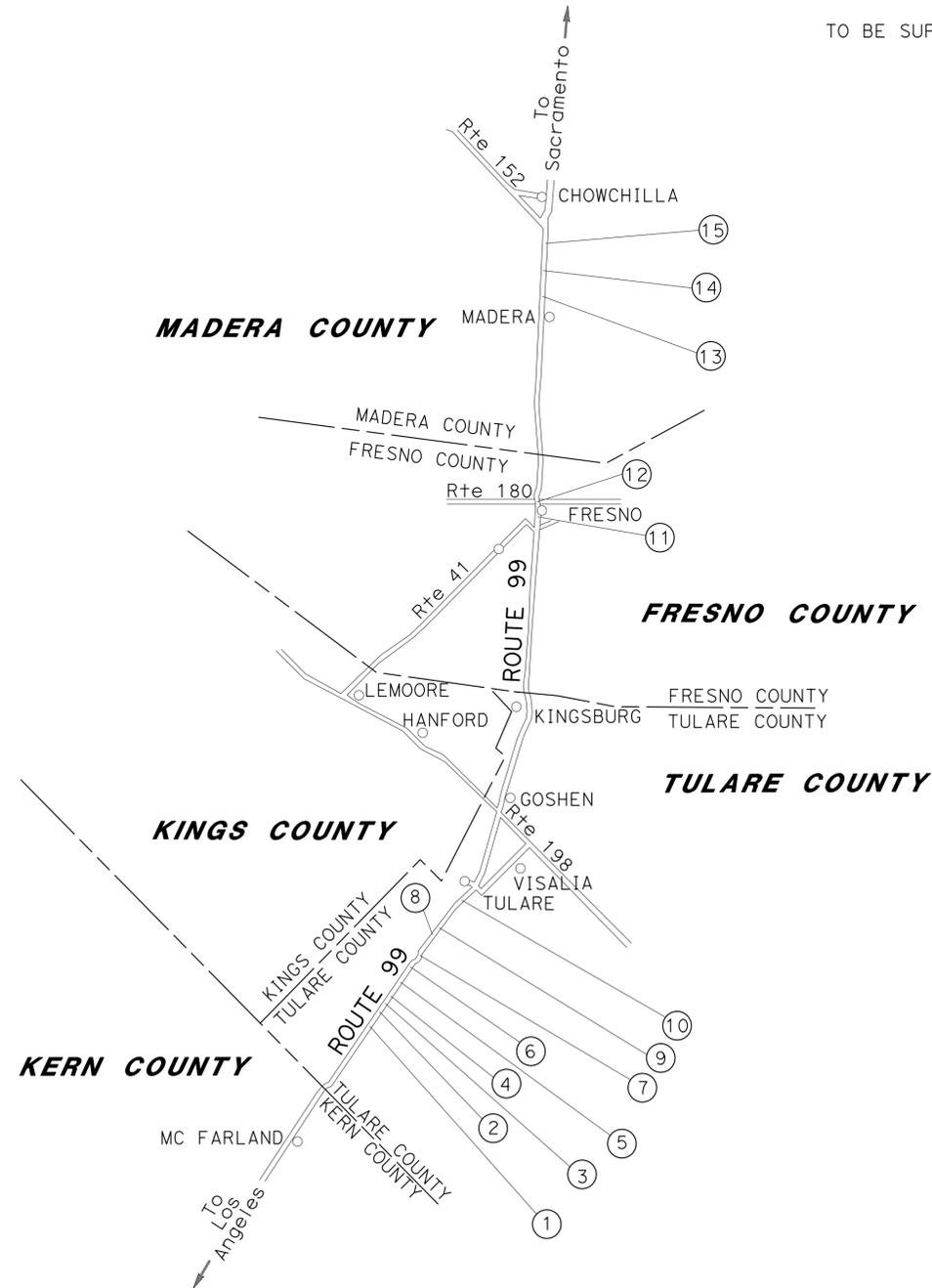
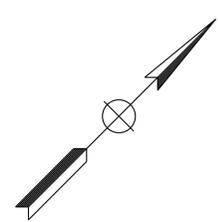


SHEET No.	INDEX OF PLANS DESCRIPTION
1	TITLE AND LOCATION MAP
2	CONSTRUCTION AREA SIGNS
3	EROSION CONTROL LEGEND AND QUANTITIES
4-25	ELECTRICAL PLANS
26-37	REVISED STANDARD PLANS

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

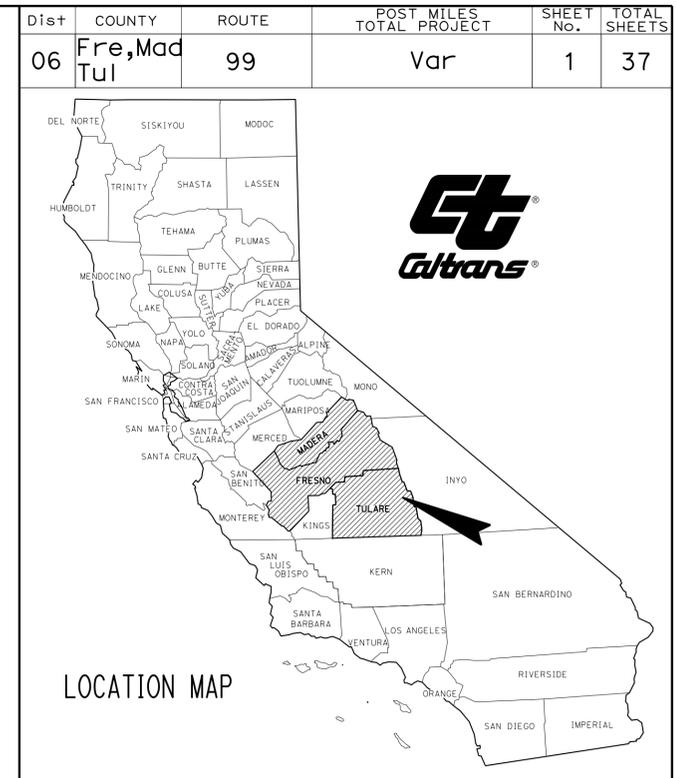
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN FRESNO, MADERA AND TULARE COUNTIES
AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



LOCATIONS OF CONSTRUCTION

No.	COUNTY	ROUTE	POST MILE	DIRECTION	DESCRIPTION
①	Tul	99	9.19	NB/SB	AT AVENUE 72
②	Tul	99	11.28	NB/SB	1.0 MILE NORTH OF AVENUE 80
③	Tul	99	12.49	NB/SB	AT NORTH OF AVENUE 96
④	Tul	99	13.59	NB/SB	1.3 MILES NORTH OF AVENUE 96
⑤	Tul	99	15.62	NB/SB	AT NORTH OF AVENUE 120
⑥	Tul	99	17.79	NB/SB	0.6 MILE SOUTH OF ROUTE 190
⑦	Tul	99	19.56	NB/SB	AT NORTH OF AVENUE 152 OC
⑧	Tul	99	22.16	NB/SB	AT REST AREA
⑨	Tul	99	23.58	NB/SB	AT AVENUE 184
⑩	Tul	99	27.78	NB/SB	AT PAIGE Rd
⑪	Fre	99	21.50	NB/SB	AT NB OFF RAMP TO 180
⑫	Fre	99	21.81	NB/SB	AT ROUTE 180
⑬	Mad	99	16.66	NB/SB	AT AVENUE 18½
⑭	Mad	99	18.99	NB/SB	AT SOUTH OF AVENUE 20½
⑮	Mad	99	22.04	NB/SB	AT NORTH OF AVENUE 22½



PROJECT MANAGER
JEANNIE WILEY
 DESIGN ENGINEER
ALI ALOATAMI

NO SCALE

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

Jasvir Singh 1-30-16
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER



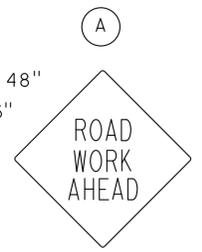
February 16, 2016
 PLANS APPROVAL DATE

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.

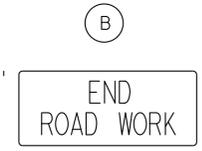
CONTRACT No.	06-OT0804
PROJECT ID	0615000015

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	2	37
9/21/16 - ALI			12-23-15	REGISTERED CIVIL ENGINEER DATE	
2-16-16			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>					

SIGN CODE W20-1
 PANEL SIZE 48" X 48"
 POST SIZE 4" x 6"
 No. OF POST 2



SIGN CODE G20-2
 PANEL SIZE 48" X 24"
 POST SIZE 4" x 6"
 No. OF POST 1

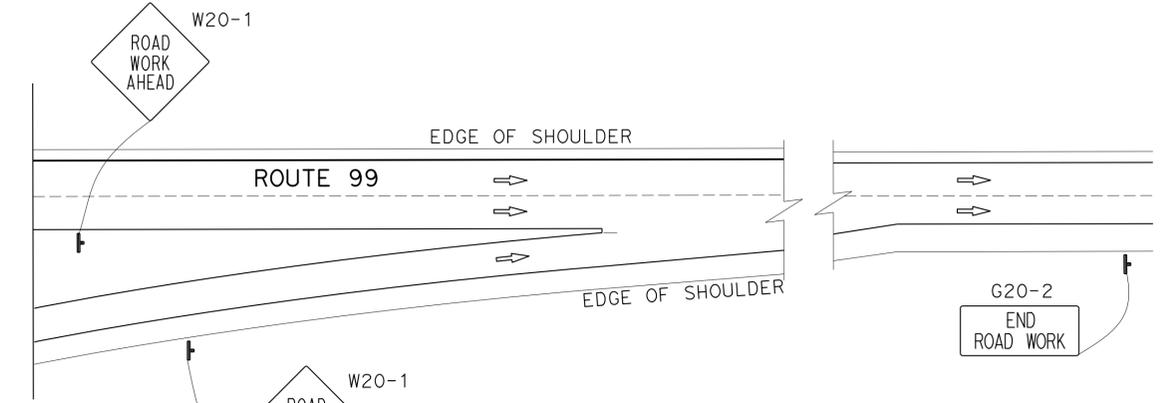


LEGEND
 DIRECTION OF TRAFFIC
 CONSTRUCTION AREA SIGNS

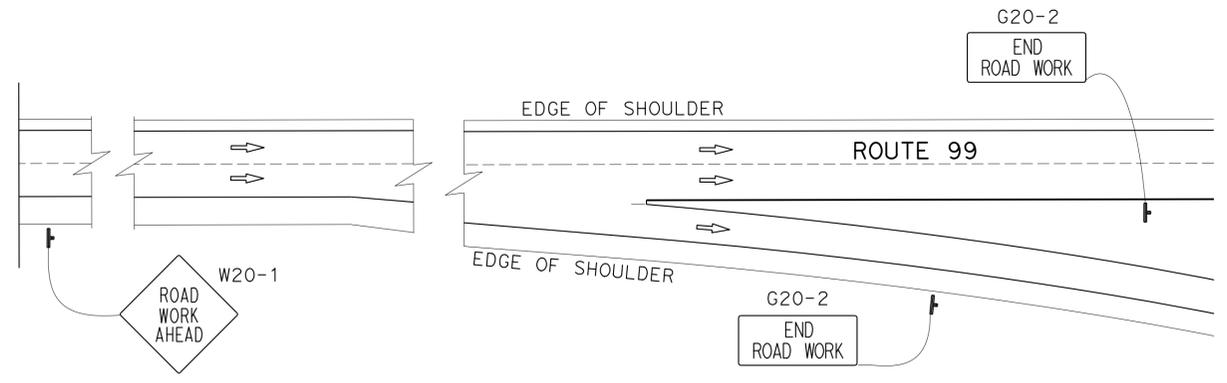
STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

LOCATION No.	DIRECTION	SIGN No. (A)	SIGN No. (B)
①	NB	2	2
	SB	1	2
②	NB	2	1
	SB	2	2
③	NB	2	1
	SB	2	2
④	NB	2	1
	SB	2	2
⑤	NB	2	2
	SB	2	2
⑥	NB	2	2
	SB	2	2
⑦	NB	2	2
	SB	2	2
⑧	NB	2	1
	SB	2	2
⑨	NB	2	2
	SB	2	2
⑩	NB	2	2
	SB	2	2
⑪	NB	2	2
	SB	3	2
⑫	NB	2	2
	SB	2	2
⑬	NB	2	1
	SB	3	2
⑭	NB	2	2
	SB	2	2
⑮	NB	2	2
	SB	2	2
EACH		61	56

NOTE: EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.



TYPICAL PLACEMENT OF CONSTRUCTION AREA SIGNS AT ON RAMP/CONNECTOR



TYPICAL PLACEMENT OF CONSTRUCTION AREA SIGNS AT OFF RAMP/CONNECTOR

CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans TRAFFIC DESIGN
 FUNCTIONAL SUPERVISOR: MOHAMMAD QATAMI
 CALCULATED/DESIGNED BY: SARAH LESNIKOWSKI
 CHECKED BY: MAZIN AL-ALI
 REVISED BY: DATE
 REVISIONS:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad, Tul	99	Var	3	37

Edward A. Hibbs
LICENSED LANDSCAPE ARCHITECT

2-16-16
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.

EROSION CONTROL QUANTITIES

SHEET	LOCATION					DESCRIPTION	COMPOST	DRY SEED	HYDROMULCH	REMARKS		
	No.	Co	POST MILE	SB	NB		SQFT	SQFT	SQFT			
NOT SHOWN ON PLANS	1	Tul	9.19	X		EROSION CONTROL	267	267	267	S OF Ave 72 (NEXT TO CMS)		
	2		11.28				103	103	103	ALILA Ave, S OF PIXLEY		
	3		12.49				X	291	291	291	N OF Ave 96 (PIXLEY)	
	4		13.59				X	144	144	144	N OF PIXLEY	
	5		15.62				X	763	763	763	N OF Ave 120	
	6		17.79				X	242	242	242	S OF Rte 190 (NEXT TO CMS)	
	7		19.56		X			128	128	128	Ave 152 OC	
	8		22.16				X	1,135	1,135	1,135	N OF Ave 164	
	9		23.58				X	689	689	689	Ave 184	
	10		25.74				X	565	565	565	K St	
	11		27.78				X	813	813	813	PAIGE	
	12		19.01	Fre				X	144	144	144	CHURCH Ave
	13		19.78					X	144	144	144	CALIFORNIA Ave
	14		20.42				X		689	689	689	KERN St
	15	20.45					X	144	144	144	KERN St	
	16	20.56					X	689	689	689	TULARE St	
	17	20.90			X			465	465	465	TUOLUMNE St	
	18	21.50					X	515	515	515	EL DORADO St	
	19	21.81			X			859	859	859	Rte 99/180 Jct	
	20	R16.66	Mad				X	1,394	1,394	1,394	N OF Ave 18 1/2	
	21	R18.99					X	1,905	1,905	1,905	S OF Ave 20 1/2	
	22	22.04					X	144	144	144	N OF Ave 21 1/2	
TOTAL							12,232	12,232	12,232			

SEED MIX

BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
ESCHSCHOLZIA CALIFORNICA (CALIFORNIA POPPY)	60	0.7
FESTUCA IDAHOENSIS (IDAHO FESCUE)	70	4.8
LAYIA PLATYGLOSSA (TIDYTIPS)	70	0.9
LINARIA MAROCCANA (TOADFLAX)	70	0.4
LUPINUS BICOLOR (PIGMY-LEAVED LUPINE)	70	1.7
POA SECUNDA (SCABRELLA) (PINE BLUEGRASS)	60	0.9
TRIFOLIUM HIRTUM 'HYKON' (HYKON ROSE CLOVER)	80	1.2

EROSION CONTROL

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE	REMARKS
		DESCRIPTION	TYPE		
STEP 1	COMPOST	COMPOST	MEDIUM	270 CY/ACRE	APPLY SIMULTANEOUSLY
	DRY SEED	SEED	MIX	10.6 LB/ACRE	
STEP 2	HYDROMULCH	FIBER	WOOD	1500 LB/ACRE	
		TACKIFIER	PSYLLIUM	140 LB/ACRE	

EROSION CONTROL LEGEND AND QUANTITIES ECL-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans LANDSCAPE ARCHITECTURE
 SENIOR LANDSCAPE ARCHITECT
 ED HIBBS
 REVISOR
 00/00/00
 REVISED BY
 ED HIBBS
 DATE
 00/00/00
 CALCULATED/DESIGNED BY
 ED HIBBS
 CHECKED BY
 KEVIN GALLO
 DATE
 00/00/00
 SENIOR LANDSCAPE ARCHITECT
 BRAD COLE
 DATE
 00/00/00

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	4	37

REGISTERED EIECT ENGINEER DATE 2-16-16

2-16-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
HASHIM KHALID
No. 18054
Exp. 6/30/17
ELECT

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 Exist 120/240 V, 1Ø, 3-WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:
Ctid No. (06460990025570L)

No	AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
1	100	240	2	MAIN BREAKER	YES	—
4	80	120	1	CHANGEABLE MESSAGE SIGN	YES	—
1	40	120	1	334-C CABINET	YES	—
1	**20	120	1	TDC	YES	—
1	40	240	2	HIGHWAY LIGHTING	YES	IV
1	* 30	120	1	TMS CABINET	YES	—

* ADD CB AND NAMEPLATE
** RC CB.

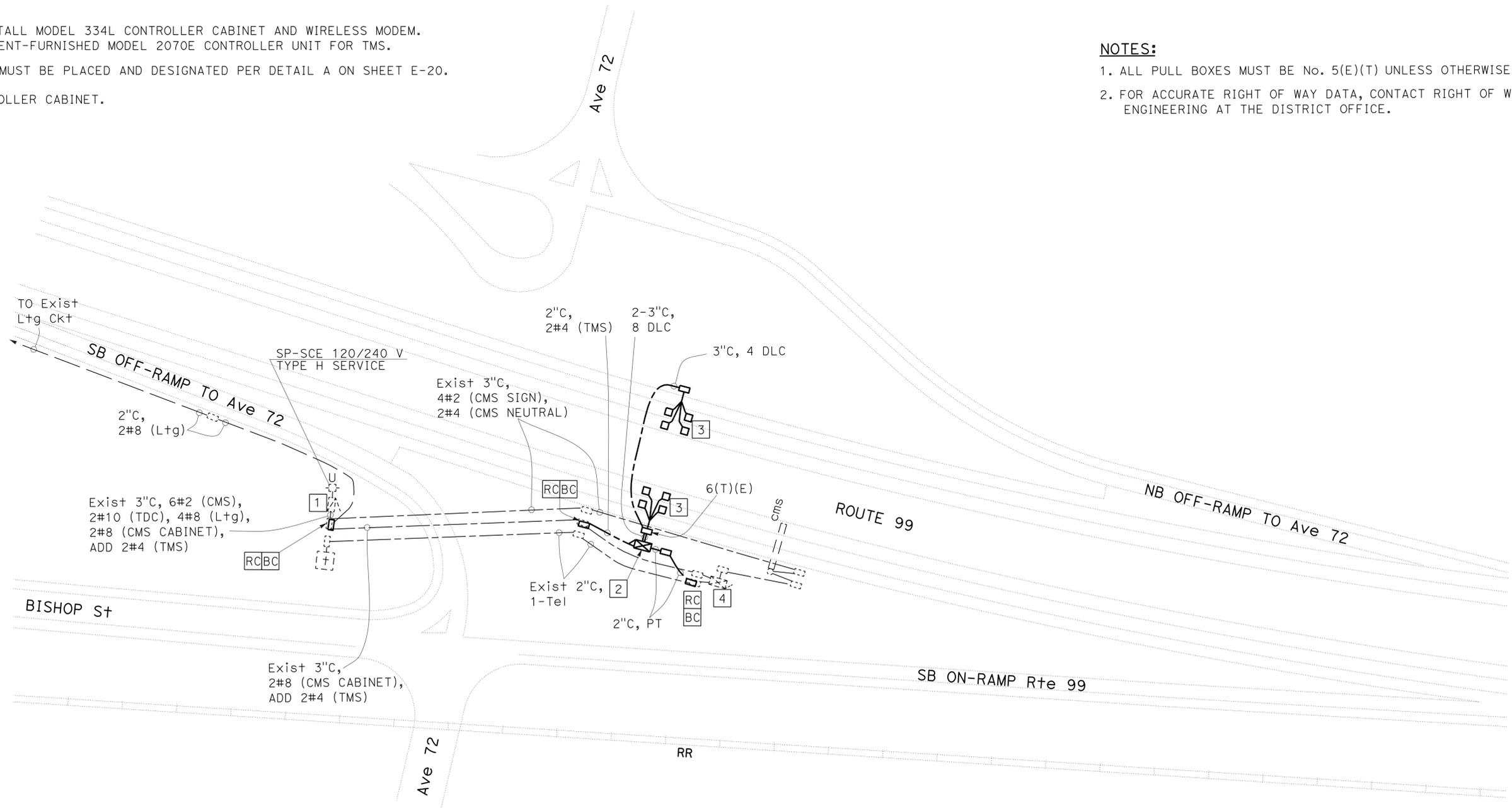
- 2 FURNISH AND INSTALL MODEL 334L CONTROLLER CABINET AND WIRELESS MODEM. INSTALL DEPARTMENT-FURNISHED MODEL 2070E CONTROLLER UNIT FOR TMS.
- 3 LOOP DETECTORS MUST BE PLACED AND DESIGNATED PER DETAIL A ON SHEET E-20.
- 4 Exist CMS CONTROLLER CABINET.

ABBREVIATIONS:

SCE SOUTHERN CALIFORNIA EDISON
STC SCREENED TRANSMISSION CABLE

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.



Tul 99 - PM 9.19

**TRAFFIC MONITORING STATION (LOCATION 1)
E-1**

APPROVED FOR ELECTRICAL WORK ONLY

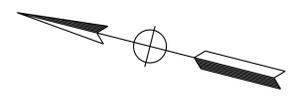
SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR: ALI BAKHDOD
REVISOR: HASHIM MOHAMED KHALID, PAUL MATOS
CALCULATED/DESIGNED BY: CHECKED BY:

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	5	37
REGISTERED ELECT ENGINEER			DATE	2-16-16	
PLANS APPROVAL DATE			2-16-16		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

LEGEND: (FOR THIS SHEET ONLY)

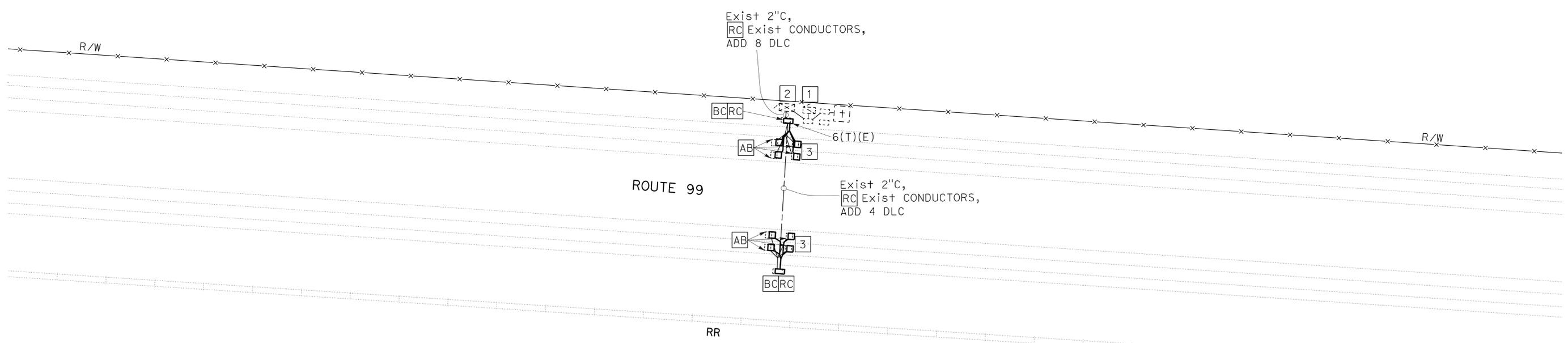
- 1 Exist TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- 2 Exist CONTROLLER CABINET. RS MODEL 170 CONTOLLER UNIT. INSTALL DEPARTMENT-FURNISHED MODEL 2070E CONTROLLER UNIT FOR TMS. FURNISH AND INSTALL WIRELESS MODEM.
- 3 LOOP DETECTORS MUST BE PLACED AND DESIGNATED PER DETAIL A ON SHEET E-20.



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.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
 CALCULATED/DESIGNED BY: PAUL MATOS
 CHECKED BY: PAUL MATOS
 REVISIONS: (None)
 REVISOR: (None)
 DATE: (None)
 REVISOR: (None)
 DATE: (None)



Tul 99 - PM 11.28

**TRAFFIC MONITORING STATION (LOCATION 2)
E-2**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

LAST REVISION: DATE PLOTTED => 17-FEB-2016
 01-28-16 TIME PLOTTED => 11:05

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	6	37

REGISTERED ELECTRIC ENGINEER DATE 2-16-16
 HASHIM KHALID
 No. 18054
 Exp. 6/30/17
 ELECT
 STATE OF CALIFORNIA
 2-16-16
 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: (FOR THIS SHEET ONLY)

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

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
**100	240	4	MAIN BREAKER	YES/NO	—
40	240	2	HIGHWAY LIGHTING	YES	IV
*100	240	2	MAIN BREAKER	YES	—
* 30	120	1	TMS CABINET	YES	—

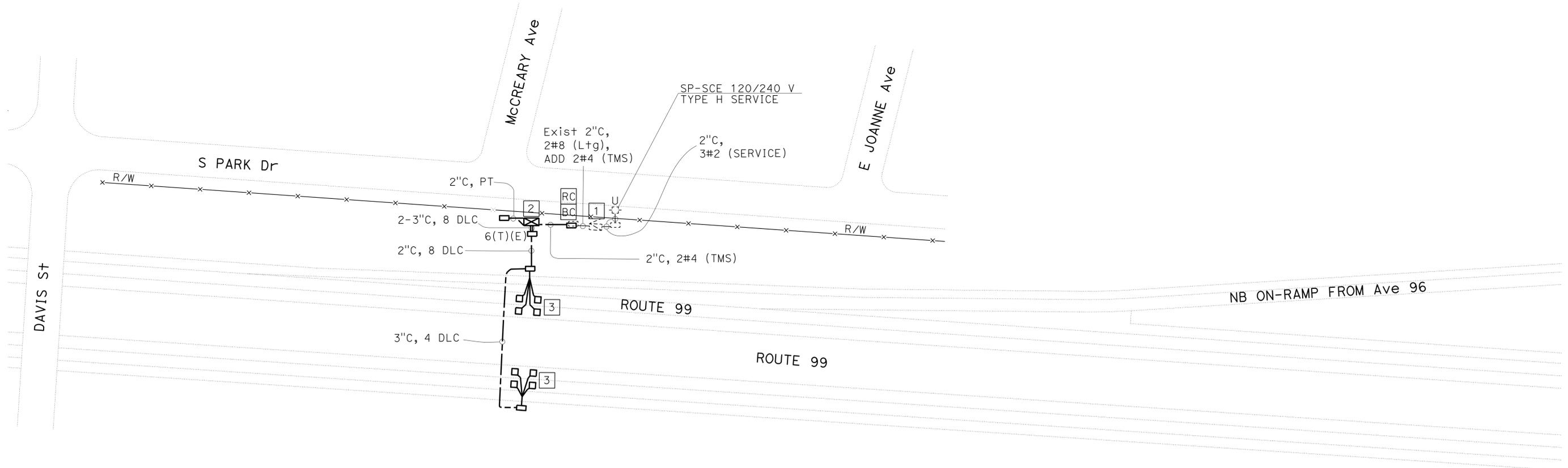
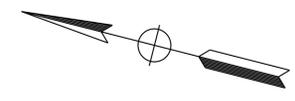
* ADD CB AND NAMEPLATE
 ** RC CB.

2 FURNISH AND INSTALL MODEL 334L CONTROLLER CABINET AND WIRELESS MODEM. INSTALL DEPARTMENT-FURNISHED MODEL 2070E CONTROLLER UNIT FOR TMS.

3 LOOP DETECTORS MUST BE PLACED AND DESIGNATED PER DETAIL A ON SHEET E-20.

NOTES:

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
 CALCULATED/DESIGNED BY: [blank]
 CHECKED BY: [blank]
 REVISIONS: [blank]
 REVISOR: [blank]
 DATE: [blank]
 REVISOR: [blank]
 DATE: [blank]

Tul 99 - PM 12.49 TRAFFIC MONITORING STATION (LOCATION 3) E-3

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	9	37

REGISTERED ELECTRIC ENGINEER DATE 2-16-16

PLANS APPROVAL DATE 2-16-16

HASHIM KHALID
No. 18054
Exp. 6/30/17
ELECT

REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

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

LEGEND: (FOR THIS SHEET ONLY)

- 1 Exist 120/240 V, 1 ϕ , 3-WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:
Ctid No. (06460990017820T)

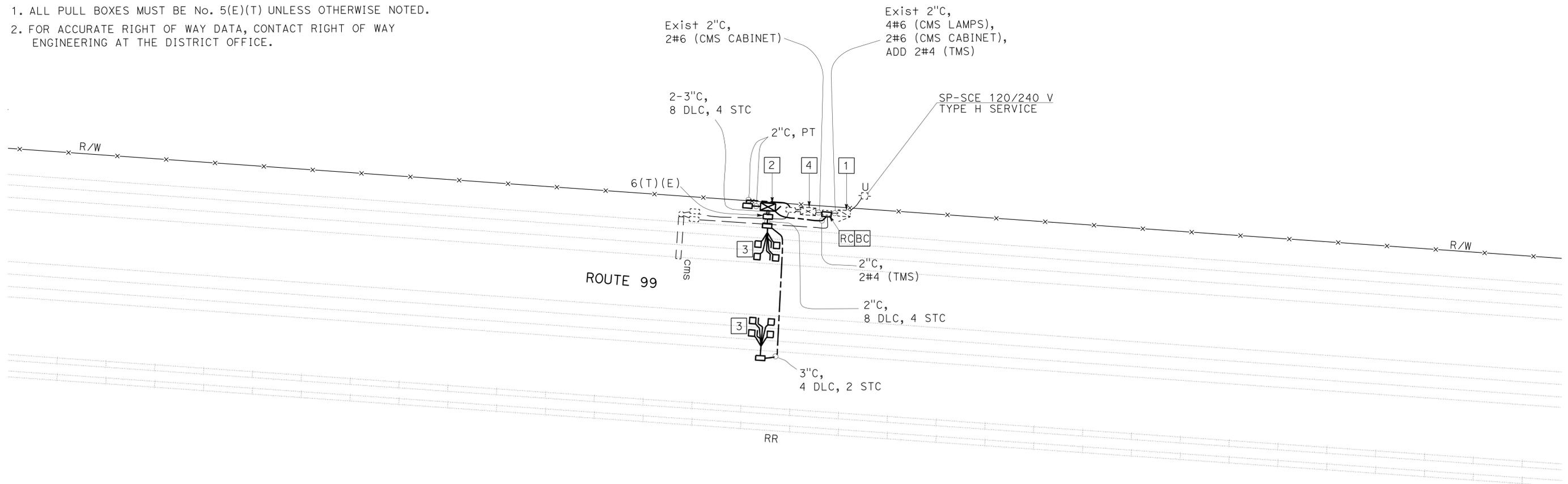
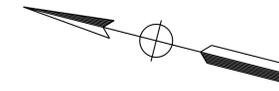
AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	---
30	240	2	CHANGEABLE MESSAGE SIGN	YES	---
60	120	1	CMS CABINET	YES	---
20	120	1	SPARE	YES	---
---	---	4	SPACES	---	---
* 30	120	1	TMS CABINET	YES	---

* ADD CB AND NAMEPLATE

- 2 FURNISH AND INSTALL MODEL 334L CONTROLLER CABINET AND WIRELESS MODEM. INSTALL DEPARTMENT-FURNISHED MODEL 2070E CONTROLLER UNIT FOR TMS.
- 3 LOOP DETECTORS AND PIEZO AXLE SENSORS MUST BE PLACED AND DESIGNATED PER DETAILS B AND C ON SHEET E-20.
- 4 Exist CMS CONTROLLER CABINET.

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.



REVISOR: HASHIM MOHAMED KHALID
DATE: 2-16-16
DESIGNER: PAUL MATOS
CHECKED BY: ALI BAKHDOUD
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
DEPARTMENT OF TRANSPORTATION - ELECTRICAL DESIGN

Tul 99 - PM 17.79 TRAFFIC MONITORING STATION (LOCATION 6) E-6

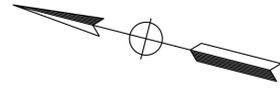
APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	10	37
			2-16-16		
REGISTERED ELECT ENGINEER			DATE		
2-16-16			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>					

LEGEND: (FOR THIS SHEET ONLY)

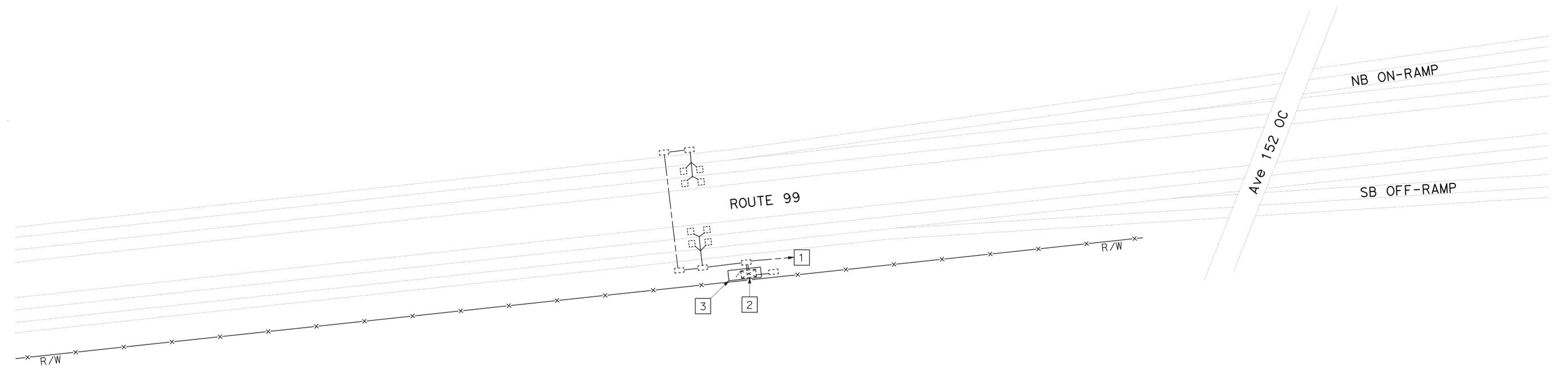
- 1 TO Exist TYPE III-BF SERVICE EQUIPMENT ENCLOSURE LOCATED ON THE NORTH WEST CORNER OF BUMETT Rd APPROXIMATELY 1,100'.
- 2 Exist CONTROLLER CABINET. RS MODEL 170 CONTOLLER UNIT. INSTALL DEPARTMENT-FURNISHED MODEL 2070E CONTROLLER UNIT FOR TMS. FURNISH AND INSTALL WIRELESS MODEM.
- 3 RC Exist CONCRETE PAD. INSTALL 10'x5'x4" PCC PAD.



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.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
 CALCULATED/DESIGNED BY: PAUL MATOS
 REVISOR: HASHIM MOHAMED KHALID
 REVISIONS: (Empty table)



Tul 99 - PM 19.56 TRAFFIC MONITORING STATION (LOCATION 7)

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

E-7

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	12	37

REGISTERED ELECTRIC ENGINEER		DATE
2-16-16		2-16-16
PLANS APPROVAL DATE		

REGISTERED PROFESSIONAL ENGINEER	
HASHIM KHALID	
No.	18054
Exp.	6/30/17
ELECT	

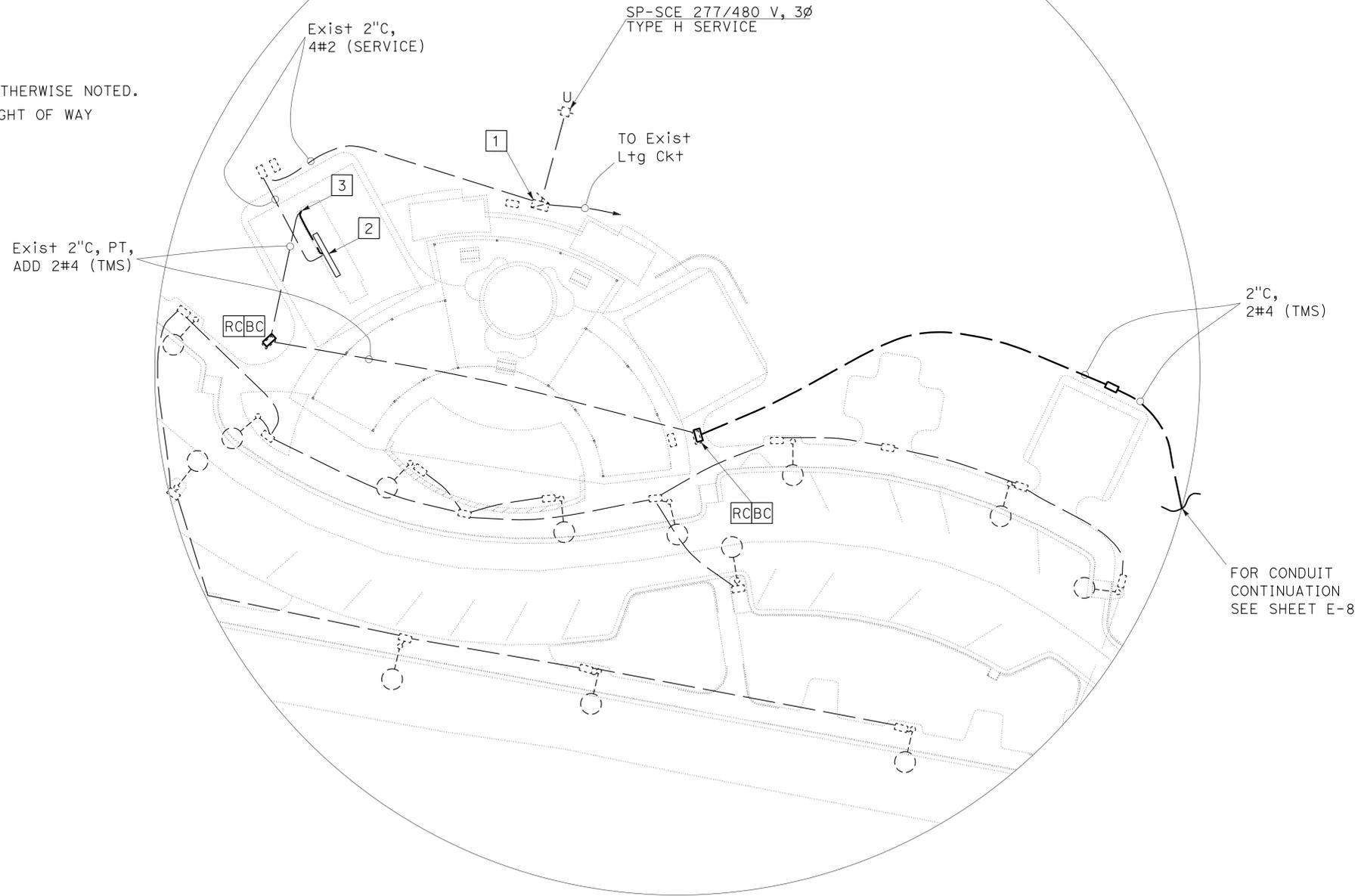
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND: (FOR SHEET E-8, E-9 AND E-19)

- 1 Exist 277/480 V, 3Ø, 3-WIRE, SERVICE EQUIPMENT ENCLOSURE.
- 2 Exist PANEL B WITH 208/120 V, 3Ø, 4-WIRE, 150 A MAIN CIRCUIT BREAKERS. ADD 30 A, 120 V, 1P CIRCUIT BREAKER FOR TMS CONTROLLER CABINET. FOR MORE DETAILS SEE SHEET E-20.
- 3 Exist 2" C TYPE 1, PT, POSITIONED AT 1" ABOVE FG. EXTEND TO PANEL B.
- 4 FURNISH AND INSTALL MODEL 334L CONTROLLER CABINET AND WIRELESS MODEM. INSTALL DEPARTMENT-FURNISHED MODEL 2070E CONTROLLER UNIT FOR TMS.
- 5 LOOP DETECTORS MUST BE PLACED AND DESIGNATED PER DETAIL A ON SHEET E-20.

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.



PHILIP RAINE REST AREA NB
DETAIL A

Tul 99 - PM 22.16

**TRAFFIC MONITORING STATION (LOCATION 8)
E-9**

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR
ALI BAKHDOUD

REVISOR
HASHIM MOHAMED KHALID
PAUL MATOS

DESIGNER
CALCULATED-DESIGNED BY
CHECKED BY

REVISOR
DATE
DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	14	37

REGISTERED ELECTRICIAN DATE 2-16-16

REGISTERED PROFESSIONAL ENGINEER

HASHIM KHALID

No. 18054

Exp. 6/30/17

ELECT

STATE OF CALIFORNIA

PLANS APPROVAL DATE 2-16-16

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)

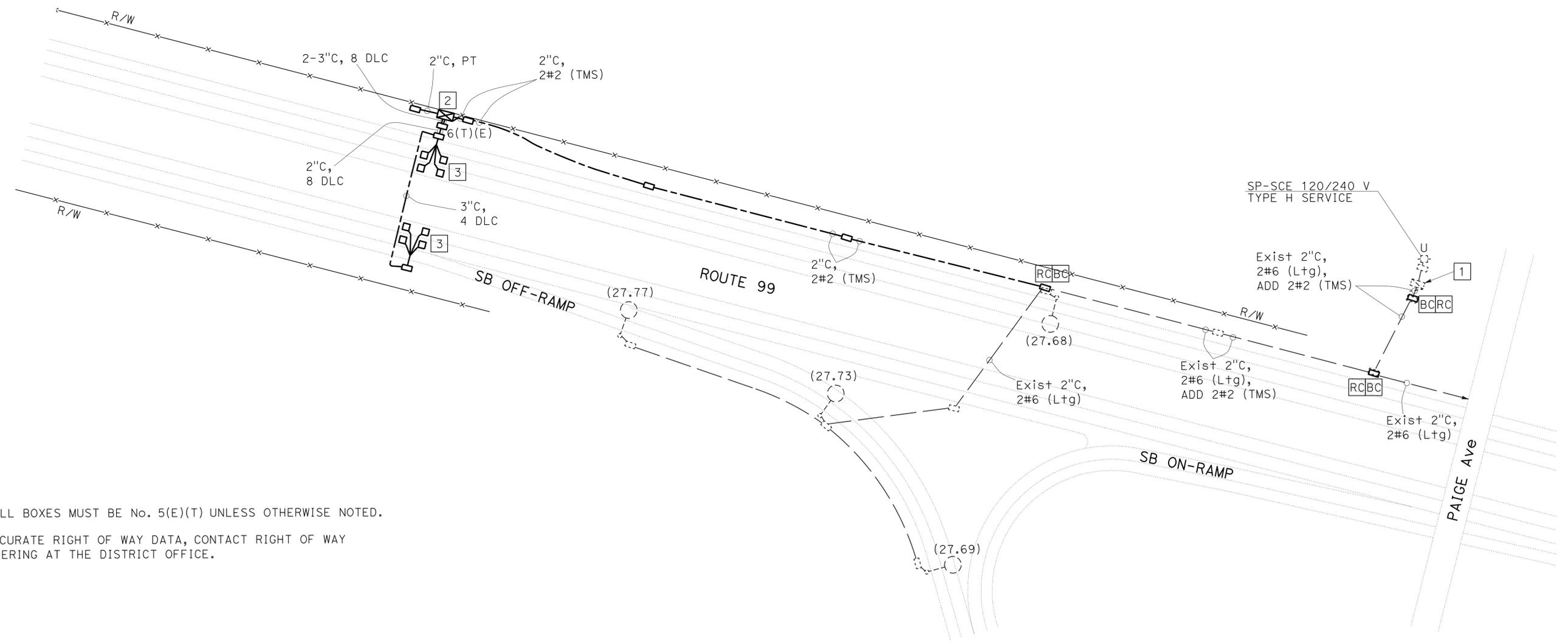
1 Exist 120/240 V, 1 ϕ , 3-WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
**100	240	4	MAIN BREAKER	YES/NO	—
40	240	2	HIGHWAY LIGHTING	NO	IV
40	240	2	SIGN LIGHTING	NO	SC-3
40	120	1	SPARE	—	—
*100	240	2	MAIN BREAKER	YES	—
* 30	120	1	TMS CABINET	YES	—

* ADD CB AND NAMEPLATE
 ** RC CB.

2 FURNISH AND INSTALL MODEL 334L CONTROLLER CABINET AND WIRELESS MODEM. INSTALL DEPARTMENT-FURNISHED MODEL 2070E CONTROLLER UNIT FOR TMS.

3 LOOP DETECTORS MUST BE PLACED AND DESIGNATED PER DETAIL A ON SHEET E-20.



NOTES:

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

Tul 99 - PM 27.78 TRAFFIC MONITORING STATION (LOCATION 10) E-11

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHOUD

CALCULATED/DESIGNED BY: HASHIM MOHAMED KHALID

CHECKED BY: PAUL MATOS

REVISOR: REVISION DATE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	16	37

REGISTERED EIECT ENGINEER DATE 2-16-16

PLANS APPROVAL DATE 2-16-16

REGISTERED PROFESSIONAL ENGINEER
 No. 18054
 Exp. 6/30/17
 ELECT

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

Ctid No. 06420990021440T

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	---
60	240	2	BP CONTROL ENCLOSURE	YES	---
40	240	1	SPARE	YES	---

Ctid No. 06420990021440L

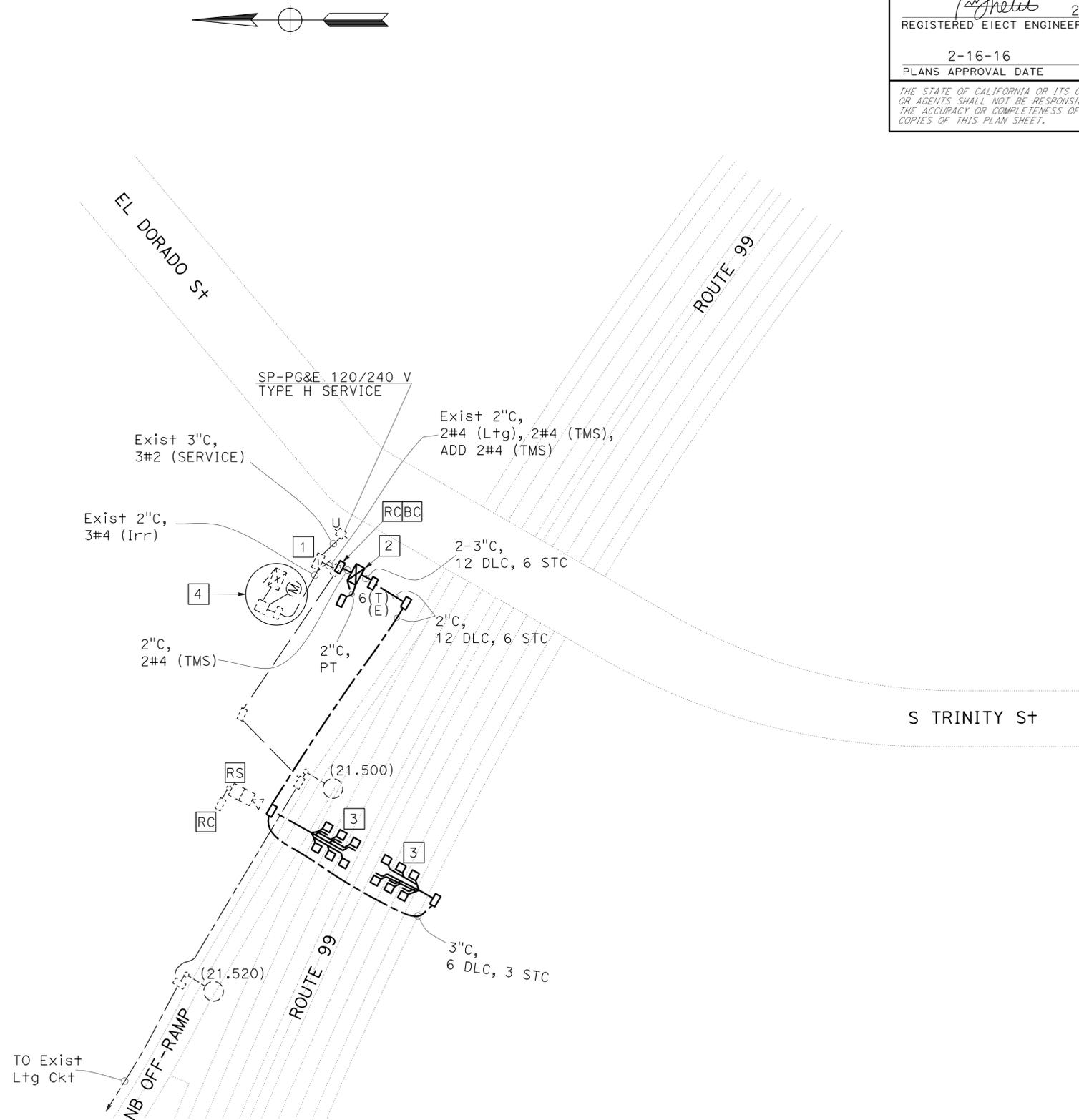
AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	---
40	240	2	HIGHWAY LIGHTING	YES	IV
60	120	1	TMS	YES	---
30	240	2	SPARE	YES	---
* 30	120	1	TMS CABINET	YES	---

* ADD CB AND NAMEPLATE

- 2 FURNISH AND INSTALL MODEL 334L CONTROLLER CABINET AND WIRELESS MODEM. INSTALL DEPARTMENT-FURNISHED MODEL 2070E CONTROLLER UNIT FOR TMS.
- 3 LOOP DETECTORS AND PIEZO AXLE SENSORS MUST BE PLACED AND DESIGNATED PER DETAILS B AND C ON SHEET E-20.
- 4 Exist Irr EQUIPMENT.

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.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
 CALCULATED/DESIGNED BY: HASHIM MOHAMED KHALID
 CHECKED BY: PAUL MATOS
 REVISED BY: DATE
 REVISIONS:

Fre 99 - PM 21.50 TRAFFIC MONITORING STATION (LOCATION 11)
E-13

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	17	37

REGISTERED ELECTRICIAN DATE 2-16-16
 REGISTERED PROFESSIONAL ENGINEER
HASHIM KHALID
 No. 18054
 Exp. 6/30/17
 ELECT
 PLANS APPROVAL DATE 2-16-16

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 SHEETS E-14 AND E-15)

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

Ctid No. 0642180R056190T

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	—
30	120	1	FLASHING BEACON	YES	—
40	240	2	SPARE	YES	—
* 30	120	1	TMS CABINET	YES	—

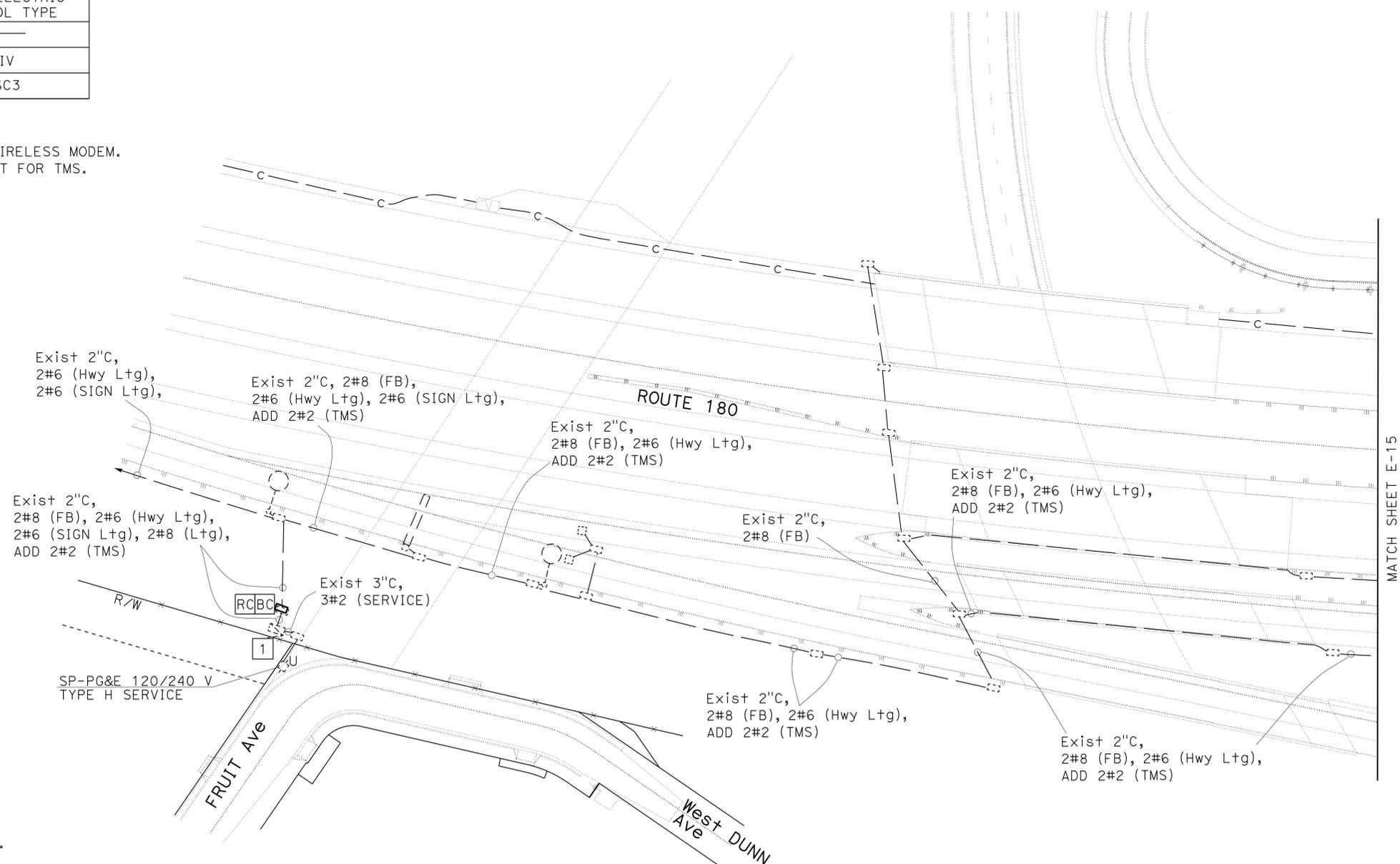
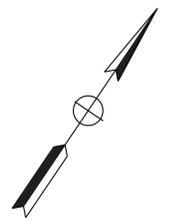
Ctid No. 0642180R056190L

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	—
40	240	2	HIGHWAY LIGHTING	YES	IV
40	240	2	SIGN LIGHTING	YES	SC3

* ADD CB AND NAMEPLATE

2 FURNISH AND INSTALL MODEL 334L CONTROLLER CABINET AND WIRELESS MODEM. INSTALL DEPARTMENT-FURNISHED MODEL 2070E CONTROLLER UNIT FOR TMS.

3 LOOP DETECTORS AND PIEZO AXLE SENSORS MUST BE PLACED AND DESIGNATED PER DETAILS B AND C ON SHEET E-20.



NOTES:

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 REVISIONS: [Blank]
 REVISOR: [Blank]
 DATE: [Blank]
 DESIGNED BY: [Blank]
 CHECKED BY: [Blank]

Fre 99 - PM 21.81 TRAFFIC MONITORING STATION (LOCATION 12)
E-14
 APPROVED FOR ELECTRICAL WORK ONLY SCALE: 1"=50'
 UNIT 1515 PROJECT NUMBER & PHASE 06150000151

LAST REVISION DATE PLOTTED => 17-FEB-2016
 01-28-16 TIME PLOTTED => 11:06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	18	37

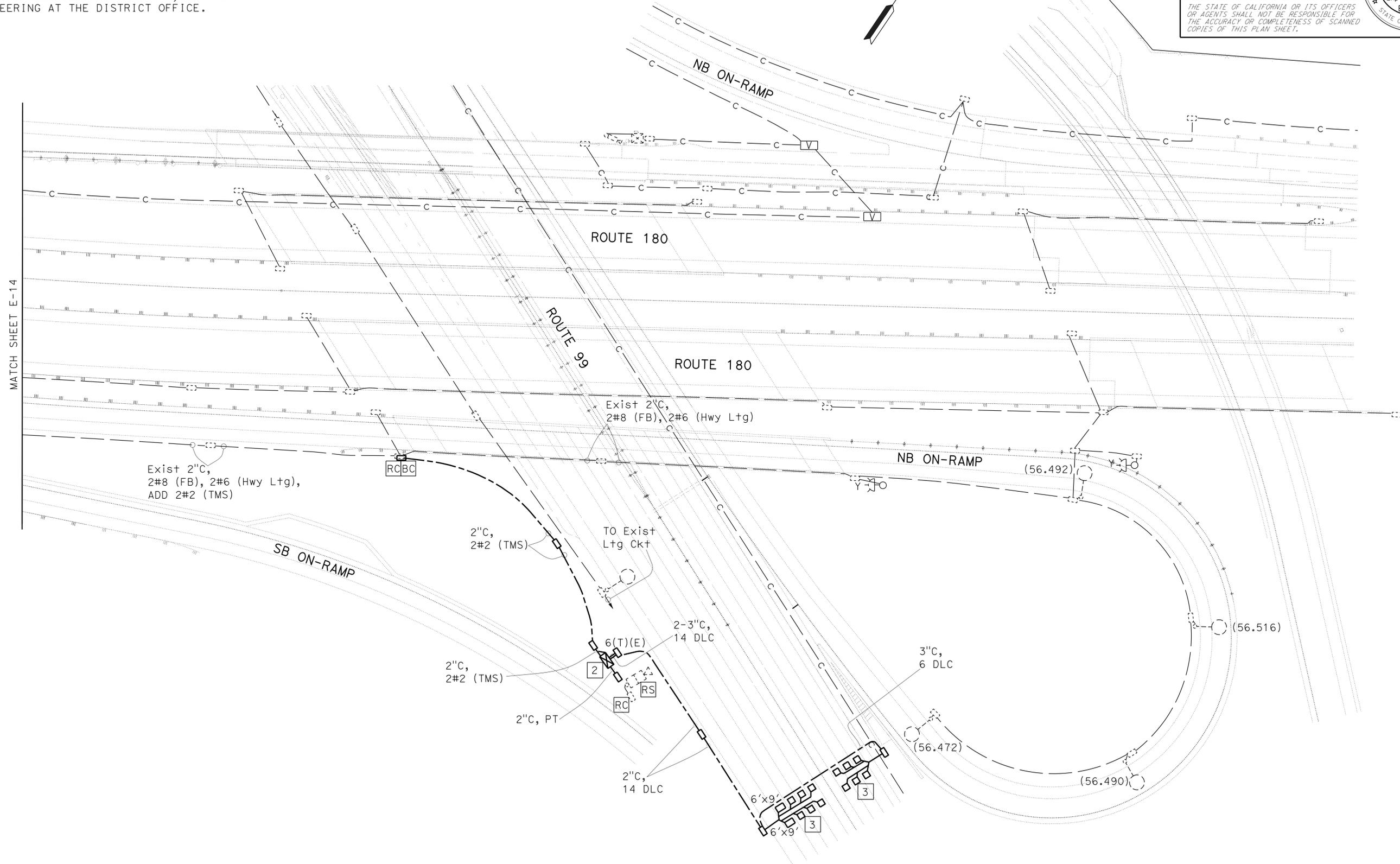
<i>[Signature]</i>	2-16-16
REGISTERED EIECT ENGINEER	DATE
2-16-16	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
HASHIM KHALID
No. 18054
Exp. 6/30/17
ELECT
STATE OF CALIFORNIA

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

NOTES:

1. FOR LEGEND AND ABBREVIATIONS, SEE SHEET E-14.
2. ALL PULL BOXES MUST BE No. 5(E)(T) UNLESS OTHERWISE NOTED.
3. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DESIGNED BY	REVISOR
Caltrans ELECTRICAL DESIGN	ALT BAKHDOUD	HASHIM MOHAMED KHALID	HASHIM MOHAMED KHALID
		CHECKED BY	DATE REVISOR
		PAUL MATOS	

Fre 99 - PM 21.81 TRAFFIC MONITORING STATION (LOCATION 12)
 APPROVED FOR ELECTRICAL WORK ONLY SCALE: 1"=50'
E-15

LAST REVISION DATE PLOTTED => 17-FEB-2016 01-28-16 TIME PLOTTED => 11:06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	19	37

REGISTERED EIECT ENGINEER DATE 2-16-16

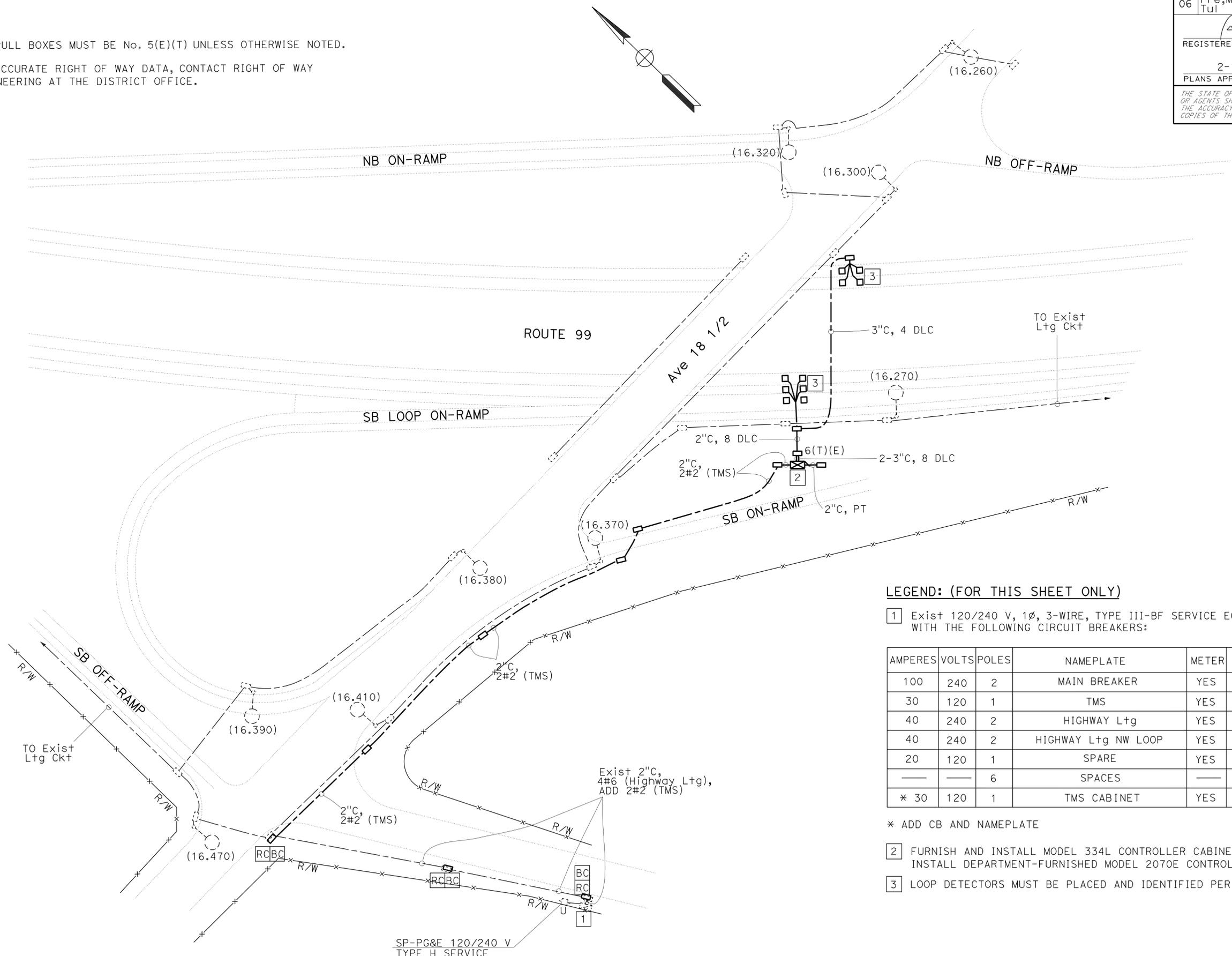
PLANS APPROVAL DATE 2-16-16

REGISTERED PROFESSIONAL ENGINEER
 HASHIM KHALID
 No. 18054
 Exp. 6/30/17
 ELECT

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. 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.



LEGEND: (FOR THIS SHEET ONLY)

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

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	—
30	120	1	TMS	YES	—
40	240	2	HIGHWAY Ltg	YES	IV
40	240	2	HIGHWAY Ltg NW LOOP	YES	IV
20	120	1	SPARE	YES	—
—	—	6	SPACES	—	—
* 30	120	1	TMS CABINET	YES	—

* ADD CB AND NAMEPLATE

- 2 FURNISH AND INSTALL MODEL 334L CONTROLLER CABINET AND WIRELESS MODEM. INSTALL DEPARTMENT-FURNISHED MODEL 2070E CONTROLLER UNIT FOR TMS.
- 3 LOOP DETECTORS MUST BE PLACED AND IDENTIFIED PER DETAILS A ON SHEET E-20.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
 CALCULATED/DESIGNED BY: PAUL MATOS
 CHECKED BY: PAUL MATOS
 REVISOR: HASHIM MOHAMED KHALID
 DATE: 2-16-16

MAD 99 - PM 16.66

TRAFFIC MONITORING STATION (LOCATION 13)

E-16

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	20	37

REGISTERED ELECTRICIAN	DATE
<i>Hashim</i>	2-16-16
PLANS APPROVAL DATE	
	2-16-16

REGISTERED PROFESSIONAL ENGINEER
HASHIM KHALID
No. 18054
Exp. 6/30/17
ELECT

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

Ctid No. 06410990018990T

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
**100	240	3	MAIN BREAKER	YES/NO	---
40	240	2	HIGHWAY LIGHTING	NO	V
15	120	1	CONTROL	YES	---
15	120	2	SPARE	YES	---
*100	240	2	MAIN BREAKER	YES	---
* 30	120	1	TMS CABINET	YES	---

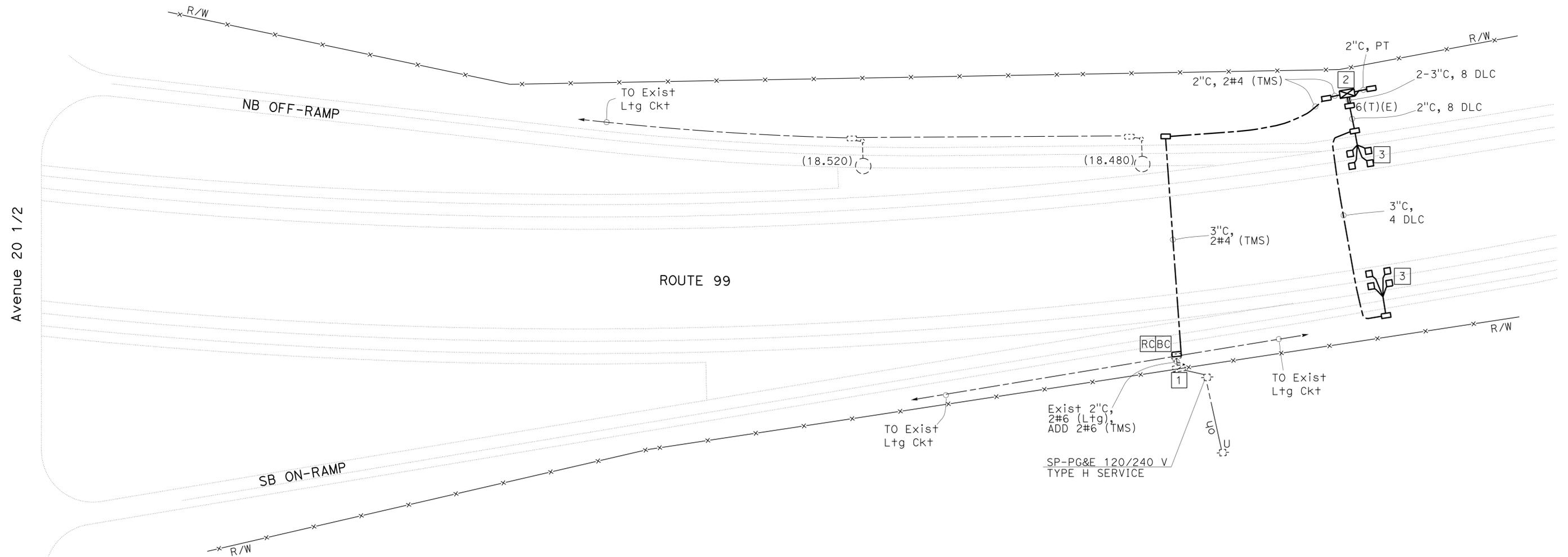
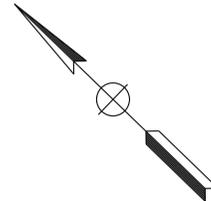
* ADD CB AND NAMEPLATE

** RC CB.

- 2 FURNISH AND INSTALL MODEL 334L CONTROLLER CABINET AND WIRELESS MODEM. INSTALL DEPARTMENT-FURNISHED MODEL 2070E CONTROLLER UNIT FOR TMS.
- 3 LOOP DETECTORS MUST BE PLACED AND DESIGNATED PER DETAILS A ON SHEET E-20.

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.



MAD 99 - PM 18.99

**TRAFFIC MONITORING STATION (LOCATION 14)
E-17**

APPROVED FOR ELECTRICAL WORK ONLY

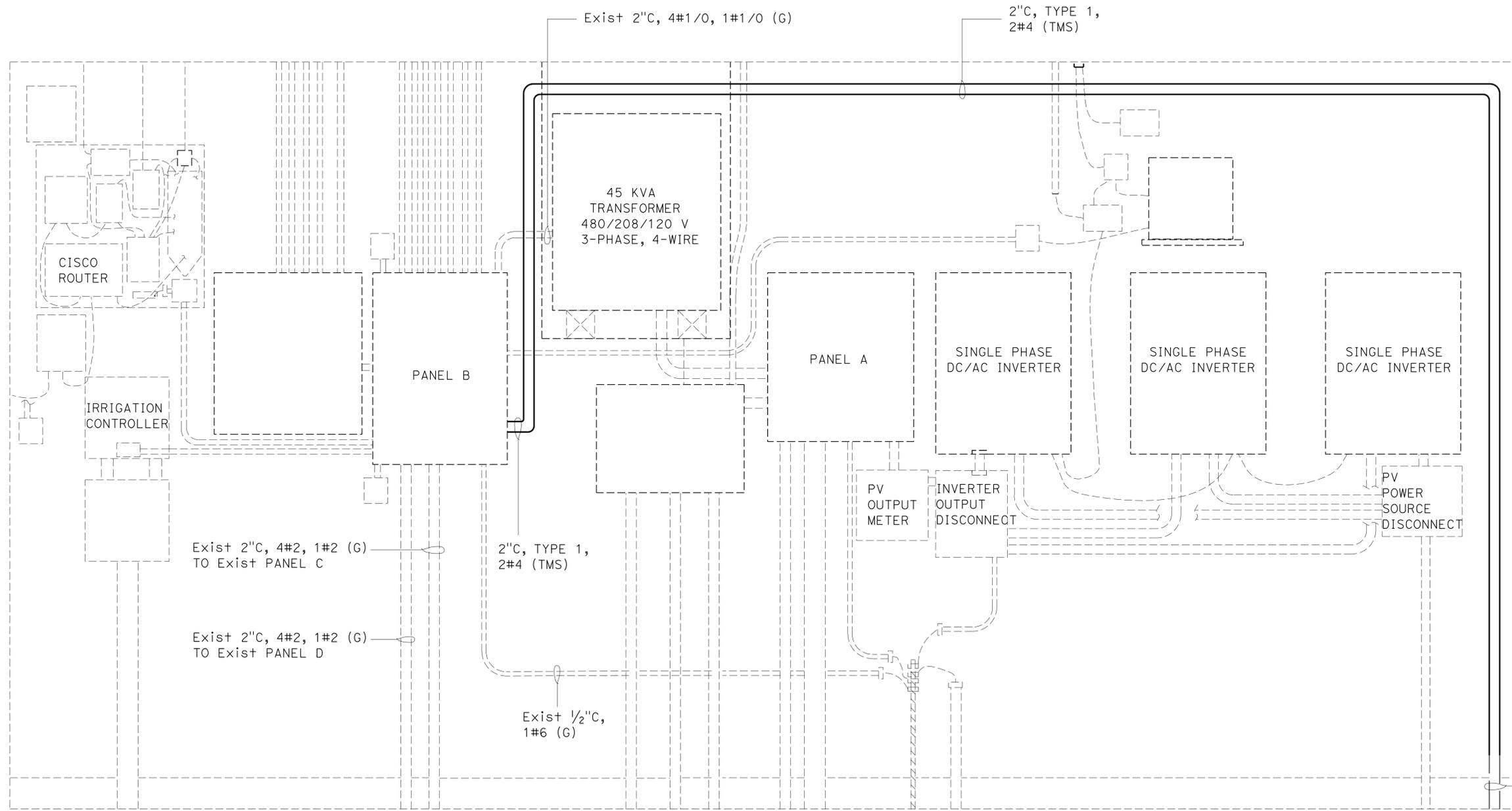
SCALE: 1"=50'



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
DESIGNED BY: HASHIM MOHAMED KHALID
CHECKED BY: PAUL MATOS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	22	37
			2-16-16	DATE	
REGISTERED EIECT ENGINEER			DATE		
2-16-16			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>					

NOTES:
FOR LEGEND, SEE SHEET E-9.



**Exist PHILIP RAINE REST AREA NB
POWER DISTRIBUTION BLOCK DIAGRAM**

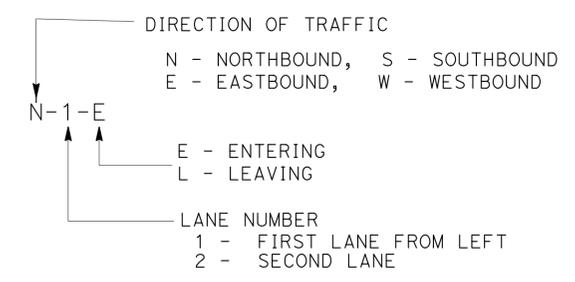
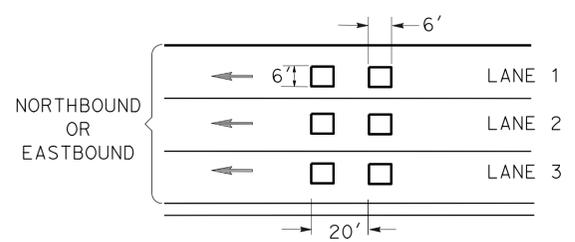
**ELECTRICAL DETAILS
E-19**

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans	ALI BAKHDOUD	HASHIM MOHAMED KHALID	HASHIM MOHAMED KHALID
ELECTRICAL DESIGN		PAUL MATOS	PAUL MATOS

LAST REVISION DATE PLOTTED => 17-FEB-2016
01-28-16 TIME PLOTTED => 11:06

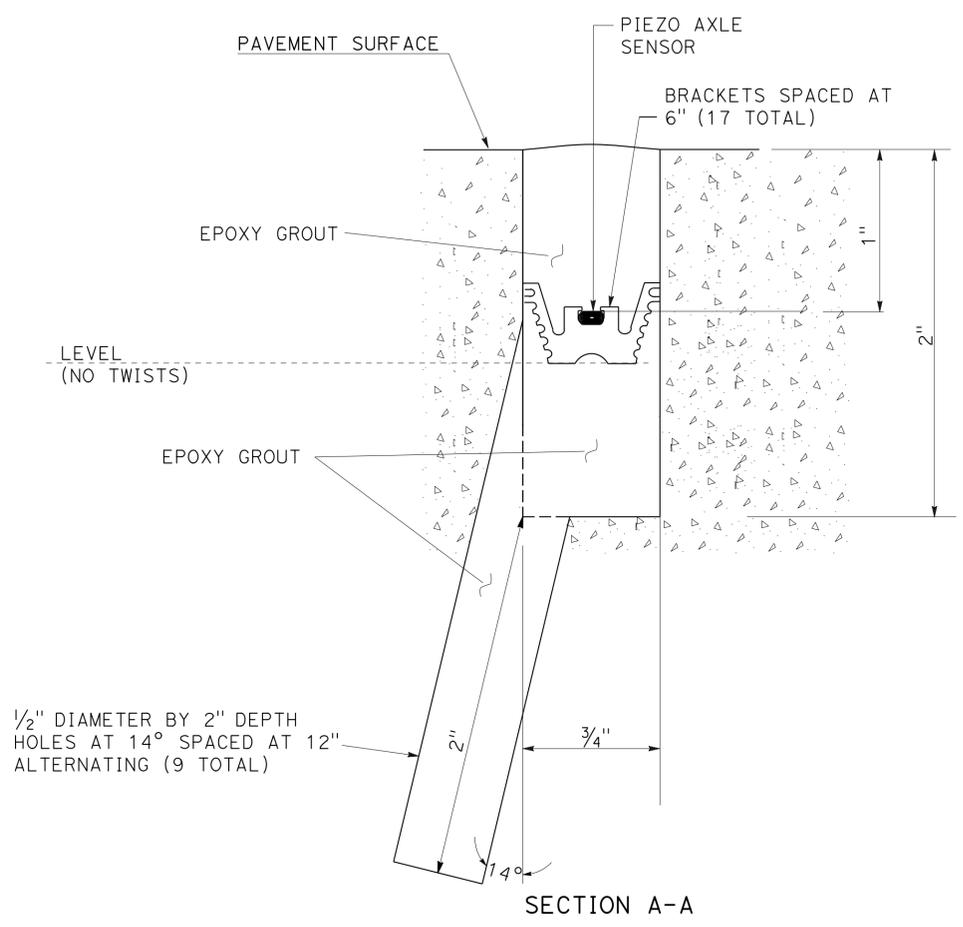
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	23	37
REGISTERED EIECT ENGINEER			DATE	2-16-16	
PLANS APPROVAL DATE			2-16-16		
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



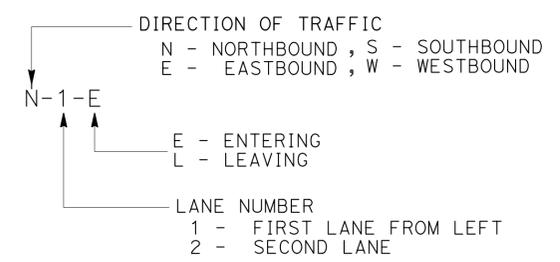
MAIN LINE
LOOP DETECTOR LAYOUT

LOOP DETECTOR DESIGNATION

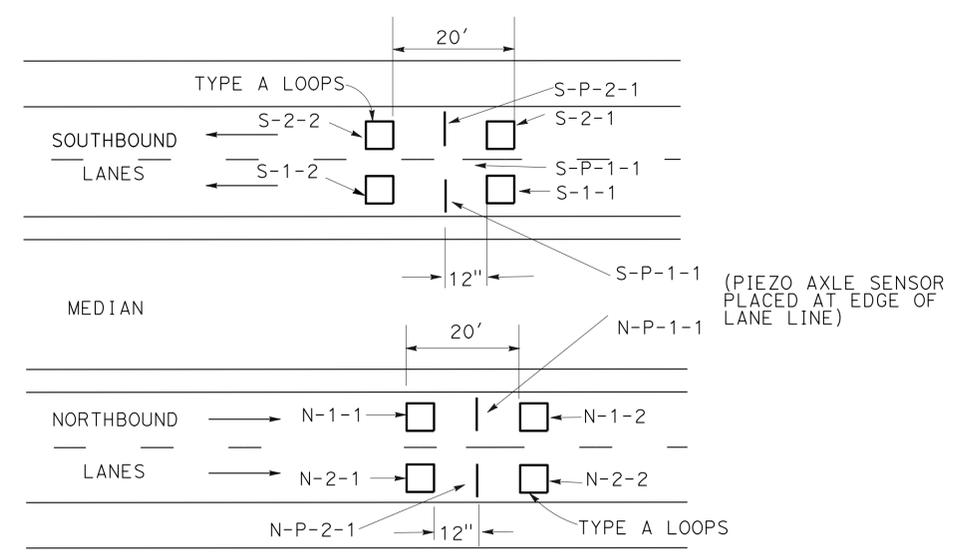
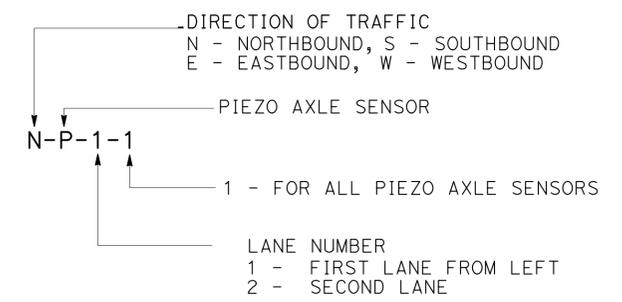
DETAIL A



LOOP DETECTOR SENSOR DESIGNATION

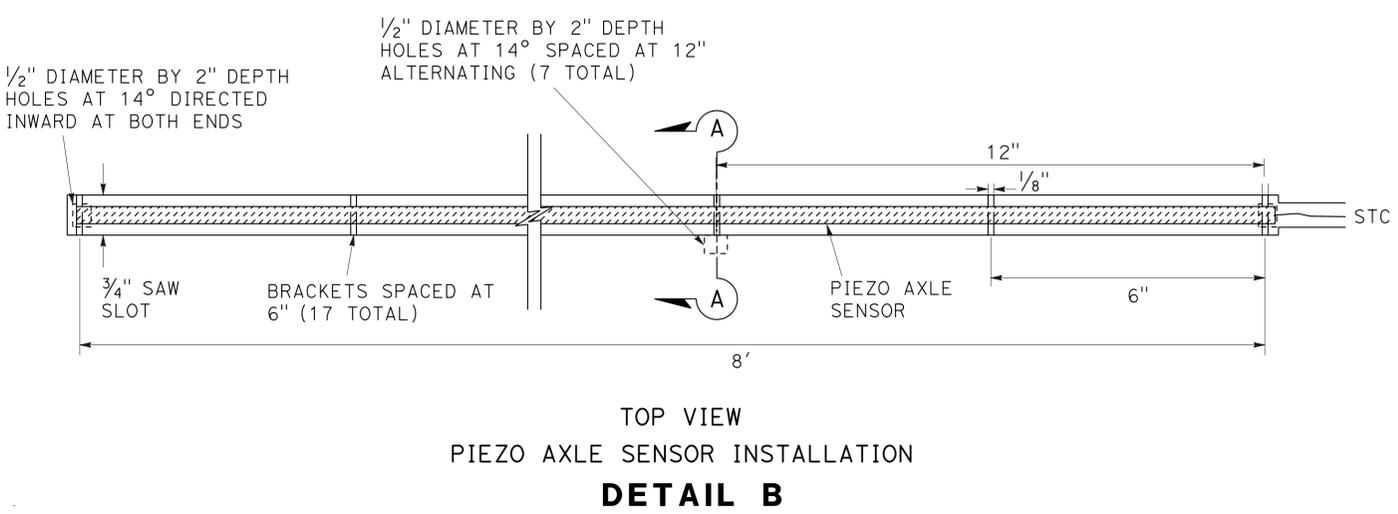


PIEZO AXLE SENSOR DESIGNATION



LOOP DETECTOR AND PIEZO AXLE SENSOR
PLACEMENT AND DESIGNATION

DETAIL C



TOP VIEW
PIEZO AXLE SENSOR INSTALLATION

DETAIL B

NO SCALE

**ELECTRICAL DETAILS
E-20**

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

FUNCTIONAL SUPERVISOR: ALI BAKHDOUD

REVISOR: HASHIM MOHAMED KHALID, PAUL MATOS

CHECKED BY: PAUL MATOS

DESIGNED BY: HASHIM MOHAMED KHALID

DATE: 2-16-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	24	37

REGISTERED ELECT ENGINEER *[Signature]* DATE 2-16-16
 PLANS APPROVAL DATE 2-16-16

REGISTERED PROFESSIONAL ENGINEER
 HASHIM KHALID
 No. 18054
 Exp. 6/30/17
 ELECT

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans 06-ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD
 CALCULATED/DESIGNED BY: CHECKED BY:
 HASHIM MOHAMED KHALID PAUL MATOS
 REVISED BY: DATE REVISED:

TRAFFIC MONITORING STATION

SHEET No.	LOCATION No.	3" C, TYPE 1	3" C, TYPE 3	2" C, TYPE 1	2" C, TYPE 3	No. 2 CONDUCTOR (ALUMINUM)	No. 4 CONDUCTOR (ALUMINUM)	No. 8 (G) CONDUCTOR (COPPER)	DLC	No. 5(E)(T) PB	No. 6(T)(E) PB	MODEL 334L CONTROLLER CABINET	MODEL 334L FOUNDATION	WIRELESS MODEM	TYPE A DETECTOR LOOP	AXLE PIEZO SENSOR WITH SIC
		LF						EA								
E-1	1	20	130	50	30		600	300	600	5	1	1	1	1	8	
E-2	2								700	1	1			1	8	
E-3	3	20	140	30	30		120	60	1000	4	1	1	1	1	8	
E-4	4													1		
E-5	5	20	130	10	1100	2400		1200	840	10	1	1	1	1	8	
E-6	6	20	130	50	40		150	75	650	4	1	1	1	1	8	4
E-7	7													1		
E-8, E-9	8	20	140	30	1200	3000		1500	750	12	1	1	1	1	8	
E-10	9	20	130	10	340	2600		1300	700	9	1	1	1	1	8	4
E-11	10	20	130	10	550	2000		1000	700	9	1	1	1	1	8	
E-13	11	20	140	10	230		80	40	3720	5	1	1	1	1	12	6
E-14, E-15	12	20	150	10	550	3500		325	4480	7	1	1	1	1	14	
E-16	13	20	200	10	750	1700		850	1000	11	1	1	1	1	8	
E-17	14	20	200	10	400		800	400	1100	6	1	1	1	1	8	
E-18	15								1200	1	1			1	12	6

**ELECTRICAL QUANTITIES
E-21**

LAST REVISION: DATE PLOTTED => 17-FEB-2016
 01-28-16 TIME PLOTTED => 11:06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	25	37

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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 2-16-16

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
∅	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.

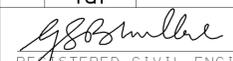
	<u>M</u>
Maint	MAINTENANCE
Max	MAXIMUM
MB	METAL BEAM
MBB	METAL BEAM BARRIER
MBGR	METAL BEAM GUARD RAILING
Med	MEDIAN
MGS	MIDWEST GUARDRAIL SYSTEM
MH	MANHOLE
Min	MINIMUM
Misc	MISCELLANEOUS
Misc I & S	MISCELLANEOUS IRON AND STEEL
Mkr	MARKER
Mod	MODIFIED, MODIFY
Mon	MONUMENT
MP	METAL PLATE
MPGR	METAL PLATE GUARD RAILING
MR	MOVEMENT RATING
MSE	MECHANICALLY STABILIZED EMBANKMENT
M+	MOUNTAIN, MOUNT
M+I	MATERIAL
MVP	MAINTENANCE VEHICLE PULLOUT
	<u>N</u>
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
	<u>O</u>
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
	<u>P</u>
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 M+I	PERMEABLE MATERIAL

	<u>P continued</u>
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
	<u>Q</u>
Qty	QUANTITY
	<u>R</u>
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
R+	RIGHT
Rte	ROUTE
RW	REDWOOD, RETAINING WALL
R/W	RIGHT OF WAY
Rwy	RAILWAY

	<u>S</u>
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
	<u>T</u>
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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	26	37


 REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE



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

TO ACCOMPANY PLANS DATED 2-16-16

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
mph	ft	ft	ft	ft
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

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

** - Longitudinal buffer space or flagger station spacing

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

TABLE 3

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

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM 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	Fre, Mad Tul	99	Var	27	37

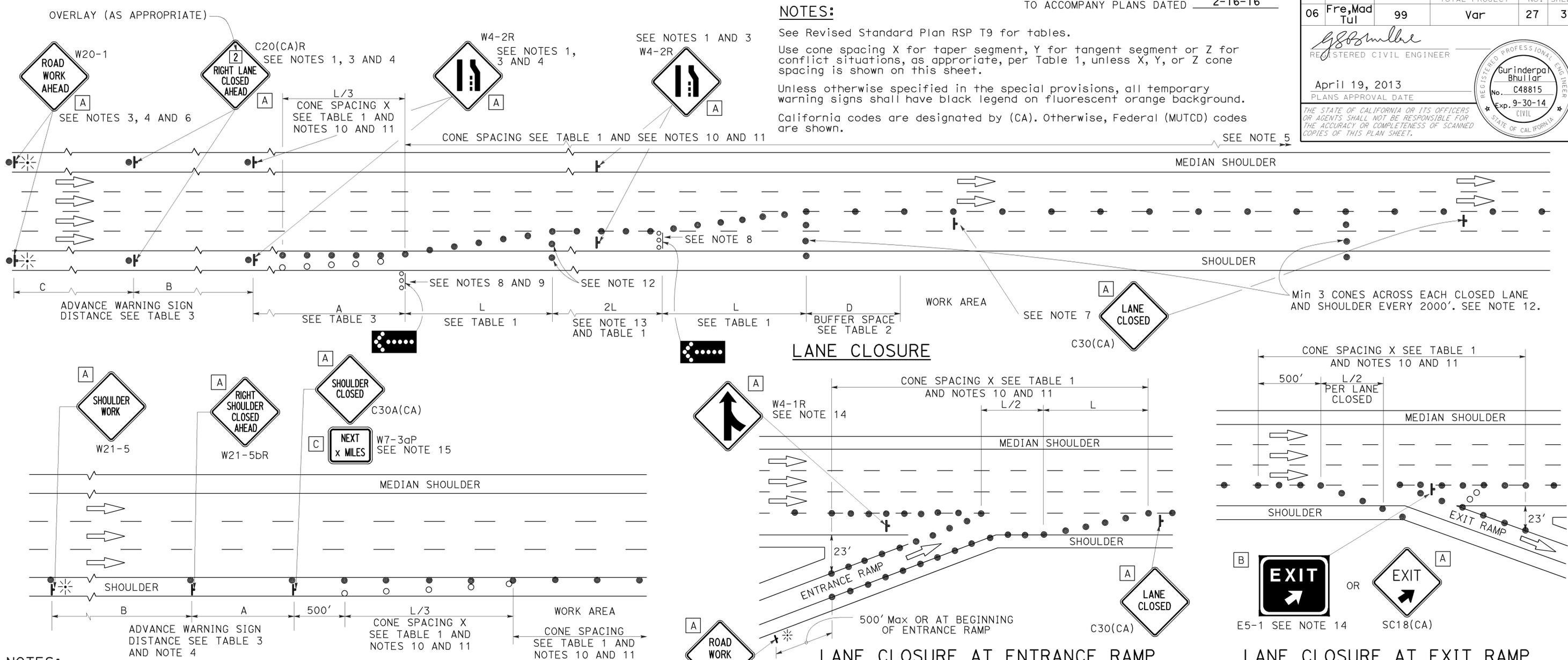
REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

TO ACCOMPANY PLANS DATED 2-16-16

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)L and W4-2L signs shall be used.
- 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

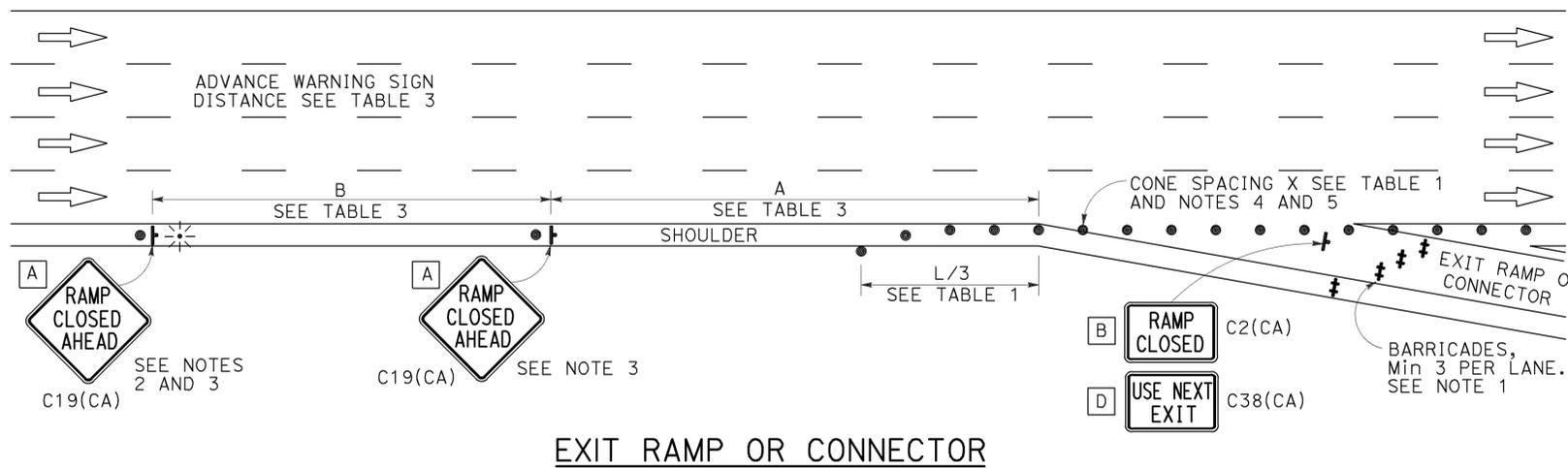
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	28	37

G. S. Miller
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

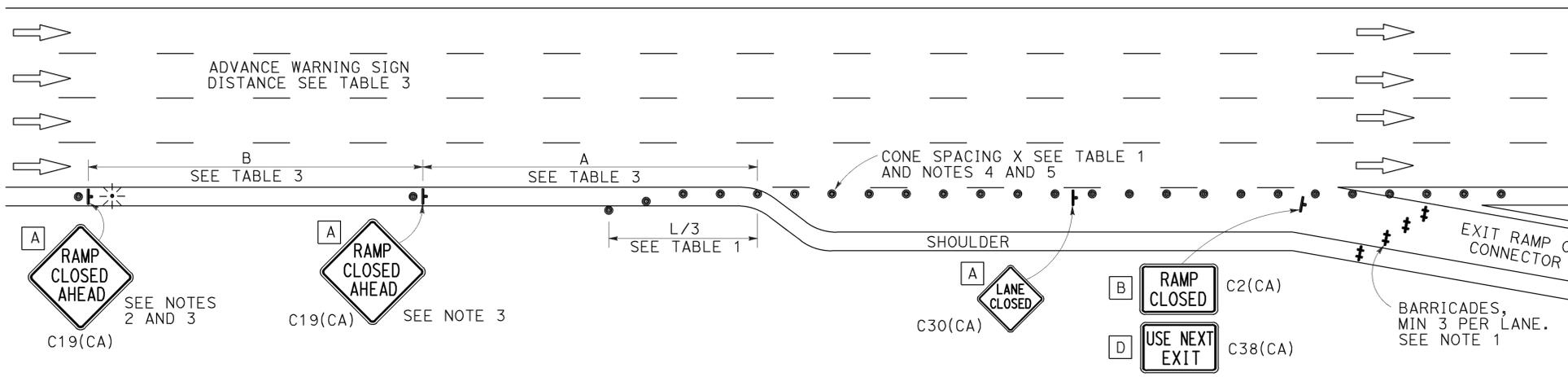
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TO ACCOMPANY PLANS DATED 2-16-16

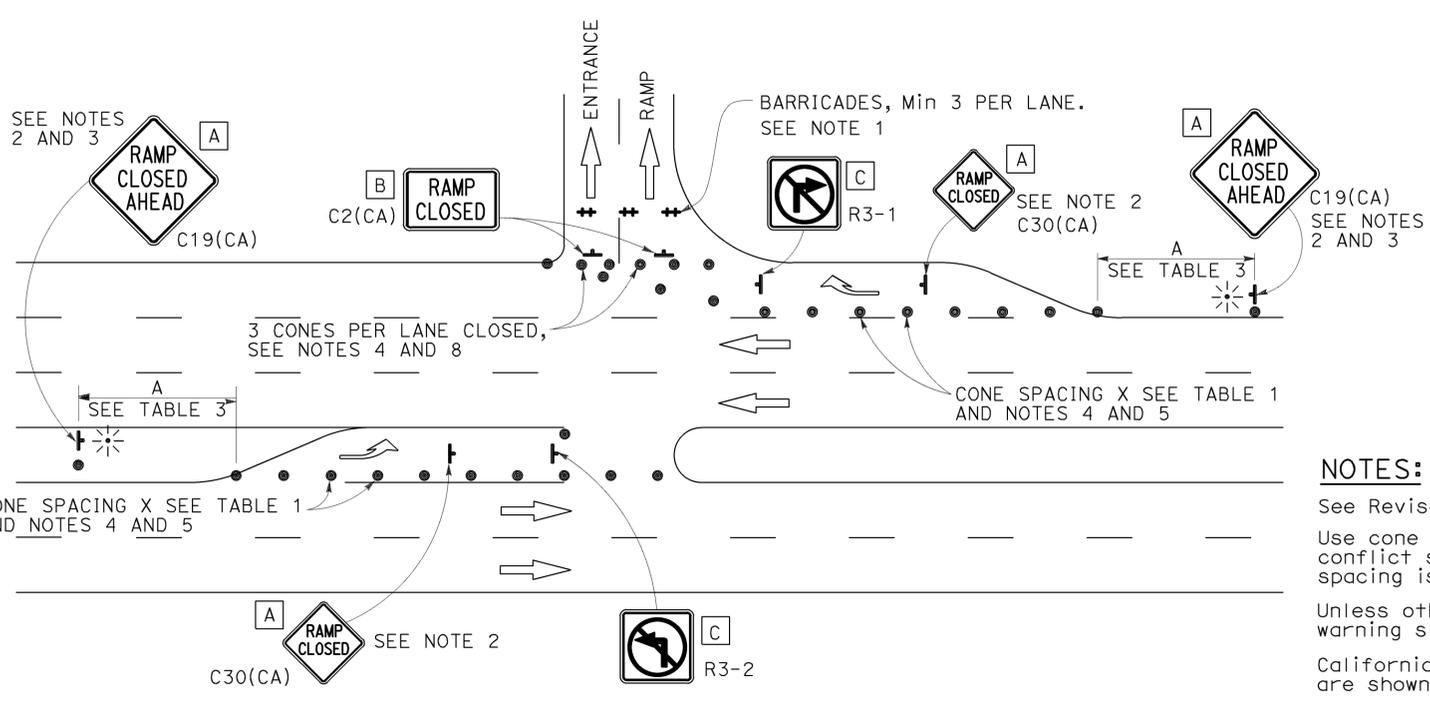
2010 REVISED STANDARD PLAN RSP T14



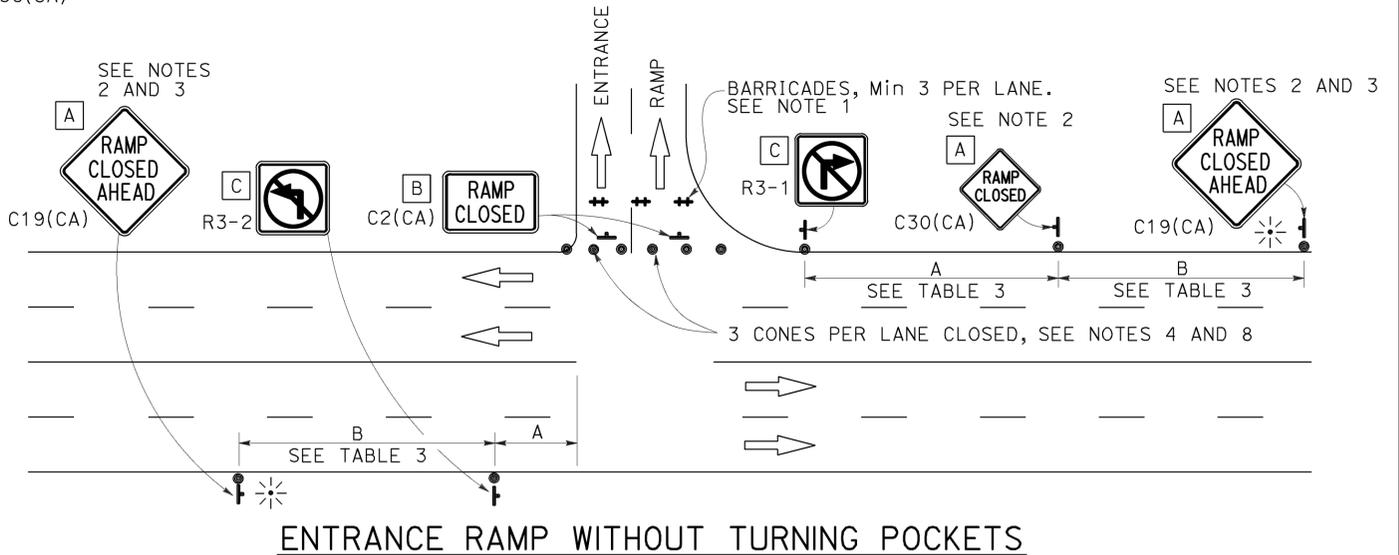
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

NOTES:

1. See Revised Standard Plan RSP T9 for tables.
2. 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.
3. Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
4. California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

NOTES:

1. 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.
2. 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.
3. 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.
4. All cones used for ramp 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 ramp closures only.
6. At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
7. The existing "EXIT" signs shall be covered during ramp closures.
8. A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.

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

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	Fre, Mad Tul	99	Var	29	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

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 2-16-16

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(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
06	Fre, Mad Tul	99	Var	30	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 2-16-16

CONDUIT

NEW	EXISTING	
		LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
		TRAFFIC SIGNAL CONDUIT
		COMMUNICATION CONDUIT
		TELEPHONE CONDUIT
		FIRE ALARM CONDUIT
		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	
		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

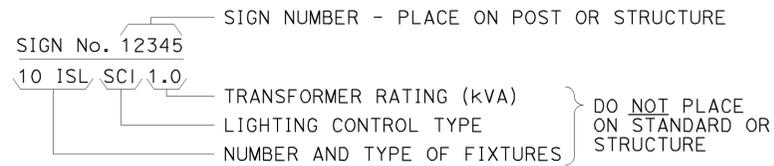
2010 REVISED STANDARD PLAN RSP ES-1B



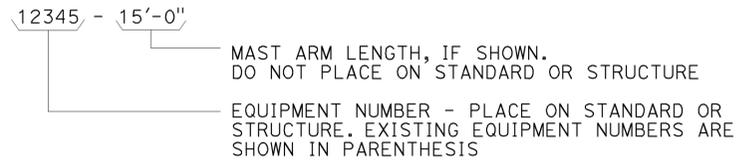
TO ACCOMPANY PLANS DATED 2-16-16

EQUIPMENT IDENTIFICATION

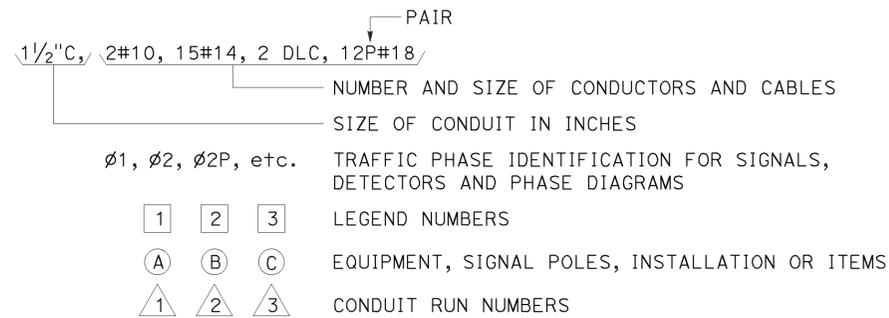
ILLUMINATED SIGN IDENTIFICATION NUMBER:



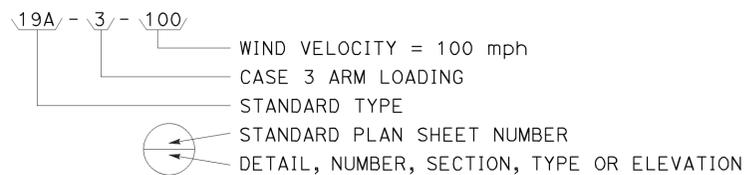
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



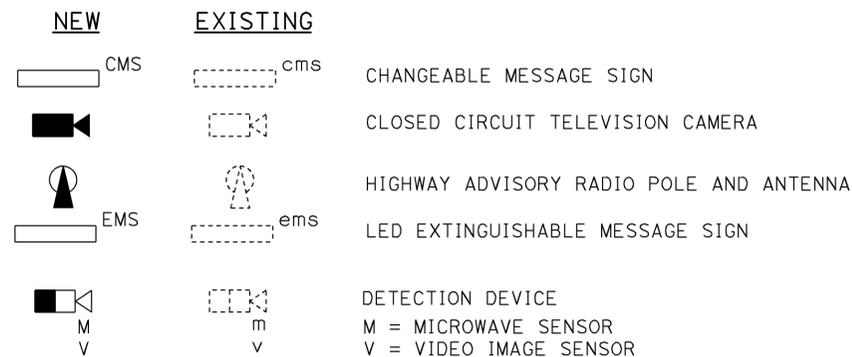
CONDUIT AND CONDUCTOR IDENTIFICATION:



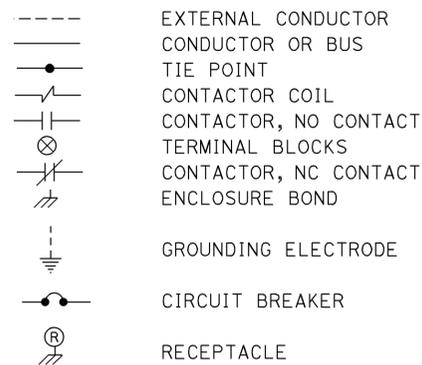
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



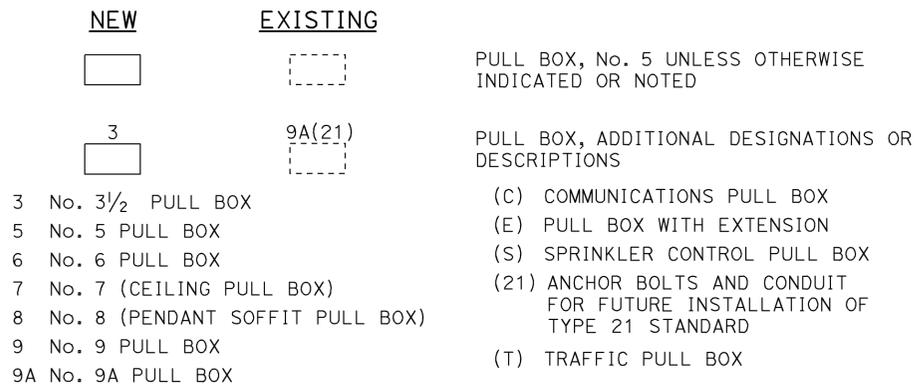
MISCELLANEOUS EQUIPMENT



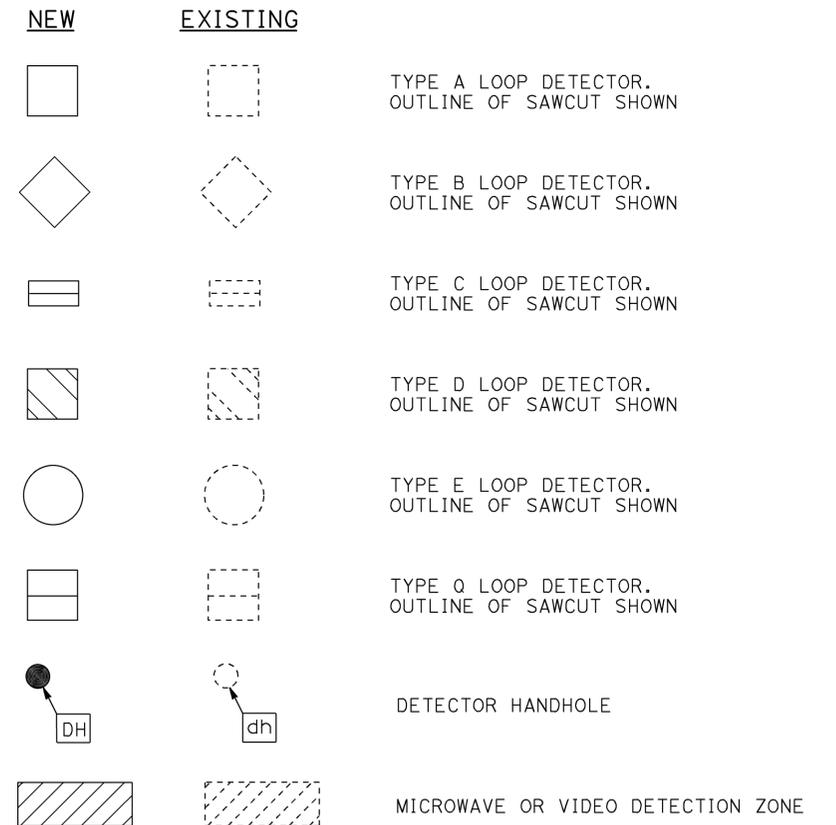
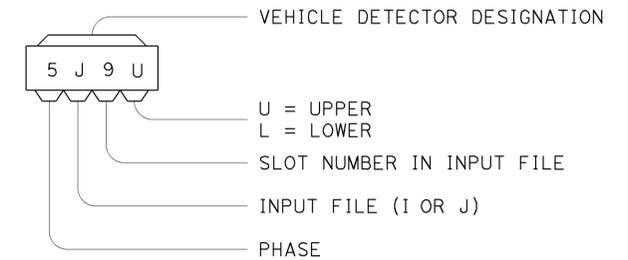
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED 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

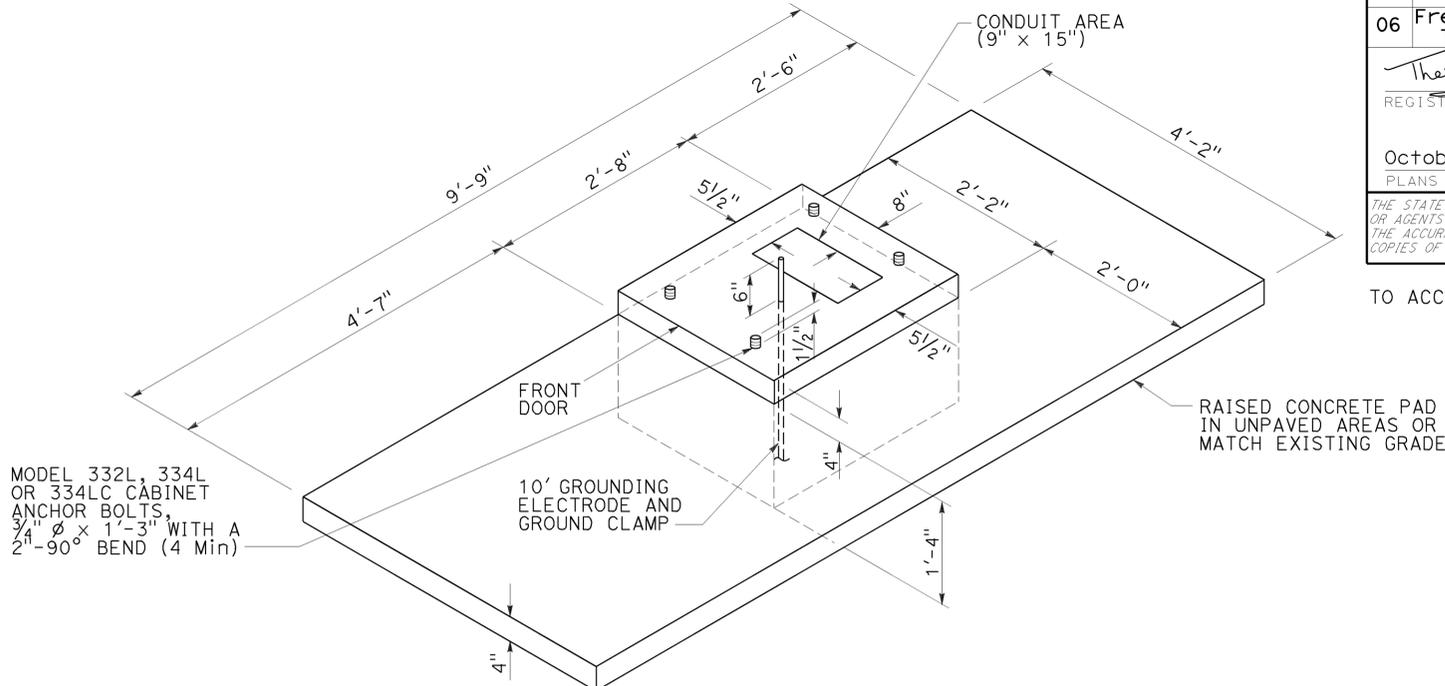
NOTES:

1. Foundation shall be located to provide 2'-0" minimum clearance between face of curb and any portion of cabinet.
2. Controller units, plug-mounted equipment, shelf-mounted equipment and wall-mounted equipment shall be located to permit safe and easy removal or replacement without removing any other piece of equipment.
3. Cabinet fan may be installed at an alternate location near the top of the cabinet when approved by the Engineer.
4. Where telephone interconnect is required, a minimum of 5" clear vertical space shall be provided inside the cabinet for the equipment.
5. Telephone interconnect conductors shall be enclosed in a 3/4" or larger conduit through the foundation. Type 4 conduit shall be used to separate telephone and power conductors in cabinets.

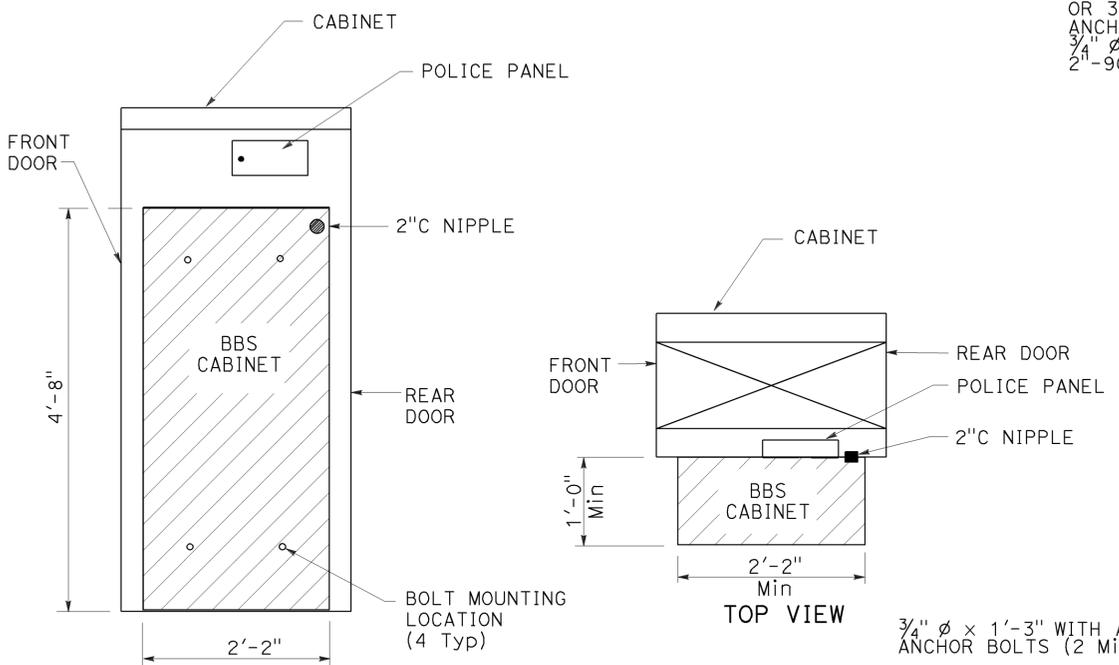
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	32	37

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 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.

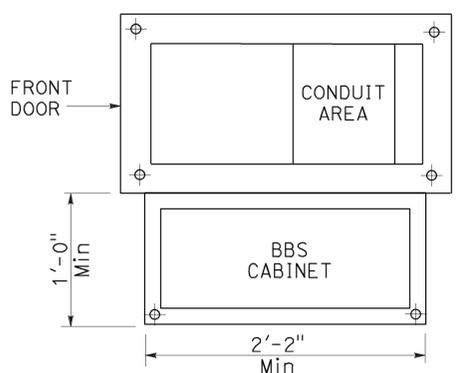
TO ACCOMPANY PLANS DATED 2-16-16



FOUNDATION AND PAD DETAIL
Model 332L, 334L and 334LC

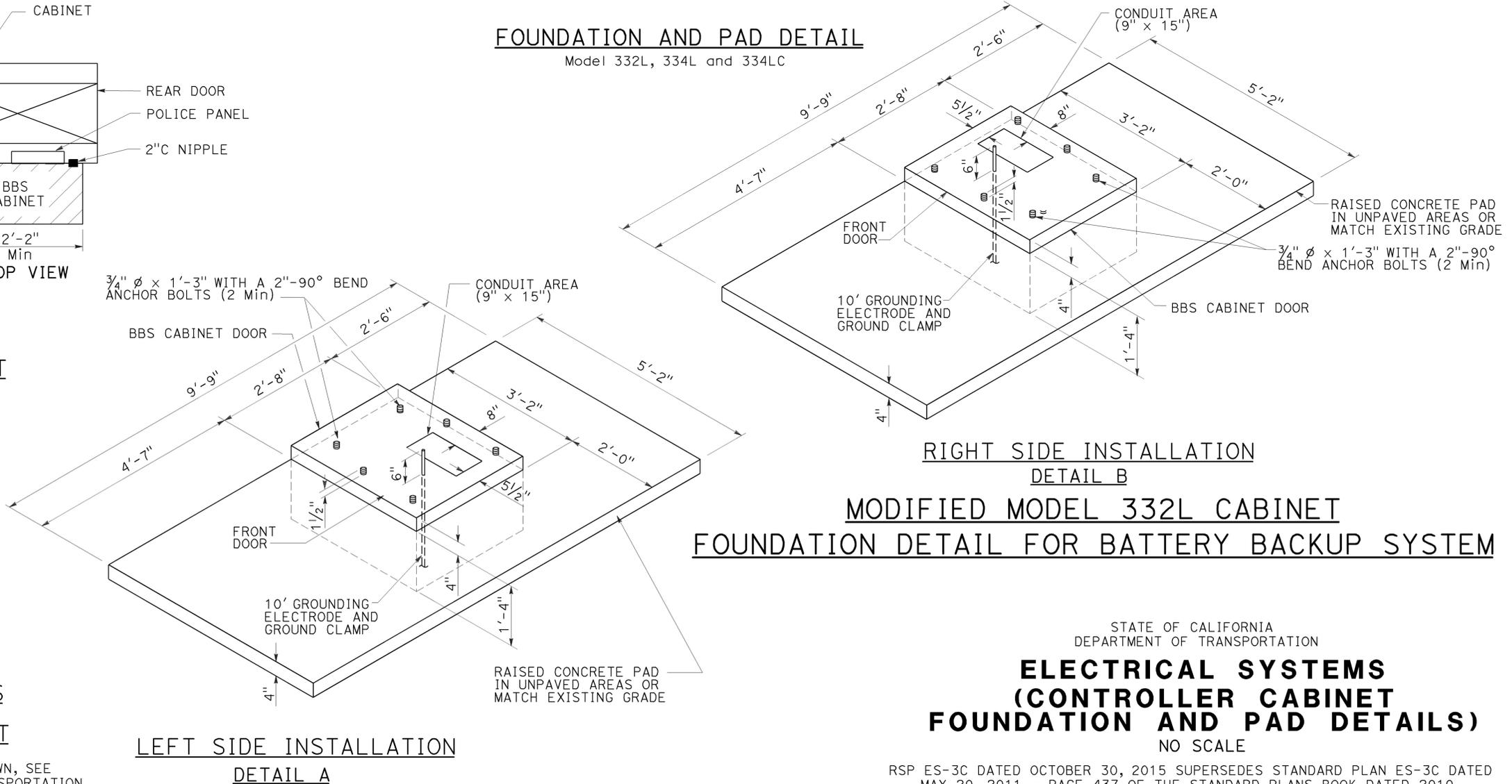


BBS CABINET MOUNTED TO THE MODEL 332L CABINET



BASE PLAN FOR BBS MOUNTED TO THE MODEL 332L CABINET

(FOR DIMENSIONS AND DETAILS NOT SHOWN, SEE CABINET HOUSING DETAILS OF THE TRANSPORTATION ELECTRICAL EQUIPMENT SPECIFICATION (TEES))



MODIFIED MODEL 332L CABINET FOUNDATION DETAIL FOR BATTERY BACKUP SYSTEM

RIGHT SIDE INSTALLATION DETAIL B

LEFT SIDE INSTALLATION DETAIL A

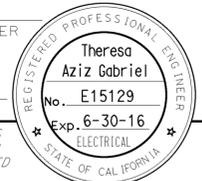
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS (CONTROLLER CABINET FOUNDATION AND PAD DETAILS)
NO SCALE

RSP ES-3C DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-3C DATED MAY 20, 2011 - PAGE 437 OF THE STANDARD PLANS BOOK DATED 2010.

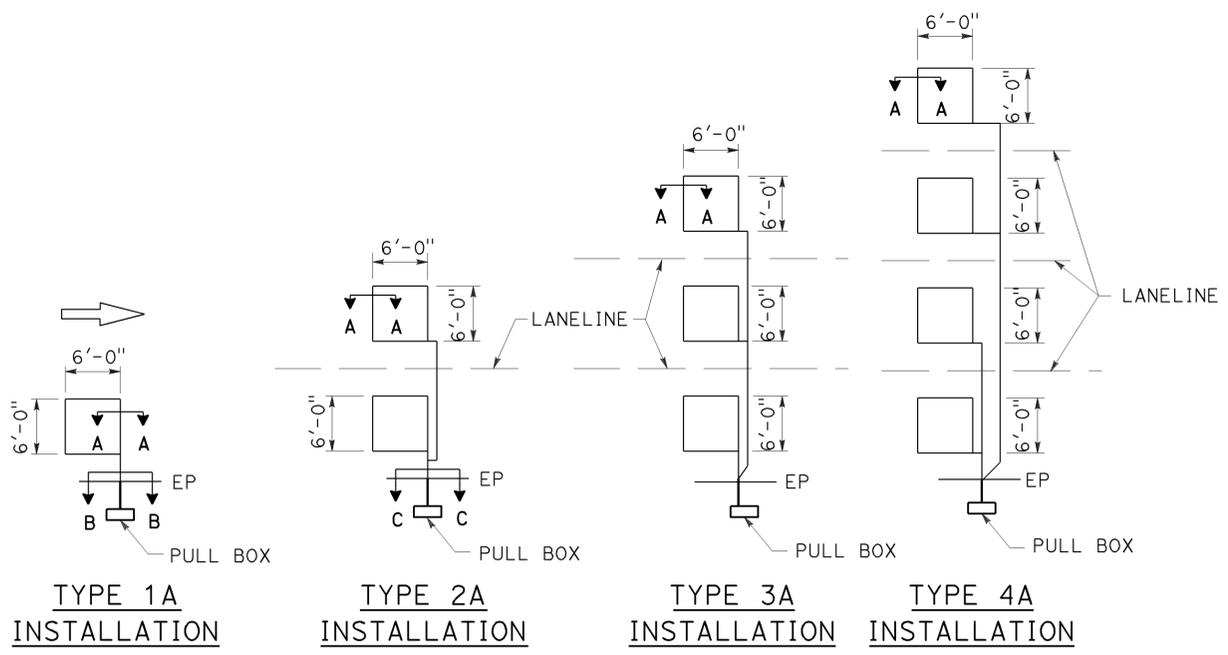
REVISED STANDARD PLAN RSP ES-3C

2010 REVISED STANDARD PLAN RSP ES-3C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	33	37
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER					
October 30, 2015 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

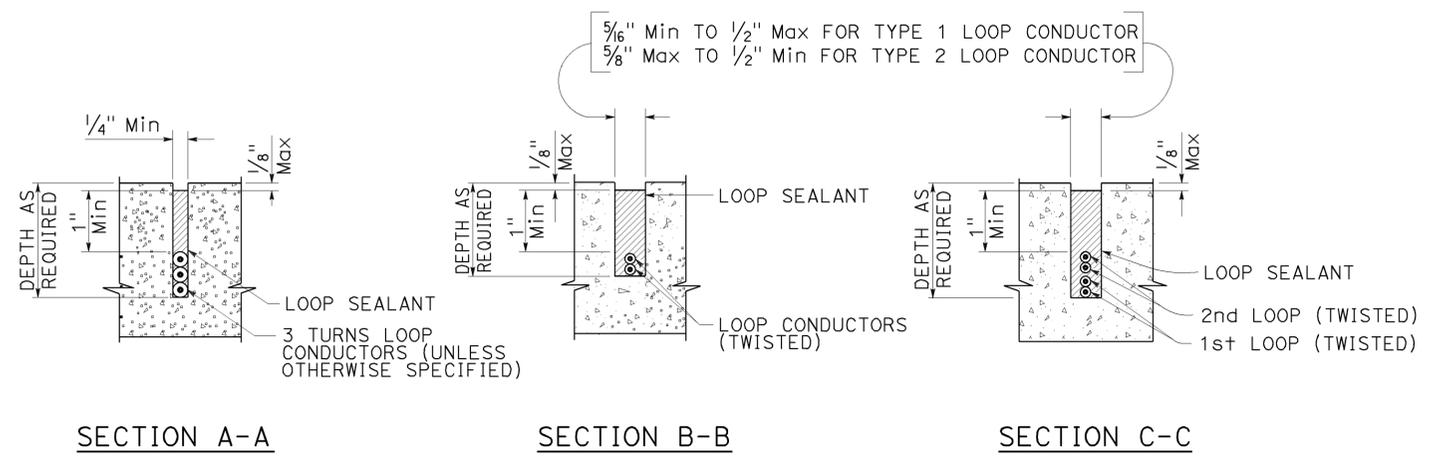


TO ACCOMPANY PLANS DATED 2-16-16

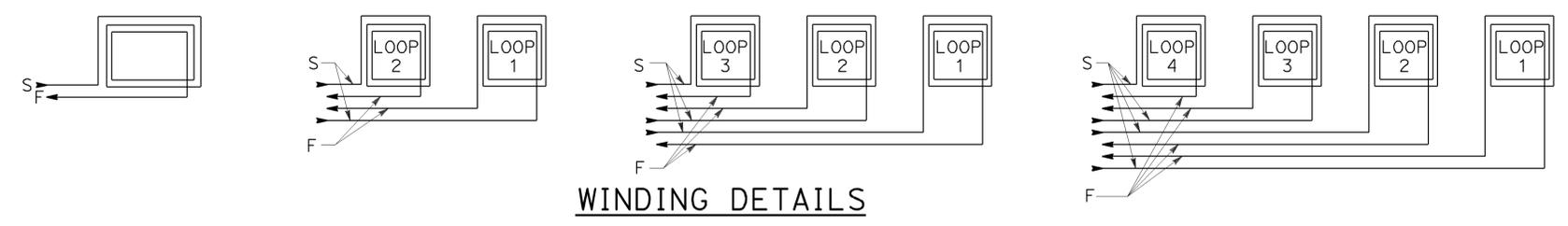


SAWCUT DETAILS

- Type A loop detector configurations illustrated
- 1A thru 4A = 1 Type A loop configuration in each lane.
 - 1B thru 4B = 1 Type B loop configuration in each lane.
 - 1C = 1 Type C loop configuration entering lanes as required.
 - 1D thru 4D = 1 Type D loop configuration in each lane.
 - 1E thru 4E = 1 Type E loop configuration in each lane.
 - 1Q thru 4Q = 1 Type Q loop configuration in each lane.
- Use Type A, B, C, D, E or Q loop detector configurations only when specified or shown on plans.

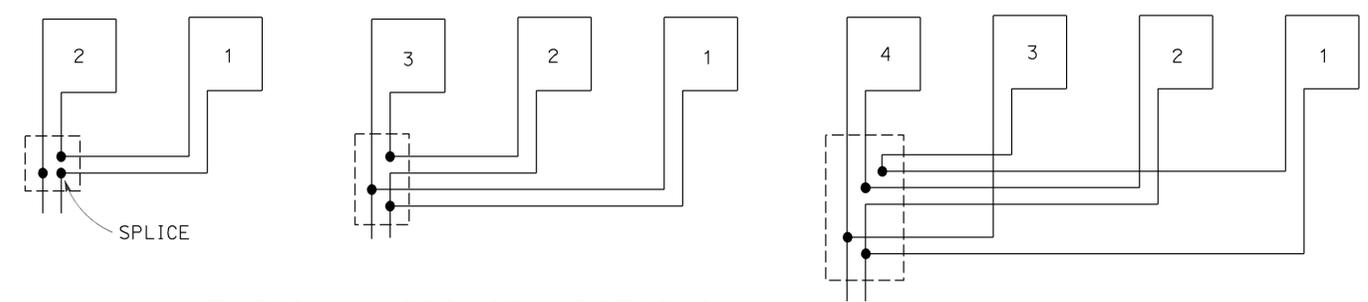


SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR



WINDING DETAILS

ABBREVIATIONS:
 S - START
 F - FINISH



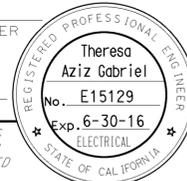
TYPICAL LOOP CONNECTIONS
 Dashed lines represent the pull box

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

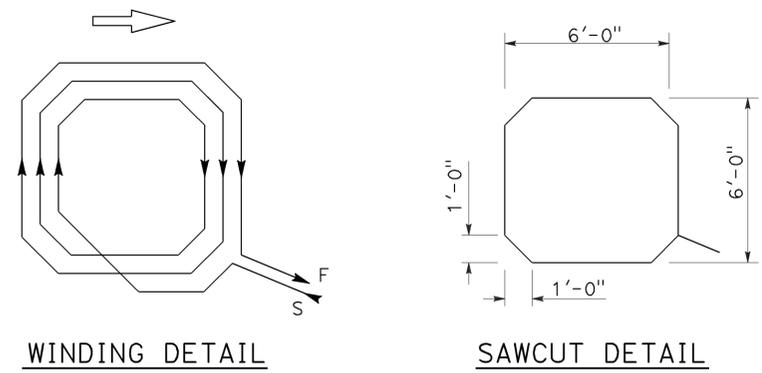
RSP ES-5A DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-5A DATED MAY 20, 2011 - PAGE 448 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5A

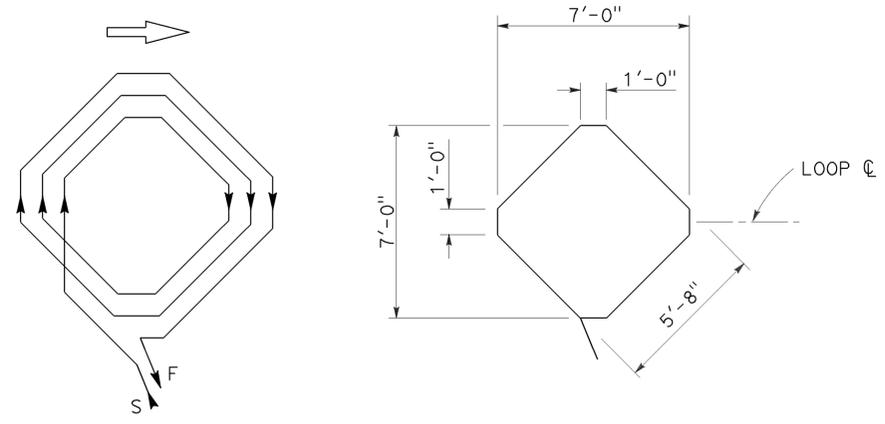
2010 REVISED STANDARD PLAN RSP ES-5A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	34	37
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER October 30, 2015 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
					

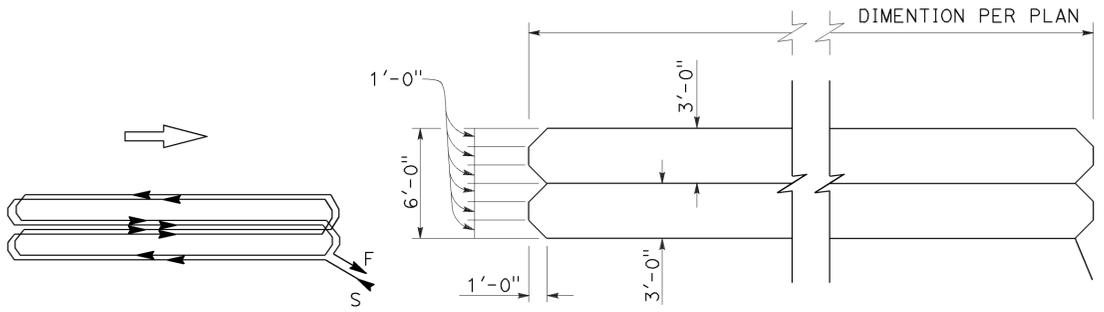
TO ACCOMPANY PLANS DATED 2-16-16



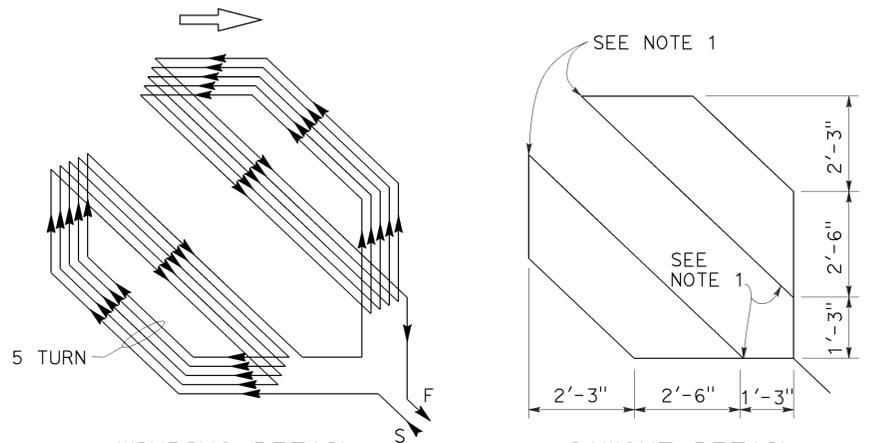
WINDING DETAIL
SAWCUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



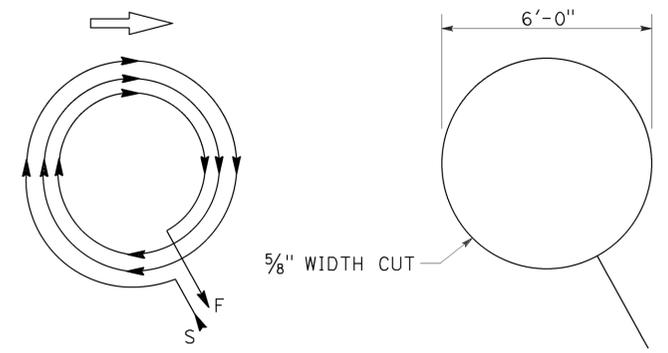
WINDING DETAIL
SAWCUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



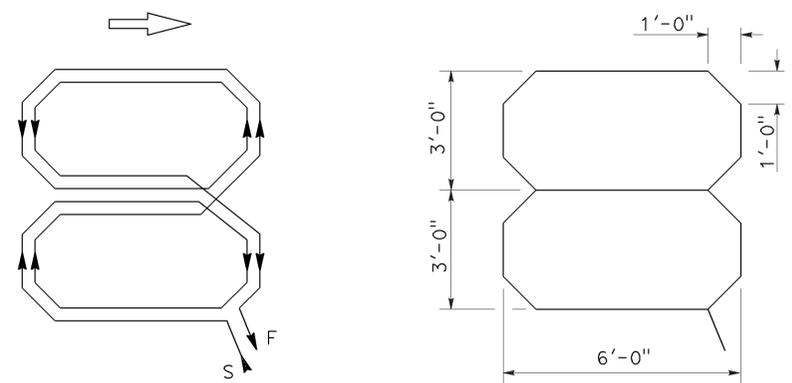
WINDING DETAIL
SAWCUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



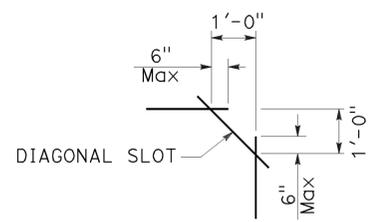
WINDING DETAIL
SAWCUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

- NOTES:**
1. Round corners of acute angle sawcuts to prevent damage to conductors.
 2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.
 3. Use Type D loops for limit line detector installations in left turn and bicycle lanes.

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

RSP ES-5B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-5B DATED JULY 19, 2013 AND STANDARD PLAN ES-5B DATED MAY 20, 2011 - PAGE 449 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5B

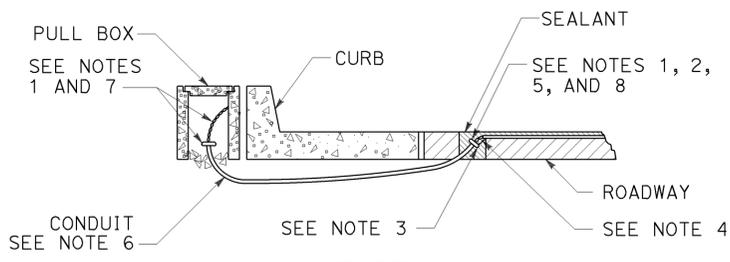
2010 REVISED STANDARD PLAN RSP ES-5B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	35	37

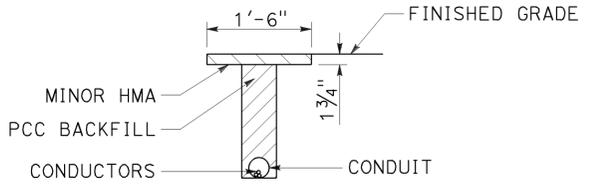
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

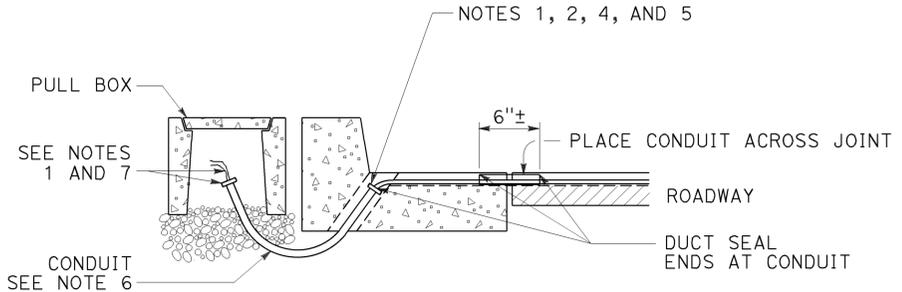
TO ACCOMPANY PLANS DATED 2-16-16



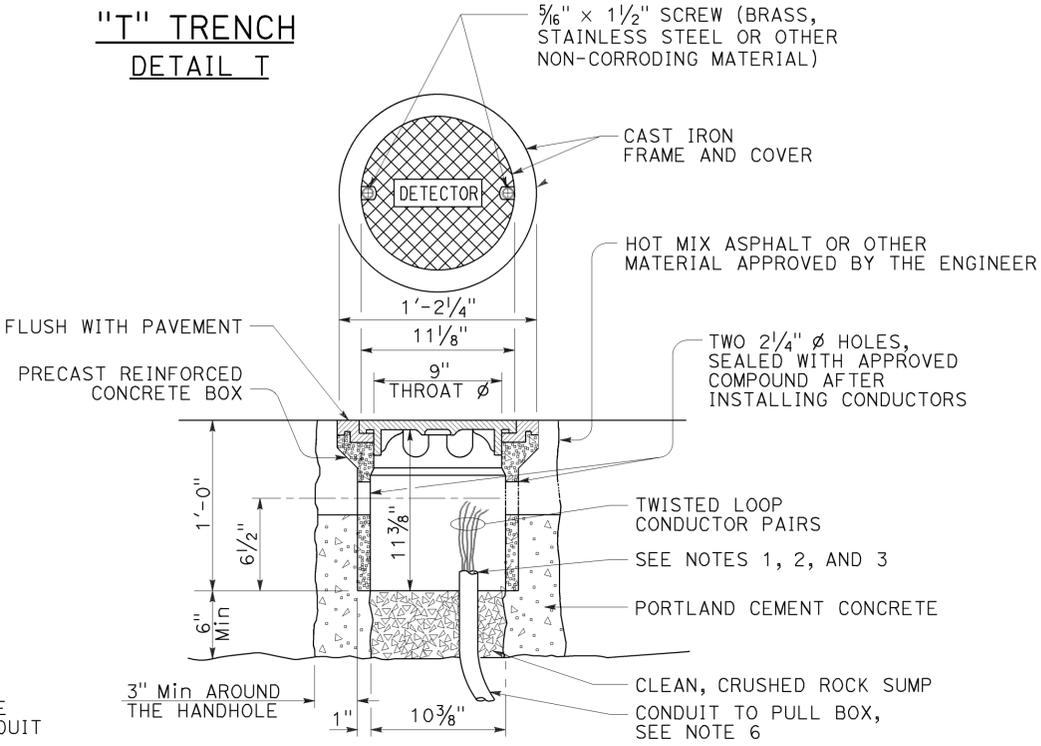
**TYPE A
CURB TERMINATION DETAIL**



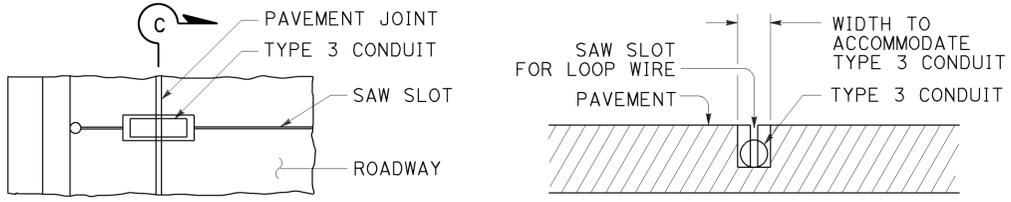
**"T" TRENCH
DETAIL 1**



CROSS SECTION



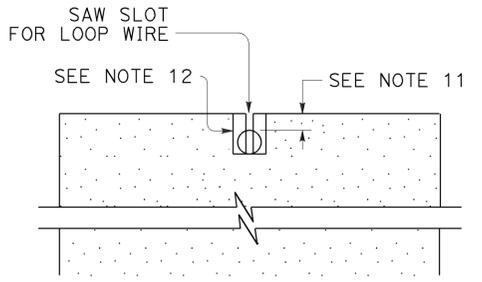
DETECTOR HANDHOLE DETAIL



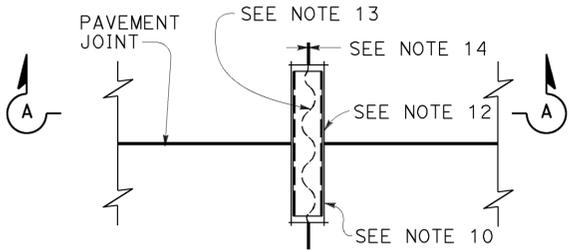
PLAN VIEW

SECTION C-C

**TYPE B
CURB TERMINATION DETAIL**

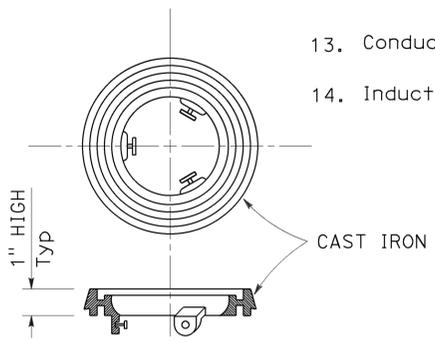


SECTION A-A



PLAN VIEW

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



LOCKING GRADE RING

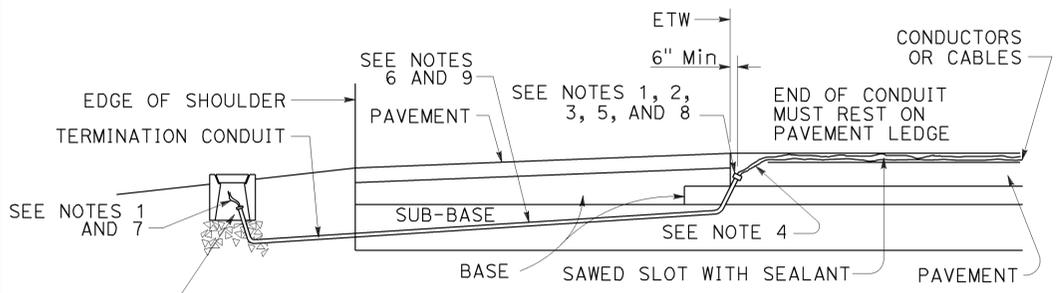
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(CURB AND SHOULDER TERMINATION,
TRENCH, AND HANDHOLE DETAILS)**

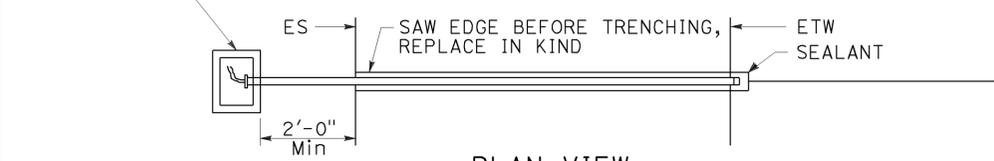
NO SCALE

RSP ES-5D DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-5D DATED JULY 19, 2013 AND STANDARD PLAN ES-5D DATED MAY 20, 2011 - PAGE 451 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5D



CROSS SECTION



PLAN VIEW

SHOULDER TERMINATION DETAILS

2010 REVISED STANDARD PLAN RSP ES-5D

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	36	37

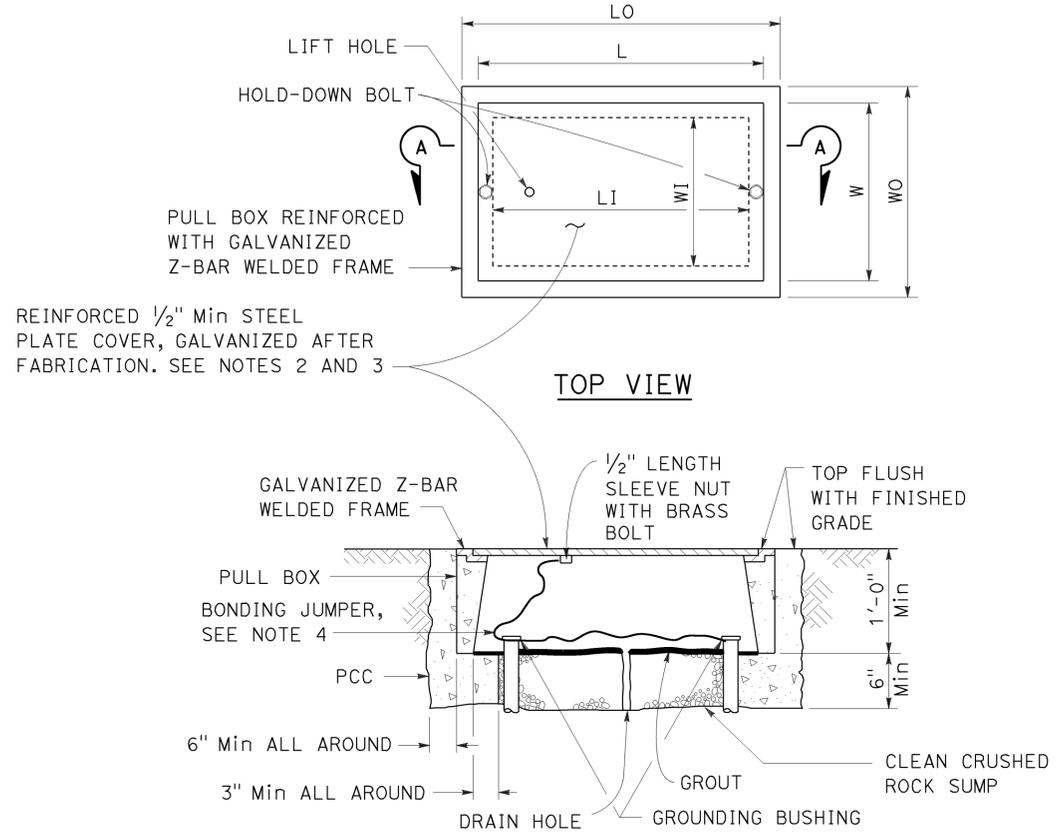
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

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 2-16-16



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	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.

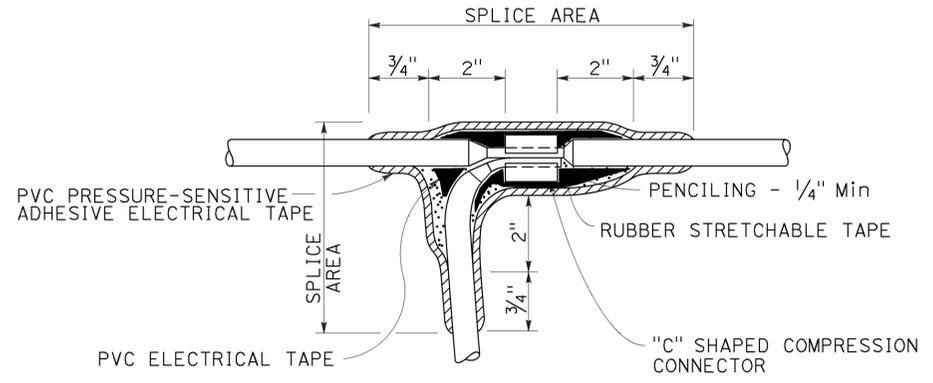
REVISED STANDARD PLAN RSP ES-8B

2010 REVISED STANDARD PLAN RSP ES-8B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Fre, Mad Tul	99	Var	37	37
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER					
October 30, 2015 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

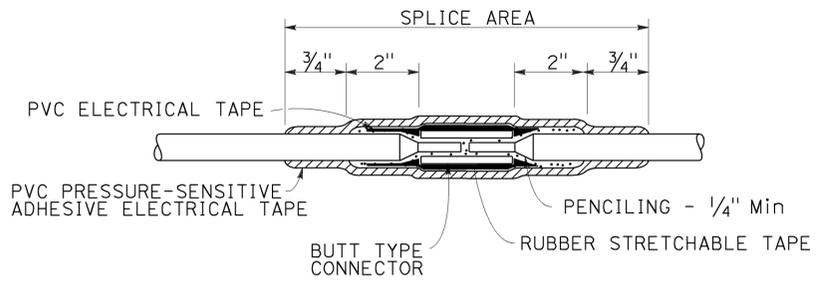


TO ACCOMPANY PLANS DATED 2-16-16



TYPE C SPLICE

See Note 3

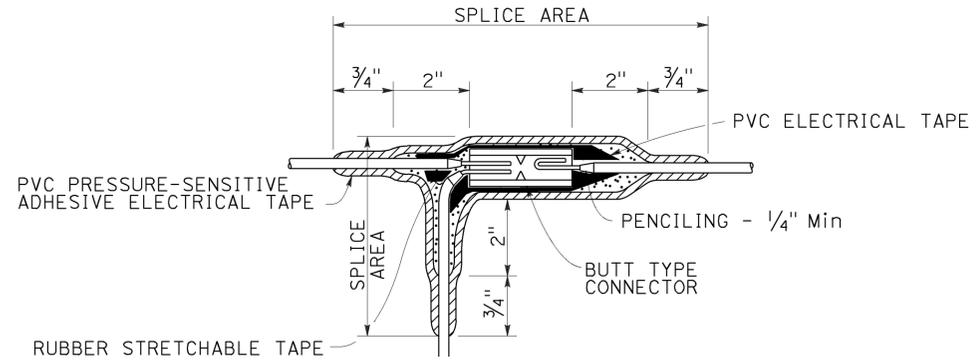


TYPE S SPLICE

See Note 4

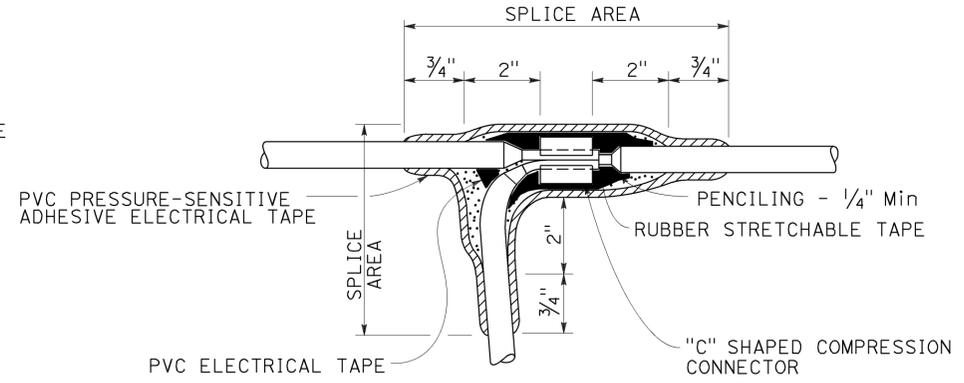
NOTES:

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