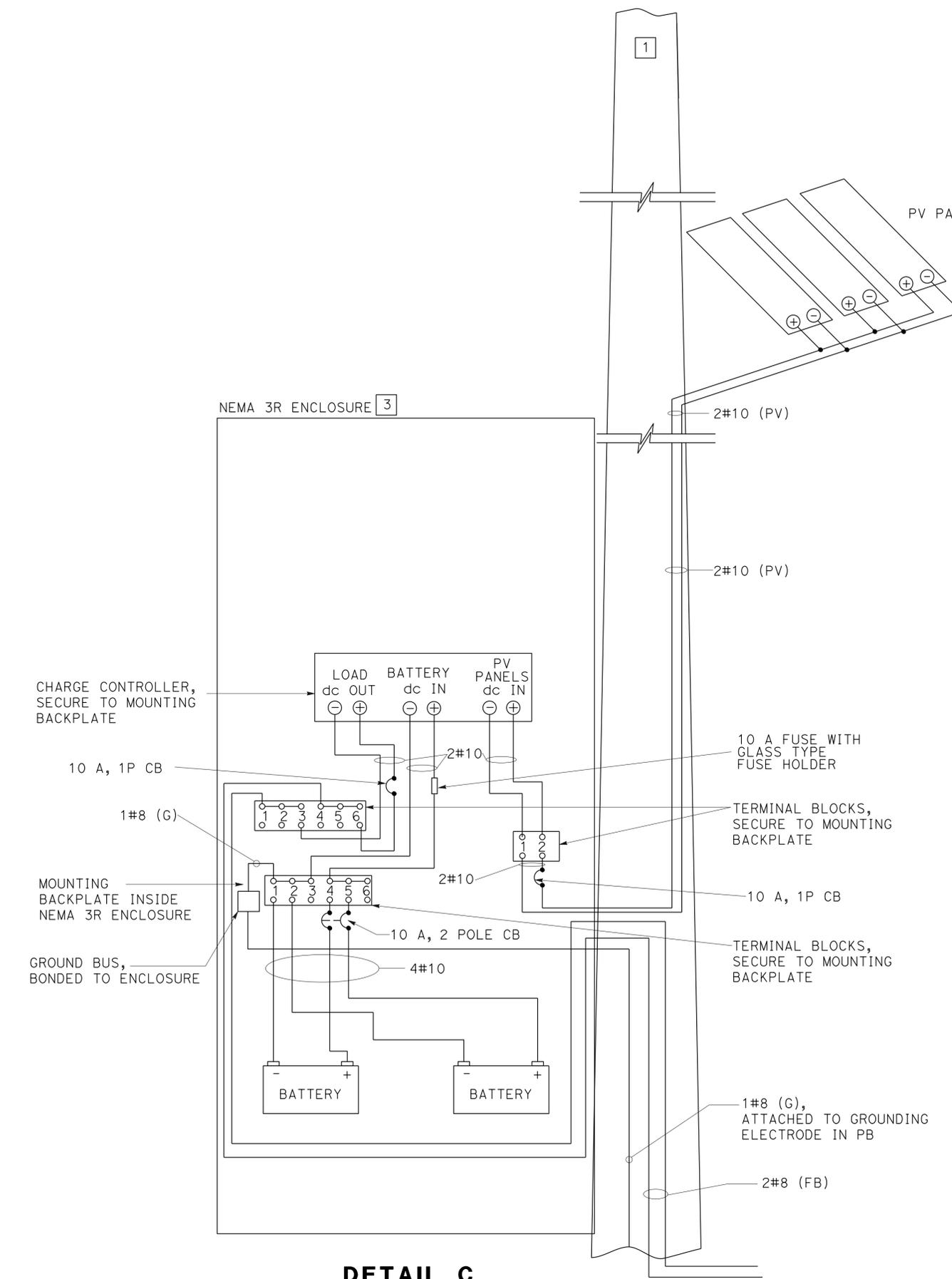
LEGEND (FOR THIS SHEET ONLY):

- 1 VDS 30 POLE WITH PV SYSTEM.
- 2 SEE DETAIL B ON THIS SHEET.
- 3 SEE SHEET E-6 FOR NEMA 3R ENCLOSURE DETAILS.

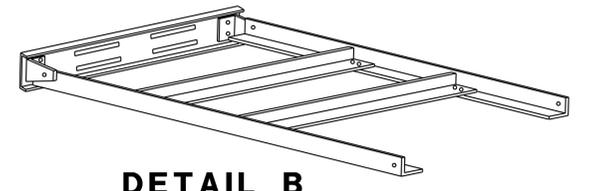
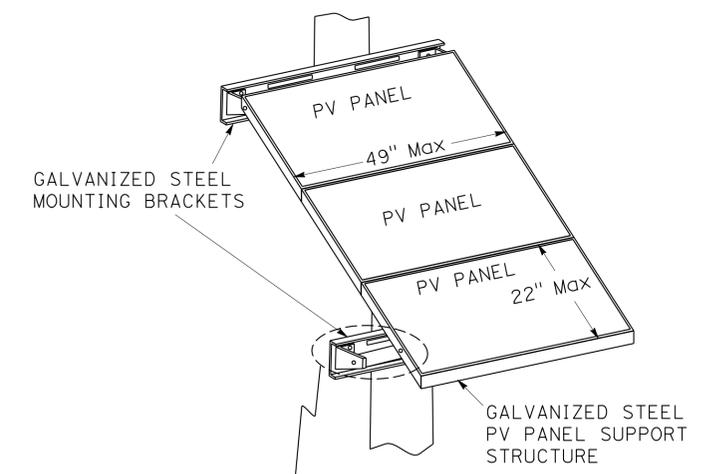
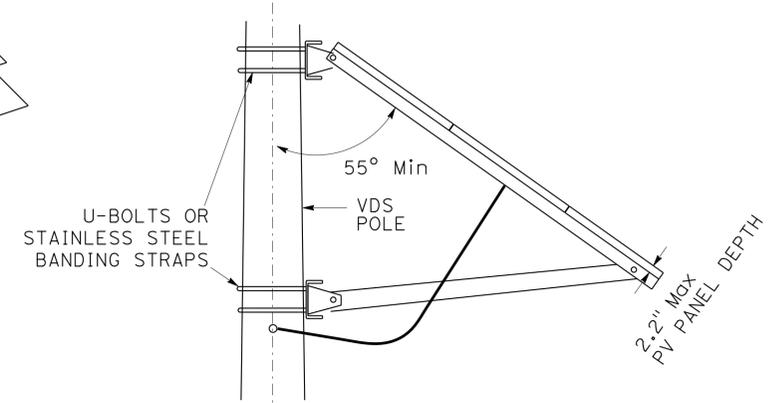
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
 CALCULATED/DESIGNED BY: DANIEL VO
 CHECKED BY: DANIEL VO
 REVISIONS: KA 11/18/15
 REVISOR: KARIM ABDOLLAHIAN
 DATE: 11/18/15



DETAIL A



DETAIL C



DETAIL B

ELECTRICAL DETAILS E-5
NO SCALE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	14	37

<i>Daniel Thanh Vo</i>	02-24-16
REGISTERED ELECTRICAL ENGINEER	DATE
2-29-16	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
DANIEL THANH VO
No. 17408
Exp. 9/30/16
ELECTRICAL
STATE OF CALIFORNIA

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LEGEND (FOR THIS SHEET ONLY):

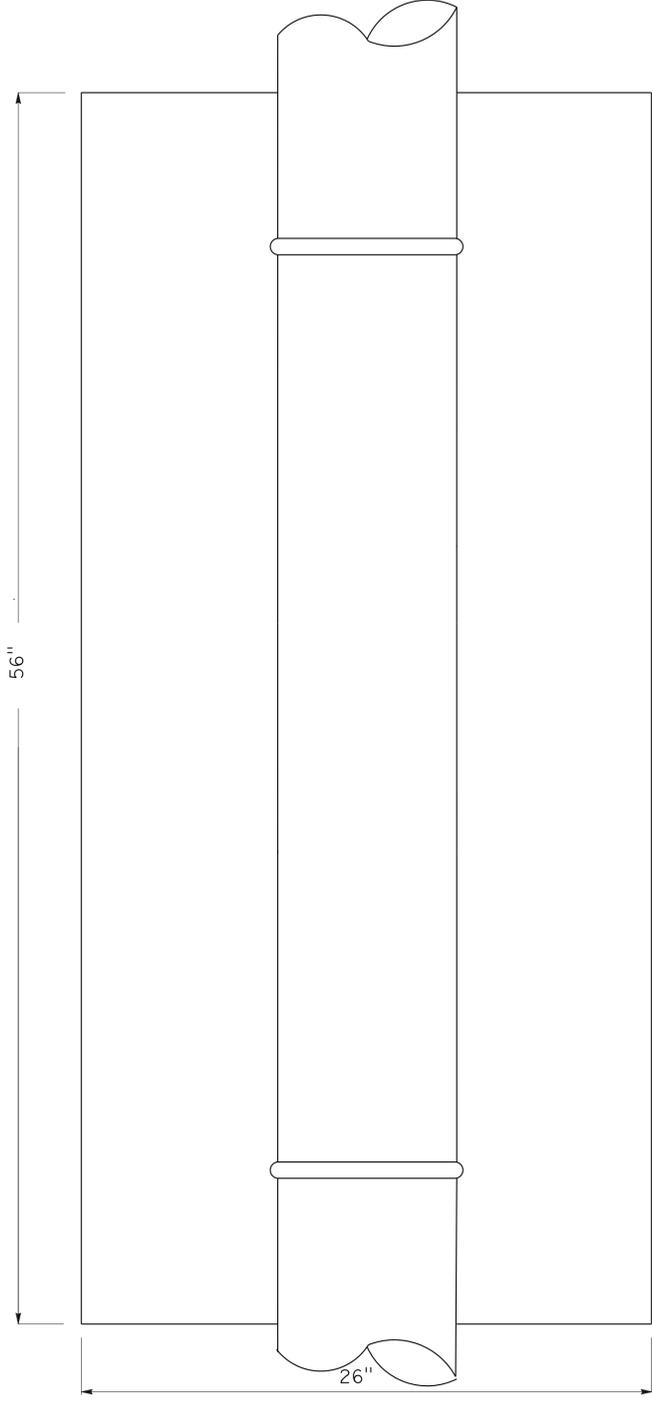
- 1 ALUMINUM SHELF REQUIRED TO PROVIDE SEPARATION OF THE EQUIPMENT AND BATTERY COMPARTMENTS. THE SHELF EDGE MUST EXTEND TO ALL FOUR ENCLOSURE WALLS. SPACES BETWEEN THE SHELF AND ENCLOSURE WALLS MUST BE SEALED.
- 2 FILTERED VENTILATION LOUVERS.
- 3 ALUMINUM SHELF REQUIRED FOR EQUIPMENT. 2" SPACE BETWEEN SHELF AND ENCLOSURE BACK WALL REQUIRED.

- 4 THREE POINT LOCKING SYSTEM MUST BE INTEGRATED WITH DOOR HANDLE. ROLLERS MUST BE USED IN CONJUNCTION WITH THE THREE POINT LOCKING SYSTEM.
- 5 DOOR HINGE.
- 6 BACK MOUNTING PLATE

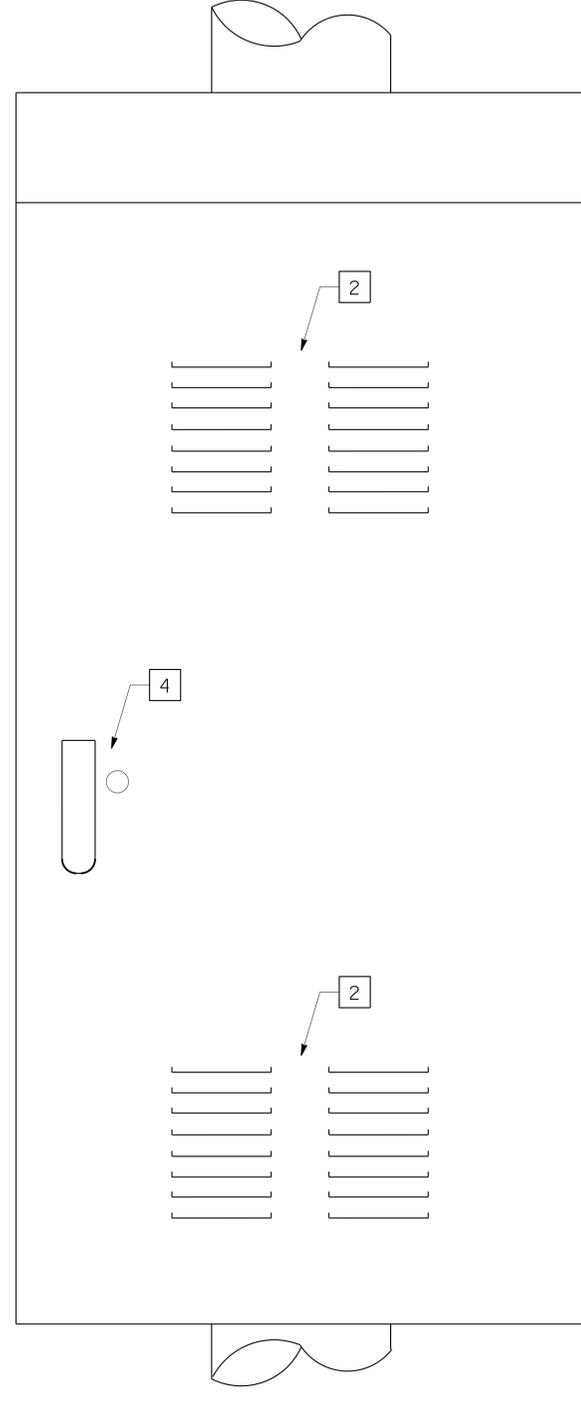
- 7 DOOR HANDLE TO ENCLOSURE PADLOCK LATCH.
- 8 SEAL OPENING AROUND CONDUCTORS.

NOTE: (FOR THIS SHEET ONLY)

YOU MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING MATERIAL.



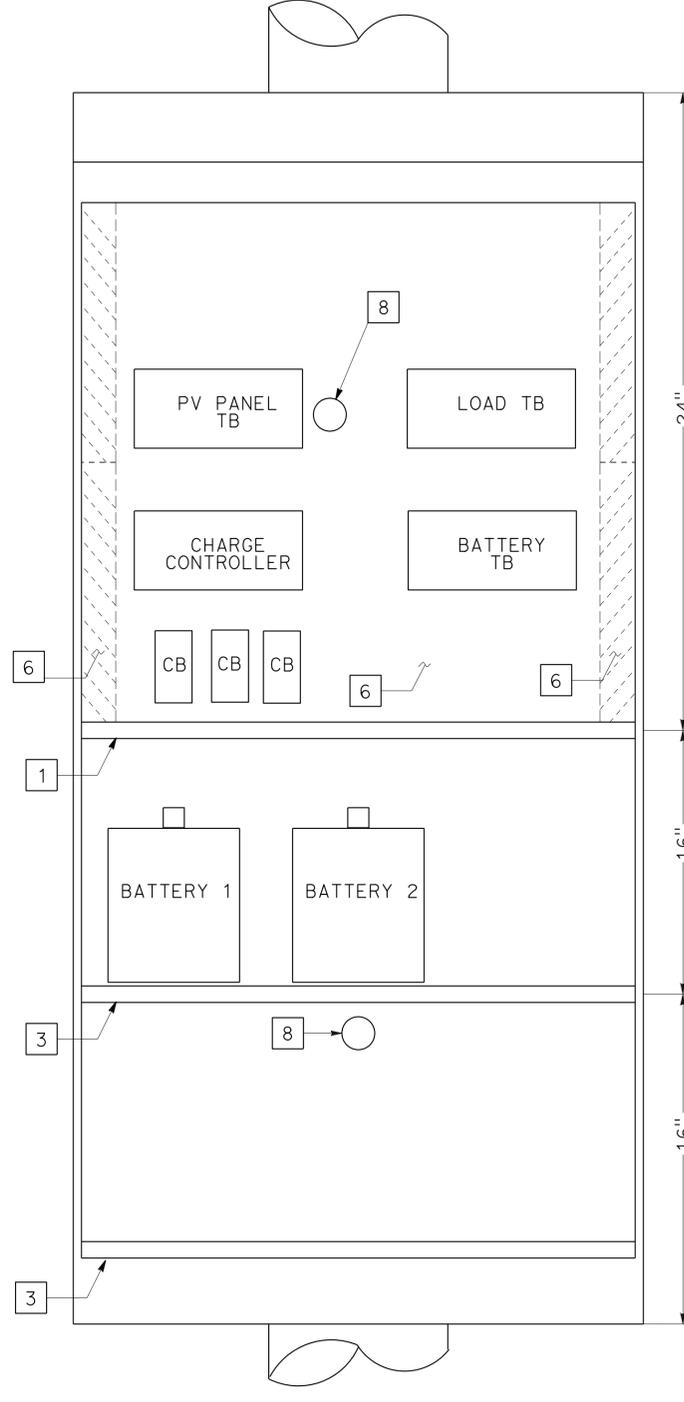
BACK VIEW



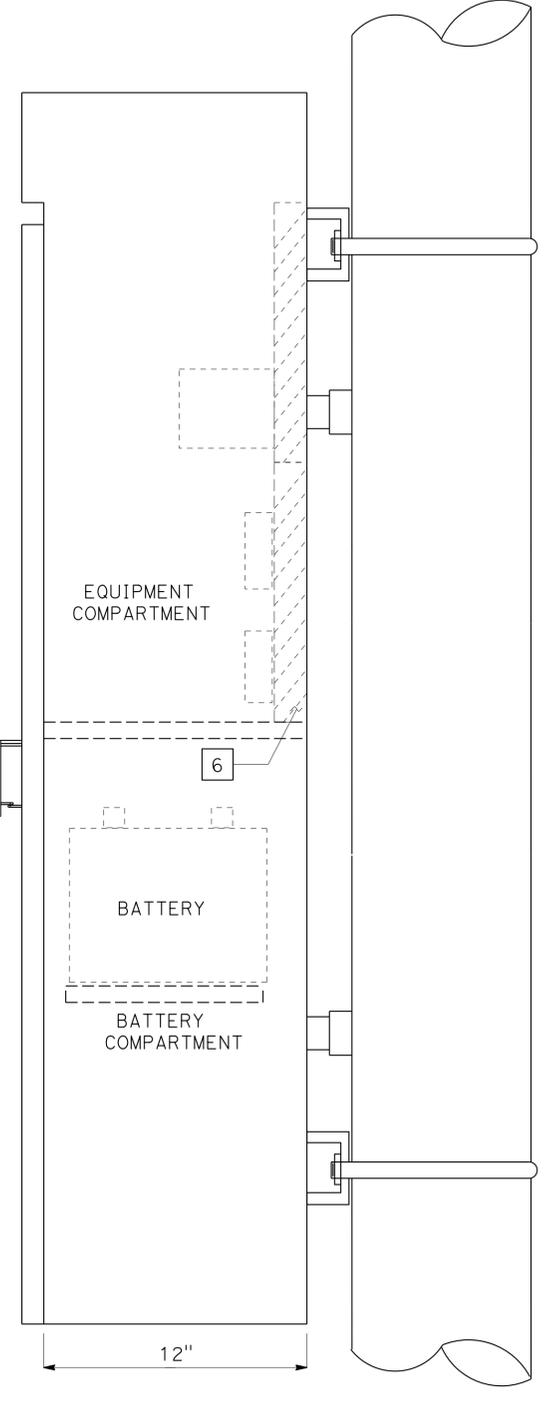
FRONT VIEW

DETAIL C

NEMA 3R ENCLOSURE



FRONT VIEW (INTERIOR)



SIDE VIEW

ELECTRICAL DETAILS E-6

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
 CALCULATED/DESIGNED BY: [blank]
 CHECKED BY: [blank]
 REVISIONS: KARIM ABDOLLAHIAN, DANIEL VO, KA, 11/18/15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	15	37

Daniel Thanh Vo 02-24-16
 REGISTERED ELECTRICAL ENGINEER DATE
 2-29-16
 PLANS APPROVAL DATE

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NOTE:

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

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

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD

CALCULATED/DESIGNED BY: KARIM ABDOLLAHIAN

CHECKED BY: DANIEL VO

REVISOR BY: KA

DATE REVISED: 11/18/15

MODIFYING EXISTING ELECTRICAL SYSTEM

SHEET No.	EA										LF				
	No. 5(T)(E) PB	TYPE 15-FBS POLE	TYPE 15-FBS FOUNDATION	85 WATT PV PANEL	NEMA 3R ENCLOSURE	PV PANEL MOUNTING BRACKET	VDS 30 POLE WITH ANCHOR BOLTS	VDS 30 POLE FOUNDATION	CHARGE CONTROLLER	BATTERY	2" CONDUIT (TYPE 1)	2" CONDUIT (TYPE 3)	No. 8 CONDUCTOR	No. 8 CONDUCTOR (G)	No. 10 CONDUCTOR
E-1		2	2								20		120	60	80
E-2	2	1	1	3	1	3	1	1	1	2	10	65	200	100	80
E-3	1	1	1								10		60	30	40
E-4	1	1	1								10		60	30	40

ELECTRICAL QUANTITIES E-7

LAST REVISION | DATE PLOTTED => 29-APR-2016
 02-24-16 | TIME PLOTTED => 10:14

	M	
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	
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	
	O	
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	
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	

	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	
	Q	
Qty	QUANTITY	
	R	
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	

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	16	37

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 2-29-16

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
kip	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

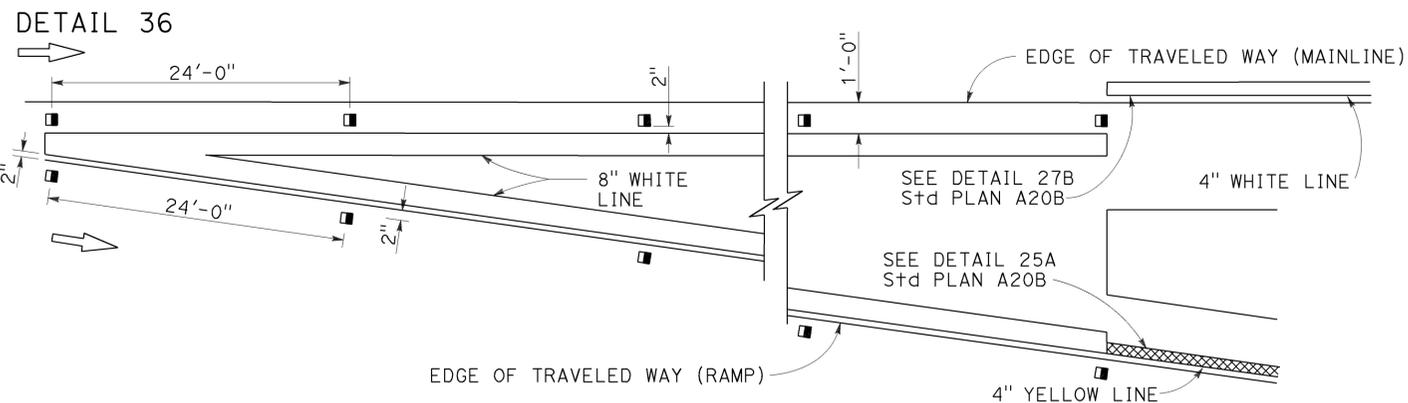
**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

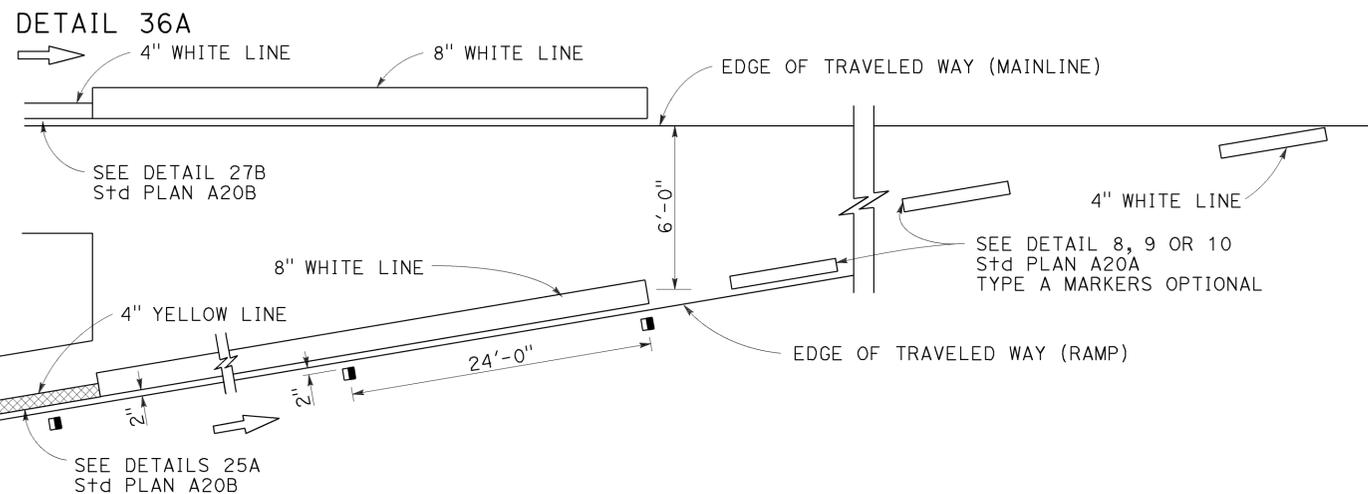
RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

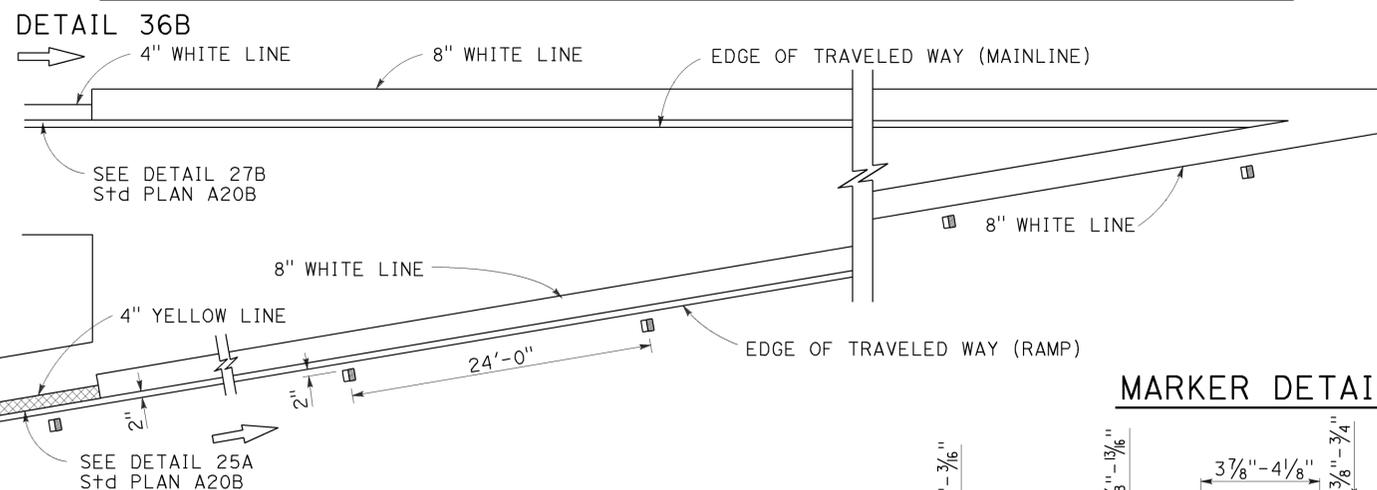
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

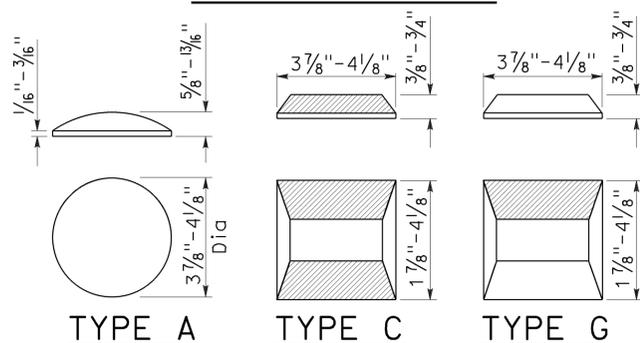


MARKER DETAILS

LEGEND:

MARKERS

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



RETROREFLECTIVE FACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	17	37

Roberta L. McLaughlin
 REGISTERED CIVIL ENGINEER

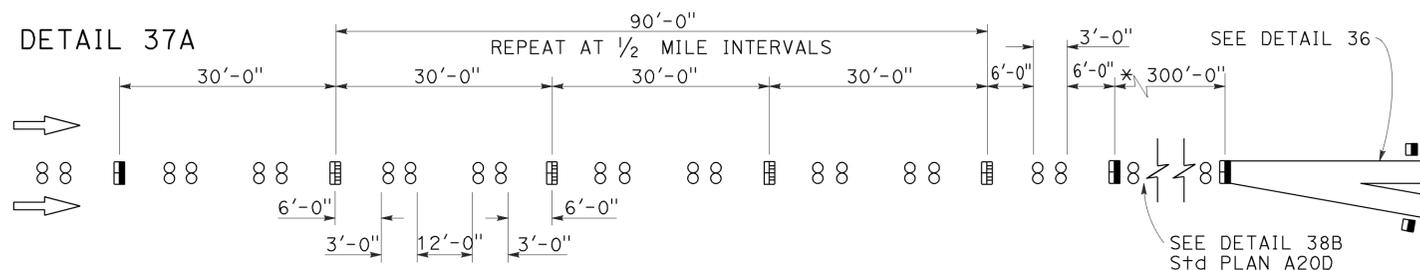
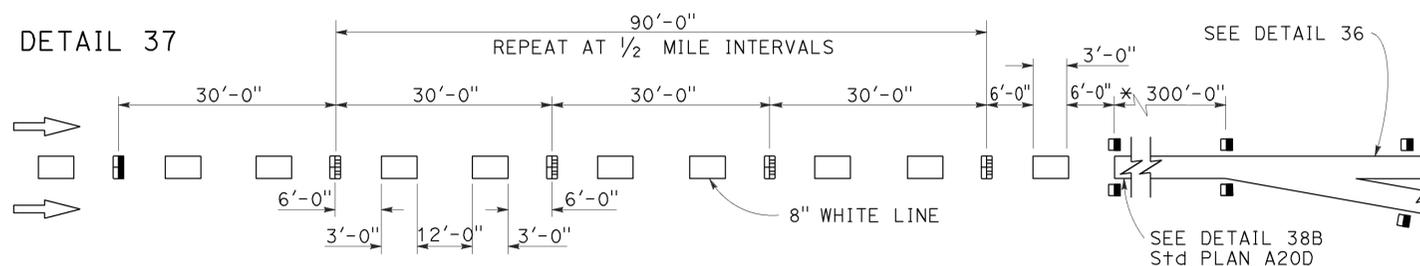
July 19, 2013
 PLANS APPROVAL DATE

No. C40375
 Exp. 3-31-15
 CIVIL

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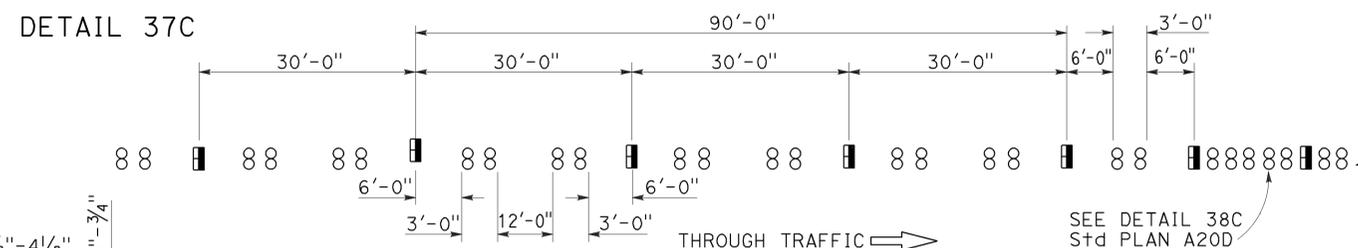
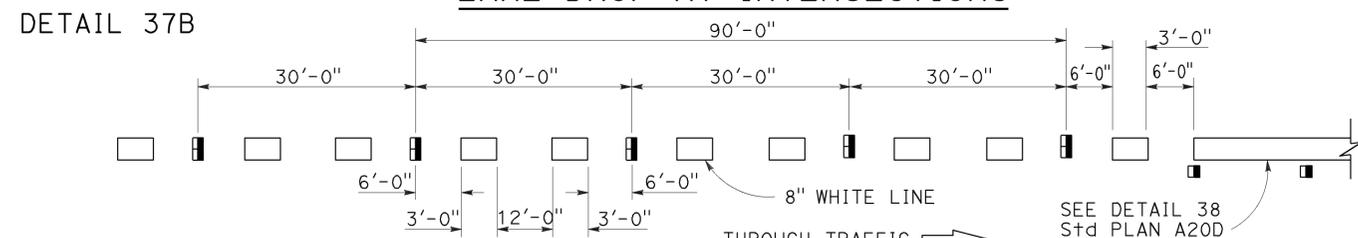
TO ACCOMPANY PLANS DATED 2-29-16

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

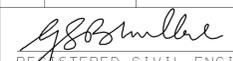
NO SCALE

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
06	Mad	41	5.2/34.7	18	37


 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE



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TO ACCOMPANY PLANS DATED 2-29-16

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**

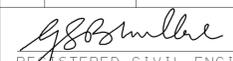
NO SCALE

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

REVISED STANDARD PLAN RSP T9

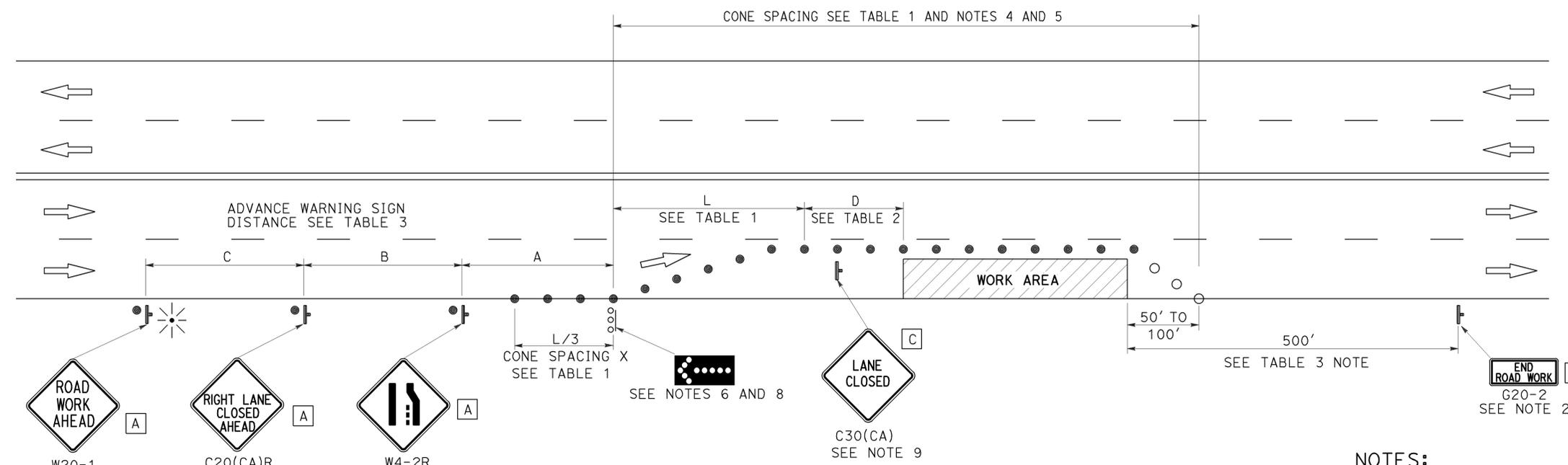
2010 REVISED STANDARD PLAN RSP T9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	19	37


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

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

TO ACCOMPANY PLANS DATED 2-29-16



TYPICAL LANE CLOSURE

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.

NOTES:

1. Each advance warning sign 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.
2. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
3. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) sign for the first advance warning sign.
4. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
6. Flashing arrow sign shall be either Type I or Type II.
7. For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
8. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
9. Place a C30(CA) sign every 2000' throughout length of lane closure.
10. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
11. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

LEGEND

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

SIGN PANEL SIZE (Min)

- A** 48" x 48"
- B** 36" x 18"
- C** 30" x 30"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR LANE CLOSURE ON
 MULTILANE CONVENTIONAL
 HIGHWAYS**

NO SCALE

RSP T11 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T11
 DATED MAY 20, 2011 - PAGE 239 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T11

2010 REVISED STANDARD PLAN RSP T11

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.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	20	37

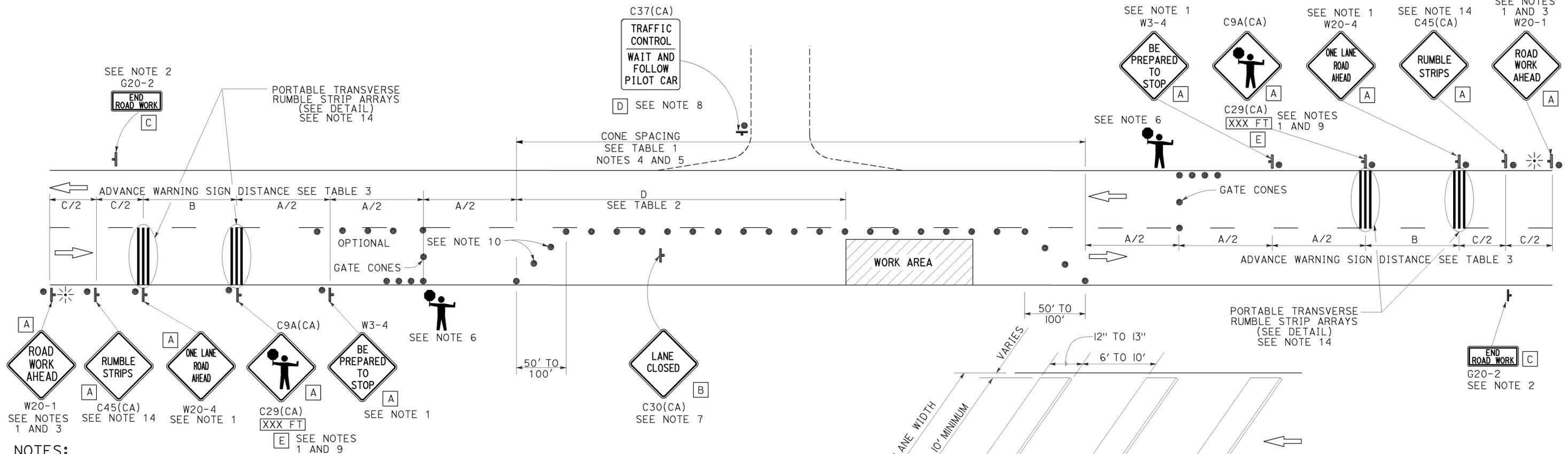
Devinder Singh
 REGISTERED CIVIL ENGINEER
 No. C50470
 Exp. 6-30-17
 CIVIL
 STATE OF CALIFORNIA

October 30, 2015
 PLANS APPROVAL DATE

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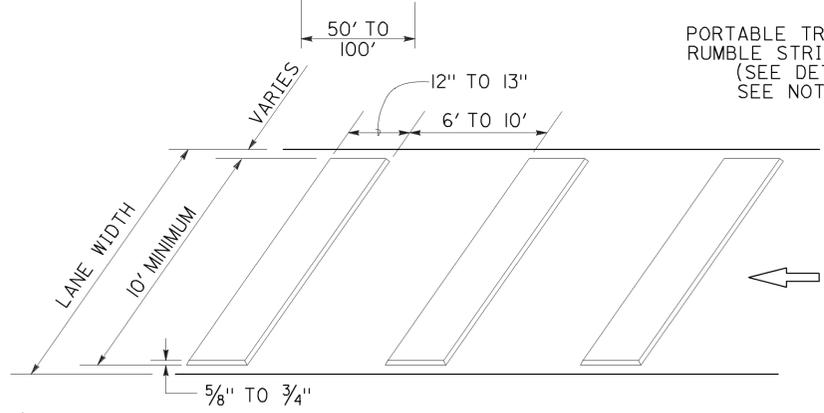
TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL

TO ACCOMPANY PLANS DATED 2-29-16



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



SIGN PANEL SIZE (Min)

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

LEGEND

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

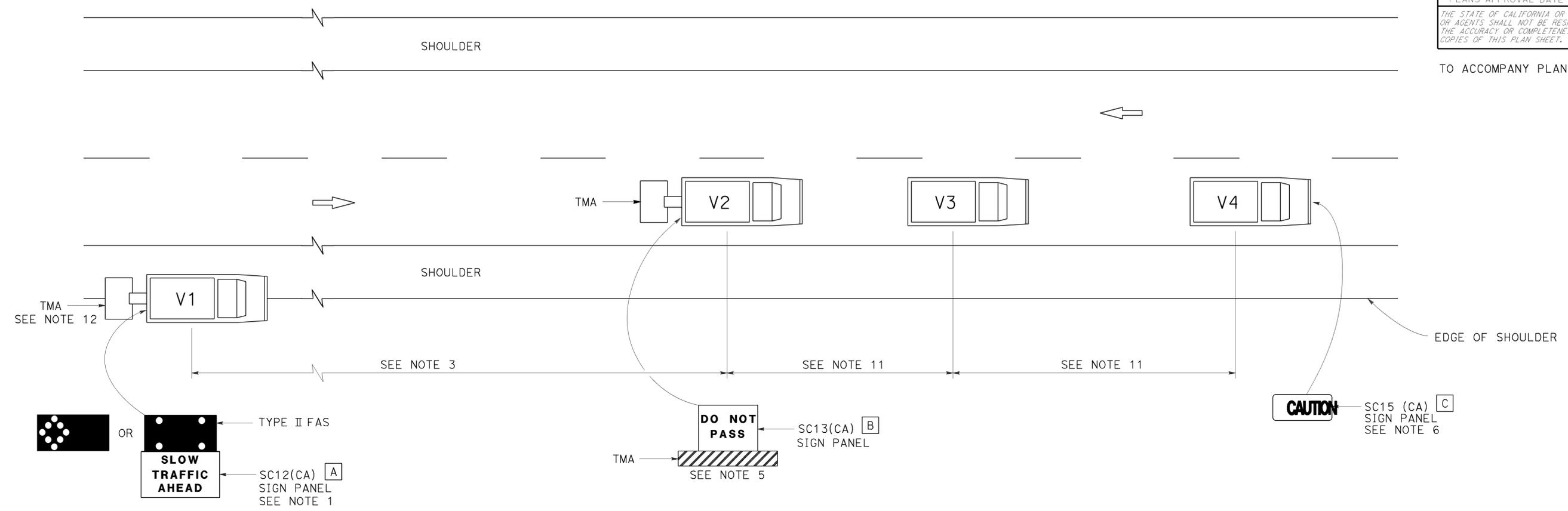
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR LANE CLOSURE ON
 TWO LANE CONVENTIONAL
 HIGHWAYS**
 NO SCALE

RSP T13 DATED OCTOBER 30, 2015 SUPERSEDES
 RSP T13 DATED OCTOBER 17, 2014, 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.

REVISED STANDARD PLAN RSP T13

2010 REVISED STANDARD PLAN RSP T13

TO ACCOMPANY PLANS DATED 2-29-16



NOTES:

1. Either a changeable message sign or a SC12(CA) "SLOW TRAFFIC AHEAD" sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "CAUTION" message first, follow by the "SLOW TRAFFIC AHEAD" message. A Type II flashing arrow sign may be used with the SC12(CA) sign panel.
2. Sign vehicle V1 should be positioned where highly visible when shoulders are not available.
3. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue.
4. Vehicle-mounted sign panels shall have Type III or above retroreflective sheeting, black on white, or black on fluorescent orange, with 6" minimum series D letters per Caltrans sign specifications.
5. Shadow vehicle shall be equipped with a truck-mounted attenuator. The sign panel shown shall be mounted on the rear of shadow vehicle V2. The message "LANE CLOSED" may be used in place of the "DO NOT PASS" message.
6. The sign panel shown shall be mounted on the front of sign vehicle V4, facing opposing traffic.

7. All vehicles shall be equipped with flashing or rotating amber lights.
8. Sign vehicle V4 will not be required when the work and vehicles V2 and V3 are 2' or more from the centerline of the highway during the work or application operations.
9. All vehicles used for lane closures shall be equipped with two-way radios and the vehicle operators shall maintain communication during the work or application operation.
10. This plan shall not be used where workers would be on foot in the work area. Use a stationary type lane closure (Revised Standard Plan T13) for this condition.
11. Minimize spacing between vehicles V2 and V3 and vehicles V3 and V4 to deter road users from driving in between them.
12. If sign vehicle V1 encroaches into the traffic lane due to insufficient shoulder width, sign vehicle V1 shall be equipped with a truck-mounted attenuator. Sign vehicle V1 shall stay as close to the edge of shoulder as practicable.

LEGEND

- V1 SIGN VEHICLE
- V2 SHADOW VEHICLE
- V3 WORK/APPLICATION VEHICLE
- V4 SIGN VEHICLE
- TMA TRUCK-MOUNTED ATTENUATOR
-  FLASHING ARROW SIGN (FAS) IN FLASHING CAUTION MODE
-  FLASHING ARROW SIGN (FAS) IN ALTERNATING DIAMOND CAUTION

SIGN PANEL SIZE (Min)

- A** 72" x 42"
- B** 54" x 42"
- C** 54" x 24"

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

RSP T17 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T17
 DATED MAY 20, 2011 - PAGE 245 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T17

2010 REVISED STANDARD PLAN RSP T17

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	22	37

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-16
ELECTRICAL

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TO ACCOMPANY PLANS DATED 2-29-16

SOFFIT AND WALL-MOUNTED LUMINAIRES

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

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

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

MISCELLANEOUS ELECTROLIERS

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

- NOTES:**
- 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 OCTOBER 30, 2015 SUPERSEDES RSP ES-1A DATED JULY 19, 2013 AND STANDARD PLAN ES-1A DATED MAY 20, 2011 - PAGE 425 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1A

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	23	37

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

Theresa Aziz Gabriel
No. E15129
Exp. 6-30-16
ELECTRICAL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 2-29-16

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
		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

	TYPE H SERVICE, 28'-10"	TYPE OF INSTALLATION AND POLE HEIGHT ABOVE GRADE
--	-------------------------	--

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

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

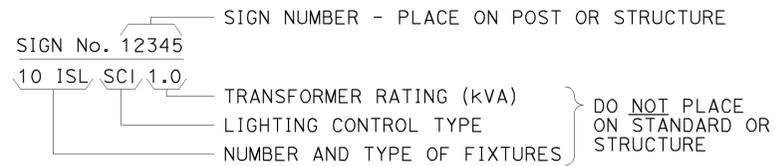
RSP ES-1B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-1B DATED JULY 19, 2013 AND STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

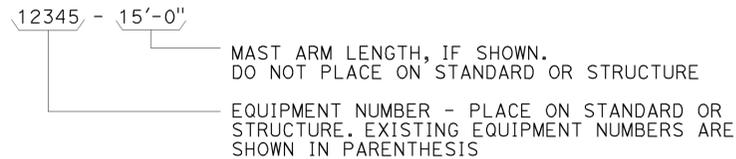
2010 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

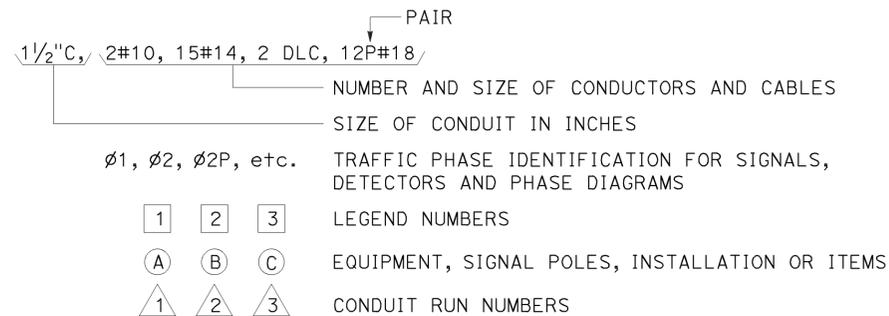
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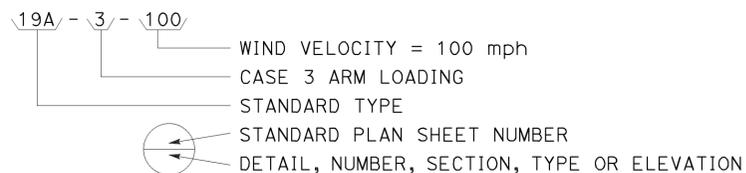
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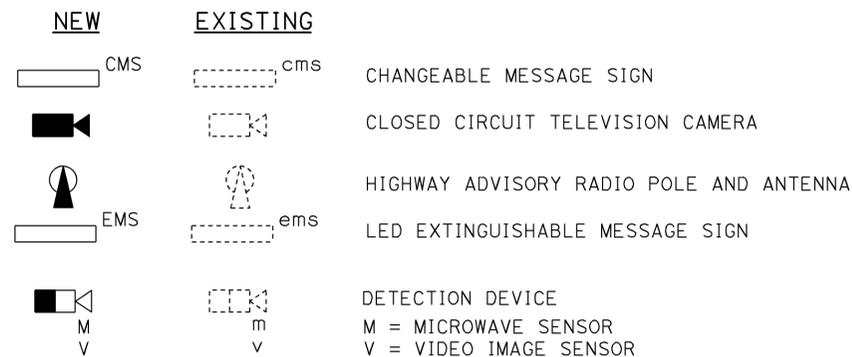
CONDUIT AND CONDUCTOR IDENTIFICATION:



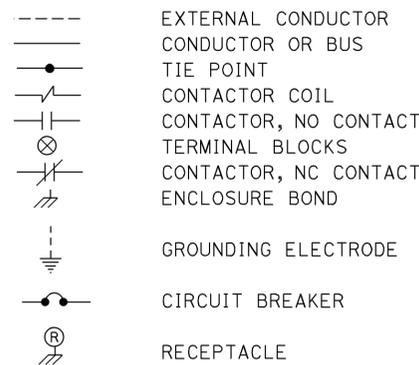
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



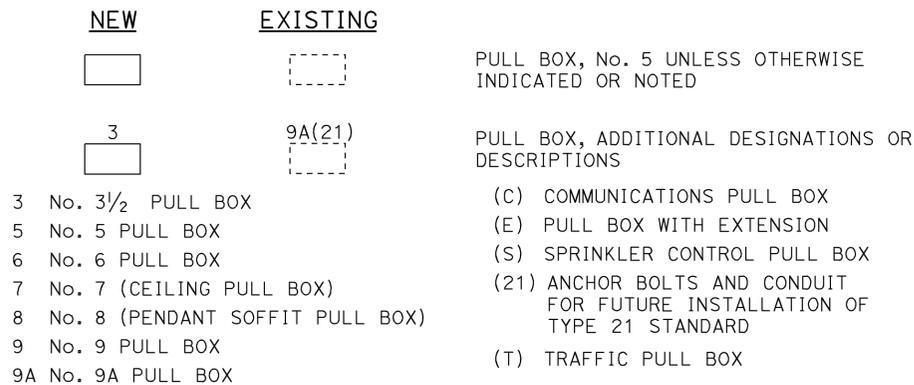
MISCELLANEOUS EQUIPMENT



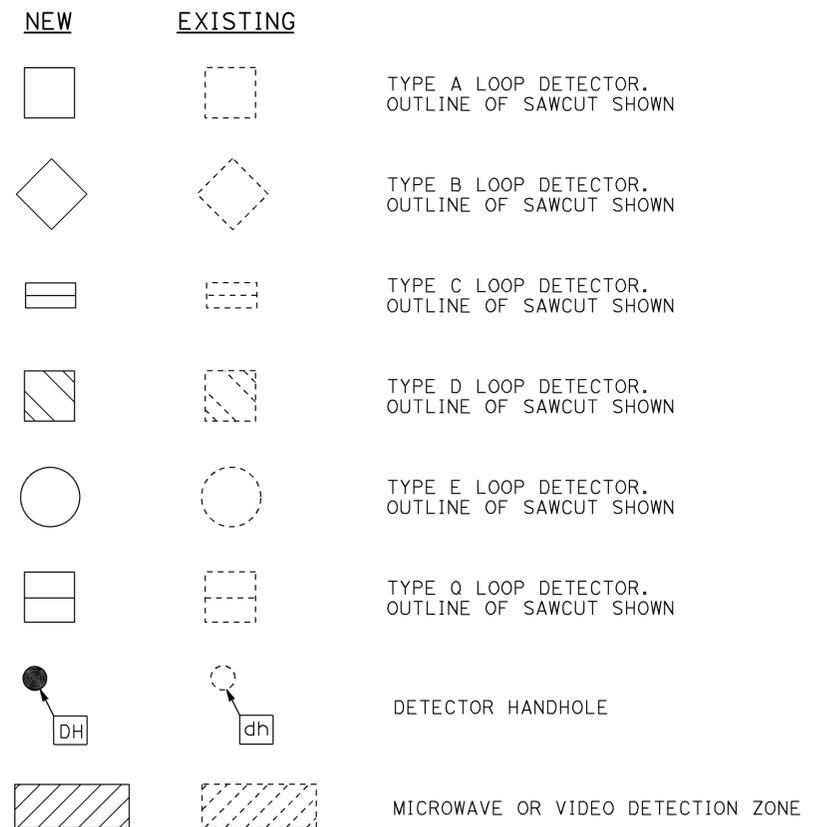
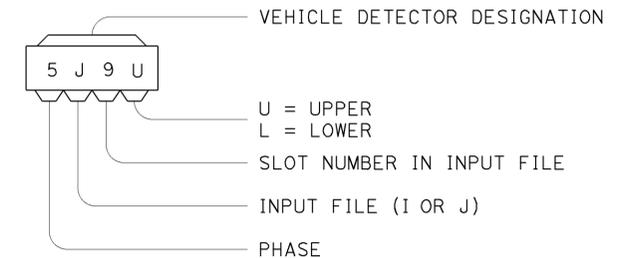
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-1C DATED JULY 19, 2013 AND STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1C

2010 REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	25	37

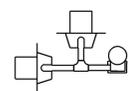
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE

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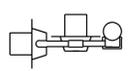
REGISTERED PROFESSIONAL ENGINEER
 Theresa
 Aziz Gabriel
 No. E15129
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 2-29-16

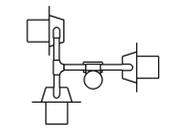
2010 REVISED STANDARD PLAN RSP ES-4A



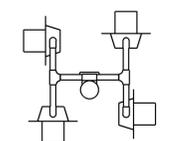
SV-2-TD



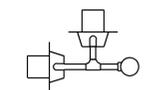
SV-2-TC



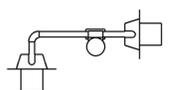
SV-3-TC



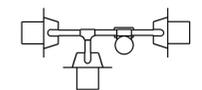
SV-4-TC



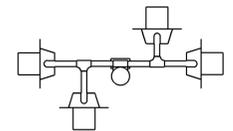
SV-2B



SV-2-TB

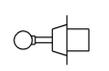


SV-3-TB



SV-4-TB

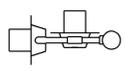
PLAN VIEW OF OTHER
SIDE MOUNTINGS



SV



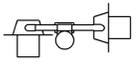
SV-1



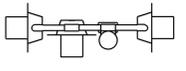
SV-2A



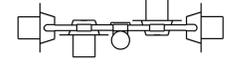
SV-1-T



SV-2-TA



SV-3-TA



SV-4-TA

SIDE MOUNTINGS

ABBREVIATIONS:

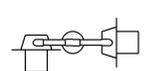
- SV SIDE MOUNTED SIGNAL HEADS
- T TERMINAL COMPARTMENT
- TV TOP MOUNTED SIGNAL HEADS
- 1, 2, 3, 4 NUMBER OF SIGNAL FACES
(3 - SECTION, UNLESS OTHERWISE INDICATED)
- A, B, C, D CONFIGURATION OF SIGNALS

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 Revised Standard Plans RSP ES-4D and RSP ES-4E for attachment fitting details.



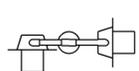
TV-1



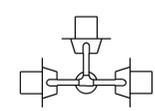
TV-2



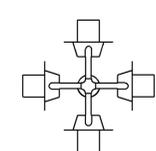
TV-1-T



TV-2-T



TV-3-T



TV-4-T

PLAN VIEW OF
TOP MOUNTINGS

TOP MOUNTINGS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SIGNAL HEADS AND MOUNTINGS)**

NO SCALE

RSP ES-4A DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-4A DATED JULY 19, 2013 AND STANDARD PLAN ES-4A DATED MAY 20, 2011 - PAGE 443 OF THE STANDARD PLANS BOOK DATED 2010.

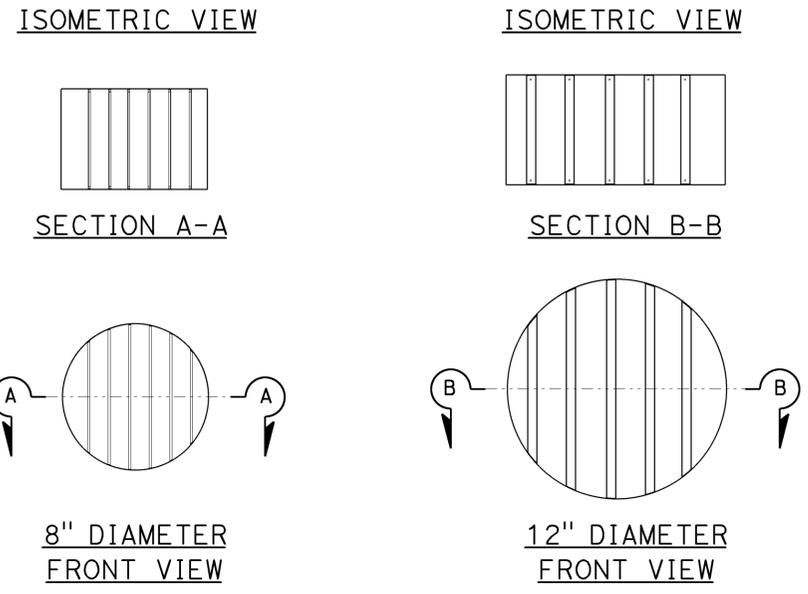
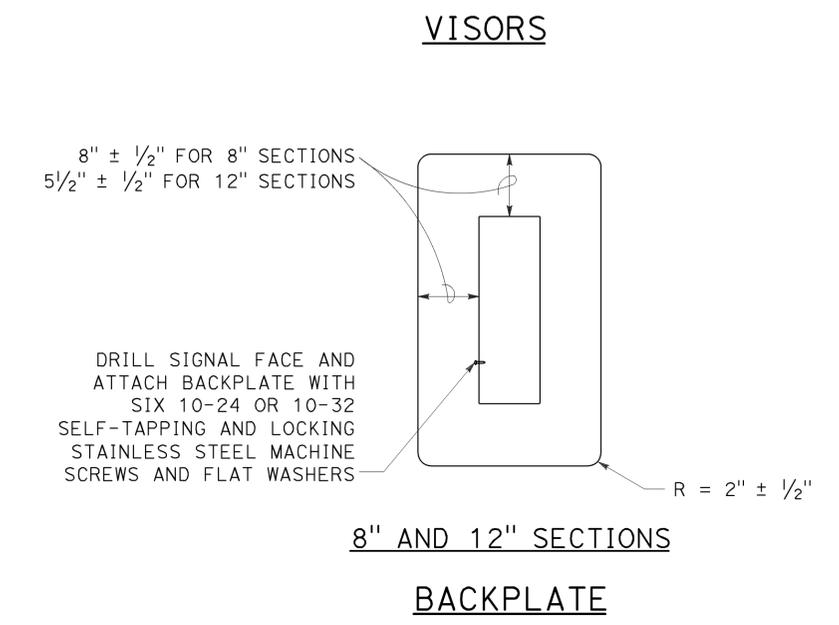
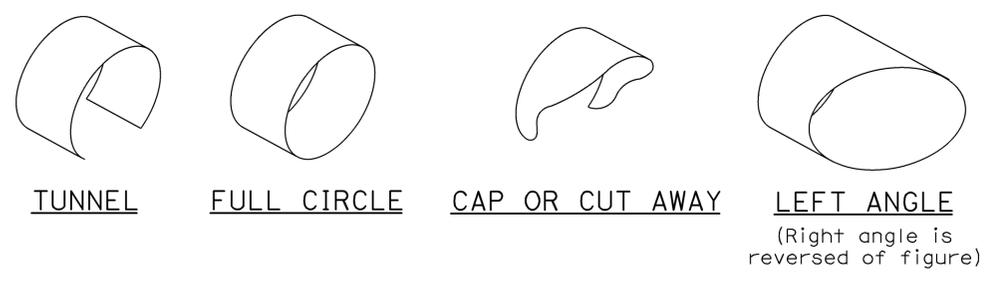
REVISED STANDARD PLAN RSP ES-4A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	26	37

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

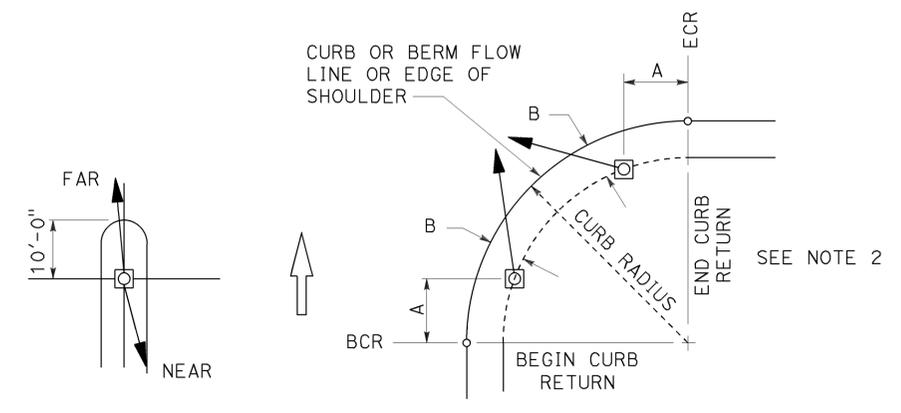
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TO ACCOMPANY PLANS DATED 2-29-16



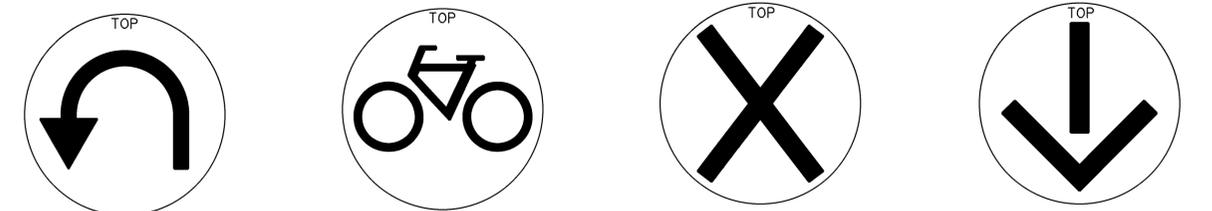
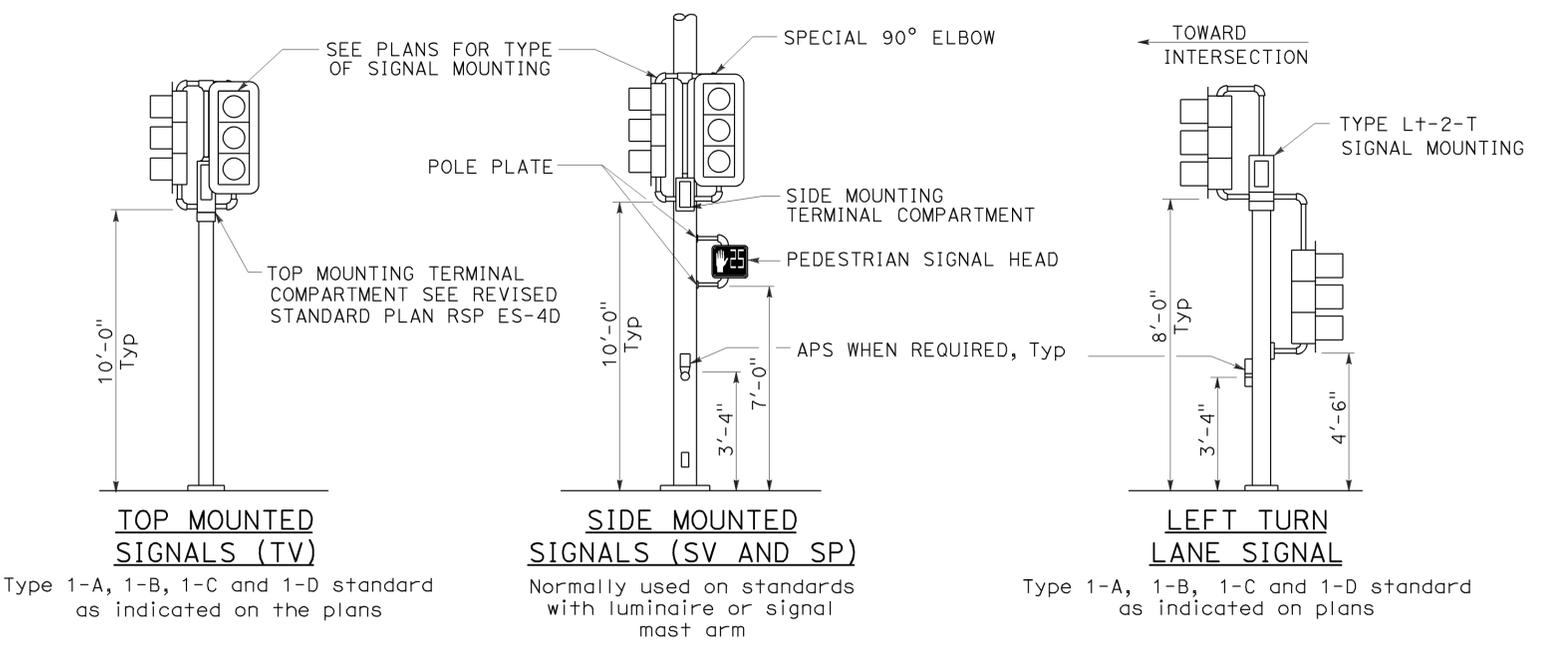
DIRECTIONAL LOUVER

Directional louvers shall be oriented and secured in place with one plated brass machine screw and nut.



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

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



SIGNAL FACES

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS (SIGNAL HEADS AND MOUNTINGS)
 NO SCALE

TYPICAL SIGNAL HEAD INSTALLATIONS

RSP ES-4C DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-4C DATED JULY 19, 2013 AND STANDARD PLAN ES-4C DATED MAY 20, 2011 - PAGE 445 OF THE STANDARD PLANS BOOK DATED 2010.

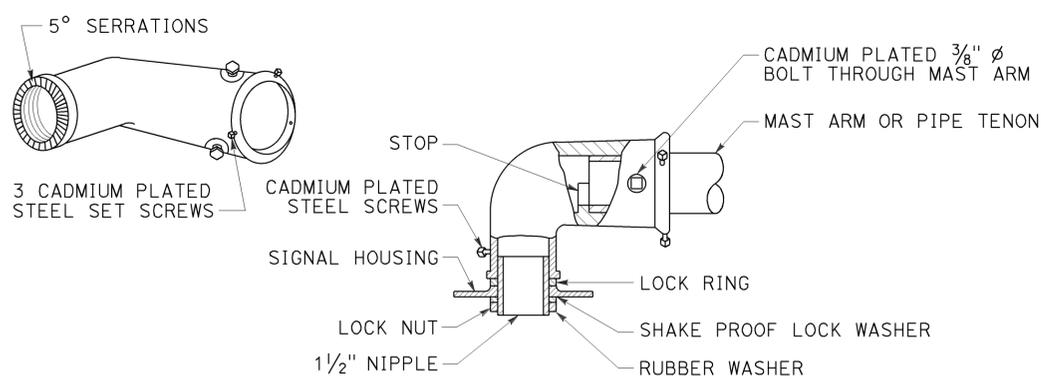
REVISED STANDARD PLAN RSP ES-4C

2010 REVISED STANDARD PLAN RSP ES-4C

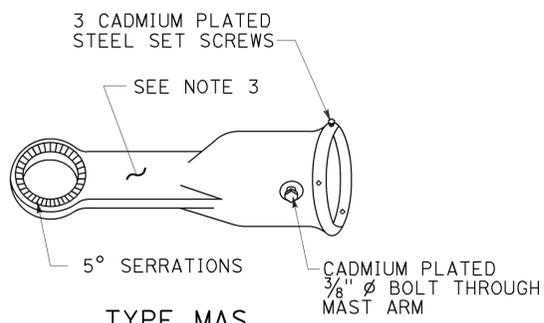
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	27	37

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
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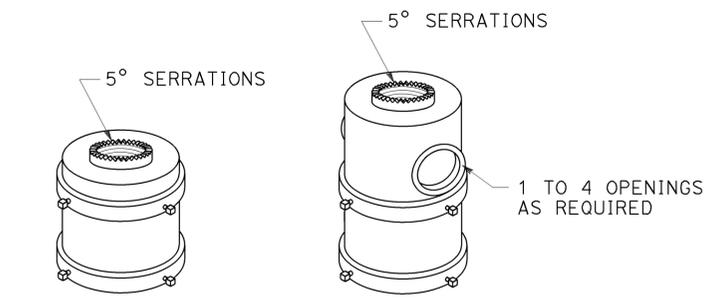
2010 REVISED STANDARD PLAN RSP ES-4D



TYPE MAT
MAST ARM MOUNTING
For 2 NPS pipe, see Note 1.



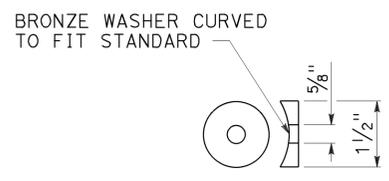
TYPE MAS
MAST ARM MOUNTING
For 2 NPS pipe, see Note 1.



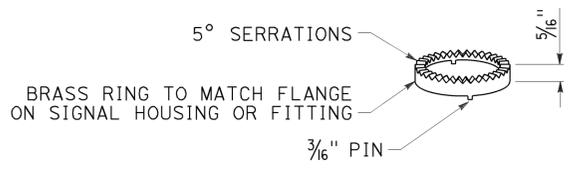
FOR ONE MOUNTING FOR MULTIPLE MOUNTINGS

TOP MOUNTINGS
For 4 NPS pipe, see Note 2.

SIGNAL SLIP FITTERS

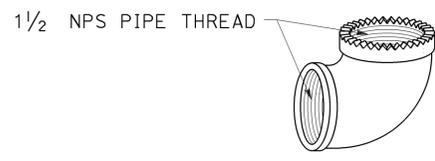


DETAIL C



LOCK RING

Use where locking ring is not integral
With signal housing or fitting.



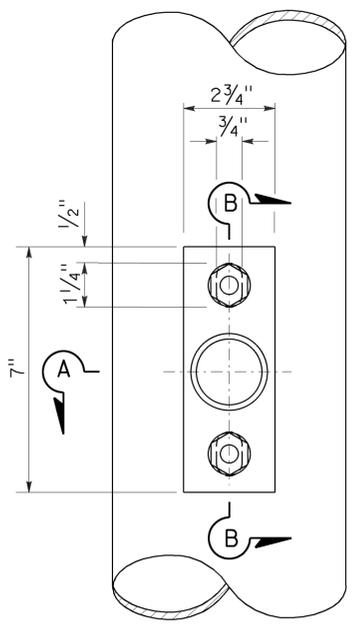
SPECIAL 90° ELBOW

One for each signal head, except those
With special slip fitter mounting

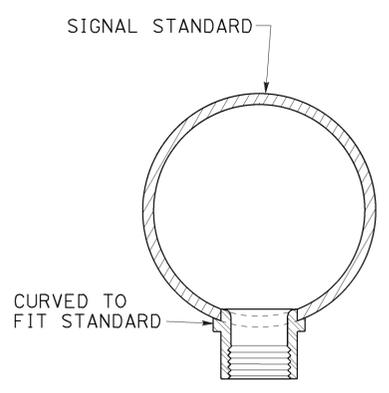
NOTES:

- After mast arm signal has been plumbed and secured, drill $\frac{1}{16}$ " hole through mast arm tenon in line with slip fitter hole. Place a cadmium plated $\frac{3}{8}$ " ϕ galvanized bolt with washer under bolt head through hole and secure with washer, nut, and locknut. Seal openings between mast arm mountings and mast arm with mastic.
- (A) Threaded top mounted slip fitter openings shall be $1\frac{1}{2}$ NPS.
(B) Serrations in fittings shall match those on bottom of signal heads or in lock ring.
(C) Top opening shall be offset when backplate is used.
- Wireway shall have a cross section area of 0.95 square inch minimum. Minimum width of $\frac{1}{2}$ ".

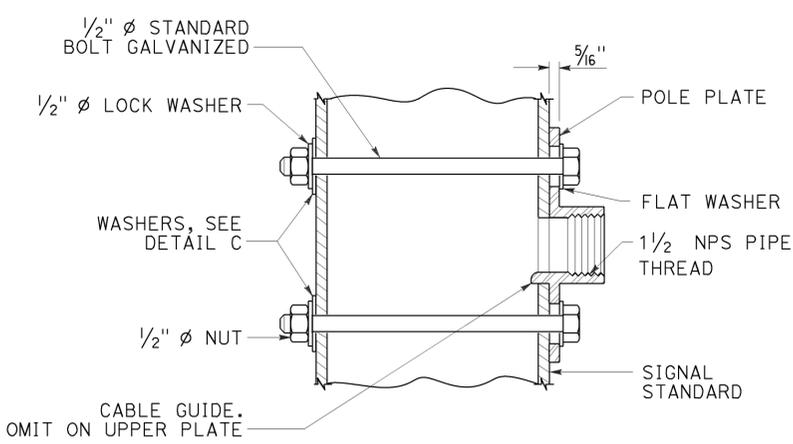
MISCELLANEOUS MOUNTING HARDWARE



TOP VIEW

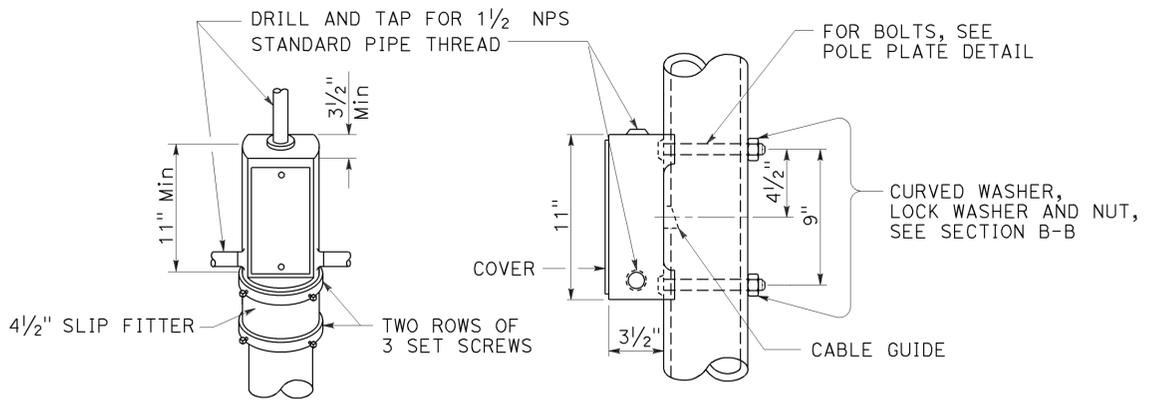


SECTION A-A



SECTION B-B

**POLE PLATE FOR SIDE MOUNTED SIGNAL HEAD
WITHOUT TERMINAL COMPARTMENT**



TOP MOUNTING

SIDE MOUNTING

TERMINAL COMPARTMENT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(SIGNAL HEAD MOUNTING)**
NO SCALE

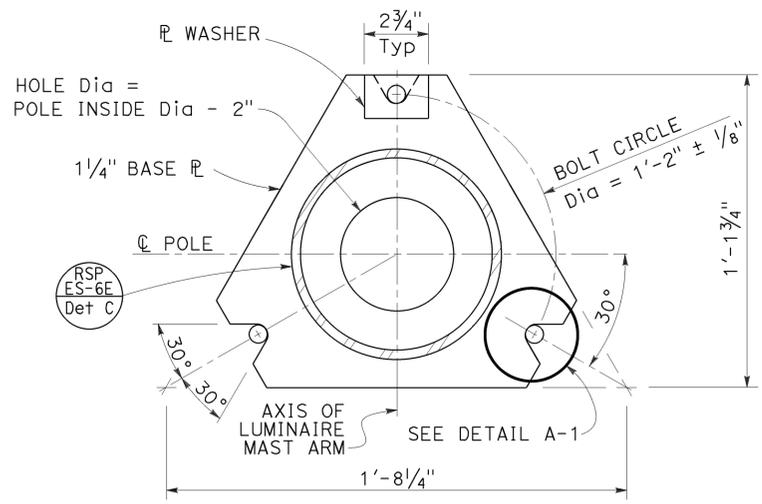
RSP ES-4D DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-4D DATED MAY 20, 2011 - PAGE 446 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4D

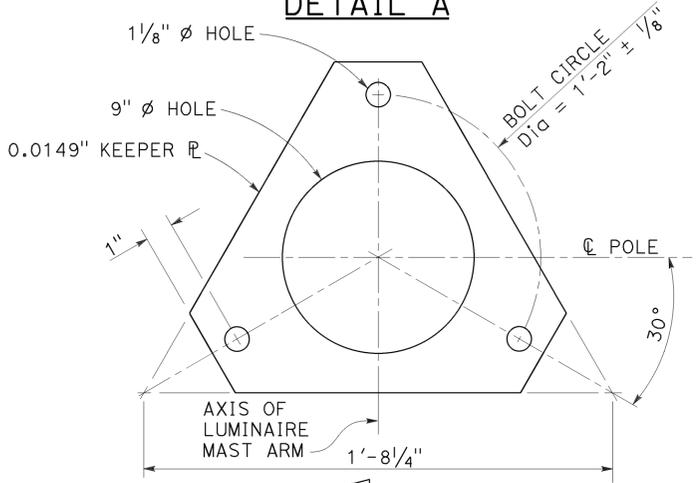
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	28	37

Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
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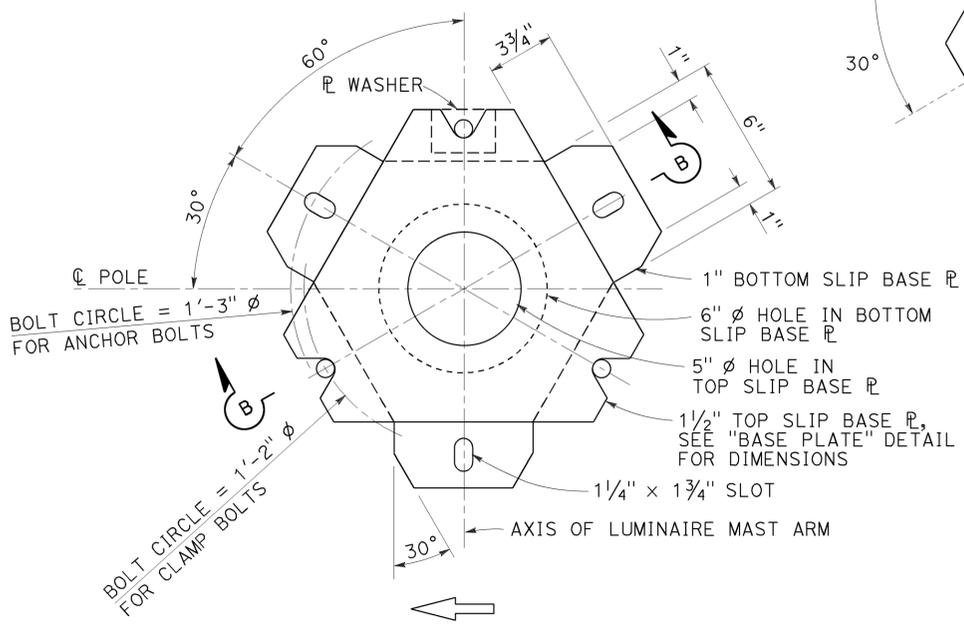
Stanley P. Johnson
 REGISTERED PROFESSIONAL ENGINEER
 No. C57793
 Exp. 3-31-16
 CIVIL
 STATE OF CALIFORNIA



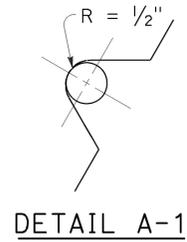
**BASE PLATE
DETAIL A**



**KEEPER PLATE
DETAIL B**

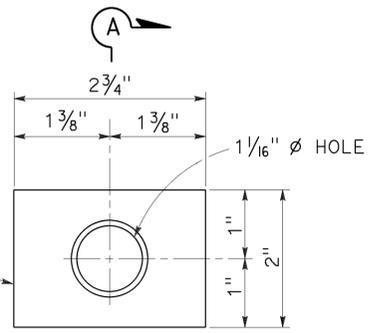


**BOTTOM PLATE
DETAIL C**

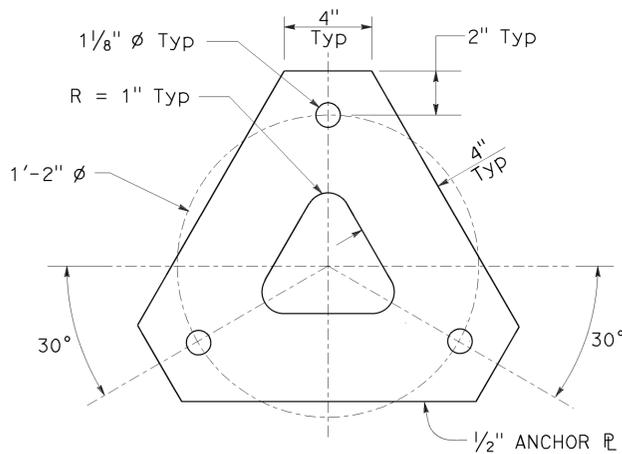


DETAIL A-1

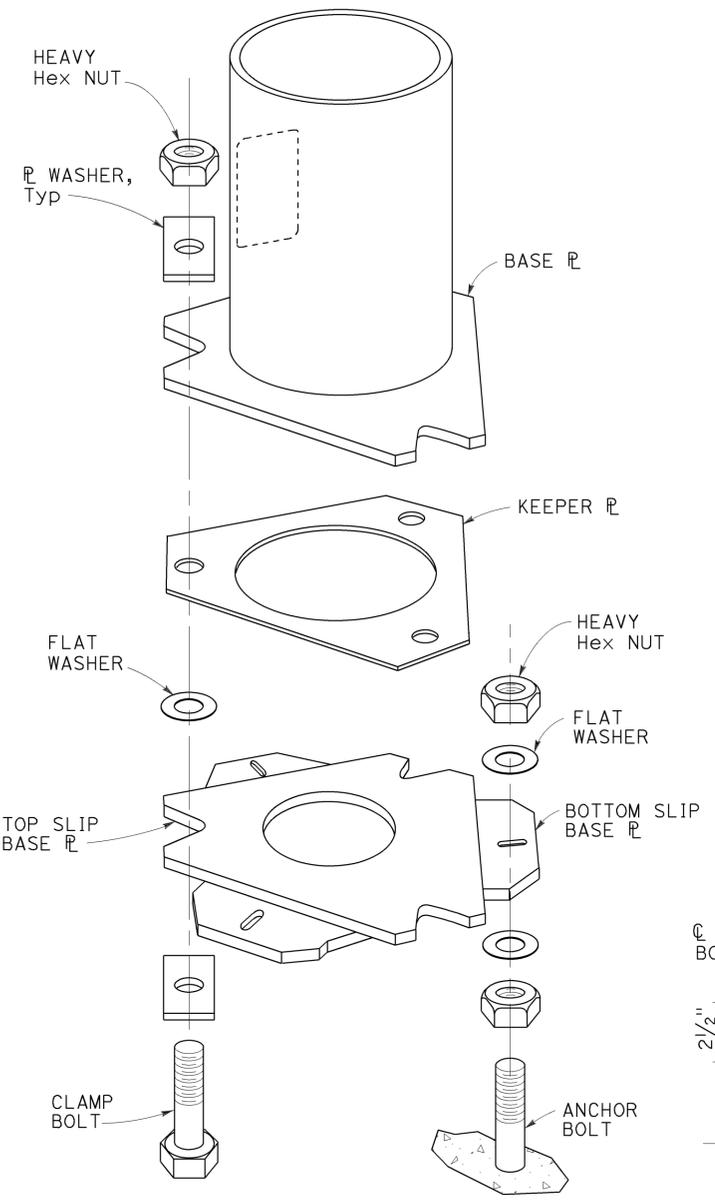
SECTION A-A



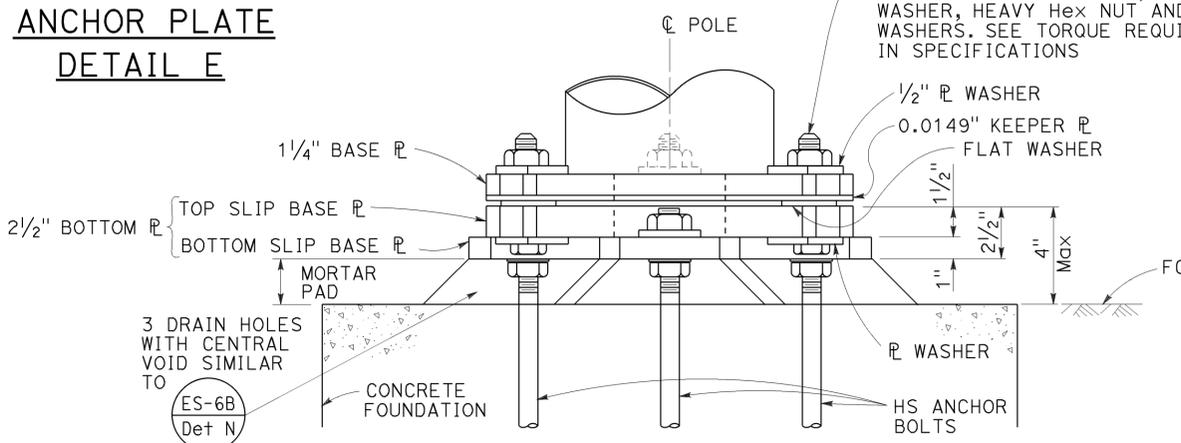
**PLATE WASHER
DETAIL D**



**ANCHOR PLATE
DETAIL E**



**SLIP BASE DETAIL
DETAIL F**

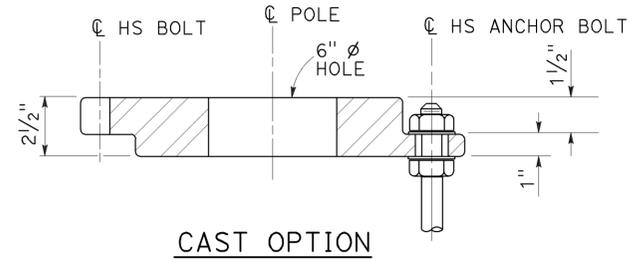


**SLIP BASE
ELEVATION A**

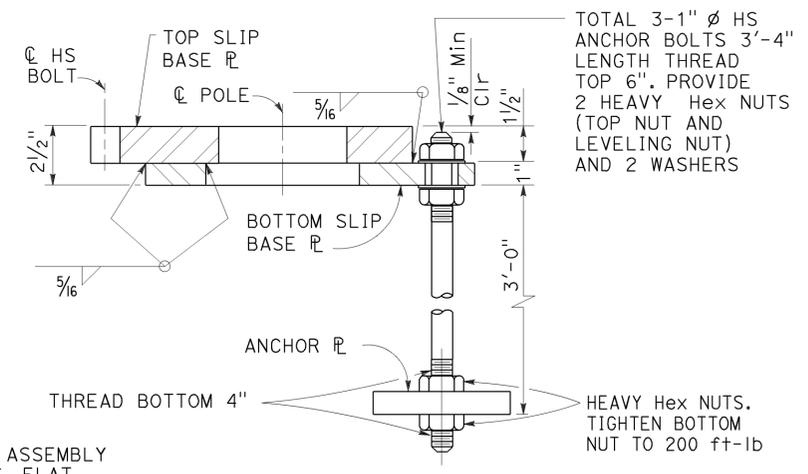
NOTES:

TO ACCOMPANY PLANS DATED 2-29-16

1. 1" ϕ HS anchor bolts. For clamp bolts, see specifications.
2. Conduit shall not protrude more than 2" above top of foundation.
3. Handhole shall be located on the downstream side of traffic.
4. For Type 30 fixed base and for Type 31 fixed base, see Notes 3 and 4 on Revised Standard Plan RSP ES-6E.



CAST OPTION



WELDED OPTION

SECTION B-B

**ELECTRICAL SYSTEMS
(LIGHTING STANDARD,
SLIP BASE PLATE)**

NO SCALE

RSP ES-6F DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-6F DATED MAY 20, 2011 - PAGE 457 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-6F

2010 REVISED STANDARD PLAN RSP ES-6F

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	29	37

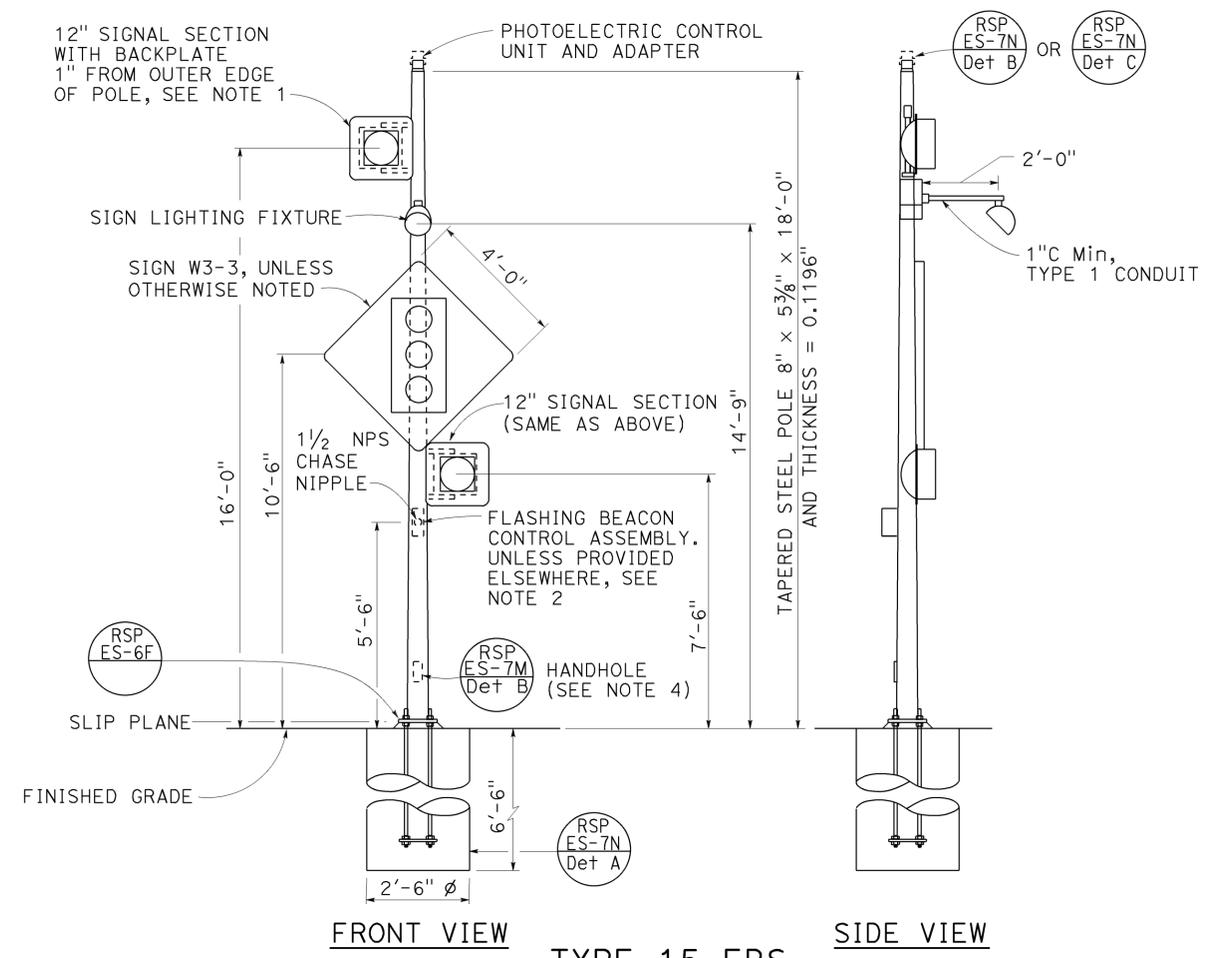
Stanley P. Johnson
 REGISTERED CIVIL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
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Stanley P. Johnson
 REGISTERED PROFESSIONAL ENGINEER
 No. C57793
 Exp. 3-31-16
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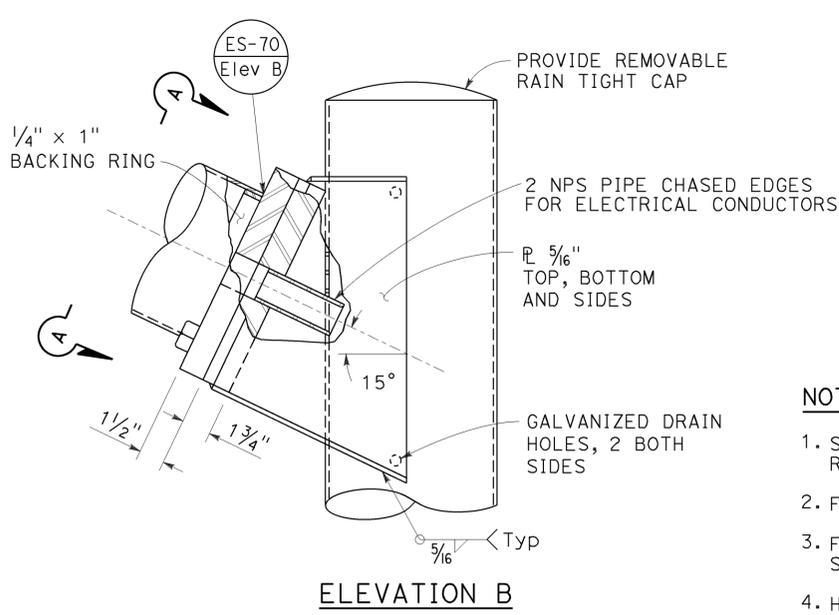
TO ACCOMPANY PLANS DATED 2-29-16

NOTES:

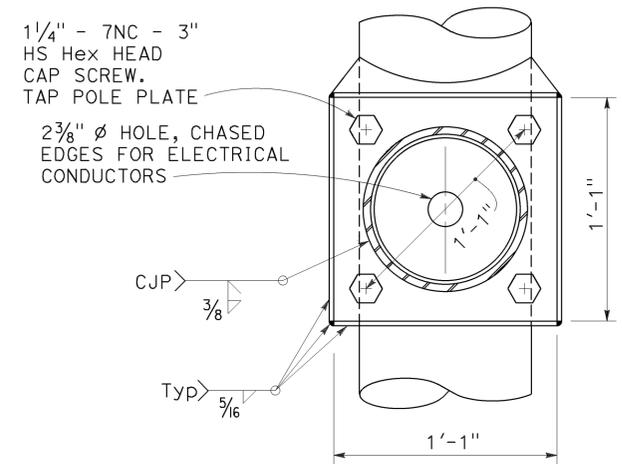
1. See Revised Standard Plans RSP ES-4A and RSP ES-4D for attachment fitting details.
2. For wiring diagram, see Standard Plan ES-14B.
3. For additional notes and details, see Revised Standard Plans RSP ES-7M and RSP ES-7N.
4. Handhole shall be located on the downstream side of traffic.
5. See project plans for type of standard to be installed.



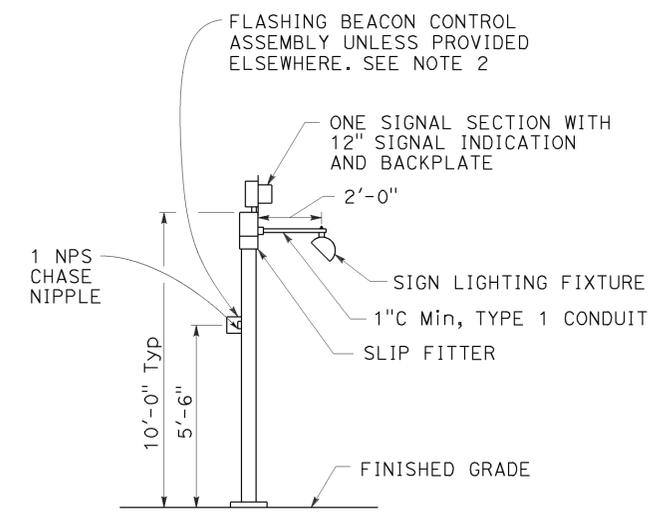
TYPE 15-FBS
ADVANCE FLASHING BEACON WITH SLIP BASE INSTALLATION
DETAIL A



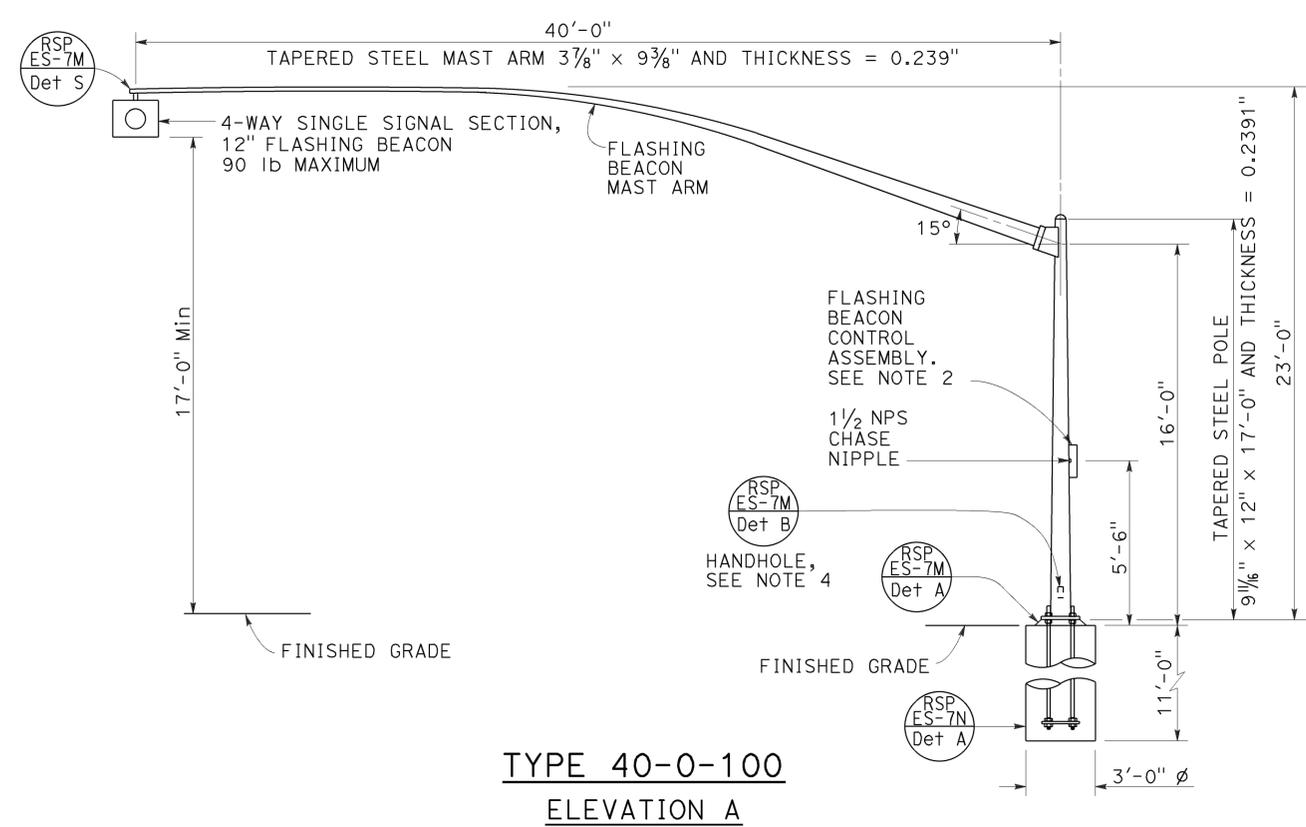
ELEVATION B



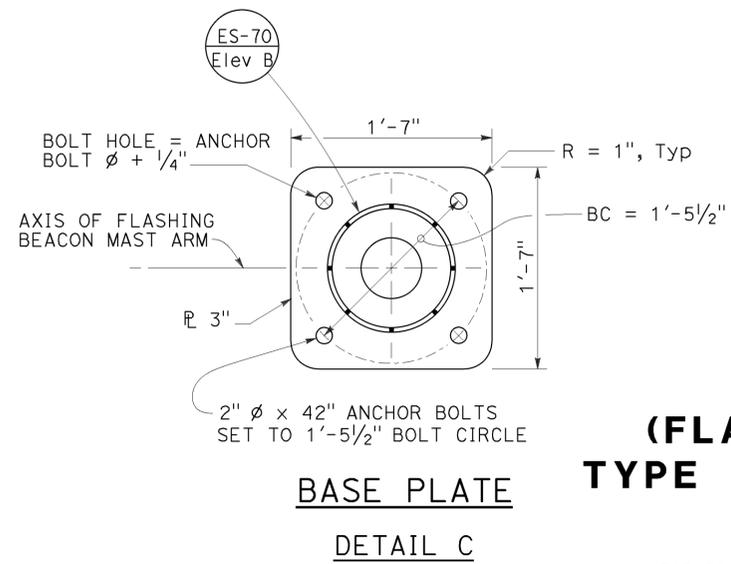
VIEW A-A
FLASHING BEACON MAST ARM
CONNECTION DETAIL
DETAIL B



TYPE 1-A, 1-B, 1-C, AND 1-D
ADVANCE FLASHING
BEACON INSTALLATION
DETAIL D
 See Note 5



TYPE 40-0-100
ELEVATION A



BASE PLATE
DETAIL C

ELECTRICAL SYSTEMS
(FLASHING BEACON ON A TYPE 1,
TYPE 15-FBS, AND TYPE 40 STANDARD)
 NO SCALE

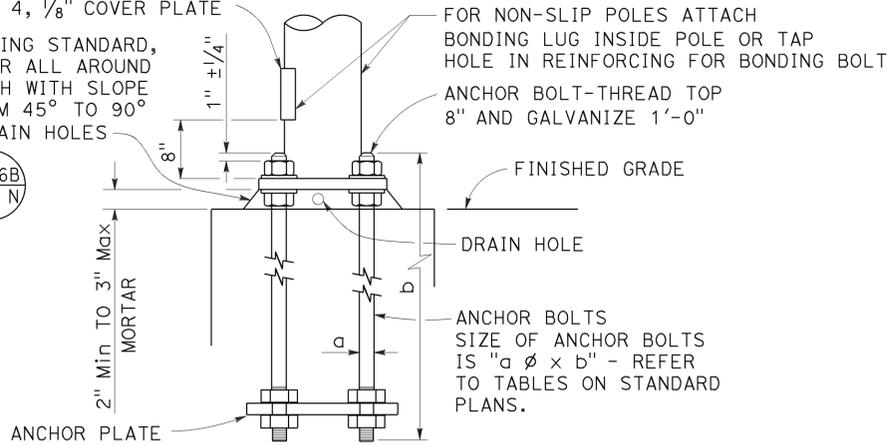
RSP ES-7J DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-7J DATED JULY 19, 2013 AND STANDARD PLAN ES-7J DATED MAY 20, 2011 - PAGE 471 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-7J

4" x 6 1/2" ROUNDED RECTANGLE HANDHOLE REINFORCED WITH RING WELDED TO OUTSIDE OF POLE. SEE NOTE 4, 1/8" COVER PLATE

AFTER PLUMBING STANDARD, PLACE MORTAR ALL AROUND BOLTS. FINISH WITH SLOPE RANGING FROM 45° TO 90° INCLUDES DRAIN HOLES

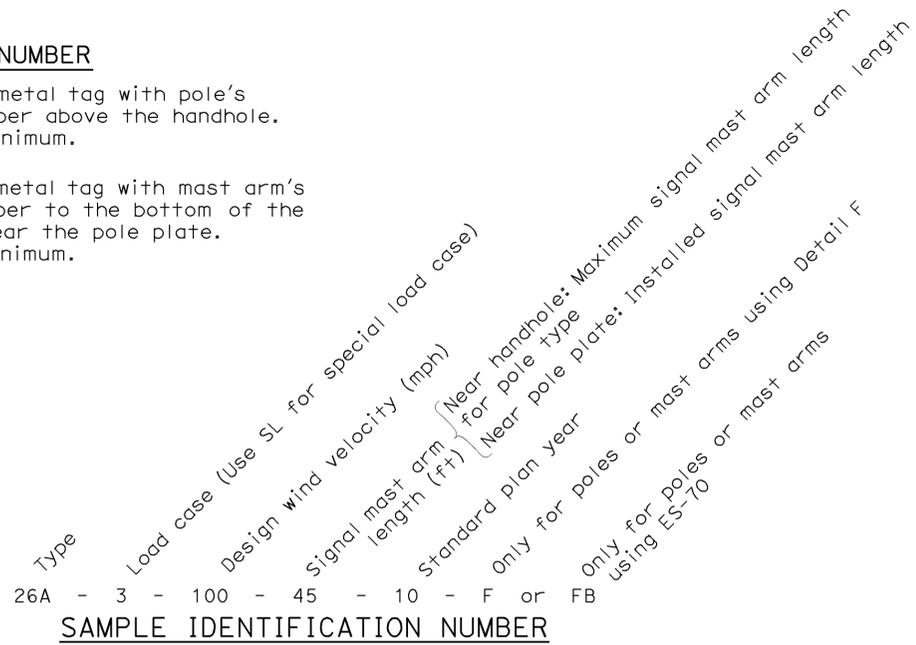
4 SIDES (ES-6B Det N)



HANDHOLE AND ANCHORAGE
DETAIL A

IDENTIFICATION NUMBER

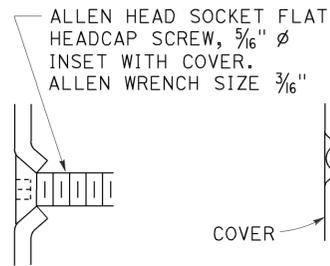
1. Attach a stamped metal tag with pole's identification number above the handhole. 1/4" high number, minimum.
2. Attach a stamped metal tag with mast arm's identification number to the bottom of the signal mast arm near the pole plate. 1/4" high number, minimum.



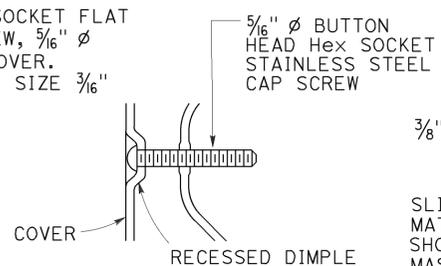
SAMPLE IDENTIFICATION NUMBER

NOTES:

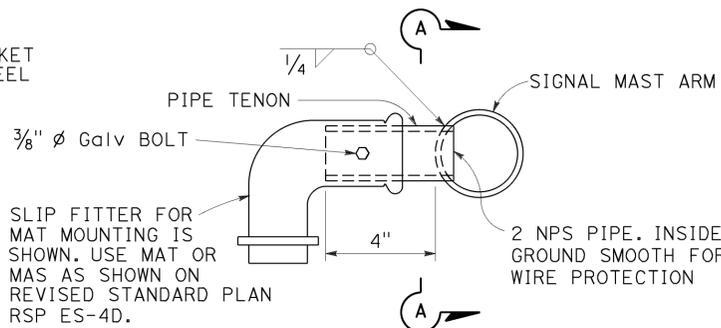
1. Provide a Hex nut, leveling nut and 2 washers for each bolt.
2. Luminaire mast arms shall be round, tapered steel tubes, taper of 0.1375" to 0.143-inch per foot with an end section 2 3/8" OD for mounting hardware. Extensions of 2 NPS Standard pipe and 7" long may be used at the option of the manufacturer. When low pressure sodium luminaires are required, the extension shall be 1'-3".
3. Signal mast arms shall be round, tapered steel tubes, maximum taper 0.143-inch per foot.
4. Handhole reinforcement ring shall be 1/4" x 2" for 0.1196" to 0.2391" thick poles, 3/8" x 2" for 0.3125" thick poles.
5. Handholes shall be located on the downstream side of traffic.
6. Detail F, fatigue resistant weld, is required at socket welded signal mast arm plate and pole base plate.
7. Cap screws shall be tightened by the turn-of-nut method 1/3 turn from a snug tight condition. No washer will be required.
8. Outside diameter, wall thickness, and corresponding section properties of poles and mast arms as shown in the Standard Plans are minimums. Unless otherwise specified, alternative sections shall require approval by the Engineer.
9. Wind Loading (3 seconds gust): 100 mph
10. Unit Stresses (Structural steel):
fy = 55,000 psi (tapered steel tube and anchor bolts)
fy = 50,000 psi (unless otherwise noted)
11. Unit Stresses (Reinforced concrete):
f'c = 3,625 psi
fy = 60,000 psi



TYPICAL DETAIL
DETAIL B-1



ALTERNATIVE DETAIL
DETAIL B-2



SIDE TENON
DETAIL S-1

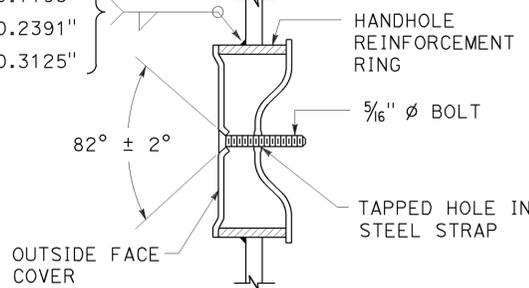
PIPE TENONS
DETAIL S

WELD SIZE	WALL THICKNESS
1/8"	0.1196"
3/16"	0.1793"
1/4"	0.2391"

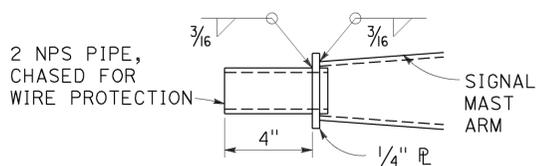
2 NPS PIPE, CHASED FOR WIRE PROTECTION SEE NOTE 2

TIP TENON
DETAIL TS

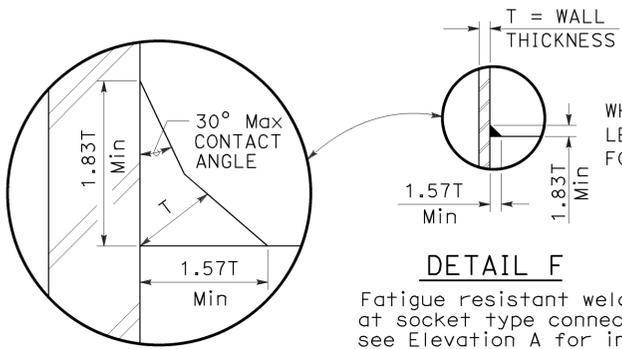
WELD SIZE	WALL THICKNESS
3/16"	0.1196"
1/4"	0.1793"
5/16"	0.2391"
3/8"	0.3125"



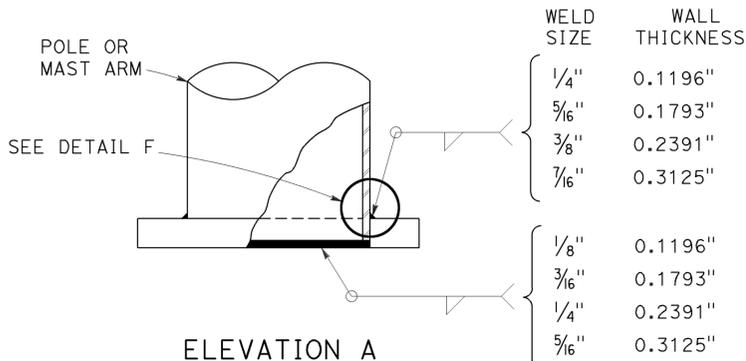
TAMPER RESISTANT HANDHOLE COVER
DETAIL B



TIP TENON
DETAIL TL
This detail supersedes Detail S when so designated



DETAIL F
Fatigue resistant weld at socket type connection see Elevation A for inner weld



ELEVATION A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD,
DETAIL No. 1)
NO SCALE

RSP ES-7M DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-7M DATED MAY 20, 2011 - PAGE 474 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7M

TO ACCOMPANY PLANS DATED 2-29-16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	30	37

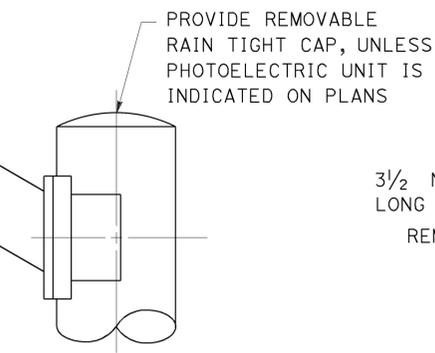
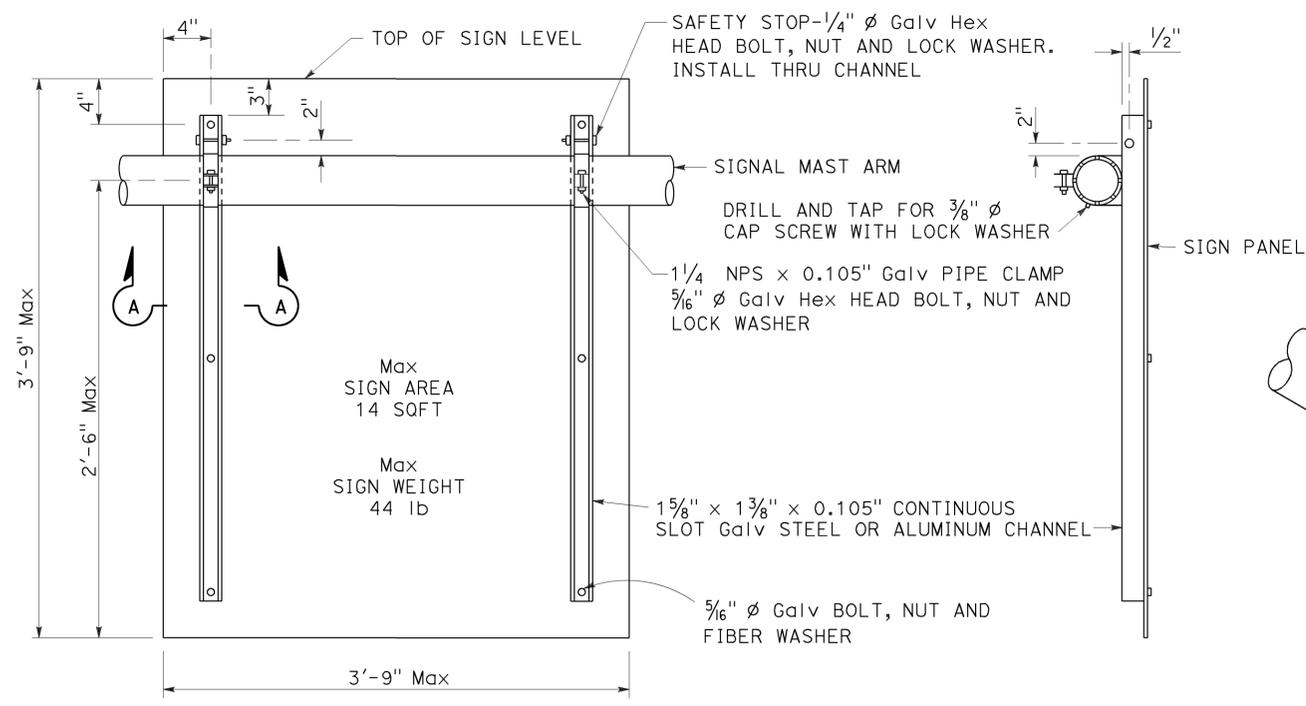
Stanley P. Johnson
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

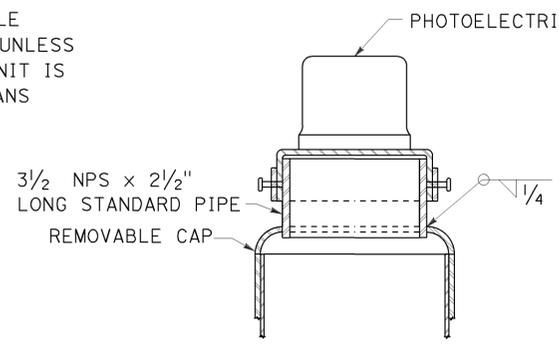
Stanley P. Johnson
REGISTERED PROFESSIONAL ENGINEER
No. C57793
Exp. 3-31-16
CIVIL
STATE OF CALIFORNIA

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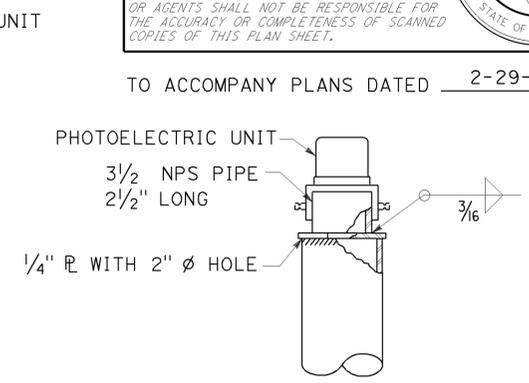
2010 REVISED STANDARD PLAN RSP ES-7M



STANDARD TOP
DETAIL B-1



MOUNTING ADAPTER FOR
PHOTOELECTRIC UNIT
DETAIL B-2



ALTERNATIVE
MOUNTING ADAPTER
DETAIL B-3

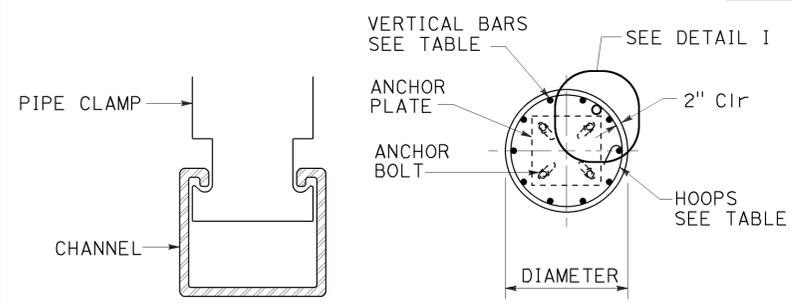
POLE TOP DETAILS
DETAIL B

TO ACCOMPANY PLANS DATED 2-29-16

REAR VIEW

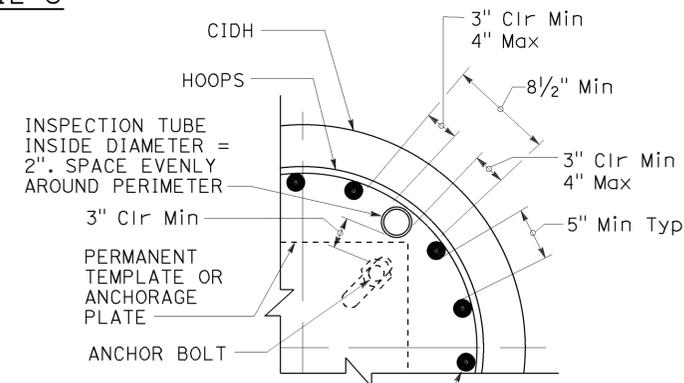
SIDE VIEW

SIGN MOUNTING DETAILS
DETAIL U



SECTION A-A

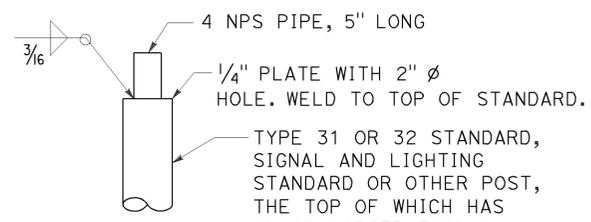
SECTION B-B



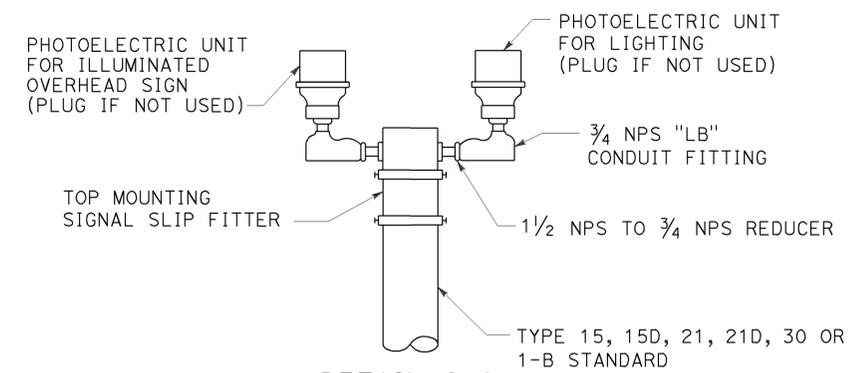
INSPECTION TUBE PLACEMENT
DETAIL I

CIDH DIAMETER	VERTICAL BARS	HOOPS (WELDED)	INSPECTION TUBE
2 ft	8-#5	#4 AT 6	2
2.5 ft	10-#6	#4 AT 6	4*
3 ft	12-#7	#5 AT 6	4
3.5 ft	14-#8	#5 AT 6	4
4 ft	18-#9	2-#4 AT 7	5
5 ft	22-#10	2-#5 AT 7	6
6 ft	26-#11	2-#6 AT 7	7

* FOR SLIP BASE VERSIONS WITH 3 ANCHOR BOLTS USE 3 INSPECTION TUBES.



DETAIL C-1



DUAL PHOTOELECTRIC UNIT MOUNTING DETAIL
DETAIL C

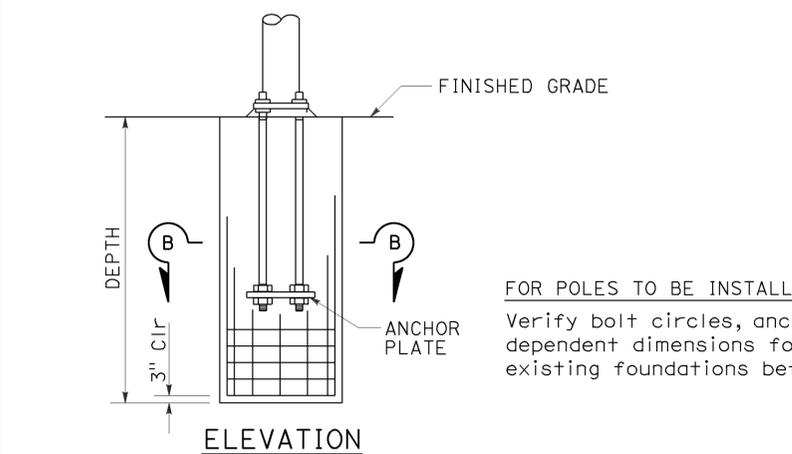
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SIGNAL AND LIGHTING STANDARD,
DETAIL No. 2)**

NO SCALE

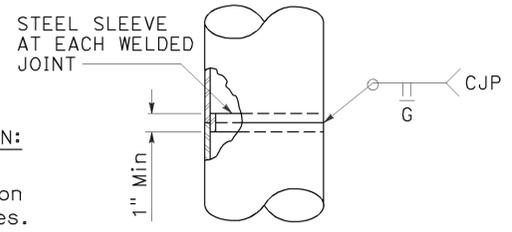
RSP ES-7N DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-7N DATED MAY 20, 2011 - PAGE 475 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-7N

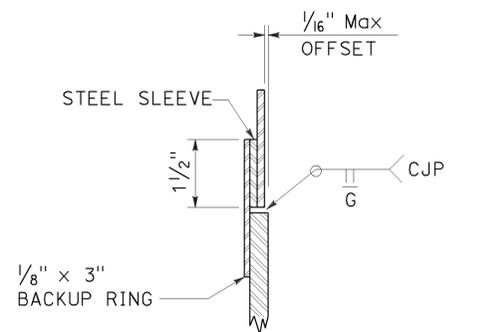


ELEVATION

CAST-IN-DRILLED-HOLE PILE FOUNDATION,
REINFORCED PILE
DETAIL A



FOR UNIFORM TUBE THICKNESS
DETAIL T-1



AT TUBE THICKNESS CHANGE
DETAIL T-2

POLE SPLICES
DETAIL T

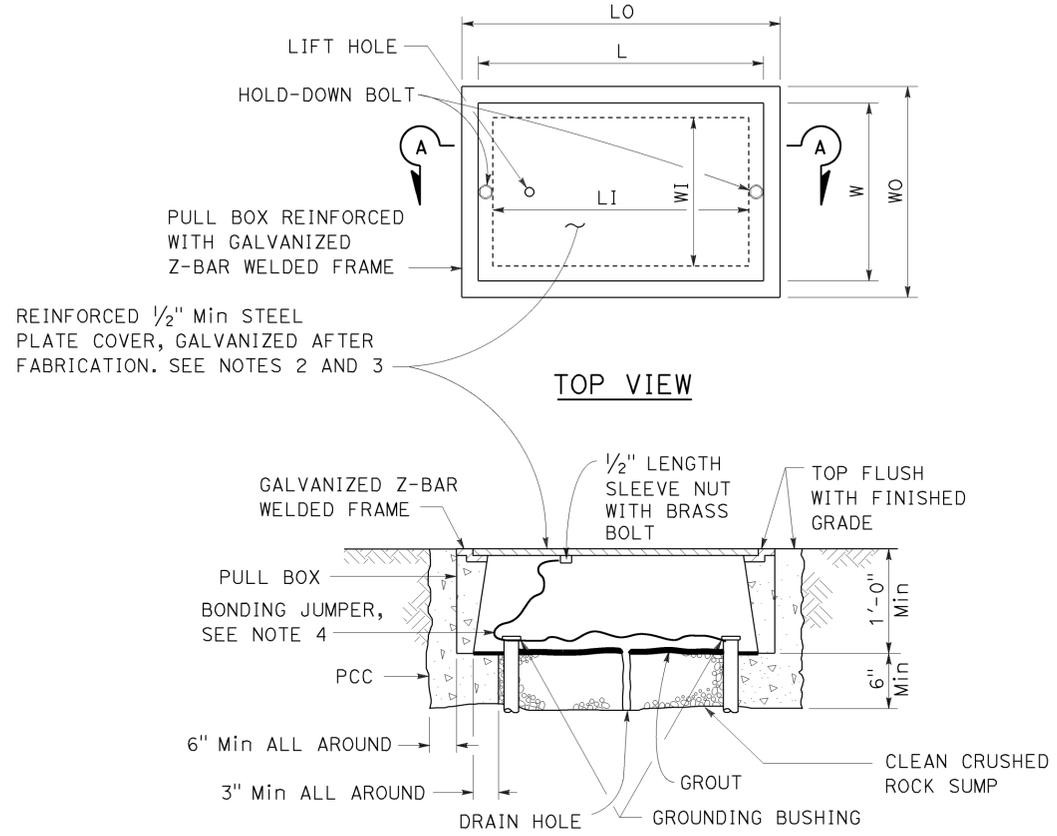
2010 REVISED STANDARD PLAN RSP ES-7N

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Mad	41	5.2/34.7	32	37

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 2-29-16



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".

PULL BOX	PULL BOX				COVER			
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	L0	LI	W0	WI	L **	W **
No. 3 1/2(T)	1 1/2"	1'-0"	1'-10" - 1'-11"	1'-5" - 1'-6 1/2"	1'-3" - 1'-4"	10" - 1'-0"	1'-8" - 1'-8 1/2"	1'-1" - 1'-2"
No. 5(T)	1 3/4"	1'-0"	2'-5" - 2'-6"	2'-0" - 2'-1"	1'-6" - 1'-7"	1'-1" - 1'-2"	2'-3" - 2'-3 1/2"	1'-4" - 1'-4 1/2"
No. 6(T)	2"	1'-0"	2'-11" - 3'-1"	2'-6" - 2'-7"	1'-10" - 2'-0"	1'-5" - 1'-6"	2'-9" - 2'-9 1/2"	1'-8" - 1'-8 1/2"

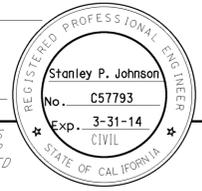
* EXCLUDING CONDUIT WEB ** TOP DIMENSION

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

RSP ES-8B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-8B DATED JULY 19, 2013 AND RSP ES-8B DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

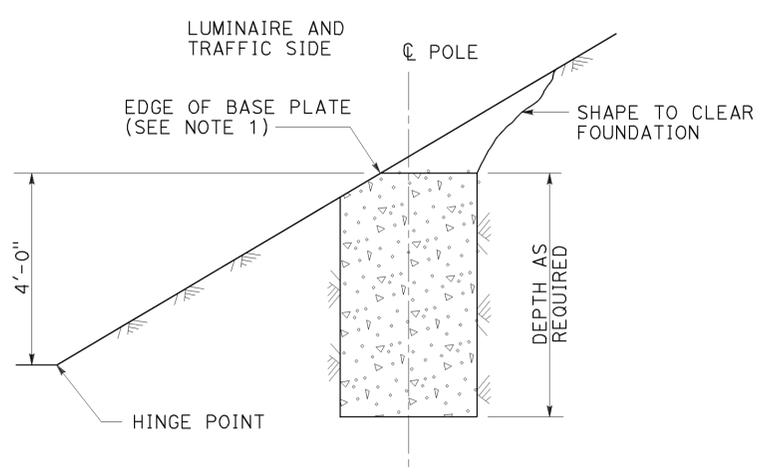
REVISED STANDARD PLAN RSP ES-8B

2010 REVISED STANDARD PLAN RSP ES-8B

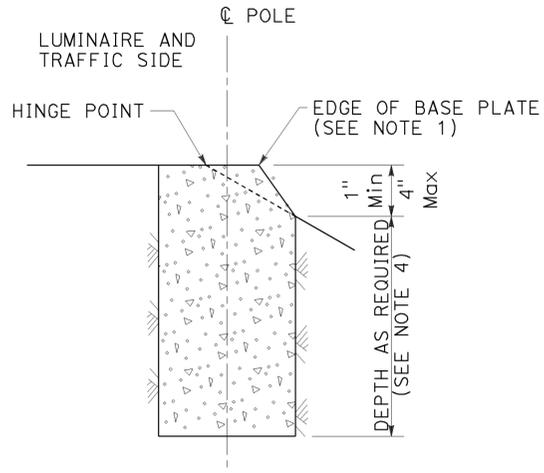


TO ACCOMPANY PLANS DATED 2-29-16

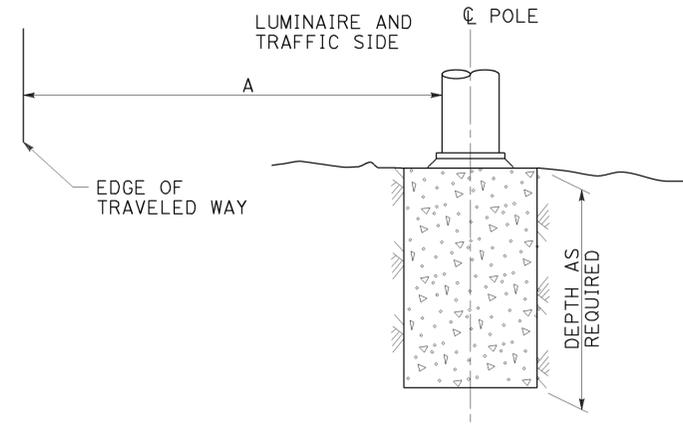
STANDARD TYPE	SETBACK (DIMENSION A)
32	30'-0" (Min)
31	20'-0" (Min)
15, 15D, 15-SB, 21, 21D, 30	ARM LENGTH (Min)



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

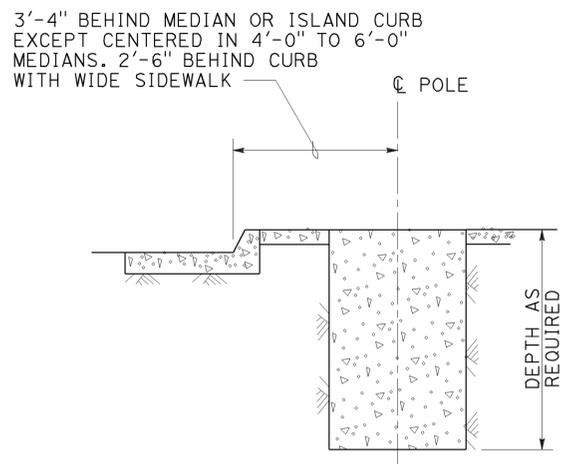


FLAT SECTIONS, CUT OR FILL SLOPES
4:1 OR FLATTER
DETAIL A-3
 See Note 2

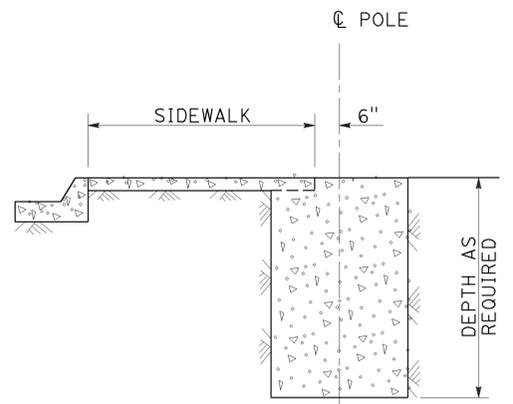
FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT
IN SIDEWALK, MEDIAN AND ISLAND AREAS
DETAIL A

NOTES:

1. Where a portion of the foundation is above grade, the top edges shall have a 1" chamfer.
2. Slopes shall be horizontal to vertical ratio (Horizontal : Vertical).
3. Horizontal setbacks on cut and fill slopes steeper than 4:1 shall not exceed the distance shown for flat sections.
4. 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

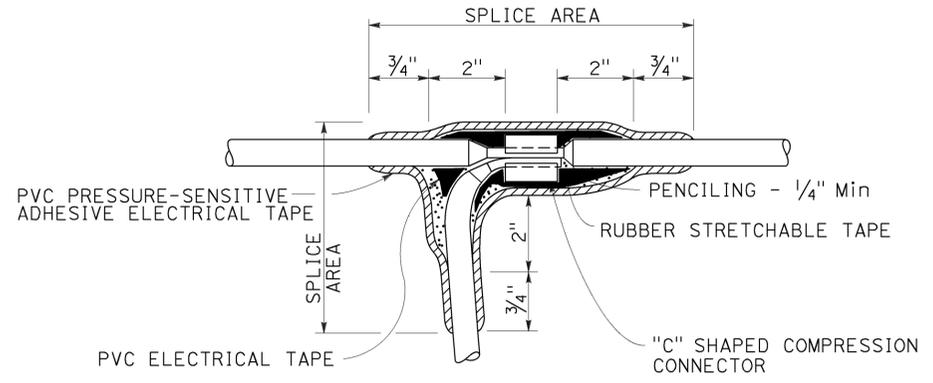
RSP ES-11 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-11
 DATED MAY 20, 2011 - PAGE 488 OF THE STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Mad	41	5.2/34.7	34	37

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE

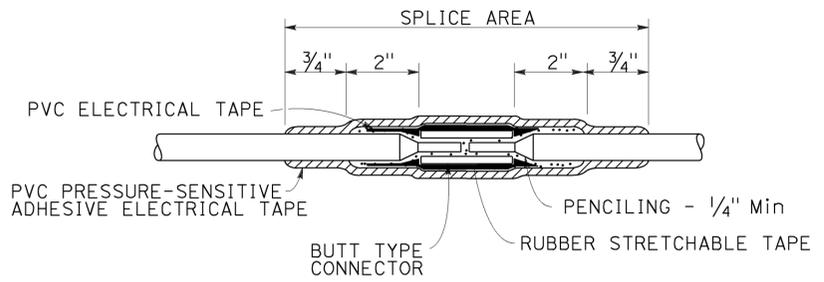
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TO ACCOMPANY PLANS DATED 2-29-16



TYPE C SPLICE

See Note 3

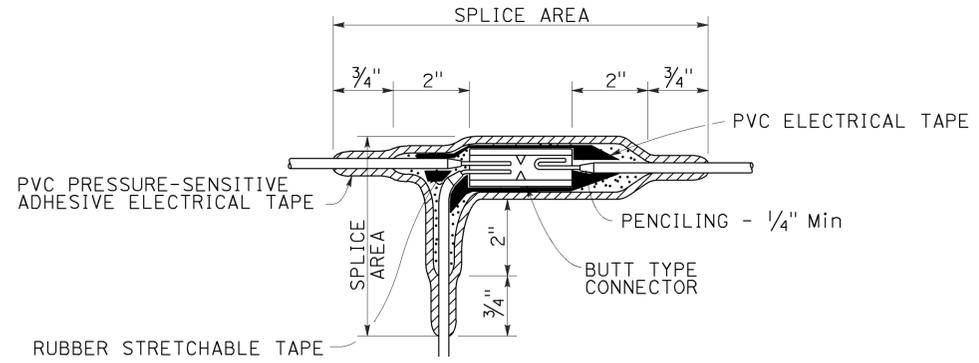


TYPE S SPLICE

See Note 4

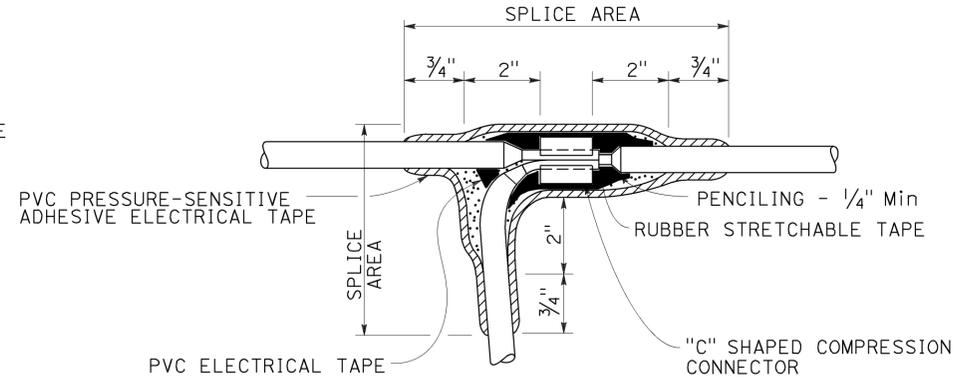
NOTES:

1. Dimensions are minimum.
2. Rubber tapes shall be rolled after application.
3. Between 1 free-end and 1 through conductor.
4. Between 2 free-end conductors.
5. Between 3 free-end conductors.



TYPE ST SPLICE

See Note 5



TYPE T SPLICE

See Note 5

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SPLICING DETAILS)**

NO SCALE

RSP ES-13A DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-13A DATED MAY 20, 2011 - PAGE 491 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-13A

2010 REVISED STANDARD PLAN RSP ES-13A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Mad	41	5.2/34.7	35	37

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 PLANS APPROVAL DATE

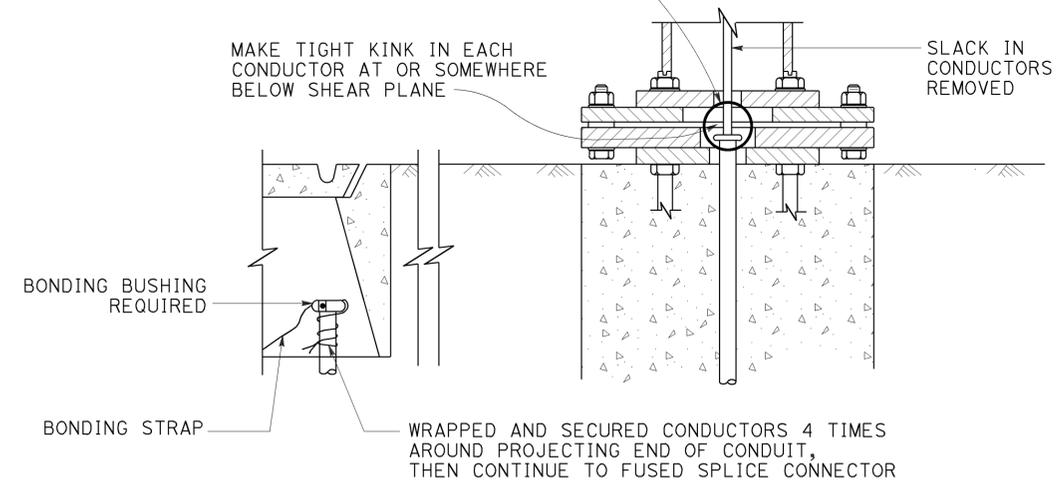
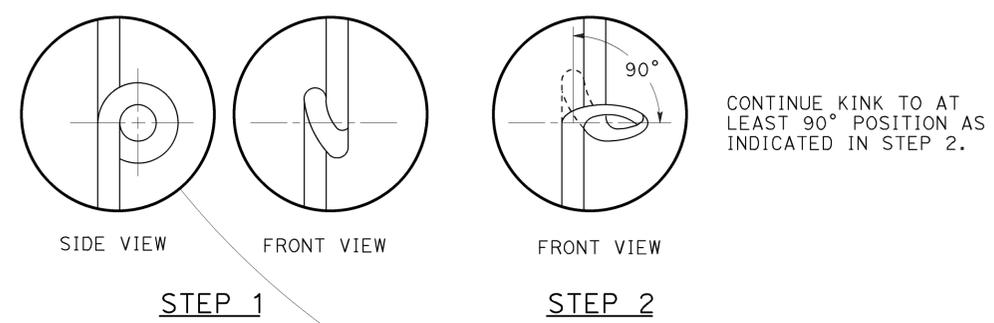
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TO ACCOMPANY PLANS DATED 2-29-16

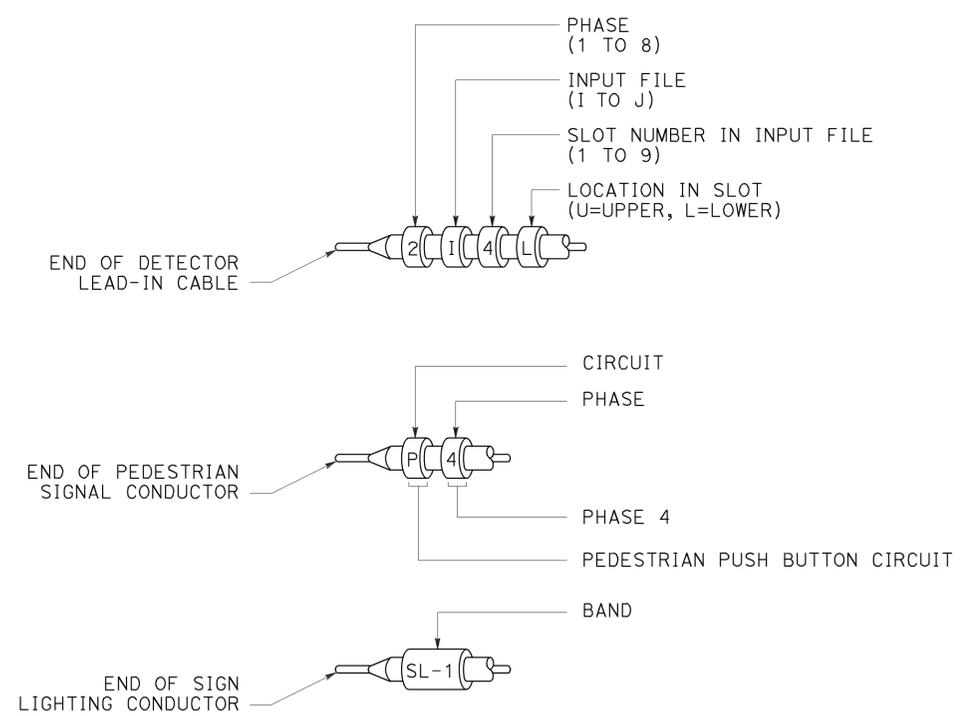
CIRCUIT VOLTAGE	FUSE VOLTAGE RATING	FUSE CURRENT RATING						
		HPS LAMP BALLAST		LOW PRESSURE SODIUM BALLAST	INDUCTION SIGN LIGHTING	SINGLE PHASE (TWO WIRE) TRANSFORMERS (PRIMARY SIDE)		
		70 W	100 W	180 W	85 W	1 KVA	2 KVA	3 KVA
120 V	250 V	5 A	5 A	5 A	5 A	10 A	20 A	30 A
240 V	250 V	5 A	5 A	5 A	5 A	6 A	10 A	20 A
480 V	500-600 V	5 A	5 A	3 A	1 A (SEE NOTE 2)	3 A	6 A	10 A

- NOTES:**
- Primary lines of multiple ballasts shall be provided with fused connectors. Fuse ratings shall be as noted above.
 - See Revised Standard Plan RSP ES-15D, Type SC3 control.

FUSE RATINGS FOR FUSED CONNECTORS



KINKING DETAIL FOR SLIP BASE STANDARDS
DETAIL A



TYPICAL BANDING DETAILS
DETAIL B

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (FUSE RATING, KINKING AND BANDING DETAIL)**

NO SCALE

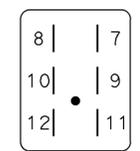
RSP ES-13B DATED APRIL 15, 2016 SUPERSEDES STANDARD PLAN ES-13B DATED MAY 20, 2011 - PAGE 492 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-13B

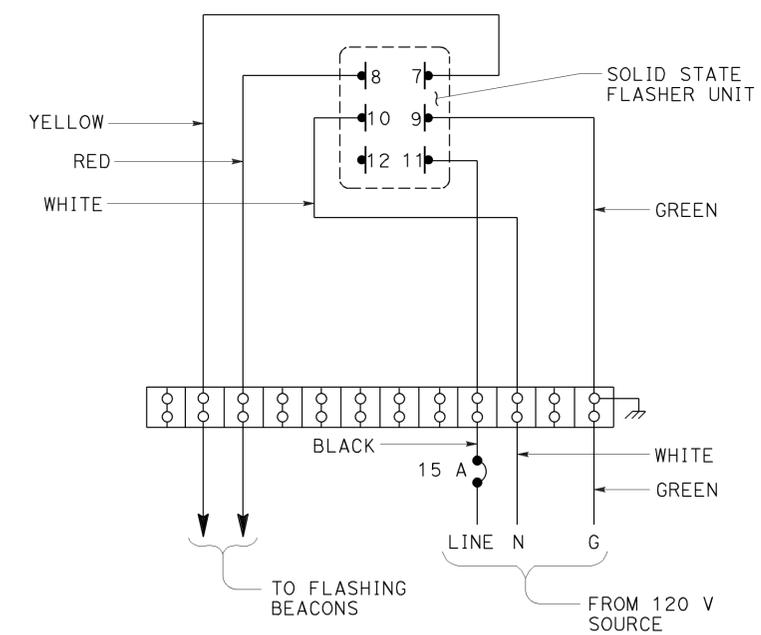
TO ACCOMPANY PLANS DATED 2-29-16

THE FLASHER SHALL MATE WITH A CINCH-JONES SOCKET S-406-SB OR EQUAL AND CONNECTED AS FOLLOWS:

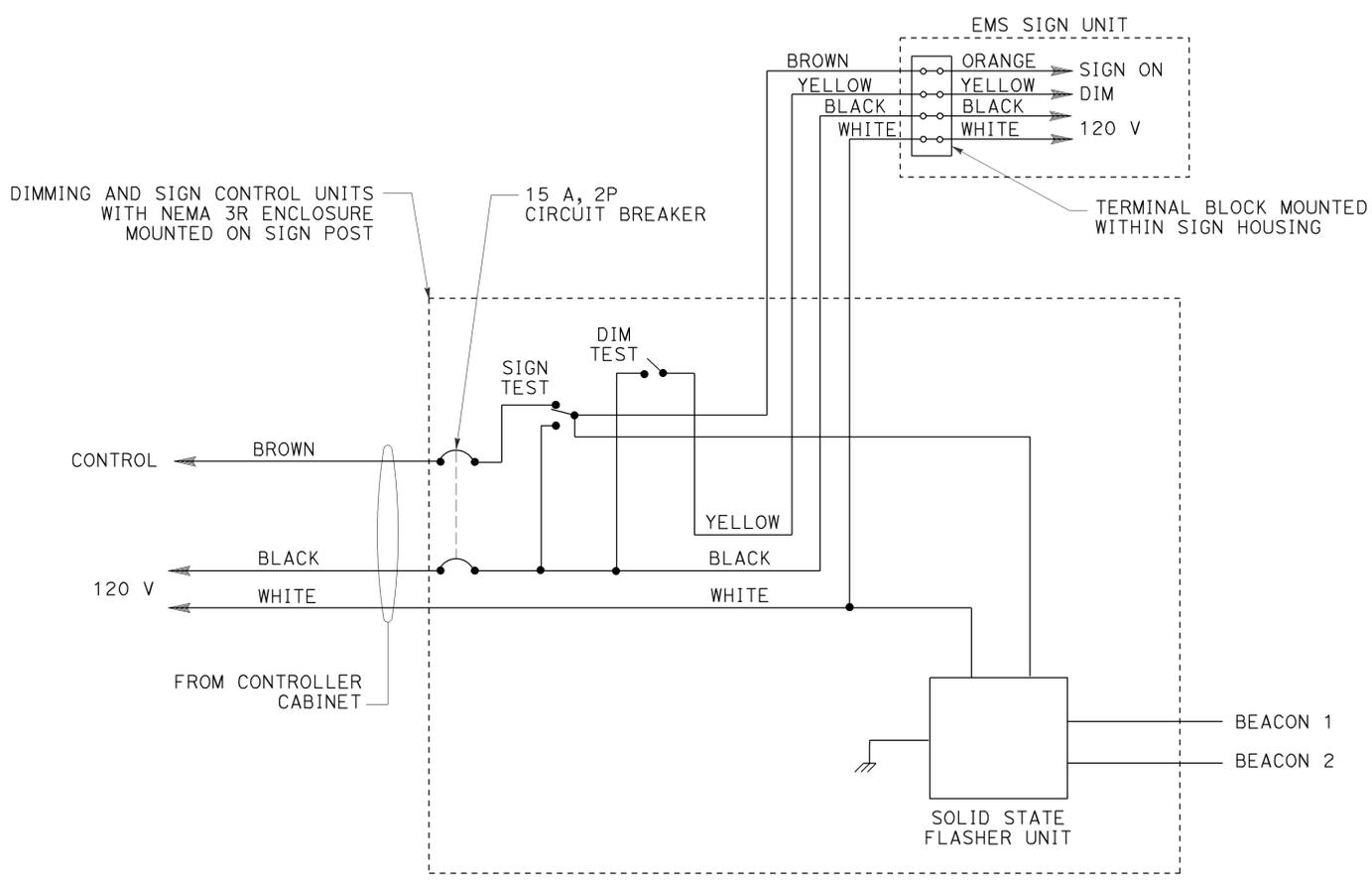
PIN	CIRCUIT	PIN	CIRCUIT
7	LOAD	10	NEUTRAL
8	LOAD	11	LINE
9	CHASSIS GROUND	12	NOT USED



**CONNECTOR SOCKET
SOLID STATE FLASHER UNIT**



**WIRING DIAGRAM
FLASHING BEACON CONTROL ASSEMBLY
DETAIL B**



**WIRING DIAGRAM
LED EXTINGUISHABLE MESSAGE SIGN
DETAIL A**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(CONTROL ASSEMBLY
WIRING DIAGRAMS)**

NO SCALE

RSP ES-14B DATED APRIL 15, 2016 SUPERSEDES STANDARD PLAN ES-14B DATED MAY 20, 2011 - PAGE 494 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-14B

TO ACCOMPANY PLANS DATED 2-29-16

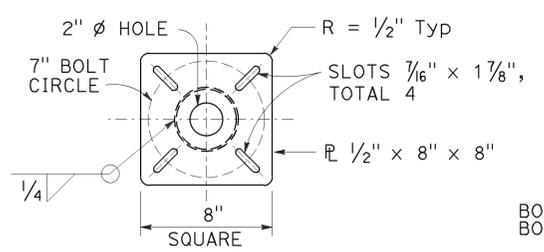
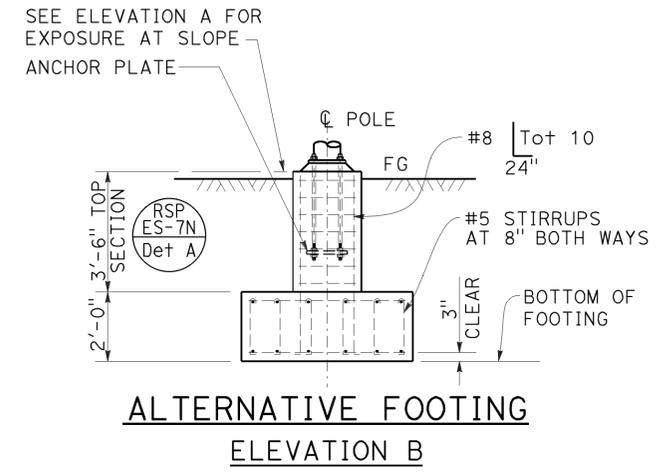
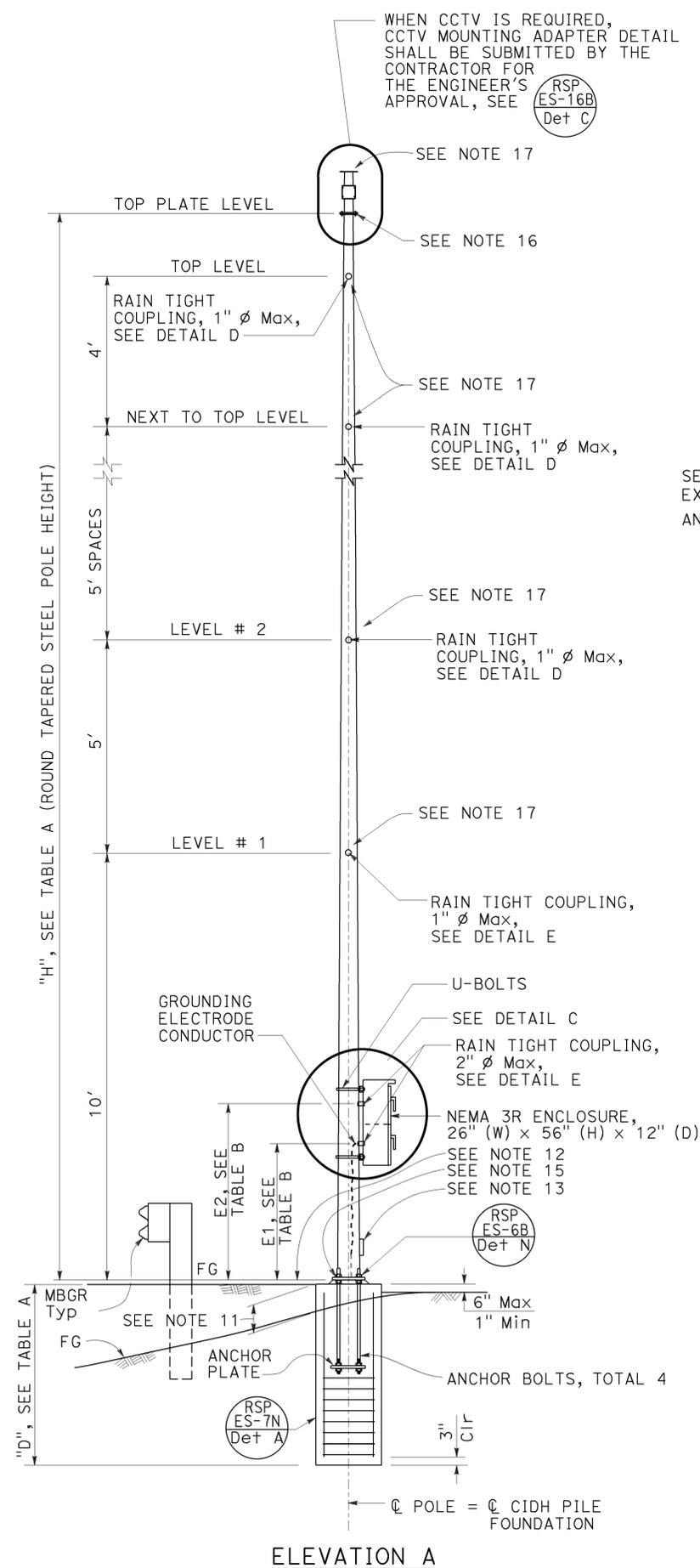
POLE TYPE	POLE DATA			BASE PLATE DATA			"D" 2'-6" ϕ CIDH Pile		
	HEIGHT "H"	Min OD BASE	Min OD TOP	THICKNESS "C"	THICKNESS	ANCHOR BOLTS SIZE	BC = BOLT CIRCLE	LEVEL GROUND	UP TO 2:1
VDS 30	30'	8"		1'-1 1/2"			1'-1 1/2"	11'-0"	13'-0"
VDS 35	35'	8 5/8"	3 7/8"	0.1793"	1'-2"	1 1/2"	1 1/2" ϕ x 3'-0"	1'-2"	11'-0"
VDS 40	40'	9 3/8"			1'-3"			1'-3"	12'-0"

POLE TYPE	COUPLING	
	E1(Max)	E2(Max)
VDS 30		
VDS 35	3'-6"	4'-9"
VDS 40		

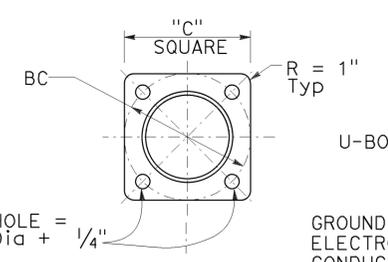
SPREAD FOOTING		
GROUND LEVEL	FOOTING SIZE (LENGTH x WIDTH x DEPTH)	REINFORCEMENT TOP & BOTTOM
UP TO 2:1	10'-0" x 10'-0" x 2'-0"	15 - #5 EW

LOCATION	MAXIMUM TOTAL EPA PER LEVEL (SQUARE FEET)	MAXIMUM TOTAL WEIGHT (lb)
LEVEL #1	14	200
LEVEL #2		
LEVEL #3		
LEVEL #4 (VDS 35 AND VDS 40 ONLY)	2.5	50
LEVEL #5 (VDS 40 ONLY)		
NEXT TO TOP LEVEL		
TOP LEVEL		
ON TOP PLATE LEVEL **		

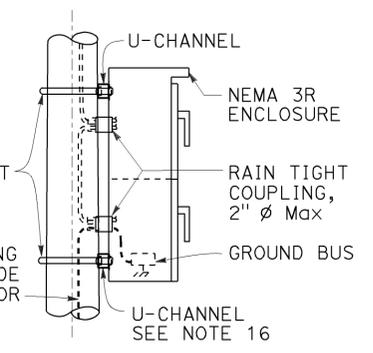
* MAXIMUM HORIZONTAL EXTENT BEYOND POLE FACE IS 4 FEET.
 ** MAXIMUM EXTENT ABOVE TOP PLATE IS 3 FEET.
 *** 14 IF LEVEL #1 IS ZERO.



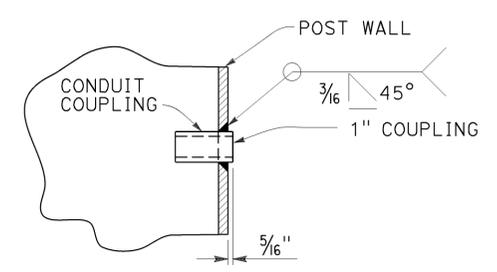
TOP PLATE DETAIL A



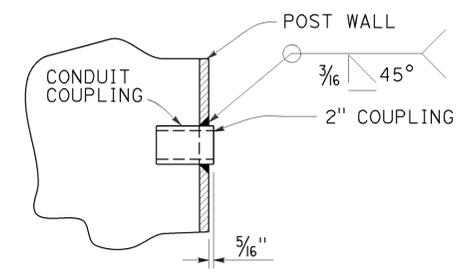
BASE PLATE DETAIL B



BASE PLATE DETAIL C



1" COUPLING DETAIL D



2" COUPLING DETAIL E

NOTES:

- All steel shall be galvanized after fabrication.
- The foundation shall be treated as level ground condition if the slope inclination is flatter than 4 : 1 (Horizontal : Vertical)
- For devices mounted and mounting heights, see TABLE B.
- Design Specification: AASHTO Standard Specification for structural support for highway signs, luminaires and traffic signal dated 2001.
- Wind Loadings: 100 mph (3-second gust)
- Unit Stresses (Structural Steel):
 - fy = 55,000 psi (tapered steel tube)
 - fy = 50,000 psi (unless otherwise noted)
- Anchor bolts: fy = 55,000 psi
- Unit Stresses (Reinforced Concrete):
 - f'c = 3,600 psi
 - fy = 60,000 psi
- Verify all controlling field dimensions before ordering of fabricating any material.
- When no barriers are used, the NEMA 3R enclosure shall be located on the downstream side and perpendicular to the roadway.
- 1'-3" (Max) for sloped finished grade.
- Bottom of base plate.
- Handhole. RSP ES-7M Det B, RSP ES-7M Det A
- Top plate. Install a blank flange on the top plate when closed circuit television is not used.
- ES-70 Elev B
- U-channel with bracket.
- Use the manufacturer's Effective Projected Area (EPA) for attachments. Assign attachments to nearest level and sum each level, see Table D for limitations.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (CLOSED CIRCUIT TELEVISION WITH
 VEHICLE DETECTION SYSTEM,
 30' TO 40' POLE)**
 NO SCALE

RSP ES-16D DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-16D DATED JULY 19, 2013 AND STANDARD PLAN ES-16D DATED MAY 20, 2011 - PAGE 503 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-16D