

INDEX OF PLANS

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

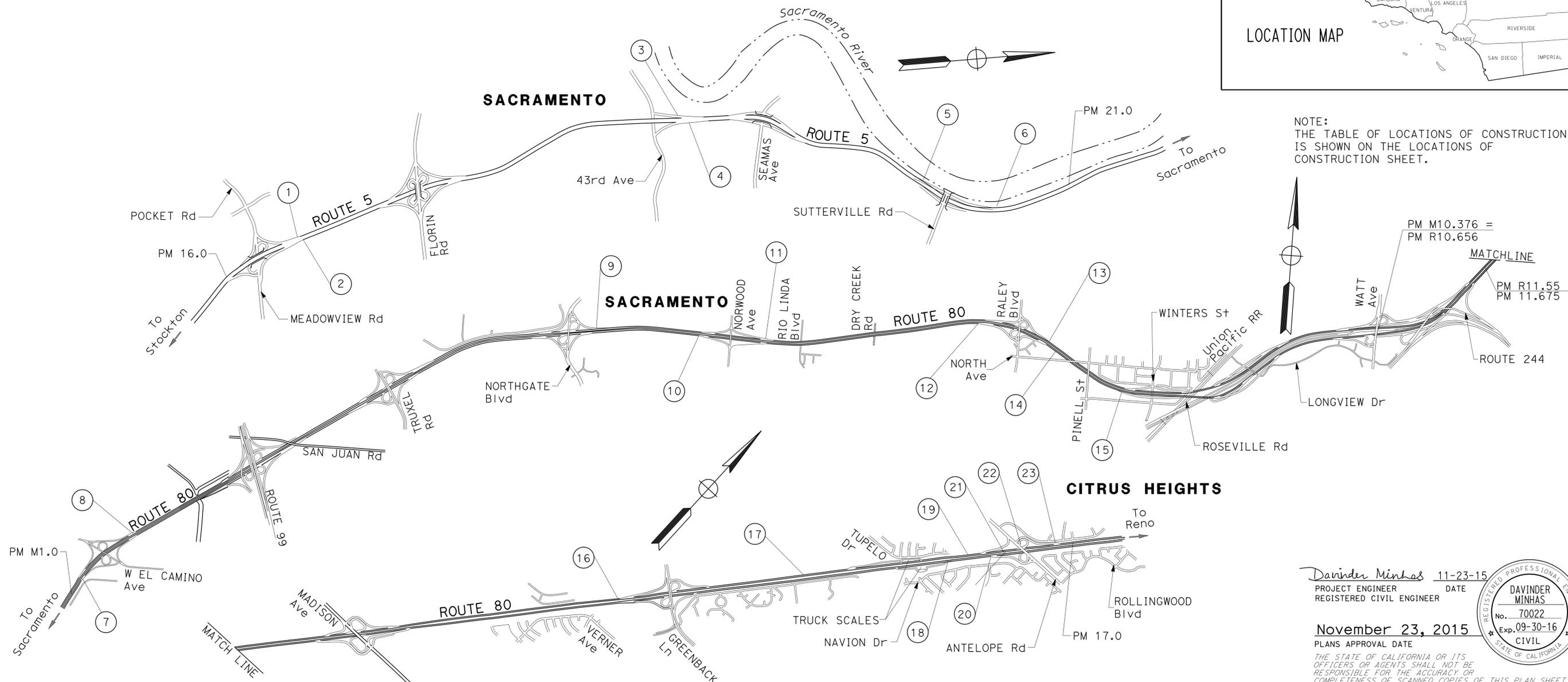
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**PROJECT PLANS FOR CONSTRUCTION ON  
 STATE HIGHWAY**

**IN SACRAMENTO COUNTY  
 AT VARIOUS LOCATIONS**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5,80	Var	1	38

LOCATION MAP



NOTE:  
 THE TABLE OF LOCATIONS OF CONSTRUCTION IS SHOWN ON THE LOCATIONS OF CONSTRUCTION SHEET.

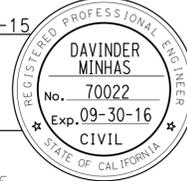
PROJECT MANAGER  
 NAJED DAKAK

DESIGN MANAGER  
 MIKE HAGEN

DAVINDER MINHAS 11-23-15  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER

November 23, 2015  
 PLANS APPROVAL DATE

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



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

NO SCALE

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

FUNCTIONAL SUPERVISOR  
 MIKE HAGEN

REVISOR  
 DENNIS CORCORAN

DESIGNED BY  
 DAVINDER MINHAS

CHECKED BY  
 DENNIS CORCORAN

DATE REVISION  
 11-23-15

DATE REVISION  
 11-23-15

**LOCATIONS OF CONSTRUCTION**

Loc No. ①	COUNTY	ROUTE	PM	DESCRIPTION	DIRECTION
1	Sac	5	16.379-16.413	POCKET Rd (OFF-RAMP)	SB
2	Sac	5	16.354-16.407	POCKET Rd (SLIP ON-RAMP)	NB
3	Sac	5	18.797-18.865	43rd Ave (OFF-RAMP)	SB
4	Sac	5	18.896-18.930	43rd Ave (ON-RAMP)	NB
5	Sac	5	20.284-20.319	SUTTERVILLE Rd (ON-RAMP)	SB
6	Sac	5	20.704-20.772	SUTTERVILLE Rd (OFF-RAMP)	SB
7	Sac	80	M1.055-M1.123	EL CAMINO Ave (OFF-RAMP)	EB
8	Sac	80	M1.522-M1.562	EL CAMINO Ave (OFF-RAMP)	WB
9	Sac	80	M5.143-M5.211	NORTHGATE Blvd (OFF-RAMP)	WB
10	Sac	80	M5.879-M5.913	NORWOOD Ave (OFF-RAMP)	EB
11	Sac	80	M6.292-M6.377	NORWOOD Ave (OFF-RAMP)	WB
12	Sac	80	M7.392-M7.478	RALEY Blvd (OFF-RAMP)	EB
13	Sac	80	M7.768-M7.819	RALEY Blvd (OFF-RAMP)	WB
14	Sac	80	M7.887-M7.921	RALEY Blvd (SLIP ON-RAMP)	EB
15	Sac	80	M8.442-M8.522	WINTERS STREET (OFF-RAMP)	EB
16	Sac	80	14.169-14.203	BETWEEN MADISON AND GREENBACK Ln	WB
17	Sac	80	15.264-15.333	BETWEEN TRUCK SCALES AND GREENBACK Ln	WB
18	Sac	80	16.211-16.245	TRUCK SCALES (ON-RAMP)	EB
19	Sac	80	16.371	BETWEEN ANTELOPE Rd AND TRUCK SCALES	WB
20	Sac	80	16.496-16.531	ANTELOPE Rd (OFF-RAMP)	EB
21	Sac	80	16.573	ANTELOPE Rd (LOOP ON-RAMP)	WB
22	Sac	80	16.643	ANTELOPE Rd (OFF RAMP @ THE INTERSECTION)	WB
23	Sac	80	16.838-16.907	ANTELOPE Rd (OFF-RAMP)	WB

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	2	38

Davinder Minhas 11-23-15  
 REGISTERED CIVIL ENGINEER DATE  
 11-23-15  
 PLANS APPROVAL DATE

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

**LOCATIONS OF CONSTRUCTION**

**LC-1**

LAST REVISION | DATE PLOTTED => 03-DEC-2015  
 00-00-00 | TIME PLOTTED => 15:26

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	3	38

Darinder Minhas 11-23-15  
 REGISTERED CIVIL ENGINEER DATE

11-23-15  
 PLANS APPROVAL DATE

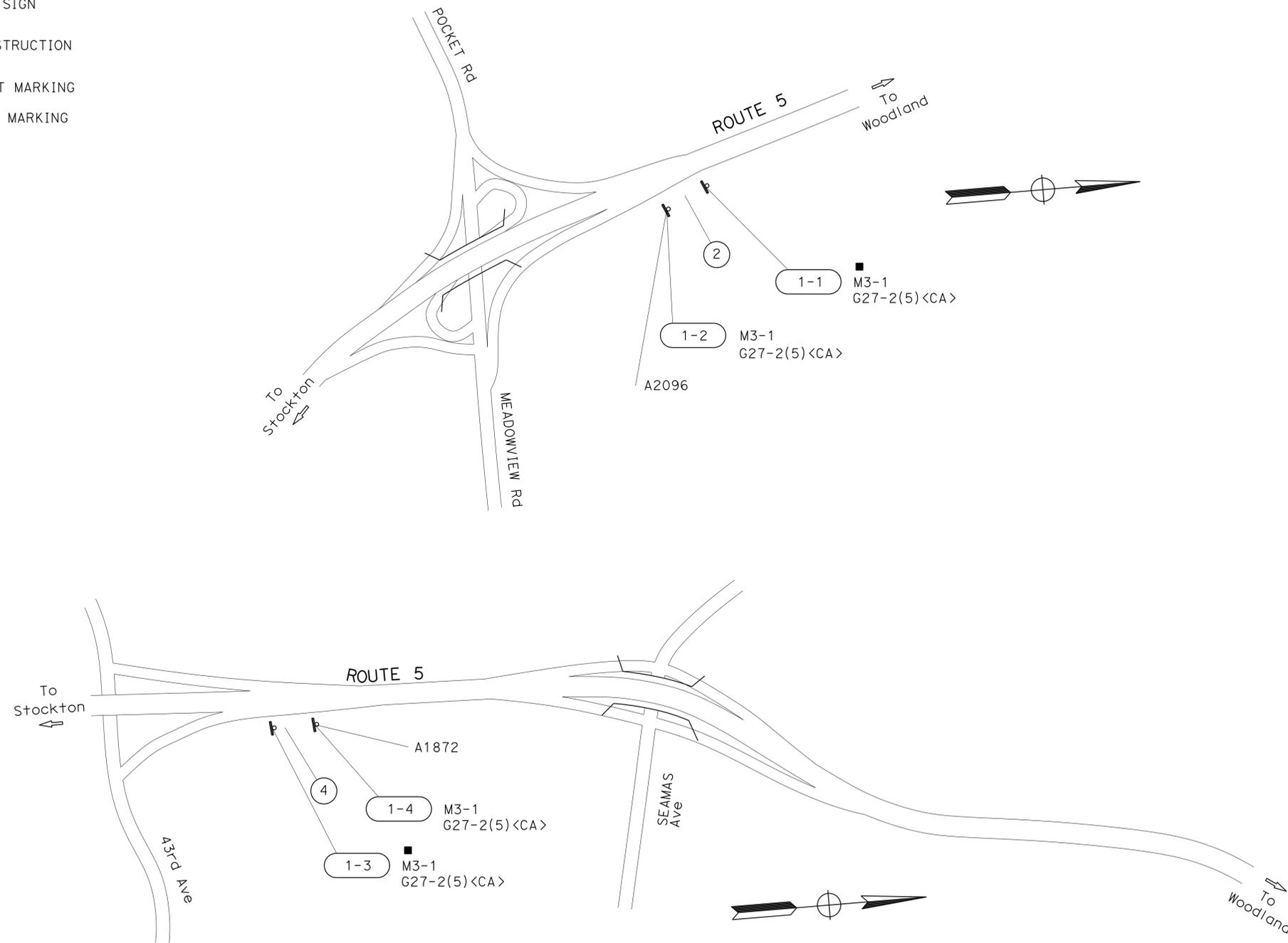
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**LEGEND**

- (Sh+No.) ROADSIDE SIGN NUMBER
- <CA> CALIFORNIA SIGN CODE
- REMOVE ROADSIDE SIGN
- (X) LOCATION OF CONSTRUCTION
- Si "SIGNAL" PAVEMENT MARKING
- A "AHEAD" PAVEMENT MARKING

**NOTES:**

- ALL EXISTING SIGNS NOT SHOWN FOR REMOVAL SHALL REMAIN IN PLACE.
- ALL SIGN CODES SHOWN ARE FEDERAL SIGN CODES UNLESS OTHERWISE DESIGNATED AS CALIFORNIA SIGN CODES.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	TRAFFIC
FUNCTIONAL SUPERVISOR	JOYCE K LOFTUS
CALCULATED/DESIGNED BY	CHECKED BY
ALEX WU	JOHN KEBER
REVISOR BY	DATE REVISED

**PAVEMENT DELINEATION AND SIGN PLAN**

NO SCALE

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	4	38

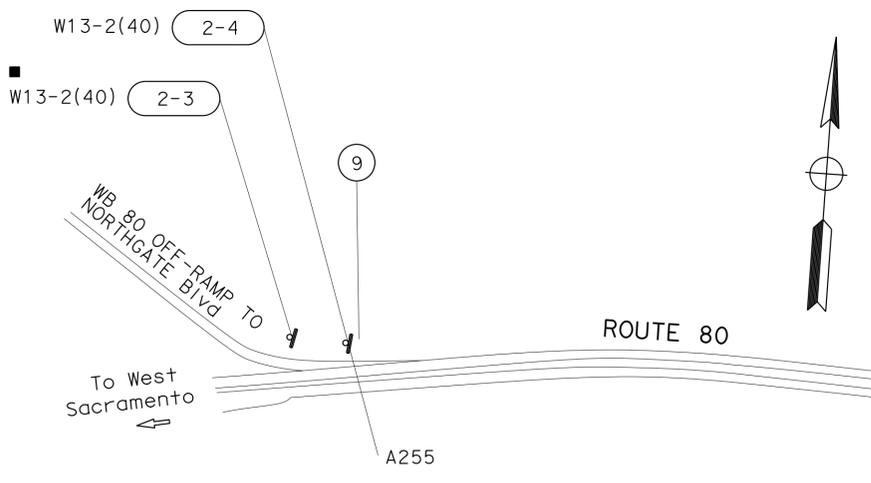
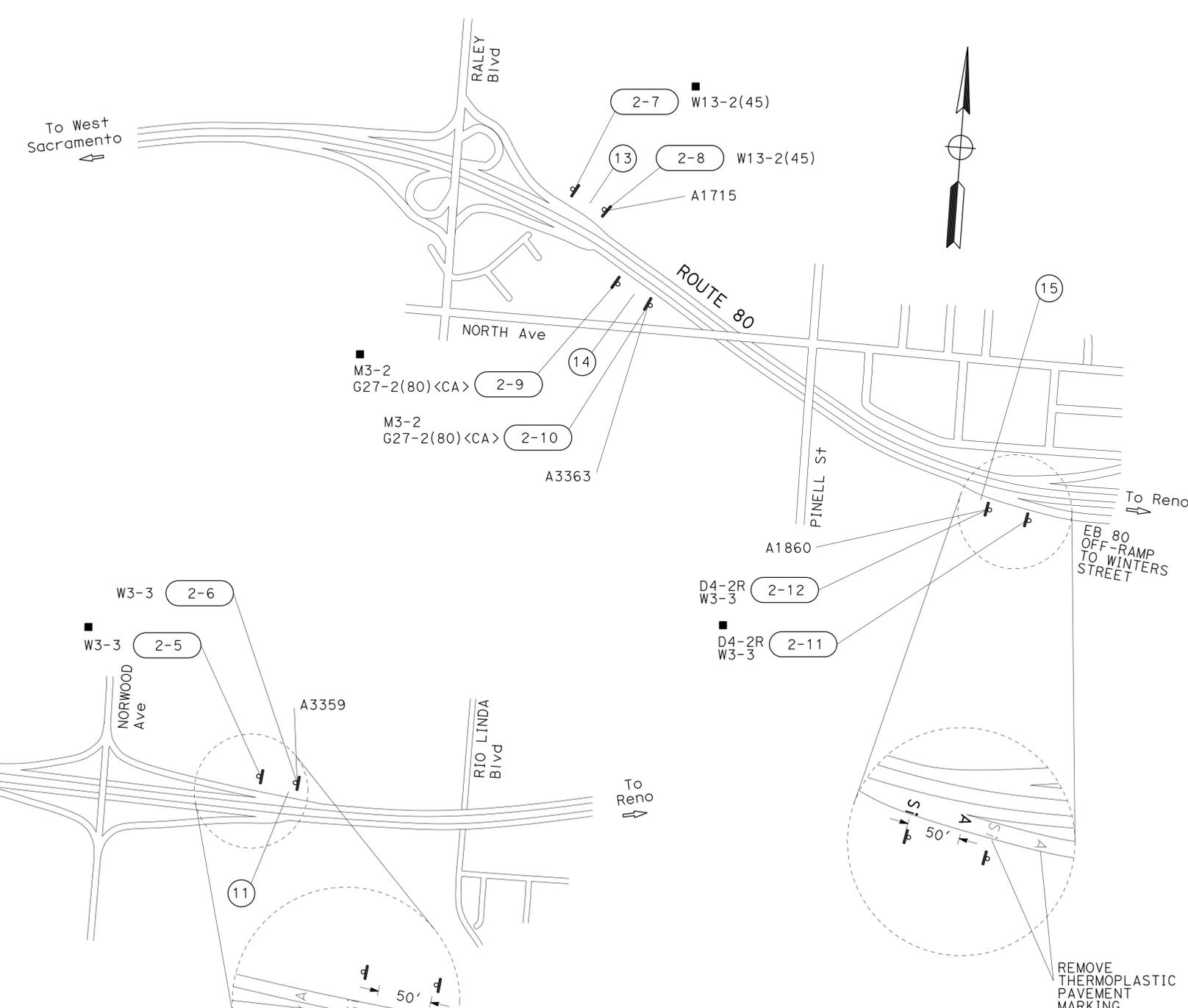
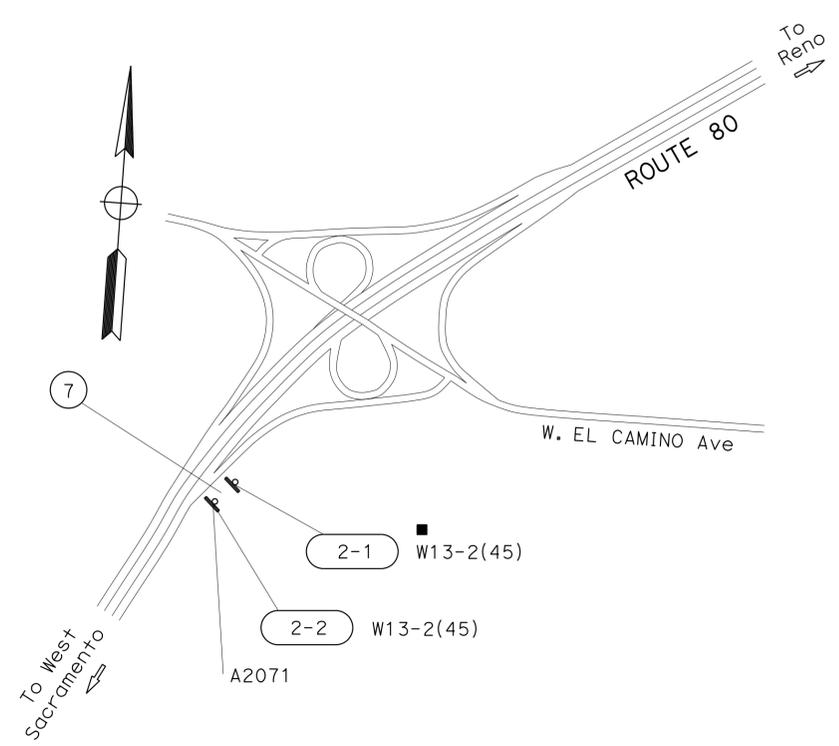
  

<i>W. Wu</i>	11-23-15
REGISTERED CIVIL ENGINEER	DATE
11-23-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
ALEX W. WU
No. 77266
Exp. 6-30-17
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.



# PAVEMENT DELINEATION AND SIGN PLAN

NO SCALE

PD-2

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	JOYCE K LOFTUS
<b>Caltrans</b>	TRAFFIC	
CALCULATED/DESIGNED BY	CHECKED BY	
ALEX WU	JOHN KEBER	
REVISED BY	DATE	REVISED

USERNAME => s119538  
DGN FILE => 0313000313na002.dgn



UNIT 0390

PROJECT NUMBER & PHASE

03130003131

BORDER LAST REVISED 7/2/2010

DATE PLOTTED => 03-DEC-2015  
TIME PLOTTED => 15:26

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	5	38

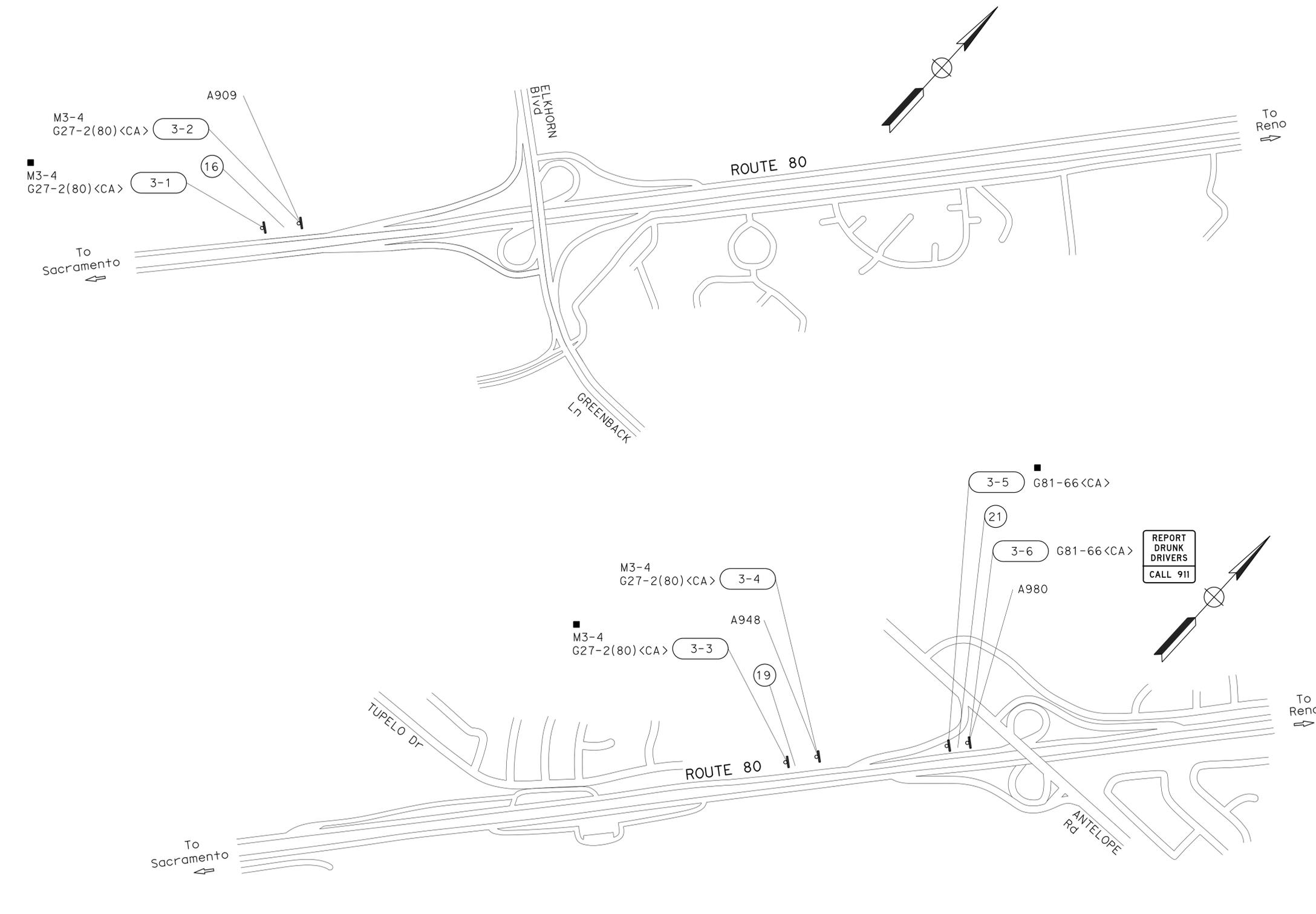
<i>W. Wu</i>	11-23-15
REGISTERED CIVIL ENGINEER	DATE
11-23-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
ALEX W. WU
No. 77266
Exp. 6-30-17
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.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
<b>Caltrans</b>
<b>TRAFFIC</b>
FUNCTIONAL SUPERVISOR
JOYCE K LOFTUS
CALCULATED/DESIGNED BY
CHECKED BY
ALEX WU
JOHN KEBER
REVISED BY
DATE REVISED



**PAVEMENT DELINEATION AND SIGN PLAN**  
NO SCALE

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

**PD-3**

DATE PLOTTED => 03-DEC-2015    TIME PLOTTED => 15:26

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 FUNCTIONAL SUPERVISOR  
 JOYCE K LOFTUS  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 ALEX WU  
 JOHN KEBER  
 REVISED BY  
 DATE REVISED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	6	38

11-23-15  
 REGISTERED CIVIL ENGINEER DATE  
 11-23-15  
 PLANS APPROVAL DATE

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**REMOVE THERMOPLASTIC PAVEMENT MARKING**

DESCRIPTION	SQUARE FEET
SIGNAL	64
AHEAD	62
TOTAL	126

**THERMOPLASTIC PAVEMENT MARKING**

DESCRIPTION	NUMBER	SQUARE FEET
SIGNAL	2	64
AHEAD	2	62
TOTAL		126

**PAVEMENT DELINEATION QUANTITIES**

**PDQ-1**





Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	8	38

11-23-15  
REGISTERED CIVIL ENGINEER DATE

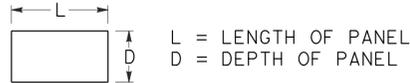
11-23-15  
PLANS APPROVAL DATE

ALEX W. WU  
No. 77266  
Exp. 6-30-17  
CIVIL

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**NOTE:**

1. FY = FLUORESCENT YELLOW.



**ROADSIDE SIGN PANEL QUANTITIES**

SIGN CODE	SIGN MESSAGE OR DESCRIPTION	PANEL SIZE L x D	PANEL AREA	NUMBER OF PANELS	BACKGROUND		LEGEND		PROTECTIVE-OVERLAY FILM	PREMIUM	FURNISH SINGLE SHEET ALUMINUM SIGN FOR RETROREFLECTIVE SHEETING (TYPE XI)		RETROREFLECTIVE SHEETING (TYPE XI)
					SHEETING COLOR	RETROREFLECTIVE ASTM TYPE	SHEETING COLOR	RETROREFLECTIVE ASTM TYPE			UNFRAMED	UNFRAMED	
FEDERAL	CALIFORNIA	INCHES	SQFT							SQFT	SQFT	SQFT	
M3-1		NORTH	30 x 15	3.13	2	BLUE	XI	WHITE	XI	X	6.26		6.26
M3-2		EAST	30 x 15	3.13	1	BLUE	XI	WHITE	XI	X	3.13		3.13
M3-4		WEST	30 x 15	3.13	2	BLUE	XI	WHITE	XI	X	6.26		6.26
	G27-2(5)	INTERSTATE 5 (ROUTE MARKER)	36 x 36	9.00	2	RED BLUE	XI	WHITE	XI	X	18.00		18.00
	G27-2(80)	INTERSTATE 80 (ROUTE MARKER)	36 x 36	9.00	3	RED BLUE	XI	WHITE	XI	X	27.00		27.00
W13-2(40)		EXIT 40 MPH	48 x 60	20.00	1	FY	XI	BLACK		X		20.00	20.00
W13-2(45)		EXIT 45 MPH	48 x 60	20.00	2	FY	XI	BLACK		X		40.00	40.00
W3-3		SIGNAL AHEAD (SYMBOL)	48 x 48	16.00	2	FY	XI	BLACK RED GREEN	XI XI XI	X		32.00	32.00
	G81-66	REPORT DRUNK DRIVERS CALL 911	48 x 48	16.00	1	BLUE	XI	WHITE	XI	X		16.00	16.00
D4-2R		PARK & RIDE (w/ ARROW)	30 x 36	7.50	1	GREEN	XI	WHITE	XI	X	7.50		7.50
<b>TOTAL</b>											68.15	108.00	176.15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 JOYCE K LOFTUS  
 FUNCTIONAL SUPERVISOR  
 JOHN KEBER  
 ALEX WU  
 REVISIONS BY DATE  
 CHECKED BY  
 DESIGNED BY  
 CALCULATED BY

**SIGN QUANTITIES**  
**SQ-2**



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	10	38

<i>Normanye</i>	11-23-15
REGISTERED ELECTRICAL ENGINEER	DATE
11-23-15	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER	NORMAN S. YE
No.	16913
Exp.	6-30-17
ELECTRICAL	

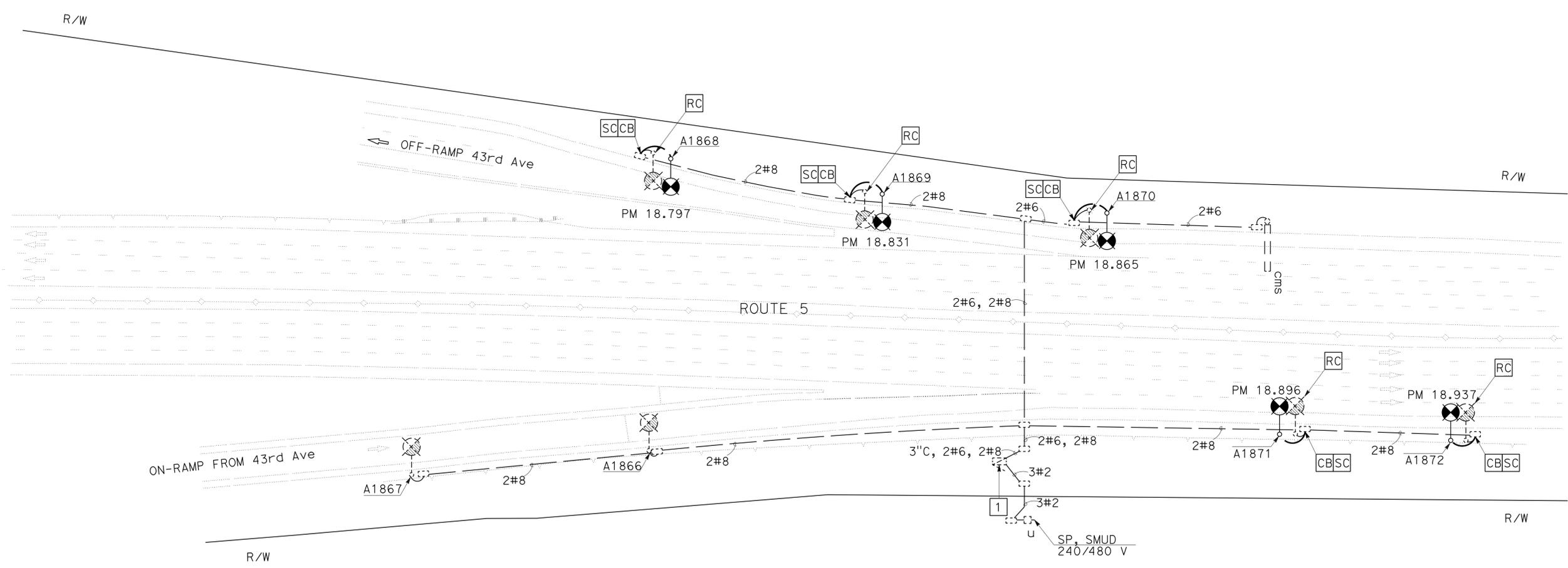
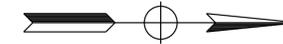
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**NOTES:**

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

**LEGEND (THIS SHEET ONLY):**

- 1 EXISTING TYPE III-AF SERVICE EQUIPMENT ENCLOSURE C+id No. 03240050018810.



**(LOCATION 3 AND LOCATION 4)**

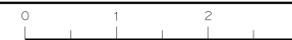
**MODIFY LIGHTING**

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

**E-2**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
<b>Caltrans</b>	MARY ANN HUDSPETH	OANH D NGUYEN	
<b>ELECTRICAL DESIGN</b>		NORMAN YE	
	CALCULATED/DESIGNED BY	CHECKED BY	DATE





DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	12	38

<i>Normanye</i>	11-23-15
REGISTERED ELECTRICAL ENGINEER	DATE
11-23-15	
PLANS APPROVAL DATE	

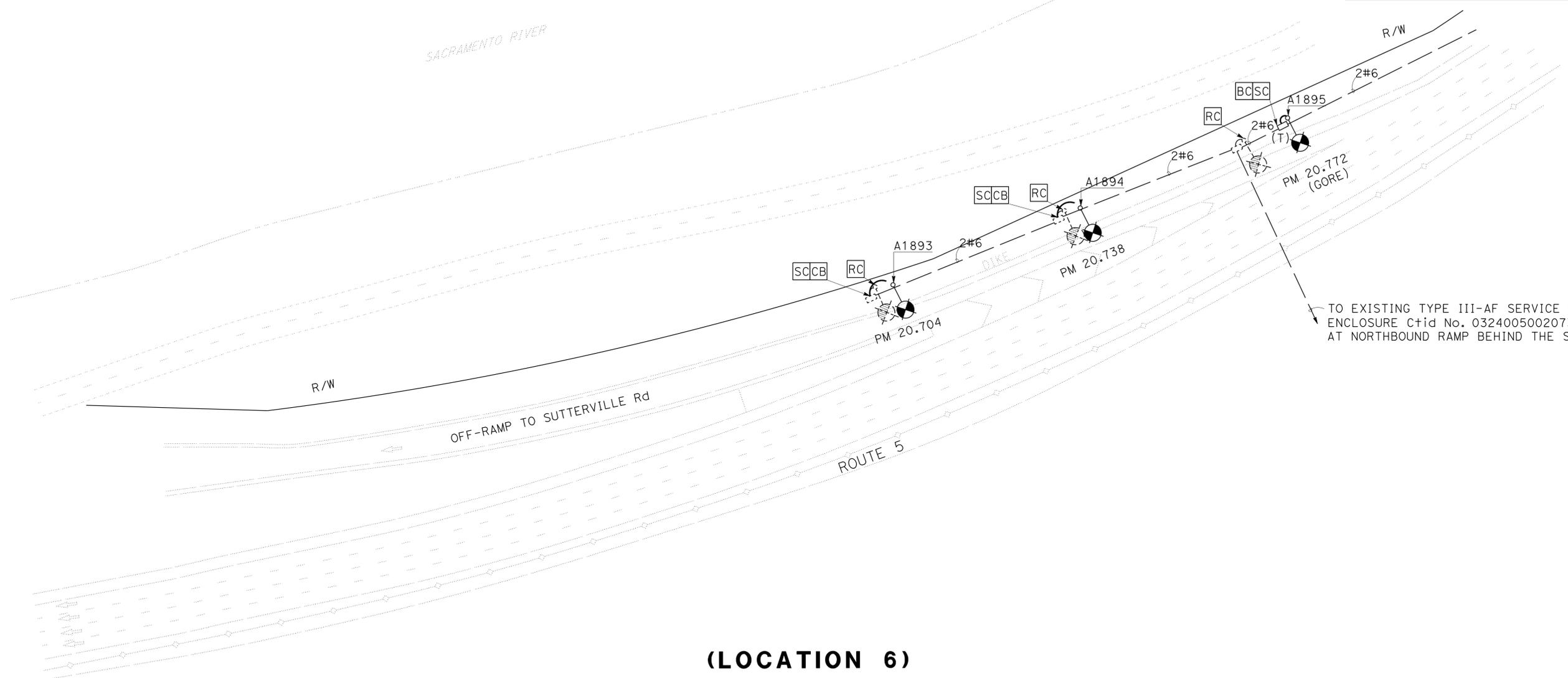
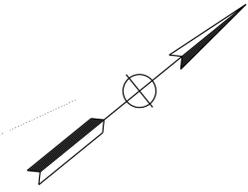
  

NORMAN S. YE
No. 16913
Exp. 6-30-17
ELECTRICAL

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**NOTES:**

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



TO EXISTING TYPE III-AF SERVICE EQUIPMENT ENCLOSURE Ctid No. 03240050020730. AT NORTHBOUND RAMP BEHIND THE SOUND WALL.

**(LOCATION 6)**

**MODIFY LIGHTING**  
SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

**E-4**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
<b>Caltrans</b> ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR
MARY ANN HUDSPETH
CALCULATED/DESIGNED BY
CHECKED BY
OANH D NGUYEN
NORMAN YE
REVISED BY
DATE REVISED

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
<b>Caltrans</b>	MARY ANN HUDSPETH	CHECKED BY	NATHAN DEKENS
<b>ELECTRICAL DESIGN</b>			NORMAN YE

**NOTES:**

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

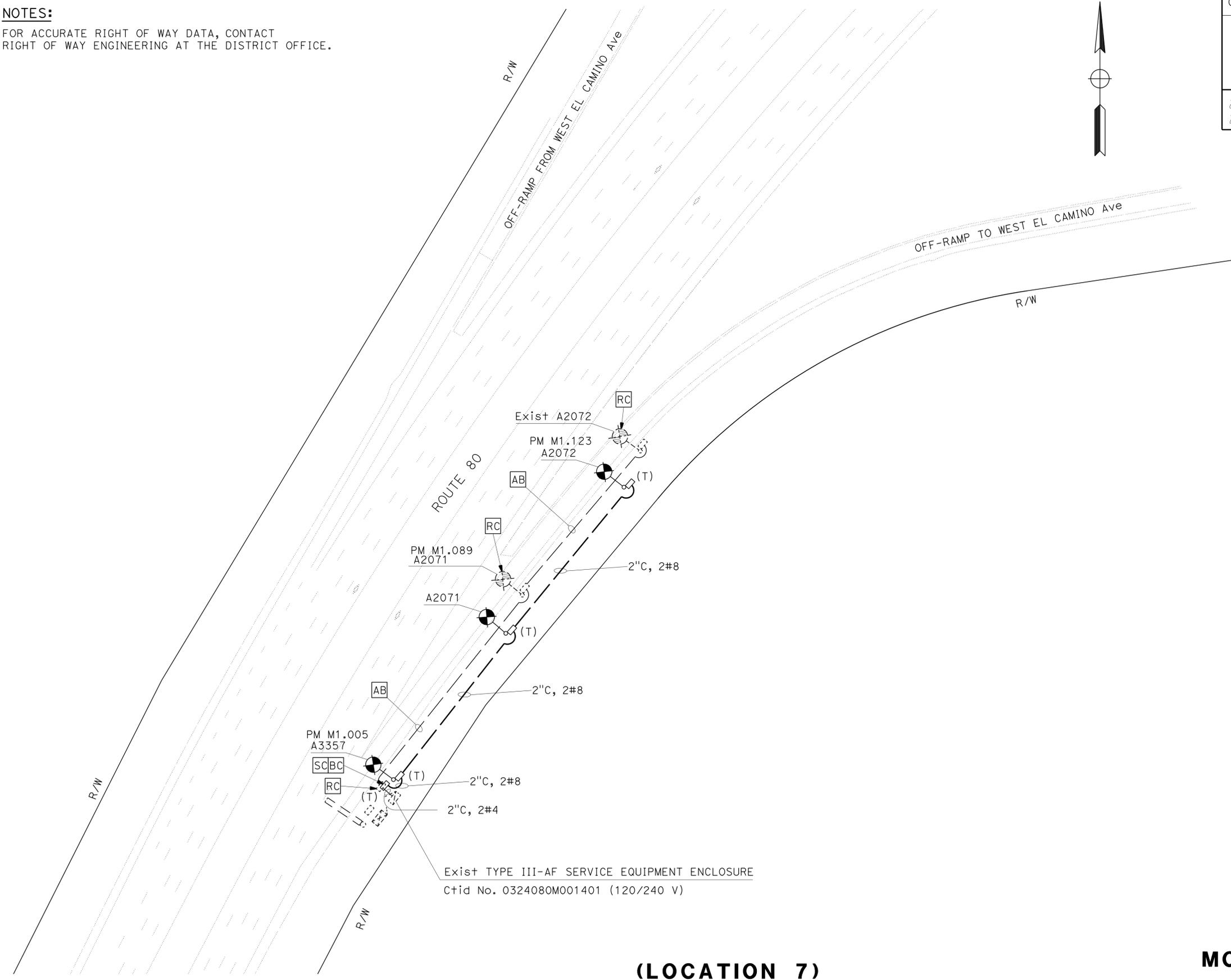
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	13	38

*Norman Ye* 11-23-15  
 REGISTERED ELECTRICAL ENGINEER DATE

11-23-15  
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
**NORMAN S. YE**  
 No. 16913  
 Exp. 6-30-17  
 ELECTRICAL  
 STATE OF CALIFORNIA



**(LOCATION 7)**

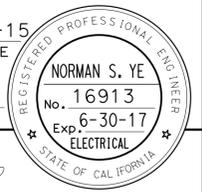
**MODIFY LIGHTING**

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

**E-5**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	14	38
Normanye			11-23-15	REGISTERED ELECTRICAL ENGINEER DATE	
11-23-15			PLANS APPROVAL DATE		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					

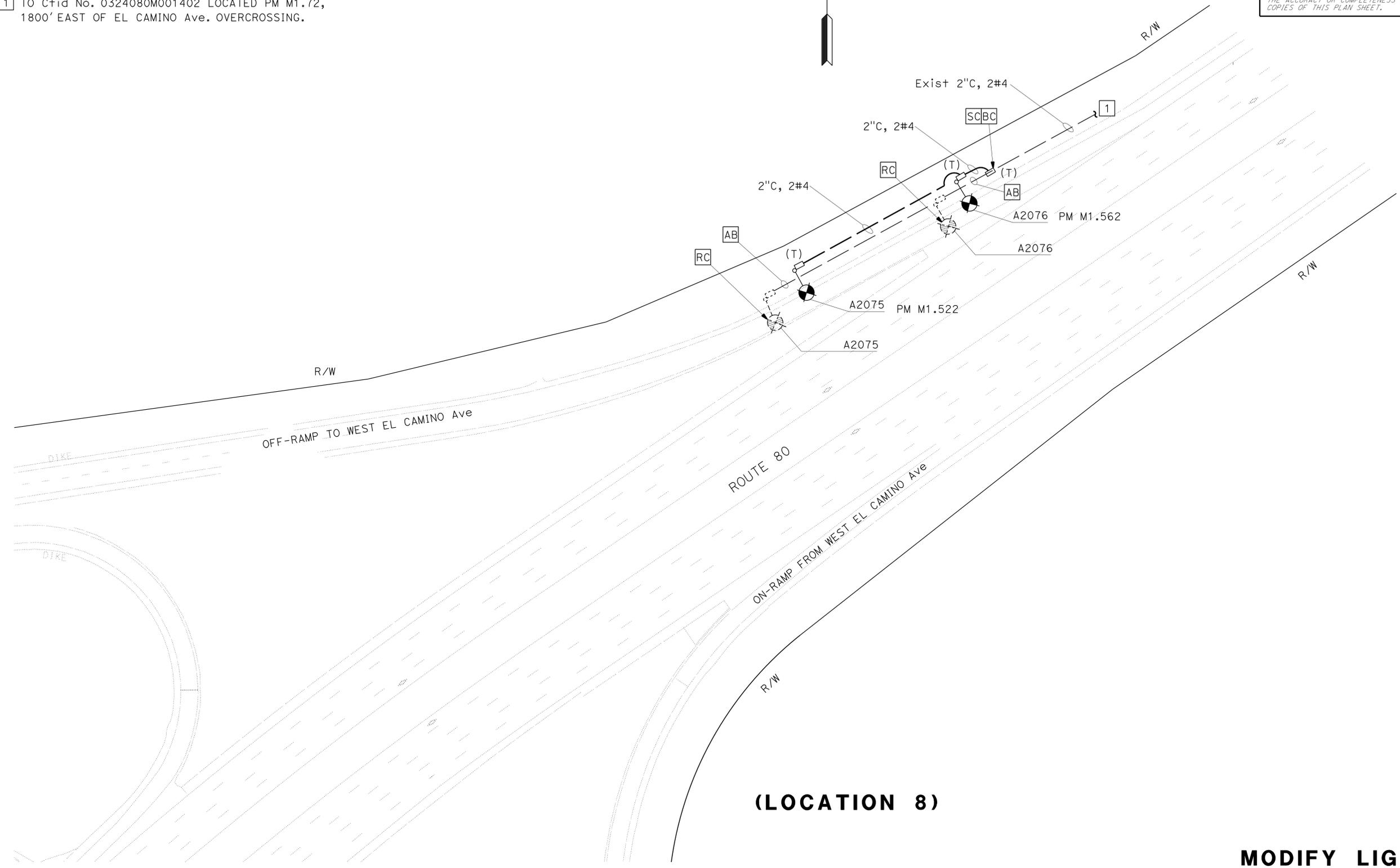


**NOTE:**  
 1. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND: (THIS SHEET ONLY)**

1 TO Ctid No. 0324080M001402 LOCATED PM M1.72, 1800' EAST OF EL CAMINO Ave. OVERCROSSING.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
<b>Caltrans</b> ELECTRICAL DESIGN	MARY ANN HUDSPETH	CHECKED BY	NATHAN DEKENS
			NORMAN YE



**(LOCATION 8)**

**MODIFY LIGHTING**

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

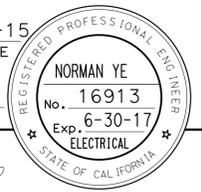
**E-6**







Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	18	38
Normanye			11-23-15	REGISTERED ELECTRICAL ENGINEER DATE	
11-23-15			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

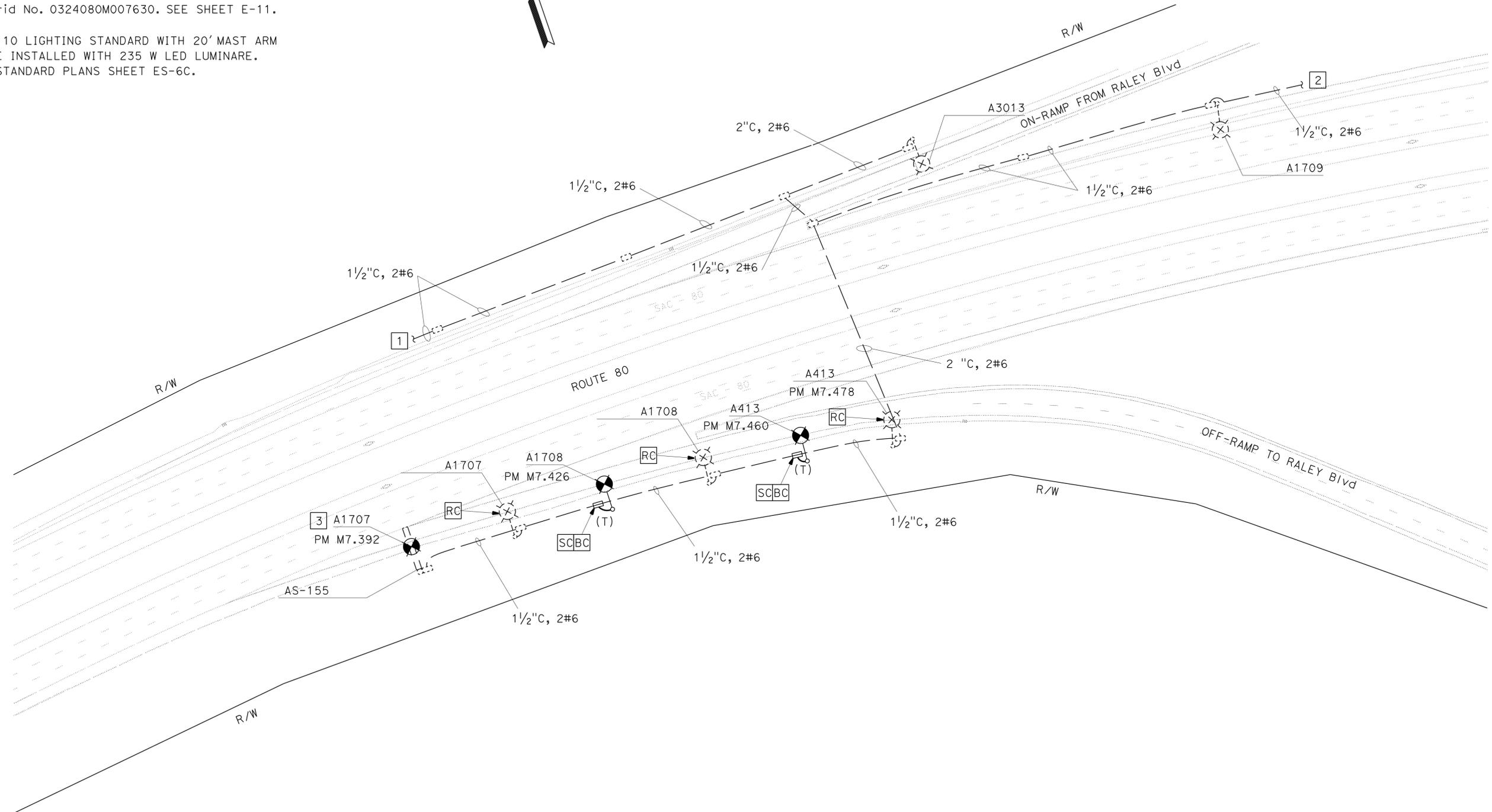


**NOTE:**

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

**LEGEND: (THIS SHEET ONLY)**

- TO EXISTING LIGHTING(A1705).
- TO Ctid No. 0324080M007630. SEE SHEET E-11.
- TYPE 10 LIGHTING STANDARD WITH 20' MAST ARM TO BE INSTALLED WITH 235 W LED LUMINAIRE. SEE STANDARD PLANS SHEET ES-6C.



(LOCATION 12)

**MODIFY LIGHTING**

SCALE: 1" = 50'

**E-10**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	REVISOR	DATE
<b>Caltrans</b>	MARY ANN HUDSPETH	NATHAN DEKENS	
<b>ELECTRICAL DESIGN</b>		NORMAN YE	
	CHECKED BY	DESIGNED BY	DATE

APPROVED FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	19	38

*Normanye* 11-23-15  
 REGISTERED ELECTRICAL ENGINEER DATE

11-23-15  
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER  
**NORMAN S. YE**  
 No. 16913  
 Exp. 6-30-17  
 ELECTRICAL  
 STATE OF CALIFORNIA

**NOTE:**

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

**LEGEND: (THIS SHEET ONLY)**

- 1 1/2"C, 2#6. TO EXISTING LIGHTING.
- 1 1/2"C, 2#6.
- 1 1/2"C, 2#6 (480 V, LIGHT AND SIGN).
- 2"C, 3#2
- 2"C, 2#2
- EXISTING TYPE III-AF SERVICE EQUIPMENT ENCLOSURE (240/480 V)  
Ctid No. 0324080M007630.
- EXISTING LUMINARE HAS BEEN PREVIOUSLY REMOVED. CONTRACTOR IS TO REMOVE EXISTING FOUNDATION THAT REMAINS.

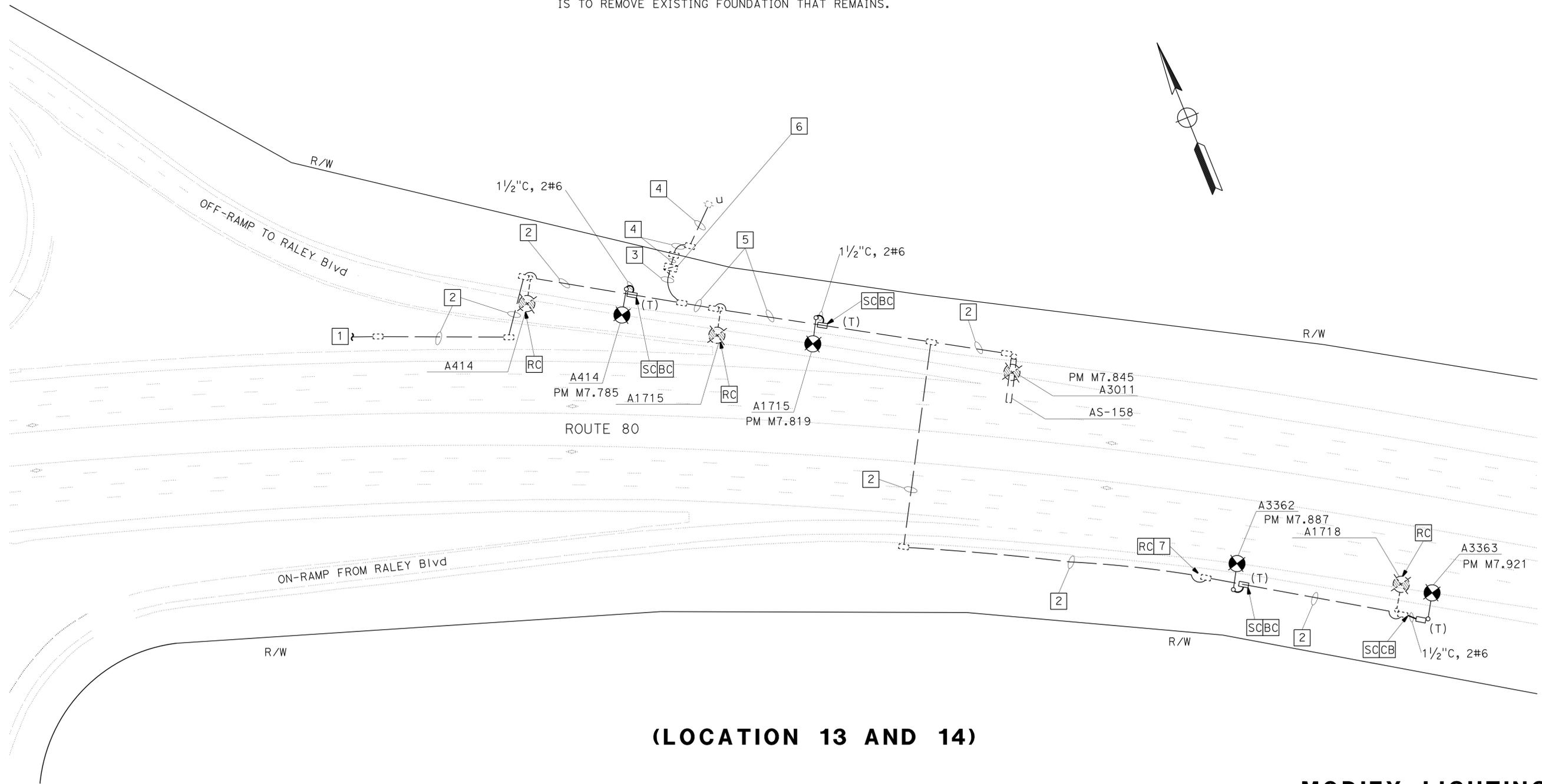
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
**ELECTRICAL DESIGN**

FUNCTIONAL SUPERVISOR  
 MARY ANN HUDSPETH

CALCULATED/DESIGNED BY  
 CHECKED BY

NATHAN DEKENS  
 NORMAN YE

REVISED BY  
 DATE REVISED



**(LOCATION 13 AND 14)**

**MODIFY LIGHTING**

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

**E-11**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	20	38

Normanye 11-23-15  
REGISTERED ELECTRICAL ENGINEER DATE

11-23-15  
PLANS APPROVAL DATE

NORMAN S. YE  
No. 16913  
Exp. 6-30-17  
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.

**NOTES:**

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

**LEGEND: (THIS SHEET ONLY)**

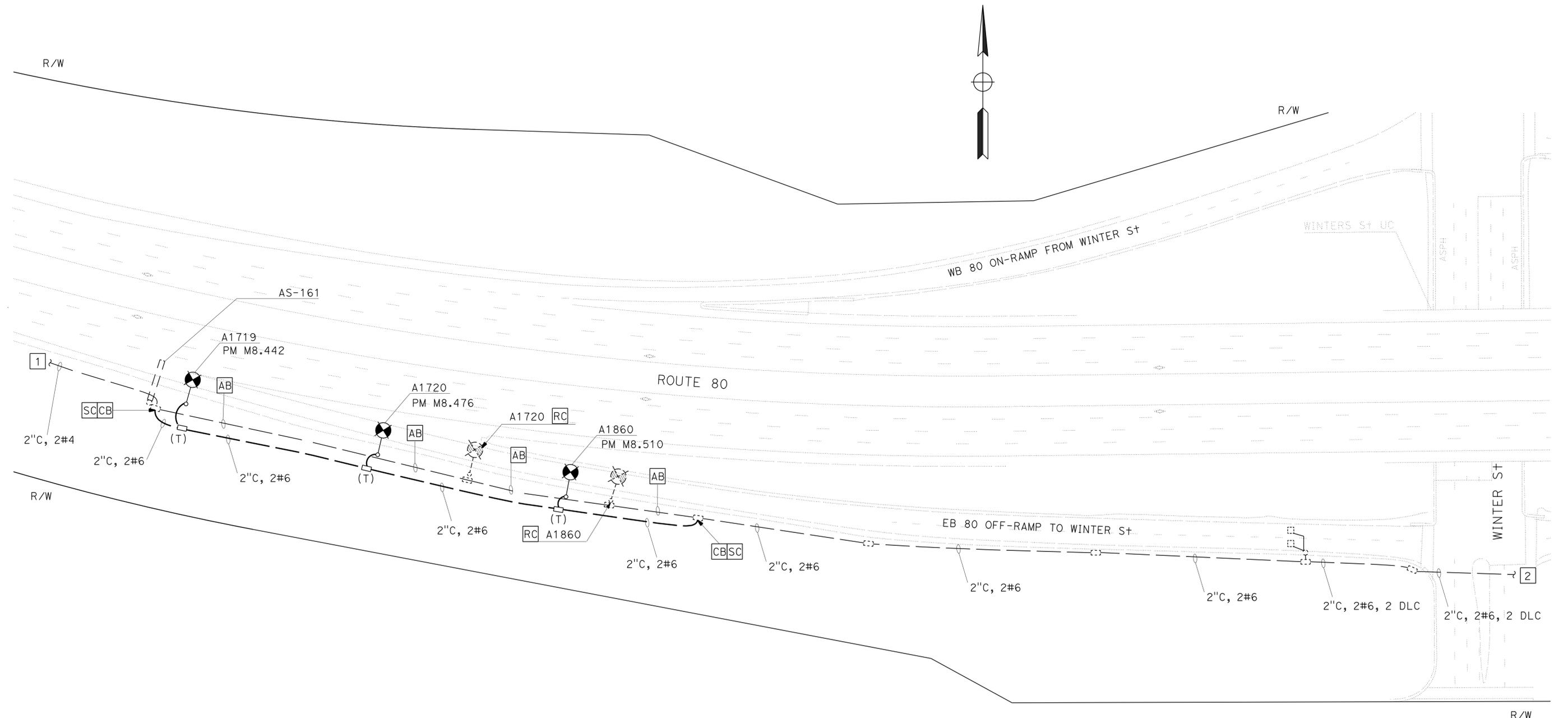
- TO EXISTING LIGHTING (A1850).
- TO EXISTING TYPE III-AF SERVICE EQUIPMENT ENCLOSURE (240/480 V)  
Ctid No. 0324080M008810.  
LOCATED ON THE SOUTH SIDE OF EB ON-RAMP(SAC-80-M8.810)

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

FUNCTIONAL SUPERVISOR: MARY ANN HUDSPETH

CALCULATED/DESIGNED BY: NATHAN DEKENS  
CHECKED BY: NORMAN YE

REVISOR BY: DATE  
REVISOR BY: DATE



**(LOCATION 15)**

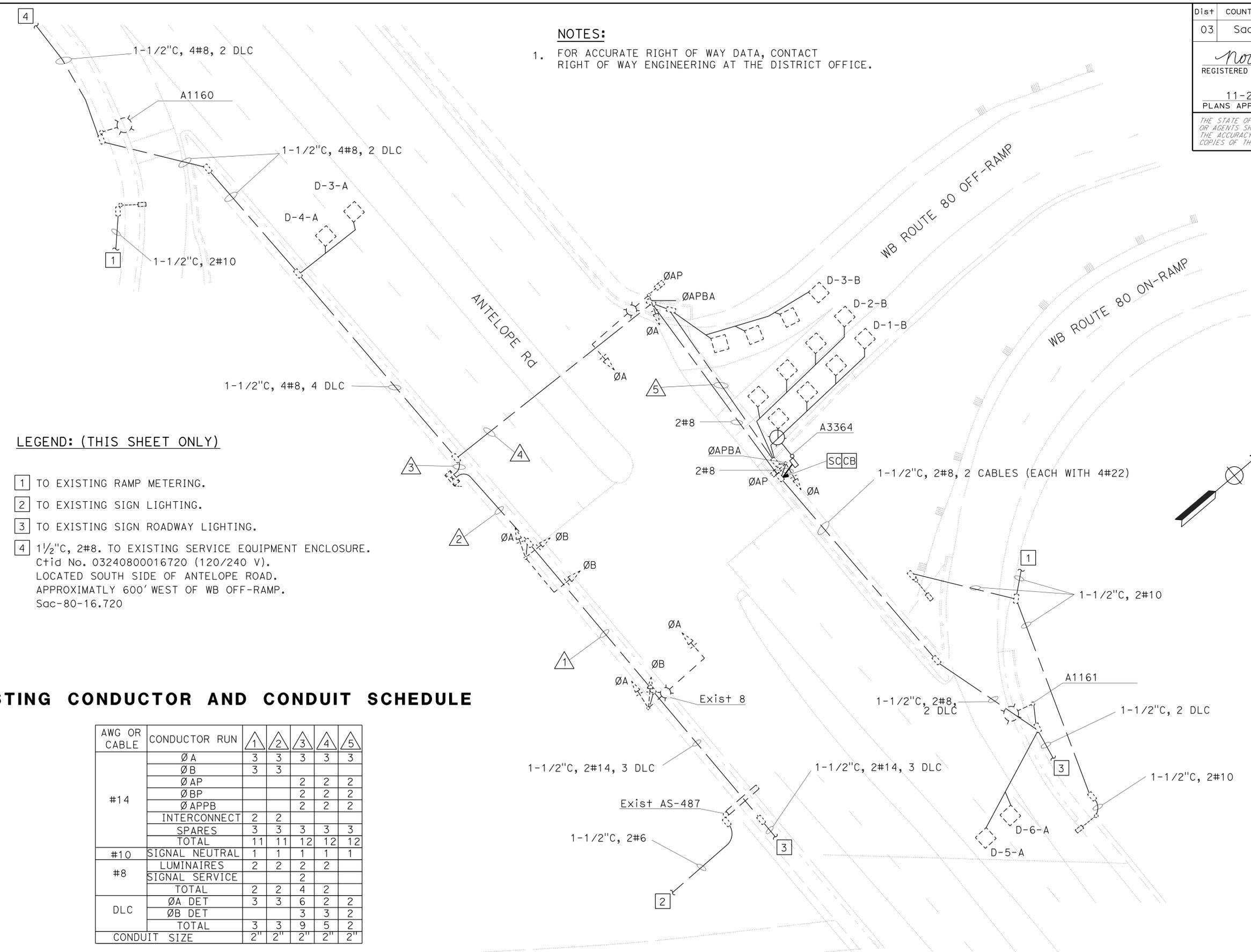
**MODIFY LIGHTING**

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

**E-12**

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



**LEGEND: (THIS SHEET ONLY)**

- 1 TO EXISTING RAMP METERING.
- 2 TO EXISTING SIGN LIGHTING.
- 3 TO EXISTING SIGN ROADWAY LIGHTING.
- 4 1 1/2" C, 2#8. TO EXISTING SERVICE EQUIPMENT ENCLOSURE. Ctid No. 03240800016720 (120/240 V). LOCATED SOUTH SIDE OF ANTELOPE ROAD. APPROXIMATELY 600' WEST OF WB OFF-RAMP. Sac-80-16.720

**EXISTING CONDUCTOR AND CONDUIT SCHEDULE**

AWG OR CABLE	CONDUCTOR RUN	1	2	3	4	5
#14	Ø A	3	3	3	3	3
	Ø B	3	3			
	Ø AP			2	2	2
	Ø BP			2	2	2
	Ø APPB			2	2	2
	INTERCONNECT	2	2			
#10	SIGNAL NEUTRAL	1	1	1	1	1
	LUMINAIRES	2	2	2	2	
#8	SIGNAL SERVICE			2		
	TOTAL	2	2	4	2	
DLC	ØA DET	3	3	6	2	2
	ØB DET			3	3	2
	TOTAL	3	3	9	5	2
CONDUIT SIZE		2"	2"	2"	2"	2"

**(LOCATION 22)**

**MODIFY LIGHTING**  
 SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
 FUNCTIONAL SUPERVISOR: MARY ANN HUDSPETH  
 CHECKED BY: NATHAN DEKENS  
 DESIGNED BY: NORMAN YE  
 REVISIONS: (None listed)  
 REVISOR: (None listed)  
 DATE: (None listed)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	22	38

*Norman* 11-23-15  
REGISTERED ELECTRICAL ENGINEER DATE

11-23-15  
PLANS APPROVAL DATE

**NORMAN S. YE**  
No. 16913  
Exp. 6-30-17  
ELECTRICAL

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**NOTES: (THIS SHEET ONLY)**

- EXISTING ELECTROLIERS, INSTALL TYPE 31.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
FUNCTIONAL SUPERVISOR MARY ANN HUDSPETH  
CALCULATED/DESIGNED BY CHECKED BY  
NATHAN DEKENS NORMAN YE  
REVISED BY DATE REVISED

**LUMINAIRE REPLACEMENT SCHEDULE**

LOCATION	ROUTE	RAMP/MAINLINE INTERCHANGE	PM	ELECTROLIER No.	SERVICE DISCONNECT LOCATION
16	080	WB MAINLINE BETWEEN MADISON AND GREENBACK LANE	14.17	A909	SERVICE DISCONNECT LOCATED (SAC-80-14.106) AT WESTBOUND ON RAMP TO 80 AND ELKHORN BLVD. Ctid No. 03240800014106 (277/480 VAC)
			14.20	A910	
17	080	WB MAINLINE BETWEEN TRUCK SCALES AND GREENBACK LANE	15.26	A925	SERVICE DISCONNECT LOCATED (SAC-80-16.100) AT WESTBOUND TRUCK SCALES NORTH SIDE OF FREEWAY 275' EAST OF SCALE HOUSE. Ctid No. 03240800016100 (120/240 VAC)
			15.30	A926	
			15.33	A927	
18	080	EB ON-RAMP TRUCK SCALES	16.21	A946	SERVICE DISCONNECT LOCATED (SAC-80-15.910) AT EASTBOUND TRUCK SCALES SOUTH SIDE OF FREEWAY 300' EAST OF SCALE HOUSE. CTID No. 03240800015910 (120/240 VAC)
			16.25	A947	
19	080	WB MAINLINE BETWEEN ANTELPE Rd. AND TRUCK SCALES	16.37	A948	SERVICE DISCONNECT LOCATED (SAC-80-16.880) SOUTH SIDE OF FREEWAY 1100' WEST OF ANTELOPE ROAD. Ctid No. 03240800016880 (120/240 VAC)
20	080	EB OFF-RAMP AT ANTELOPE Rd.	16.50	A1142	
			16.53	A1143	
21	080	LOOP ON-RAMP AT ANTELOPE Rd.	16.57	A980	SERVICE DISCONNECT LOCATED (SAC-80-16.800) NORTH SIDE OF FREEWAY ON WESTBOUND OFF RAMP 350' WEST OF ANTELOPE INTERCHANGE. Ctid No. 03240800016880 (120/240 VAC)
23	080	OFF-RAMP AT ANTELOPE Rd.	16.84	A1147	
			16.87	A1148	
			16.91	A1149	

**MODIFY LIGHTING**

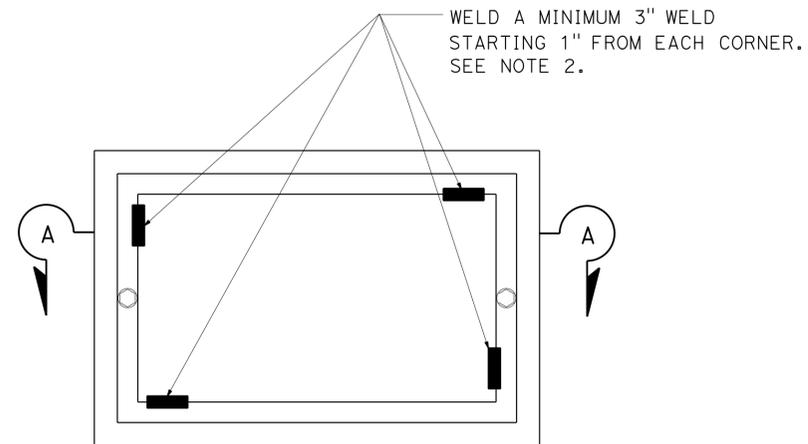
**E-14**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	23	38

*Norman S. Ye* 11-23-15  
 REGISTERED ELECTRICAL ENGINEER DATE  
 11-23-15  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 NORMAN S. YE  
 No. 16913  
 Exp. 6-30-17  
 ELECTRICAL  
 STATE OF CALIFORNIA

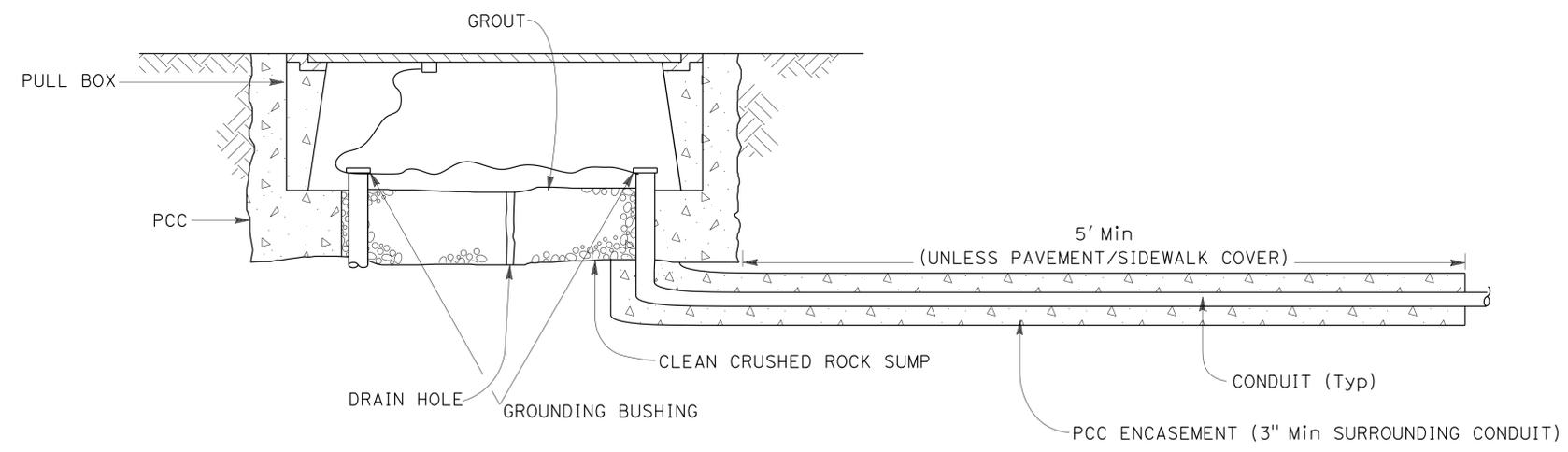
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



**TOP VIEW**

**NOTES ON PULL BOXES:**

1. FOR ADDITIONAL DETAILS, SEE REVISED STANDARD PLAN RSP ES-8B.
2. WELDING SHALL COMPLY WITH REQUIREMENTS IN STANDARD SPECIFICATION SECTION 75.
3. A PULL BOX FOR A POST OR A POLE STANDARD MUST BE LOCATED WITHIN 5 FEET OF THE STANDARD.



**SECTION A-A**

**TRAFFIC PULL BOX**

**ELECTRICAL DETAILS**  
NO SCALE

**E-15**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
<b>Caltrans</b>	MARY ANN HUDSPETH	NATHAN DEKENS	NATHAN DEKENS
<b>ELECTRICAL DESIGN</b>		CHECKED BY	DATE REVISION
		NORMAN YE	

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	24	38

*Normanye* 11-23-15  
REGISTERED ELECTRICAL ENGINEER DATE

11-23-15  
PLANS APPROVAL DATE

**NORMAN S. YE**  
No. 16913  
Exp. 6-30-17  
ELECTRICAL

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### MODIFY LIGHTING

SHEET No.	TYPE 31 ELECTROLIER	TYPE 15 ELECTROLIER	TYPE 10 ELECTROLIER	TYPE 5 ELECTROLIER	2" TYPE 3 CONDUIT	1 1/2" TYPE 3 CONDUIT	#2 AWG	#4 AWG	#6 AWG	#8 AWG	#5 (T) PULLBOX
	EA	EA	EA	EA	FT	FT	FT	FT	FT	FT	EA
E-1	4					50			120		4
E-2	5					50				150	
E-3	2					25			60		
E-4	3					40			100		
E-5	3				400					850	4
E-6	2				250			500			3
E-7	2			1		50			100		2
E-8	2				40		50				1
E-9	2			1		50	100				2
E-10	2		1			25			50		2
E-11	4					75			600		4
E-12	3				550				1100		3
E-13		1				25				50	1
E-14	14					200				1400	

ITEM SHOWN IN THIS TABLE ARE NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** ELECTRICAL DESIGN  
NATHAN DEKENS  
NORMAN YE  
CALCULATED/DESIGNED BY  
CHECKED BY  
FUNCTIONAL SUPERVISOR  
MARY ANN HUDSPETH  
REVISOR BY  
DATE REVISED

## ELECTRICAL QUANTITIES E-16

LAST REVISION | DATE PLOTTED => 03-DEC-2015  
00-00-00 | TIME PLOTTED => 15:26

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

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	25	38

*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 11-23-15

**UNIT OF MEASUREMENT SYMBOLS:**  
Some of the symbols used in the project plan quantity tables and in the Bid Item List are:

**TABLE A**

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

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

**TABLE B**

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

\* For use on a sign panel only

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

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

2010 REVISED STANDARD PLAN RSP A10B

TO ACCOMPANY PLANS DATED 11-23-15

TABLE 1

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

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

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

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

TABLE 2

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

\* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph  
 \*\* - Longitudinal buffer space or flagger station spacing  
 \*\*\* - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

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

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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM TABLES  
 FOR LANE AND RAMP CLOSURES**  
 NO SCALE

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

2010 REVISED STANDARD PLAN RSP T9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	27	38

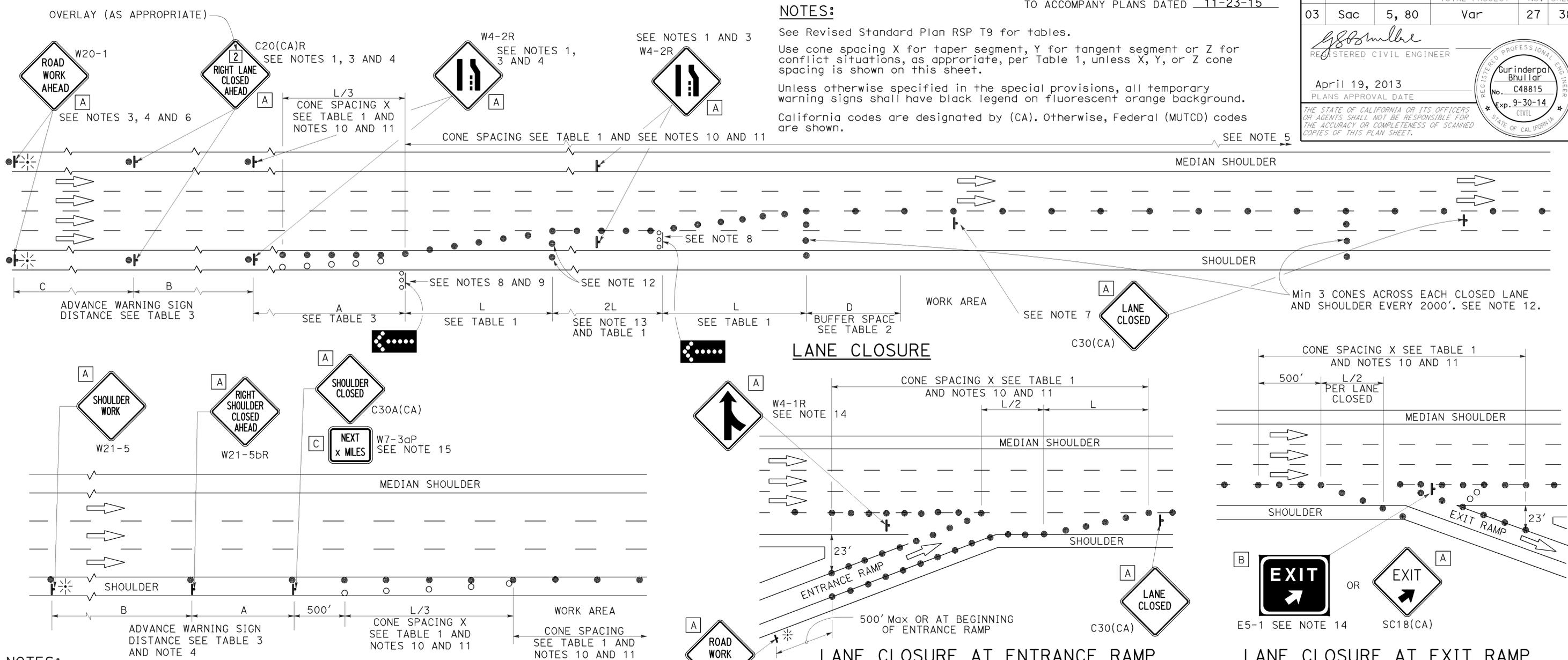
REGISTERED CIVIL ENGINEER  
 Gurinderpal Bhullar  
 No. C48815  
 Exp. 9-30-14  
 CIVIL  
 STATE OF CALIFORNIA

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

TO ACCOMPANY PLANS DATED 11-23-15

**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:**

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

**SHOULDER CLOSURE**

- 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.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
- 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.

**LANE CLOSURE AT ENTRANCE RAMP**

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

**LEGEND**

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

**SIGN PANEL SIZE (Min)**

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

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T10**

2010 REVISED STANDARD PLAN RSP T10

# TYPICAL RAMP CLOSURES

## SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 48" x 30"
- C 36" x 36"
- D 48" x 36"

## LEGEND

- TRAFFIC CONE
- † TEMPORARY TRAFFIC CONTROL SIGN
- ‡ BARRICADES
- ⚡ PORTABLE FLASHING BEACON

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	28	38

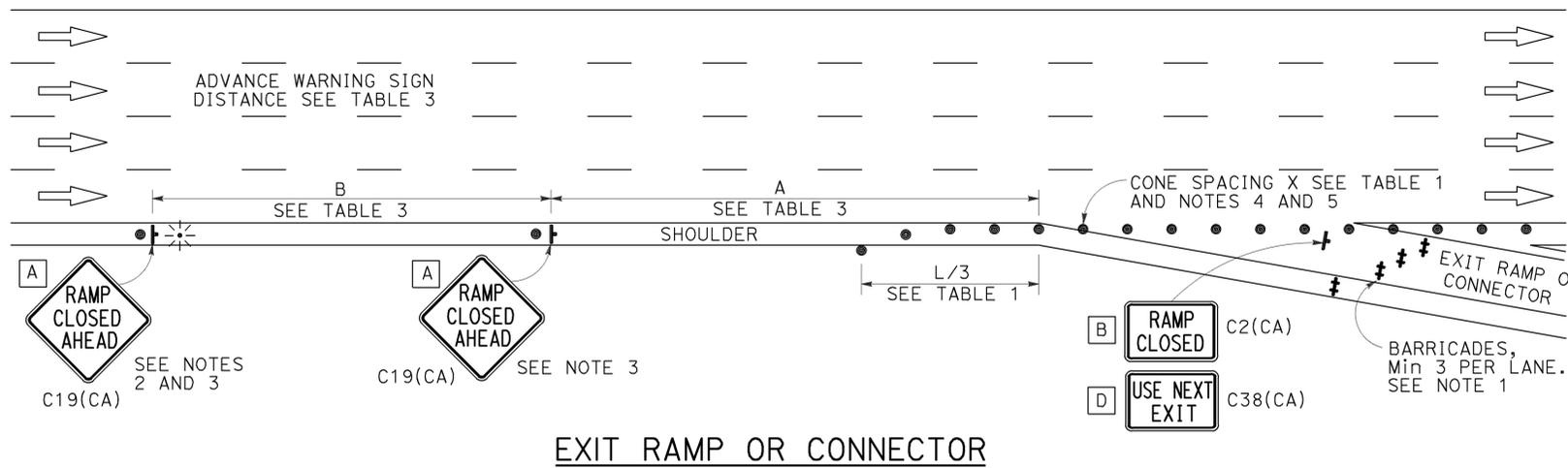
*Gurinderpal Bhullar*  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

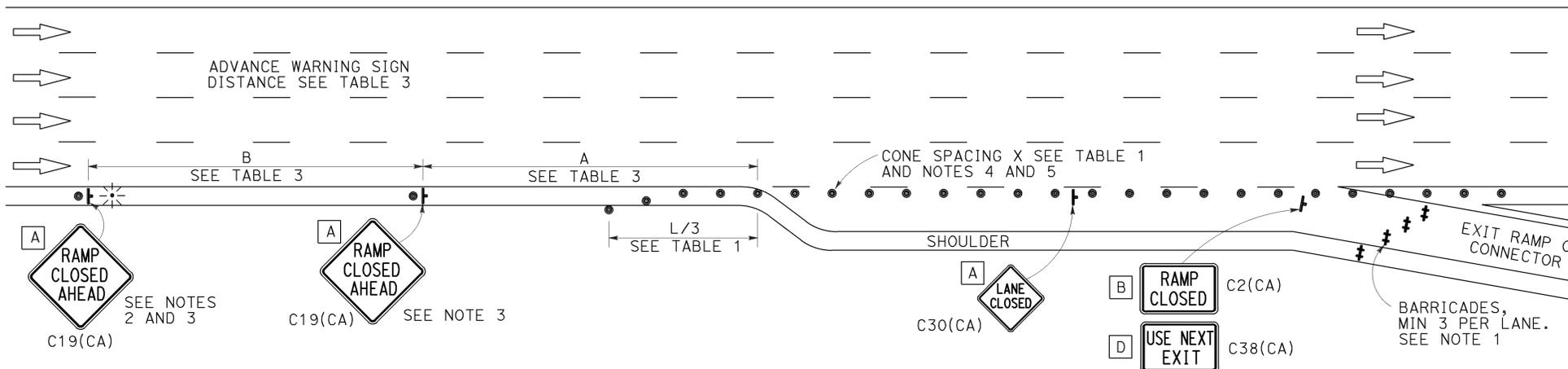
TO ACCOMPANY PLANS DATED 11-23-15

## NOTES:

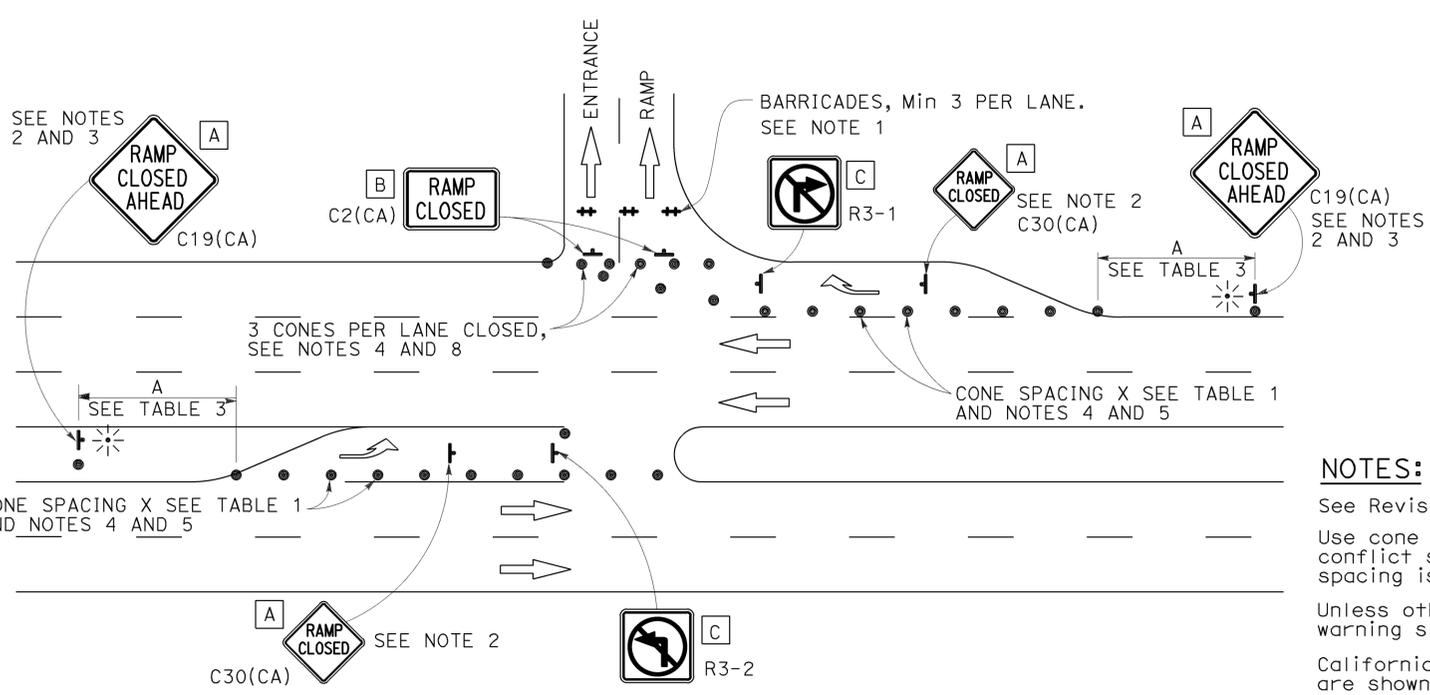
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
- Each advance C19(CA) "RAMP CLOSED AHEAD" 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. A flashing beacon shall be placed on top of the first C19(CA) sign during hours of darkness.
- All cones used for ramp 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 ramp closures only.
- At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
- The existing "EXIT" signs shall be covered during ramp closures.
- A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.



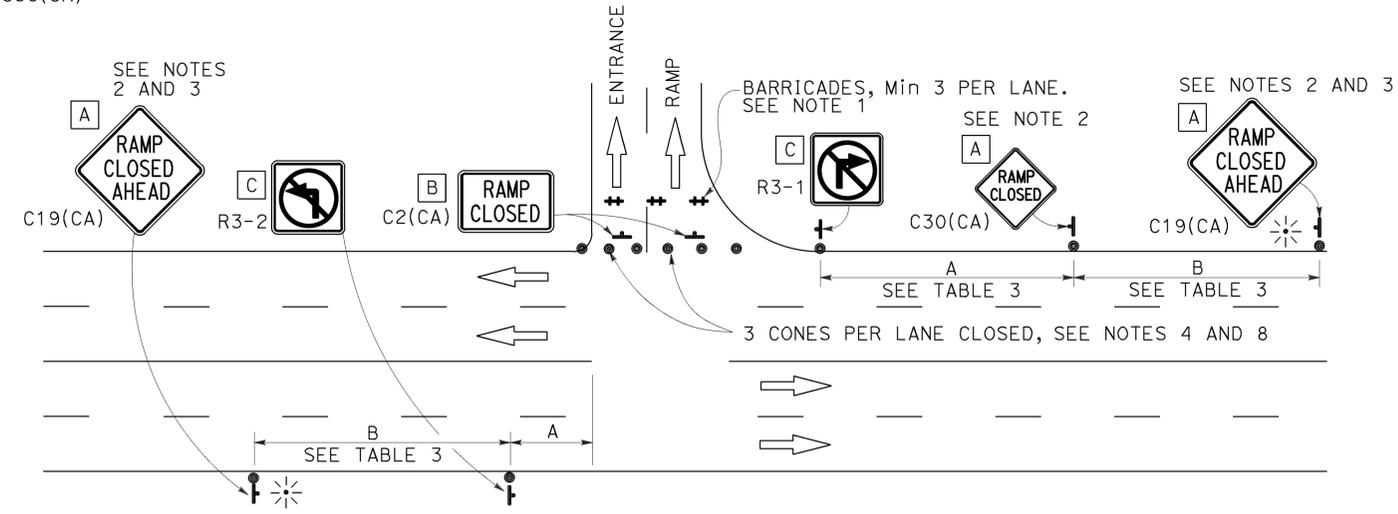
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

## 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.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL SYSTEM  
 FOR RAMP CLOSURE**  
 NO SCALE

RSP T14 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T14  
 DATED MAY 20, 2011 - PAGE 242 OF THE STANDARD PLANS BOOK DATED 2010.  
**REVISED STANDARD PLAN RSP T14**

2010 REVISED STANDARD PLAN RSP T14

**LEGEND:**

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

**ABBREVIATIONS**

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
Cn+I	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	Wh+	WHITE
Lum	LUMINAIRE	WIM	WEIGH-IN-MOTION
M	METERED	Xfmr	TRANSFORMER

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	29	38

*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 11-23-15

**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(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
μ	MICRO
P	PICO
Hz	HERTZ

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**

**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

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	30	38

*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 11-23-15

**CONDUIT**

**SIGNAL EQUIPMENT**

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

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)

**SIGNAL EQUIPMENT Cont**

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

**SERVICE EQUIPMENT**

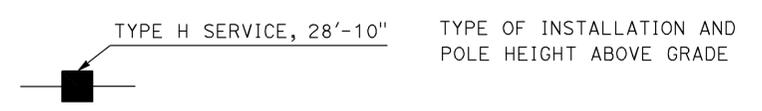
NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

		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

**NOTES:**

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

**POLE-MOUNTED SERVICE DESIGNATION**



**FLASHING BEACON**

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

**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**

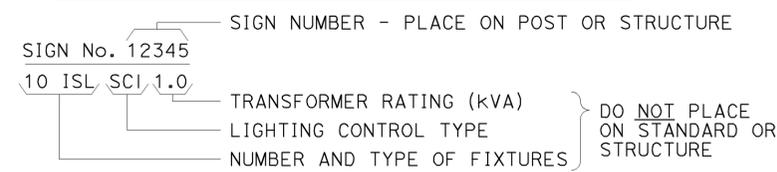
2010 REVISED STANDARD PLAN RSP ES-1B



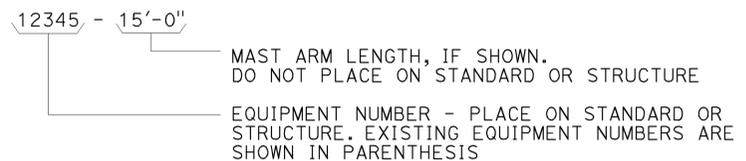
TO ACCOMPANY PLANS DATED 11-23-15

### EQUIPMENT IDENTIFICATION

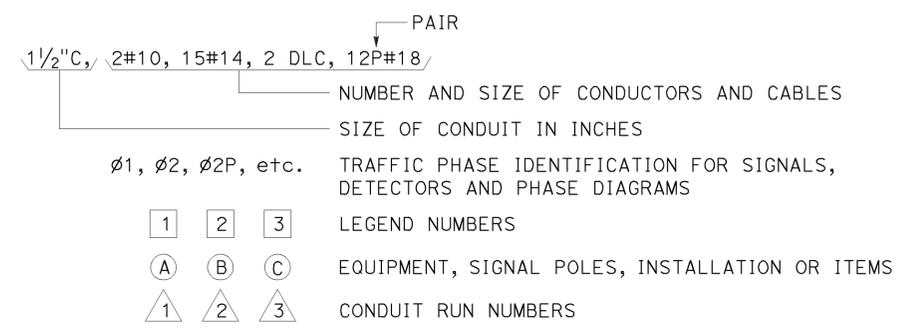
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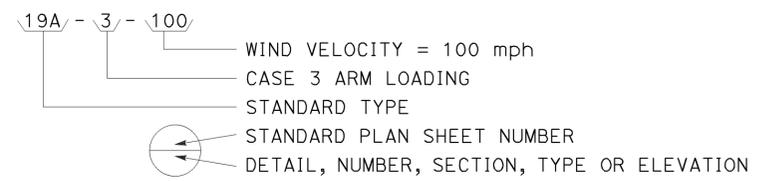
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



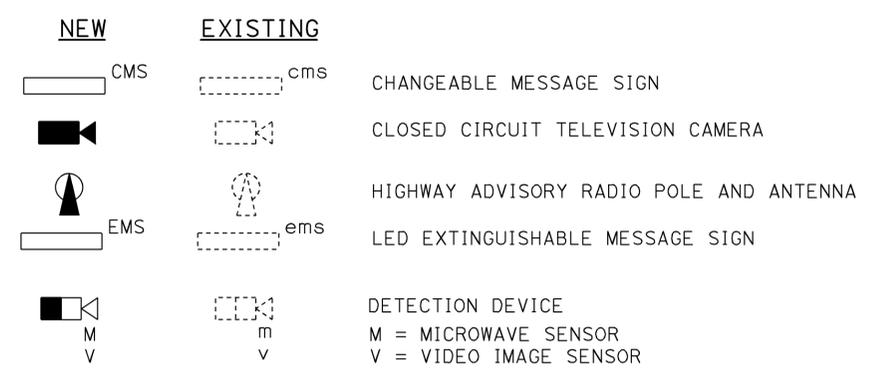
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



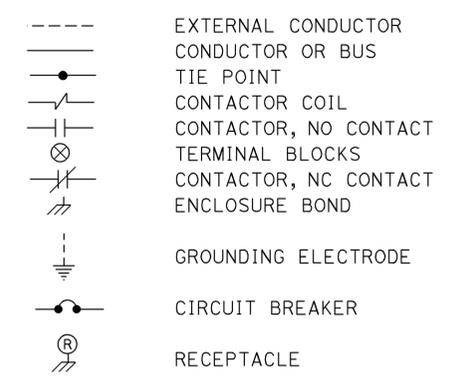
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



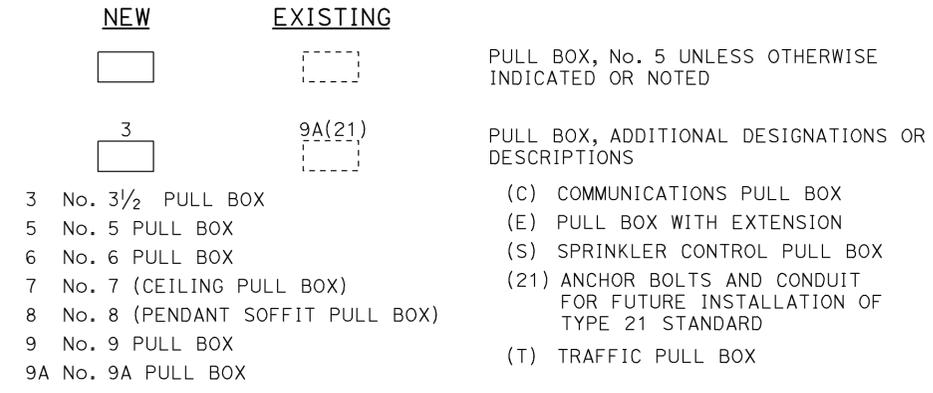
### MISCELLANEOUS EQUIPMENT



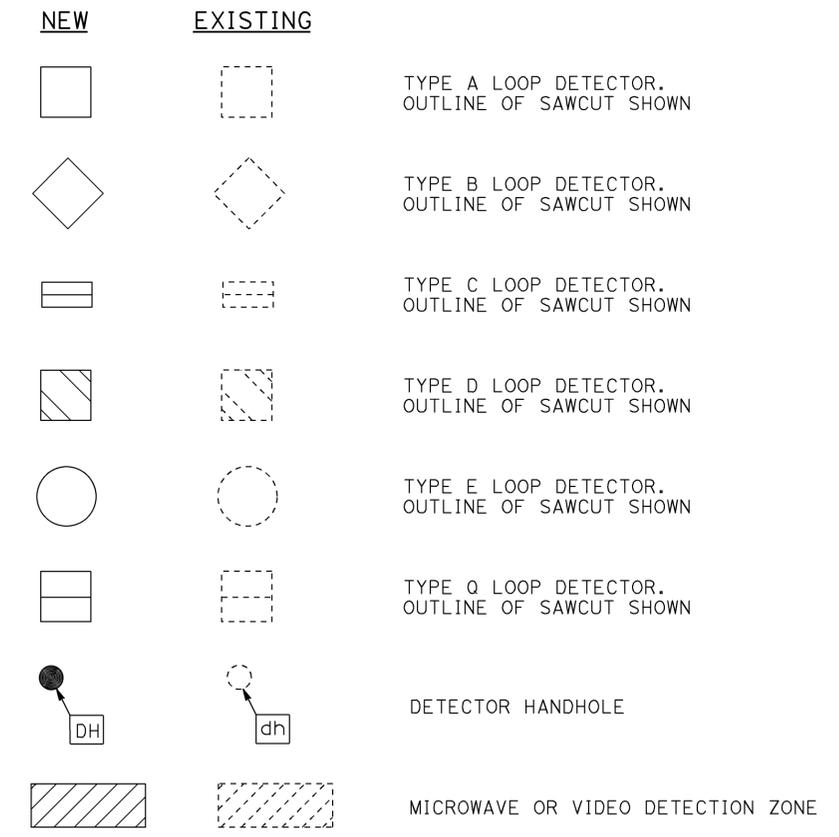
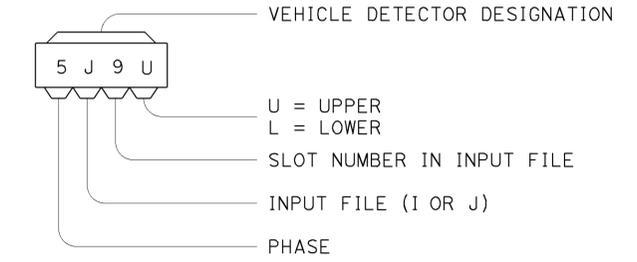
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



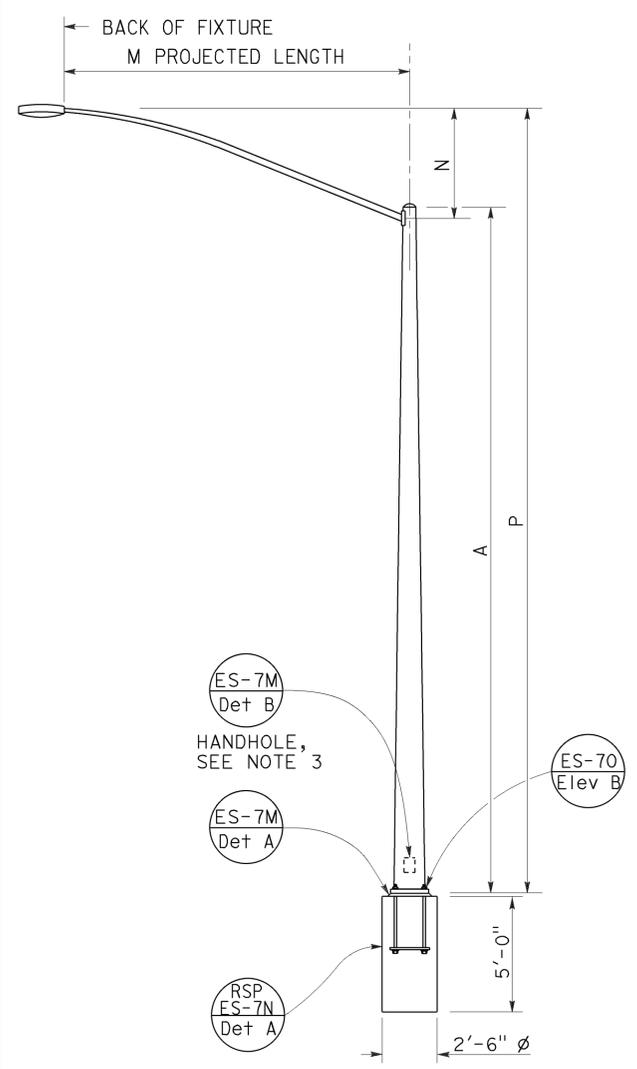
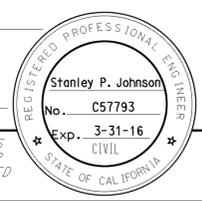
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

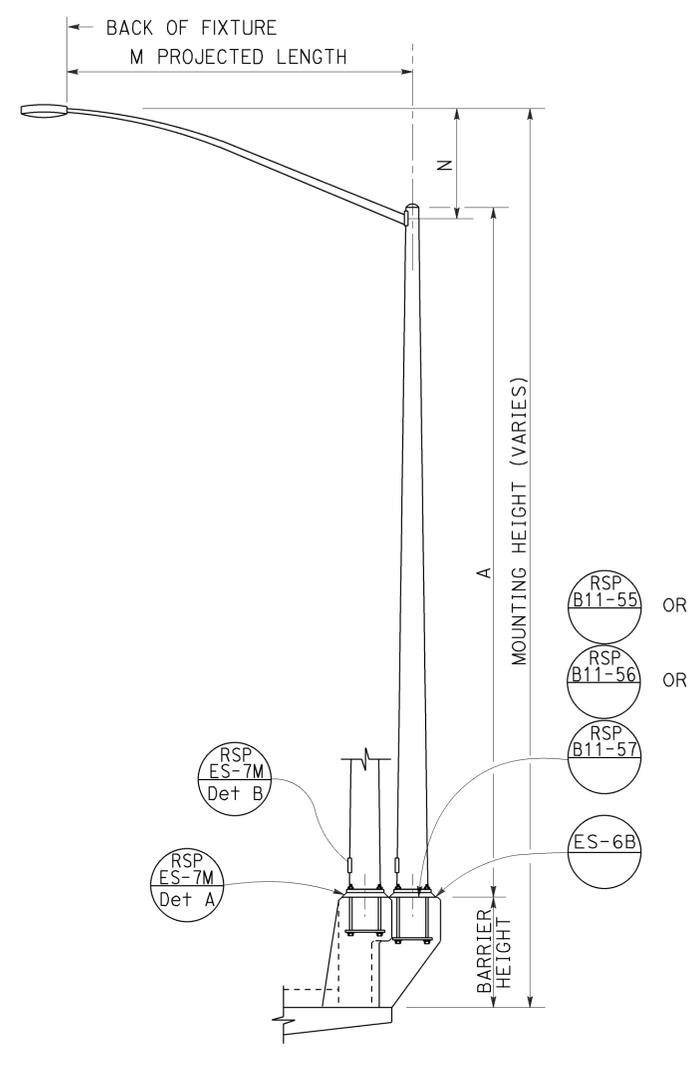
NO SCALE

RSP ES-1C DATED 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.

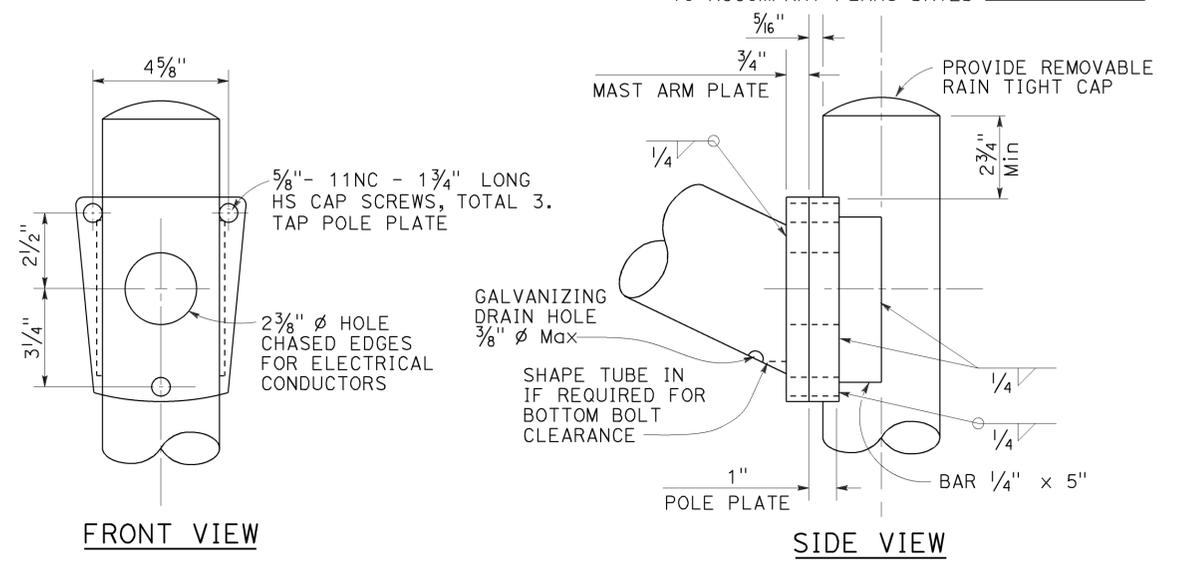
2010 REVISED STANDARD PLAN RSP ES-1C



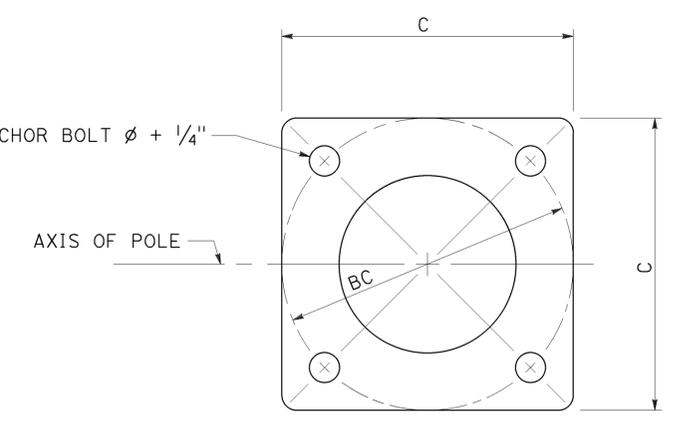
**TYPE 15 AND TYPE 21  
ELEVATION A**



**TYPE 15 AND TYPE 21 BARRIER RAIL MOUNTED  
ELEVATION B**



**LUMINAIRE MAST ARM CONNECTION  
DETAIL R**



**BASE PLATE  
DETAIL A**

POLE TYPE	POLE DATA			BASE PLATE DATA			
	A HEIGHT	Min OD BASE	WALL THICKNESS TOP	C	BC = BOLT CIRCLE	THICKNESS	ANCHOR BOLT SIZE
15	30'-0"	8"	3 11/16"	1'-0"	1'-0"	2"	1" Ø x 3'-0" *
21	35'-0"	8 5/8"	3 3/16"	1'-0"	1'-0"	2"	1 1/4" Ø x 3'-0" *

\* FOR BARRIER RAIL BOLTS, SEE STANDARD PLAN ES-6B.

LUMINAIRE MAST ARM DATA					
M PROJECTED LENGTH	N RISE	Min OD AT POLE	NOMINAL THICKNESS	P	
				TYPE 15	TYPE 21
6'-0"	2'-0"±	3 1/4"	0.1196"	31'-6"±	36'-6"±
8'-0"	2'-6"±	3 1/2"		32'-0"±	37'-0"±
10'-0"	3'-3"±	3 3/8"		32'-9"±	37'-9"±
12'-0"	4'-3"±	3 7/8"		33'-9"±	38'-9"±
15'-0"	4'-9"±	4 1/4"		34'-3"±	39'-3"±

**NOTES:**

- Indicates mast arm length to be used unless otherwise noted on the plans.
- For Type 15-SB, use Type 15 standard with Type 30 slip base plate details, see Revised Standard Plan RSP ES-6F.
- Handhole shall be located on the downstream side of traffic.
- For additional notes and details, see Revised Standard Plans RSP ES-7M and RSP ES-7N.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (LIGHTING STANDARD,  
 TYPES 15 AND 21)**  
 NO SCALE

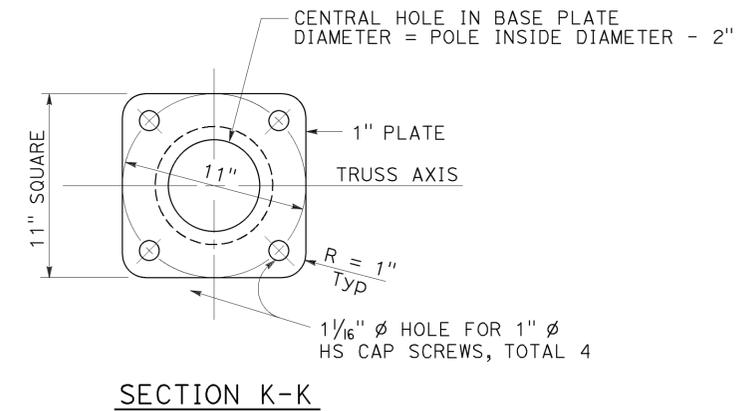
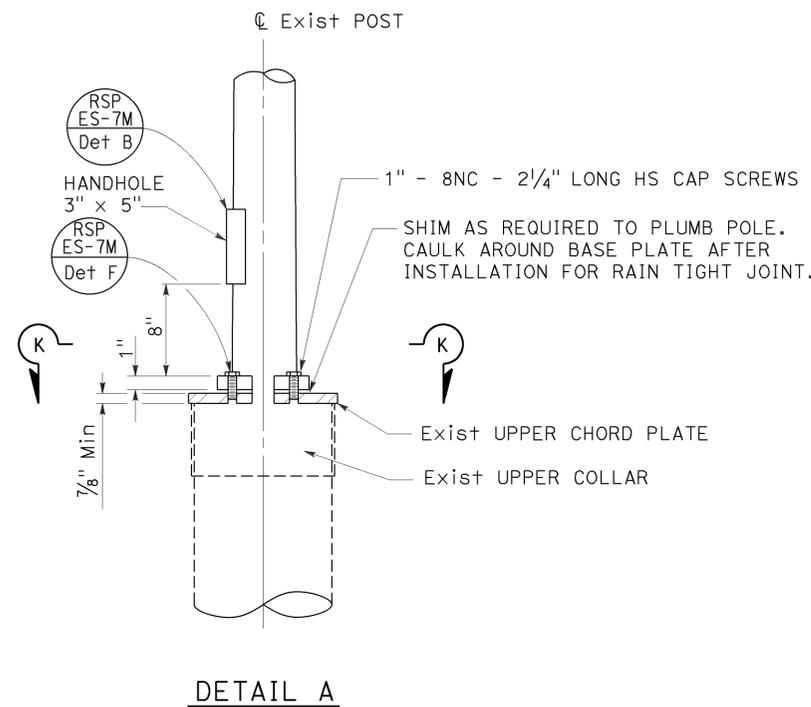
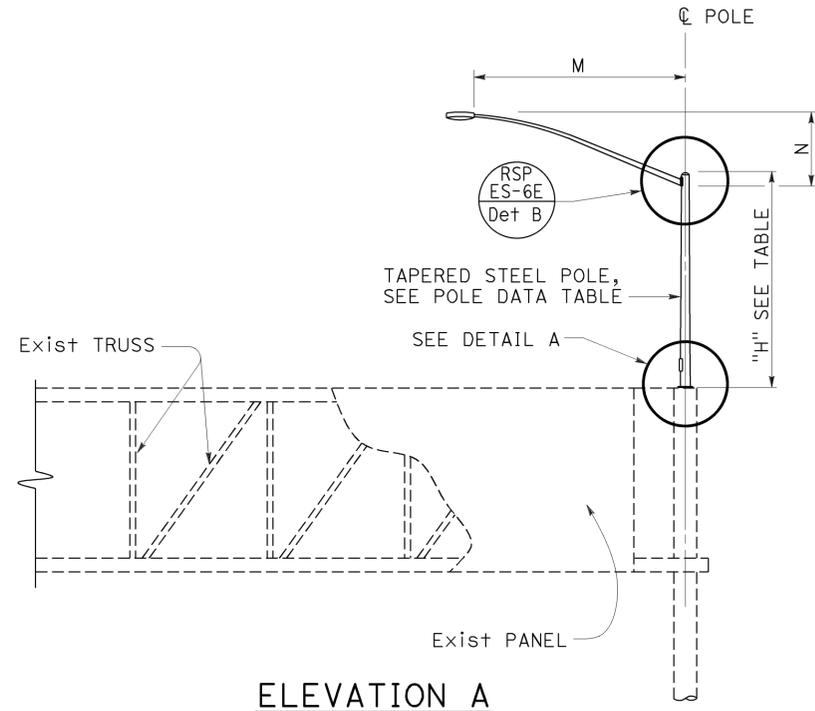
RSP ES-6A DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-6A DATED MAY 20, 2011 - PAGE 452 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-6A

TO ACCOMPANY PLANS DATED 11-23-15

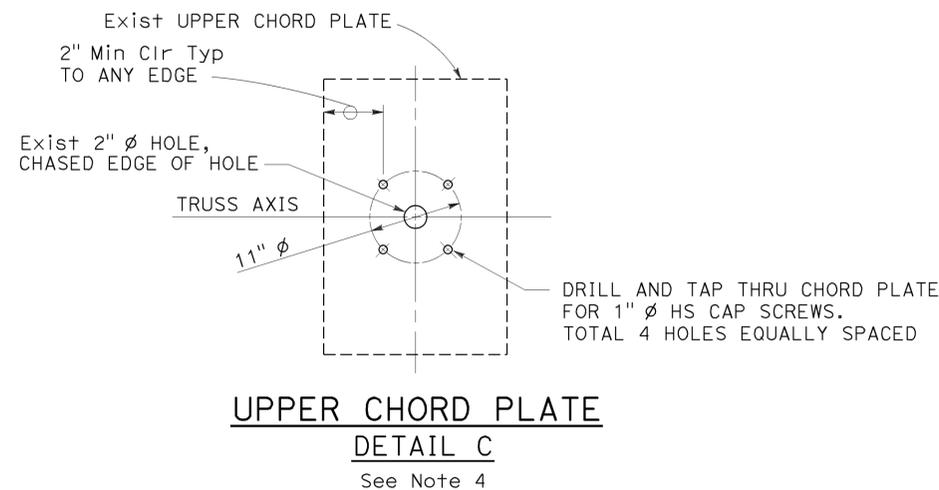
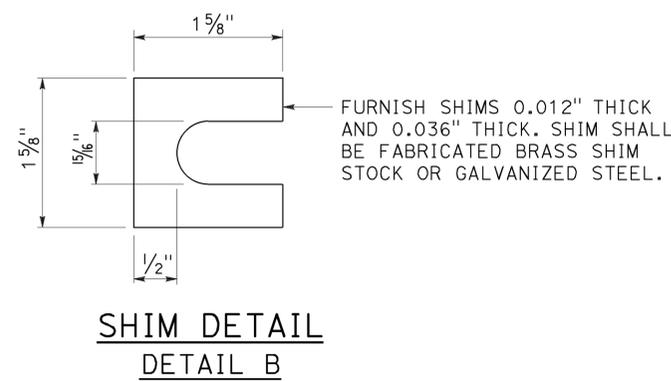
LUMINAIRE MAST ARM DATA			
M PROJECTED LENGTH	N RISE	Min OD AT POLE	NOMINAL THICKNESS
15'-0"	4'-9"±	4 1/4"	0.1196"
20'-0"	2'-6"±	5"	0.1793"

POLE DATA				
POLE EXTENSION TYPE	HEIGHT "H"	Min OD		THICKNESS
		BASE	TOP	
5	5'-0"	6 1/2"	5 1/6"	0.1793"
10	10'-0"	7 1/4"		



**NOTES:**

- The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.
- Bolt hole locations may vary at the discretion of the Engineer.
- Wind Loading (Fastest Mile): 80 mph AASHTO.
- See Standard Plan S13.
- Unit stresses (Structural Steel):
  - fy = 55,000 psi tapered steel tube (pole)
  - fy = 50,000 psi unless otherwise noted



STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(LIGHTING STANDARD,  
TYPES 5 AND 10,  
OVERHEAD SIGN MOUNTED)**

NO SCALE

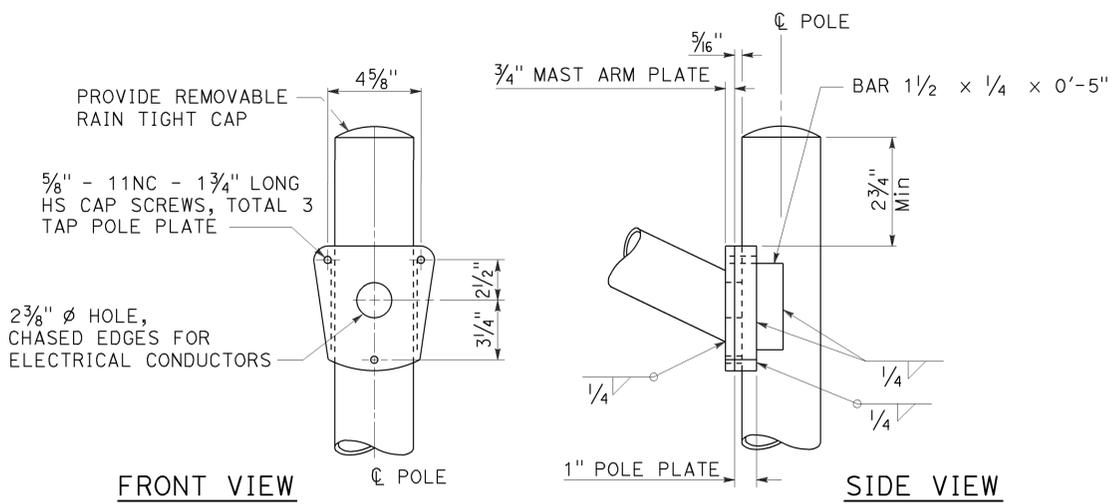
RSP ES-6C DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-6C DATED MAY 20, 2011 - PAGE 454 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-6C**

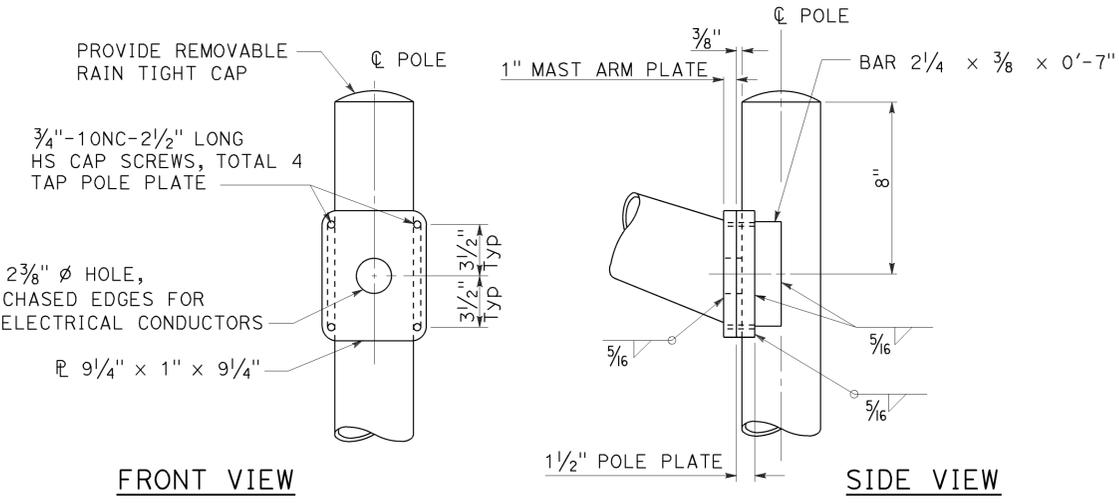
2010 REVISED STANDARD PLAN RSP ES-6C

LUMINAIRE MAST ARM DATA			
PROJECTED LENGTH	THICKNESS	MINIMUM OD AT POLE	MOUNTING HEIGHT
* 6'-0"	0.1196"	3 1/4"	36'-9"±
* 8'-0"		3 1/2"	37'-3"±
* 10'-0"		3 3/4"	38'-0"±
* 12'-0"		4 1/4"	39'-0"±
** 20'-0"	0.1793"	5"	37'-0"±

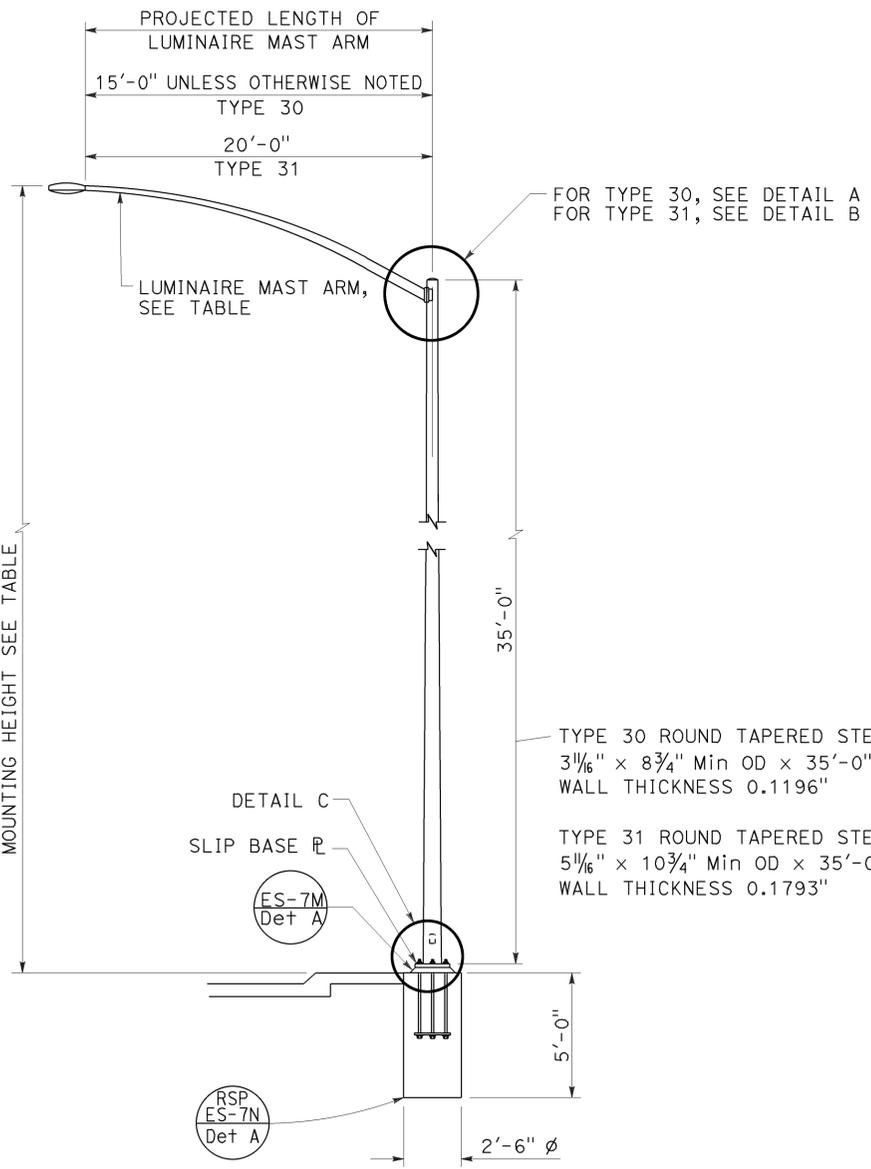
\* TYPE 30  
\*\* TYPE 31



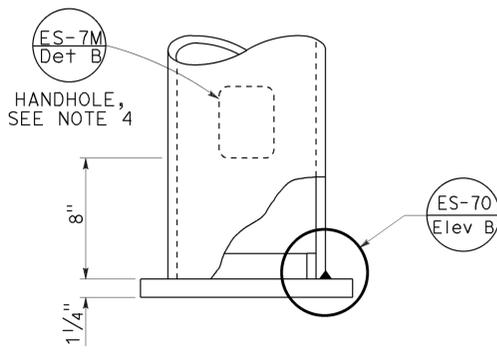
**TYPE 30  
DETAIL A**



**TYPE 31  
DETAIL B**



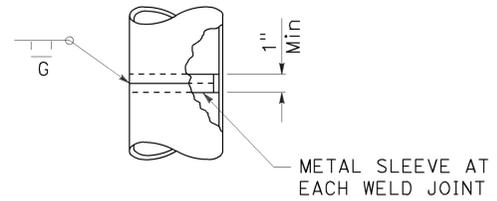
**ELEVATION A**



**DETAIL C**

**NOTES:**

1. For slip base plate details, see Revised Standard Plan RSP ES-6F.
2. For Type 30 fixed base use Type 15 base plate and foundation shown on Revised Standard Plan RSP ES-6A. Use 1 1/4 inch Dia x 3'-6 inch anchor bolts.
3. For Type 31 fixed base use Type 32 base plate, anchor bolts and foundation on Revised Standard Plan RSP ES-6G.
4. Handhole shall be located on the downstream side of traffic.
5. For additional notes and details, see Revised Standard Plans RSP ES-7M and RSP ES-7N.



**POLE SPLICE**

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
(LIGHTING STANDARD,  
TYPES 30 AND 31)**

NO SCALE

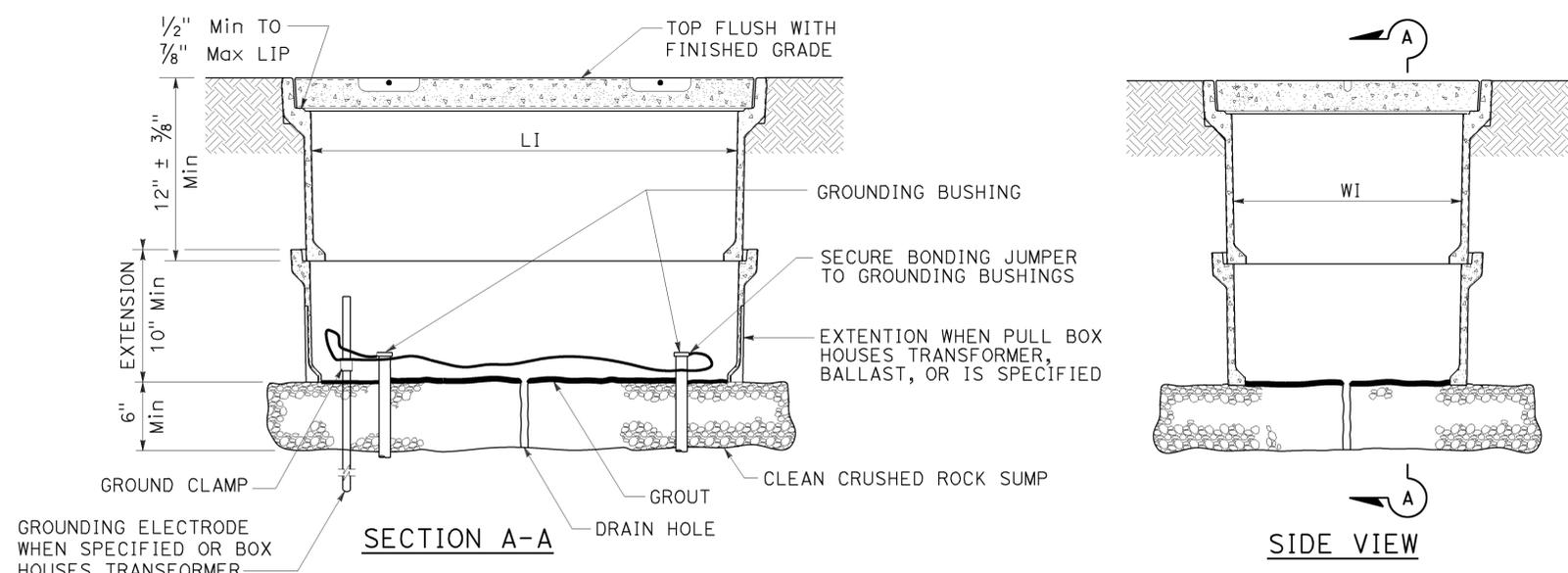
RSP ES-6E DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-6E DATED MAY 20, 2011 - PAGE 456 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-6E

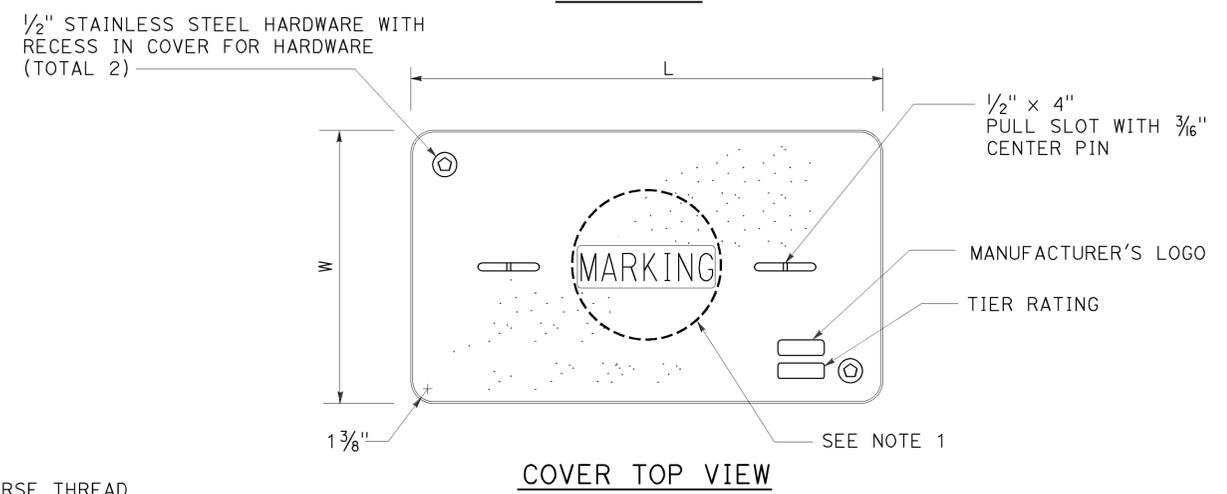
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	Sac	5, 80	Var	35	38

Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 October 30, 2015  
 PLANS APPROVAL DATE  
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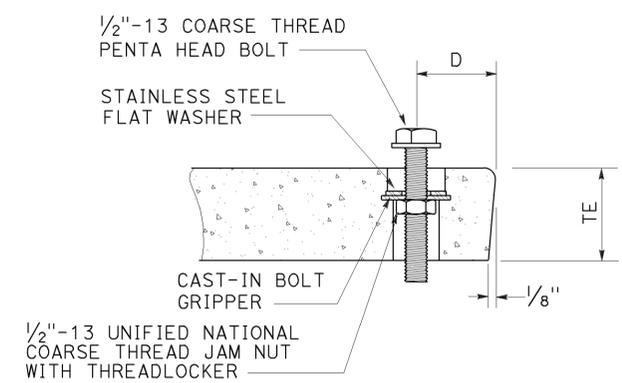
TO ACCOMPANY PLANS DATED 11-23-15



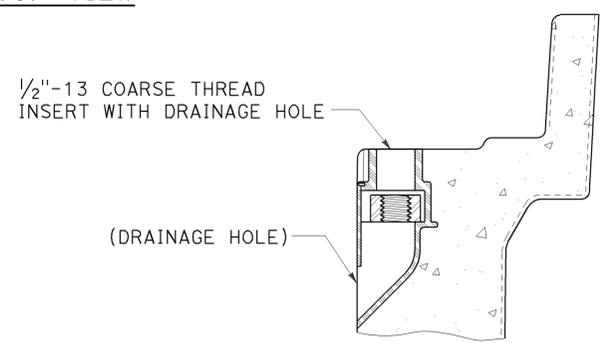
**INSTALLATION DETAILS**  
**DETAIL A**



**COVER TOP VIEW**



**TYPICAL COVER CAPTIVE BOLT**  
OR SIMILAR



**TYPICAL THREADED INSERT**  
OR SIMILAR

**NOTES:**

- 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 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, 6, 9 or 9A 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.
    - "COMMUNICATIONS" - Communication circuits.
    - "TOS COMMUNICATIONS" - TOS communication line.
    - "TOS POWER" - TOS power.
    - "TDC POWER" - Telephone demarcation cabinet power.
    - "CCTV" - Closed circuit television circuits.
    - "TMS" - Traffic monitoring station circuits.
    - "CMS" - Changeable message sign circuits.
    - "HAR" - Highway advisory radio circuits.
    - "BOOSTER PUMP" - Booster pump circuit.
- 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". Top outside radius of covers and pull boxes shall have a 1/8" radius.
- Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.
- Dimensions for the cover for non-traffic pull box are nominal values.

DIMENSION TABLE										
PULL BOX	PULL BOX				COVER					
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MINIMUM WEIGHT	LI Min	WI Min	TE	D	L	W	MINIMUM WEIGHT
No. 3 1/2	12"	N/A	40 lb	1' - 3"	9"	1 3/4"	1 3/4"	1'-3 1/4" - 1'-3 3/8"	10" - 10 1/8"	30 lb
No. 5	12"	10"	55 lb	1' - 8"	11"	2"	1 3/4"	1'-11 1/4"	1'-1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 4 1/4"	1' - 3 1/4"	2"	2"	2'-6 1/2"	1'-5 1/2"	85 lb

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

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

**REVISED STANDARD PLAN RSP ES-8A**

2010 REVISED STANDARD PLAN RSP ES-8A

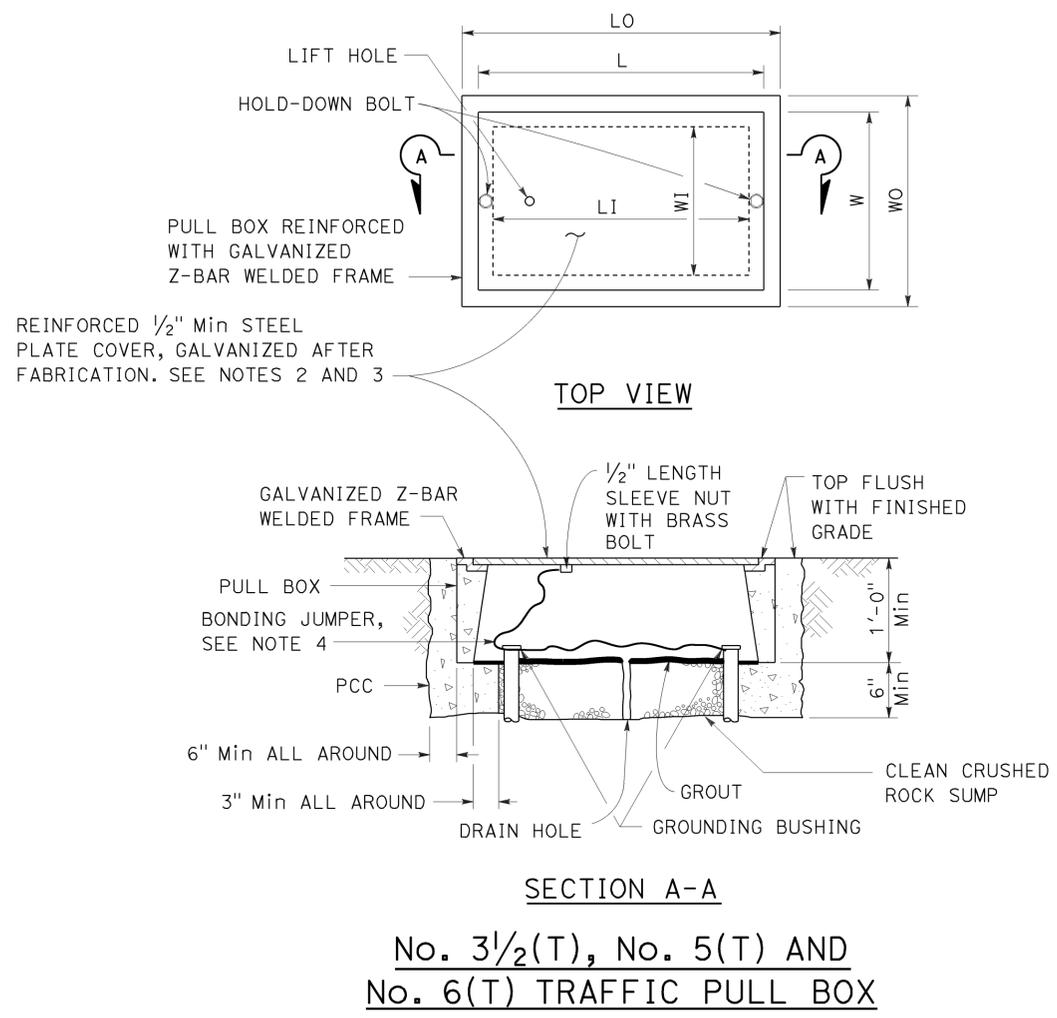
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	Sac	5, 80	Var	36	38

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

October 30, 2015  
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 11-23-15



**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	LO	LI	WO	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"

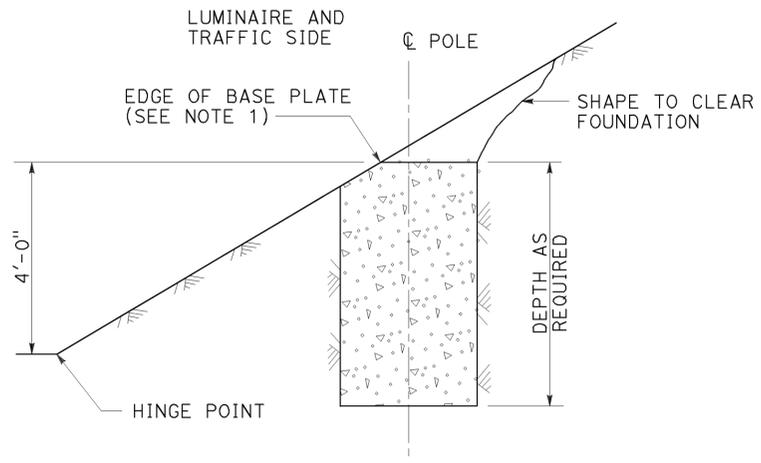
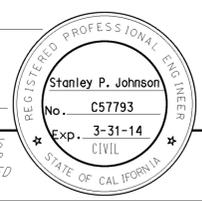
\* EXCLUDING CONDUIT WEB      \*\* TOP DIMENSION

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

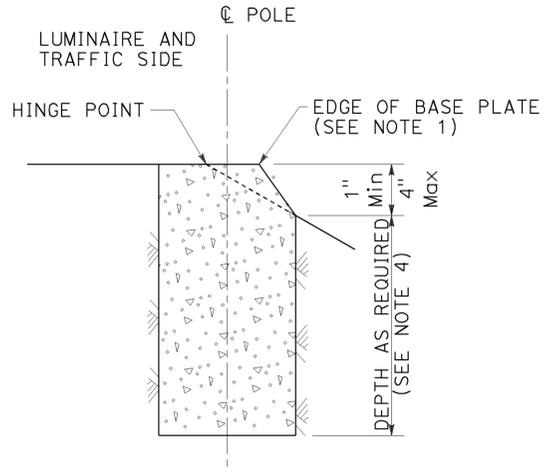
RSP ES-8B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-8B DATED JULY 19, 2013 AND RSP ES-8B DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-8B**

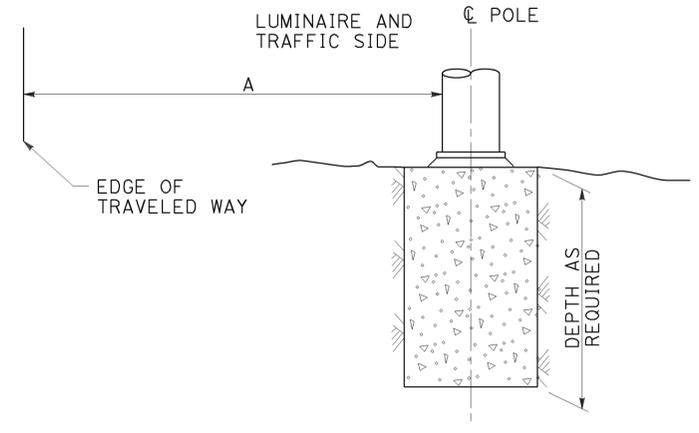
2010 REVISED STANDARD PLAN RSP ES-8B



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



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



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

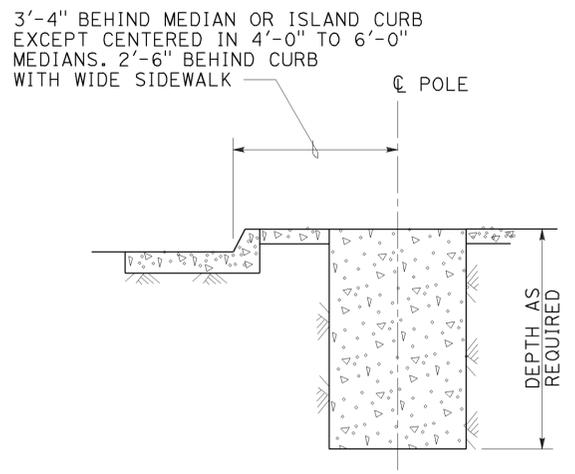
TO ACCOMPANY PLANS DATED 11-23-15

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

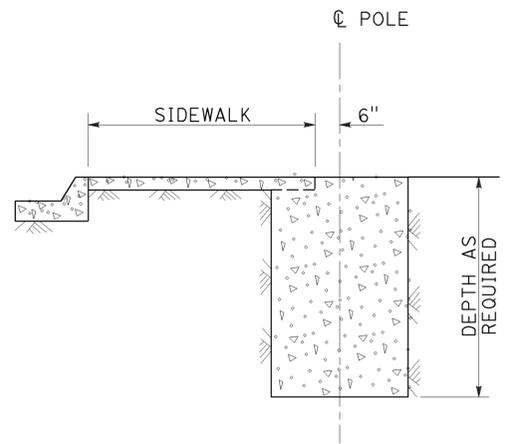
FOUNDATIONS ADJACENT TO ALL ROADWAYS EXCEPT  
IN SIDEWALK, MEDIAN AND ISLAND AREAS  
DETAIL A

NOTES:

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.

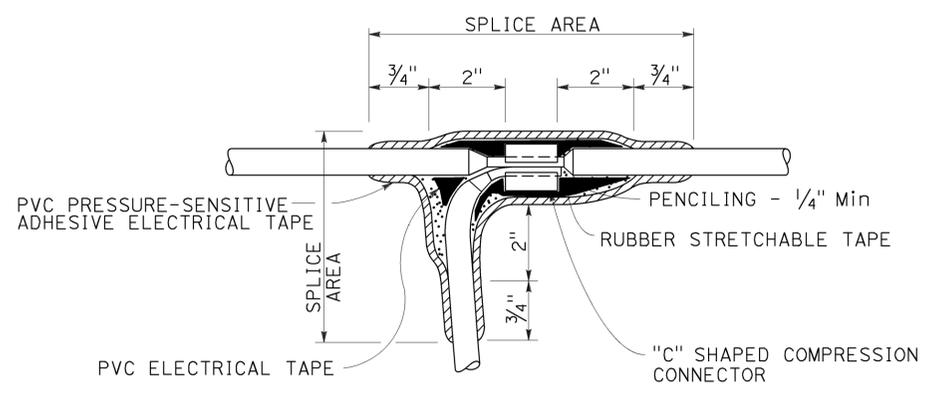
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Sac	5, 80	Var	38	38

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

October 30, 2015  
 PLANS APPROVAL DATE

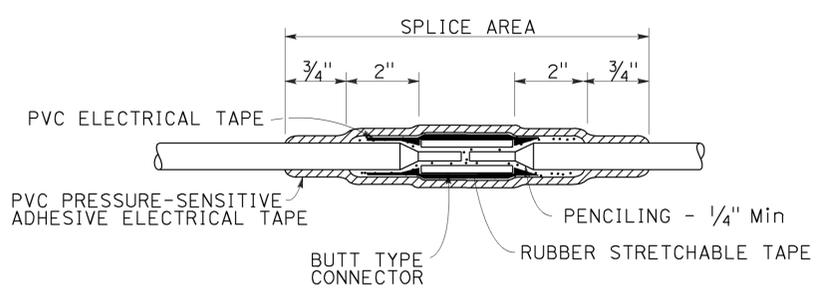
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TO ACCOMPANY PLANS DATED 11-23-15



**TYPE C SPLICE**

See Note 3

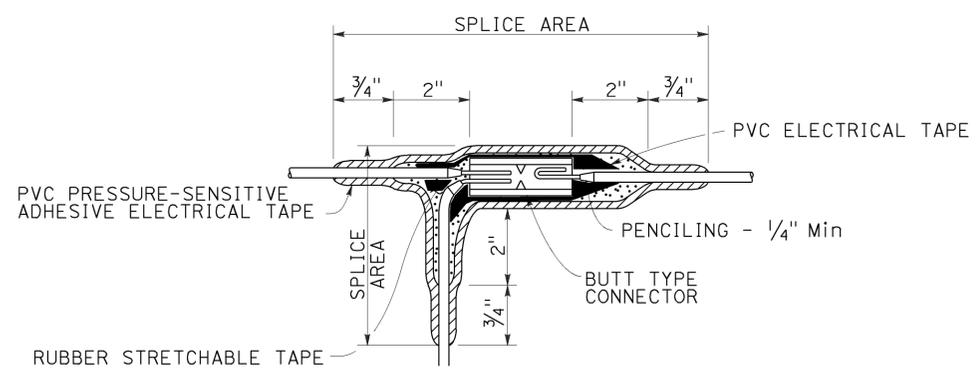


**TYPE S SPLICE**

See Note 4

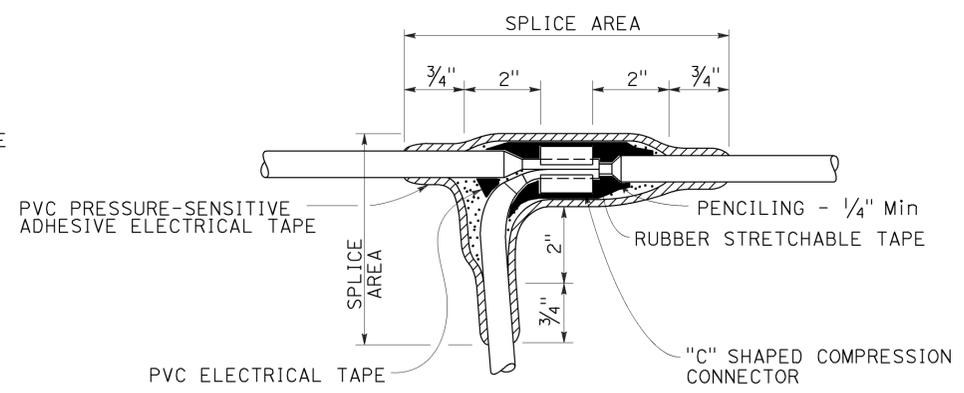
**NOTES:**

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