Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	1	62

ACSTP-000C(433)E

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

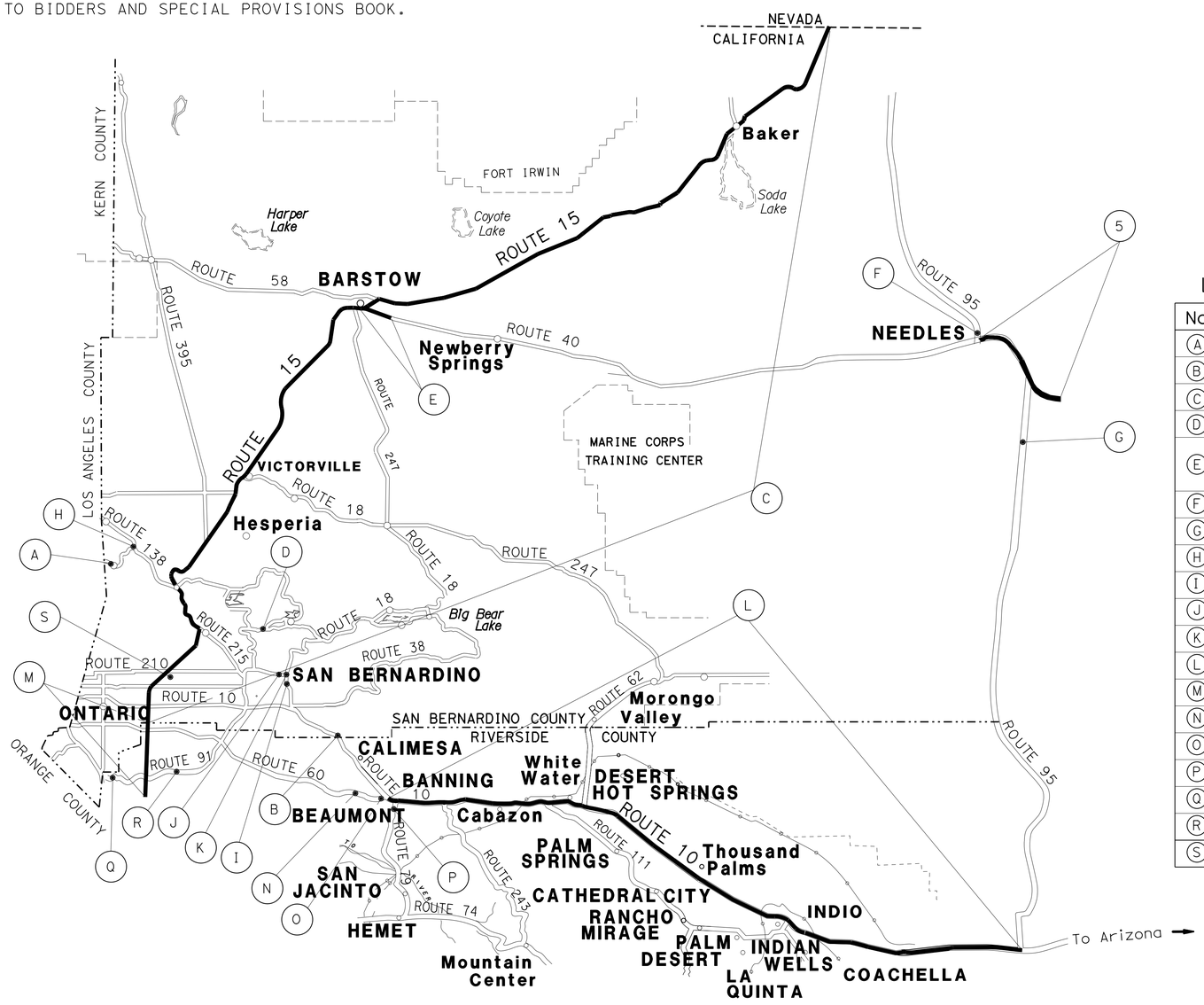
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN SAN BERNARDINO AND RIVERSIDE COUNTIES
AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2015

INDEX OF PLANS

SHEET NO.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	LOCATION OF CONSTRUCTION
3	CONSTRUCTION DETAILS
4	CONSTRUCTION AREA SIGNS
5	SUMMARY OF QUANTITIES
6-44	ELECTRICAL PLANS
45-61	REVISED STANDARD PLANS
62	STRUCTURE PLAN

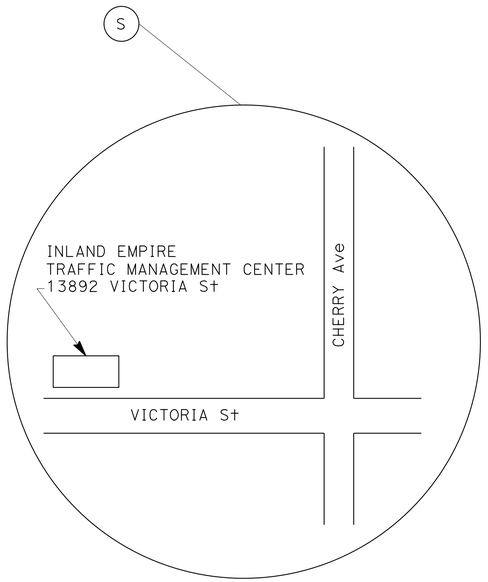
THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.



LOCATION MAP

LOCATIONS OF CONSTRUCTION

No.	COUNTY	ROUTE	POST MILE
A	SBd	2	1.45
B	SBd	10	R39.1
C	SBd	15	0.0 - 185.9
D	SBd	18	20.59
E	SBd	40	0.64 - R28.9 & R132.0 - R154.0
F	SBd	95	R57.6
G	SBd	95	49.3
H	SBd	138	6.80
I	SBd	330	29.47
J	SBd	210	R26.58
K	SBd	210	R31.08
L	Riv	10	7.0 - R156.00
M	Riv	15	36.0 - 50.0
N	Riv	60	24.90
O	Riv	60	30.10
P	Riv	79	39.17
Q	Riv	91	R3.02
R	Riv	91	12.57
S	SBd	15	-



PROJECT ENGINEER
REGISTERED CIVIL ENGINEER
05-08-16
DATE

REGISTERED PROFESSIONAL ENGINEER
GEORGE MORHIG
No. C50349
Exp. 6/30/17
CIVIL
STATE OF CALIFORNIA

MAY 09, 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.

PROJECT MANAGER AWAIS SHEIKH
DESIGN MANAGER GEORGE MORHIG

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

CONTRACT No.	08-1C6304
PROJECT ID	0812000338

LAST REVISION 08-30-16
DATE PLOTTED => 13-SEP-2016
TIME PLOTTED => 13:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	2	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.

LOCATIONS OF CONSTRUCTION

Loc		COUNTY	ROUTE	PM
A	1	SBd	2	1.45
C	2	SBd	15	R135.75
E	3	SBd	40	R28.9
L	4	Riv	10	34.80
L	5	Riv	10	R155.33
C	6	SBd	15	1.00
C	7	SBd	15	11.60
C	8	SBd	15	12.87
C	9	SBd	15	15.39
C	10	SBd	15	R17.23
C	11	SBd	15	R21.70
C	12	SBd	15	R25.00
C	13	SBd	15	R26.10
C	14	SBd	15	31.73
	15	LOCATION REMOVED		
E	16	SBd	40	0.64
H	17	SBd	138	6.80
D	18	SBd	18	20.59
L	19	Riv	10	R24.30
L	20	Riv	10	29.98
L	21	Riv	10	39.23
L	22	Riv	10	43.63
L	23	Riv	10	48.42
L	24	Riv	10	R52.97
L	25	Riv	10	59.47
C	26	SBd	15	170.0
E	27	SBd	40	0.64
E	28	SBd	40	R142.0
I	29	SBd	330	29.47
M	30	Riv	15	40.86
O	31	Riv	60	30.1
B	32	SBd	10	R39.1
C	33	SBd	15	66.64

Loc		COUNTY	ROUTE	PM
C	34	SBd	15	76.60
C	35	SBd	15	160.62
C	36	SBd	15	176.36
C	37	SBd	15	176.58
C	38	SBd	15	180.68
E	39	SBd	40	R5.71
E	40	SBd	40	R135.32
E	41	SBd	40	R151.97
F	42	SBd	95	R57.6
G	43	SBd	95	49.3
J	44	SBd	210	R26.58
K	45	SBd	210	R31.08
L	46	Riv	10	R14.00
M	47	Riv	15	36.02
M	48	Riv	15	47.74
N	49	Riv	60	24.9
P	50	Riv	79	39.17
Q	51	Riv	91	R3.02
R	52	Riv	91	12.57
L	53	Riv	10	50.64
L	54	Riv	10	R58.47
L	55	Riv	10	R58.91
L	56	Riv	10	R60.33
L	57	Riv	10	R145.49
L	58	Riv	10	R154.26
L	59	Riv	10	7.5
L	60	Riv	10	9.00
L	61	Riv	10	10.5
L	62	Riv	10	R12.00
L	63	Riv	10	13.40
L	64	Riv	10	R14.70
L	65	Riv	10	R16.30
L	66	Riv	10	R18.00

Loc		COUNTY	ROUTE	PM
L	67	Riv	10	R19.40
L	68	Riv	10	R21.70
L	69	Riv	10	R24.30
L	70	Riv	10	26.10
L	71	Riv	10	28.50
L	72	Riv	10	30.80
L	73	Riv	10	33.10
L	74	Riv	10	35.60
L	75	Riv	10	38.00
L	76	Riv	10	40.40
L	77	Riv	10	42.70
L	78	Riv	10	45.40
L	79	Riv	10	48.00
L	80	Riv	10	50.50
L	81	Riv	10	R52.70
L	82	Riv	10	54.70
L	83	Riv	10	R57.00
L	84	Riv	10	R58.90
L	85	Riv	10	R61.10
L	86	Riv	10	R64.70
L	87	Riv	10	R67.60
L	88	Riv	10	R70.20
L	89	Riv	10	R72.90
L	90	Riv	10	R75.70
L	91	Riv	10	R78.50
L	92	Riv	10	R81.20
L	93	Riv	10	R84.20
L	94	Riv	10	R86.90
L	95	Riv	10	R89.80
L	96	Riv	10	R92.70
L	97	Riv	10	R95.40
L	98	Riv	10	R98.00
L	99	Riv	10	R100.40

Loc		COUNTY	ROUTE	PM
L	100	Riv	10	R103.40
L	101	Riv	10	R106.20
L	102	Riv	10	R109.20
L	103	Riv	10	R111.80
L	104	Riv	10	R114.40
L	105	Riv	10	R116.80
L	106	Riv	10	R119.60
L	107	Riv	10	R122.20
L	108	Riv	10	R125.10
L	109	Riv	10	R127.90
L	110	Riv	10	R130.90
L	111	Riv	10	R134.00
L	112	Riv	10	R136.80
L	113	Riv	10	R139.30
L	114	Riv	10	R141.90
L	115	Riv	10	R144.40
L	116	Riv	10	R146.90
L	117	Riv	10	R149.50
L	118	Riv	10	R152.20
L	119	Riv	10	R154.80
C	120	SBd	15	14.90
C	121	SBd	15	17.20
C	122	SBd	15	19.30
C	123	SBd	15	21.40
C	124	SBd	15	23.10
C	125	SBd	15	23.20
C	126	SBd	15	24.60
C	127	SBd	15	25.10
C	128	SBd	15	28.70
C	129	SBd	15	31.10
C	130	SBd	15	32.40
C	131	SBd	15	33.90
C	132	SBd	15	35.50

Loc		COUNTY	ROUTE	PM
C	133	SBd	15	37.40
C	134	SBd	15	40.40
C	135	SBd	15	41.60
C	136	SBd	15	43.30
C	137	SBd	15	44.80
C	138	SBd	15	46.30
C	139	SBd	15	47.80
C	140	SBd	15	50.50
C	141	SBd	15	52.50
C	142	SBd	15	54.70
C	143	SBd	15	56.70
C	144	SBd	15	59.10
C	145	SBd	15	60.90
C	146	SBd	15	63.00
C	147	SBd	15	65.80
C	148	SBd	15	67.60
C	149	SBd	15	69.10
C	150	SBd	15	70.60
C	151	SBd	15	72.30
C	152	SBd	15	73.90
C	153	SBd	15	76.00
C	154	SBd	15	78.10
C	155	SBd	15	R80.90
C	156	SBd	15	R83.70
C	157	SBd	15	R85.60
C	158	SBd	15	R88.00
C	159	SBd	15	R90.10
C	160	SBd	15	R92.60
C	161	SBd	15	R95.00
C	162	SBd	15	R97.80
C	163	SBd	15	R100.60
C	164	SBd	15	R103.20
C	165	SBd	15	R105.90

Loc		COUNTY	ROUTE	PM
C	166	SBd	15	R108.60
C	167	SBd	15	R111.00
C	168	SBd	15	R113.60
C	169	SBd	15	R116.10
C	170	SBd	15	R118.50
C	171	SBd	15	R121.00
C	172	SBd	15	R123.60
C	173	SBd	15	R126.10
C	174	SBd	15	R128.70
C	175	SBd	15	R131.40
C	176	SBd	15	R133.90
C	177	SBd	15	R135.80
C	178	SBd	15	R138.30
C	179	SBd	15	R141.00
C	180	SBd	15	R143.50
C	181	SBd	15	R146.30
C	182	SBd	15	R148.70
C	183	SBd	15	R151.40
C	184	SBd	15	R153.60
C	185	SBd	15	R156.40
C	186	SBd	15	R158.80
C	187	SBd	15	R161.30
C	188	SBd	15	R163.50
C	189	SBd	15	R166.10
C	190	SBd	15	R168.50
C	191	SBd	15	R170.90
C	192	SBd	15	R173.20
C	193	SBd	15	R173.50
C	194	SBd	15	R175.90
C	195	SBd	15	R178.40
C	196	SBd	15	R180.80
C	197	SBd	15	R183.40
C	198	SBd	15	R185.90

APPROVED FOR ELECTRICAL WORK ONLY

LOCATIONS OF CONSTRUCTION

NO SCALE

LC-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: L. PENALOZA
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY: KD
DATE REVISED: 04-24-10

LAST REVISION 05-04-16 | DATE PLOTTED => 13-SEP-2016 | TIME PLOTTED => 13:32

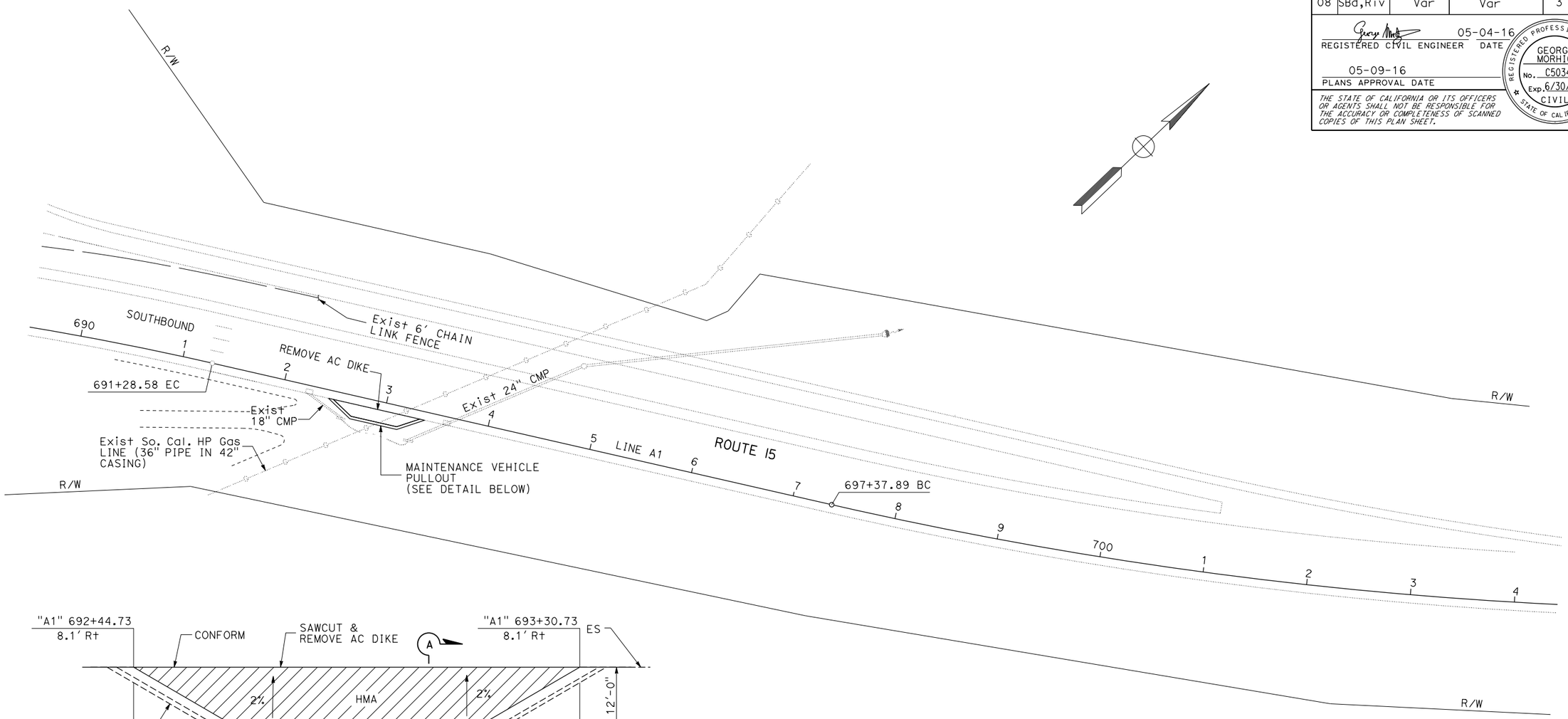
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	3	62

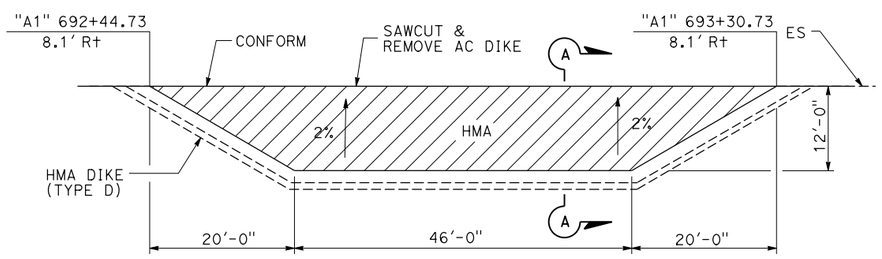
REGISTERED CIVIL ENGINEER 05-04-16 DATE

05-09-16
PLANS APPROVAL DATE

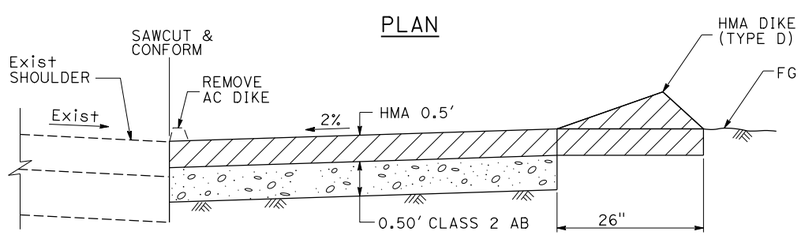
REGISTERED PROFESSIONAL ENGINEER GEORGE MORHIG No. C50349 Exp. 6/30/17 CIVIL STATE OF CALIFORNIA

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.





PLAN



SECTION A-A
MAINTENANCE VEHICLE PULLOUT

ROUTE 15
AT PM 26.1

CONSTRUCTION DETAILS

SCALE: 1"=50'

C-1

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

FUNCTIONAL SUPERVISOR: GEORGE MORHIG
CALCULATED-DESIGNED BY: GALINA GINZBURG
CHECKED BY: GEORGE MORHIG
REVISED BY
DATE REVISED

LAST REVISION 05-04-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:31

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	4	62

REGISTERED CIVIL ENGINEER 05-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER TRAN HOANG No. C54996 Exp. 06/30/18 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.

NOTES:

1) FOR EACH WORK LOCATION, USE TRAFFIC CONTROL SYSTEM PLAN SHEETS IN THE STD PLANS.

2) ALL TEMPORARY CONSTRUCTION AREA SIGNS WILL HAVE FLOURESCENT ORANGE RETROREFLECTIVE SHEETING (TYPE XI).

3) LOCATIONS OF PORTABLE CHANGEABLE MESSAGE SIGNS FOR EACH WORK LOCATION WILL BE DETERMINED BY THE ENGINEER.

PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS)

EACH
6

CONSTRUCTION AREA SIGNS

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

NO SCALE

CS-1

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

FUNCTIONAL SUPERVISOR: MARIO AMANCIO
CALCULATED-DESIGNED BY: HORMUZD SETHNA
CHECKED BY: PATTI BARTOLI
REVISED BY
DATE REVISED

LAST REVISION 05-04-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:31

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	5	62

REGISTERED CIVIL ENGINEER 05-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER GEORGE MORHIG No. C50349 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.

MAINTENANCE VEHICLE PULLOUT QUANTITIES

STATION	REMOVE ASPHALT CONCRETE DIKE	PLACE HMA DIKE (TYPE D)	MINOR HOT MIX ASPHALT	ROADSIDE PAVING (MISCELLANEOUS AREAS)
	LF	LF	TON	SQYD
'A1' Sta 692+44.73 TO 693+30.73	86	95	6	105
TOTAL	86	95	6	105

ROUTE 15

AT PM 26.1

SUMMARY OF QUANTITIES

SCALE: 1"=50'

Q-1

CALCULATED-DESIGNED BY	GALINA GINZBURG
CHECKED BY	GEORGE MORHIG
REVISED BY	
DATE REVISED	
FUNCTIONAL SUPERVISOR	GEORGE MORHIG

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans® **DESIGN**

LAST REVISION 05-04-16 | DATE PLOTTED => 12-SEP-2016 TIME PLOTTED => 15:31

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	6	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.

TRANSPORTATION MANAGEMENT SYSTEM ELEMENTS AND EQUIPMENT

- (X) RWIS. SEE SHEET E-2
- (X) MODIFY RWIS. SEE SHEET E-8
- [X] MODIFY WIND WARNING SIGN. SEE SHEET E-12
- (X) MODIFY HAR SIGN. SEE SHEET E-11
- (X) MODIFY HAR. SEE SHEET E-10
- (X) MODIFY WVDS. SEE SHEETS E-13 TO E-16

X = ELEMENT LOCATION NUMBER (SEE SHEETS E-18 TO E-25)

RWIS EQUIPMENT

- NEW RWIS
- Exist RWIS
- CAT 5E CABLE

ABBREVIATIONS:

485 SIM	485 SERIAL INTERFACE MODULE
4G LTE	4G-LTE CELLULAR MODEM
AMRT	AM RADIO TRANSMITTER
DARP	DIGITAL AUDIO RECORDER/PLAYER
DCC	DIGITAL COMMUNICATION CONTROLLER
EFOS	ETHERNET FIBER OPTIC SWITCH
ES	ETHERNET SWITCH
EX	ETHERNET EXTENDER
FBS	FLASHING BEACON SYSTEM
HAR	HIGHWAY ADVISORY RADIO
IE TMC	INLAND EMPIRE TRANSPORTATION MANAGEMENT CENTER
IP PTZ CAMERA	IP PAN TILT ZOOM CAMERA
IPVD	IP VIDEO DECODER
LA	LIGHTNING ARRESTOR
NCM	NETWORK COMMUNICATION MODULE
NIRS	NON-INVASIVE ROAD SENSOR
POE	POWER OVER ETHERNET
PVPS	PHOTOVOLTAIC POWER SUPPLY
PSBU	POWER SUPPLY BATTERY BACK-UP SYSTEM
PS200	POWER SUPPLY FOR STATE FURNISHED RPU
PWVS	PRESENT WEATHER AND VISIBILITY SENSOR
RDS	RACK DISTRIBUTION SWITCH
RHATS	RELATIVE HUMIDITY AND AIR TEMPERATURE SENSOR
RPU	REMOTE PROCESSING UNIT
RWIS	ROAD WEATHER INFORMATION SYSTEM
SCE	SOUTHERN CALIFORNIA EDISON
SIP CAMERA	STATIONARY IP CAMERA
SPC	SHIELDED POWER CABLE
TCM	TRANSMITTER CONTROLLER MODULE
WER	WIRELESS ETHERNET RADIO
WIVIS	WEATHER IDENTIFIER AND VISIBILITY SENSOR
WSWD	WIND SPEED AND WIND DIRECTION SENSOR
WVDS	WIRELESS VEHICLE DETECTION SYSTEM

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

E-1

APPROVED FOR ELECTRICAL WORK ONLY

REVISED BY | DATE REVISED
LUIS PENALOZA | FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | FERDINAND DE LA CRUZ
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

LAST REVISION 08-30-16 | DATE PLOTTED => 12-SEP-2016 | TIME PLOTTED => 15:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	7	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

PLANS APPROVAL DATE 05-09-16

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

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

NOTES (THIS SHEET ONLY):

1. SEE SHEET E-17 FOR ADDITIONAL WORK AT THE IE TMC.
2. INSTALL CABLES, CONNECTORS AND CONDUCTORS AS REQUIRED.
3. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

ROAD WEATHER INFORMATION SYSTEM

LOCATION						INSTALL EQUIPMENT														NOTES	
Loc	Co	Rte	Approx PM	DIRECTION	SITE DESCRIPTION	PWVS	RHATS	WSWD	NCM	RWIS TOWER & FOUNDATION	ENCLOSURE	IP PTZ CAMERA	NIRS	PS200	EX	4G LTE	485 SIM	ES		SEE SHEETS FOR DETAILS	SEE SHEETS FOR LOCATION
1	SBd	2	1.45	WB	ACROSS FIRE STATION	1	1	1	1	1	1	1	1	1	0	1	1	1		E-3, E-26, SDS-1	E-20
2	SBd	15	R135.75	NB	NEXT TO EXISTING CMS SIGN	1	1	1	1	1	1	1	1	1	2	0	1	2		E-4, E-30, SDS-1	E-21
3	SBd	40	R28.9	EB	AT DESERT OASIS SAFETY ROADSIDE REST AREA	1	1	1	1	1	1	1	0	1	0	1	0	1		E-5, E-26, SDS-1	E-21
4	Riv	10	34.80	WB	1.0 MILES EAST OF INDIAN CANYON	1	1	1	1	1	1	1	0	1	0	1	0	1		E-6, E-26, SDS-1	E-18
5	Riv	10	R155.33	WB	NEXT TO EXISTING CMS SIGN	1	1	1	1	1	1	1	1	1	2	0	0	2		E-7, E-30, SDS-1	E-18
TOTALS						5	5	5	5	5	5	5	3	5	4	3	2	7			

APPROVED FOR ELECTRICAL WORK ONLY

ROAD WEATHER INFORMATION SYSTEM

NO SCALE

E-2

REVISED BY	DATE REVISED
WALEED ABOUL-HOSN	FERDINAND DE LA CRUZ

CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	FERDINAND DE LA CRUZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans® ELECTRICAL DESIGN B

LAST REVISION 05-04-16 | DATE PLOTTED => 12-SEP-2016 TIME PLOTTED => 15:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	8	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

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

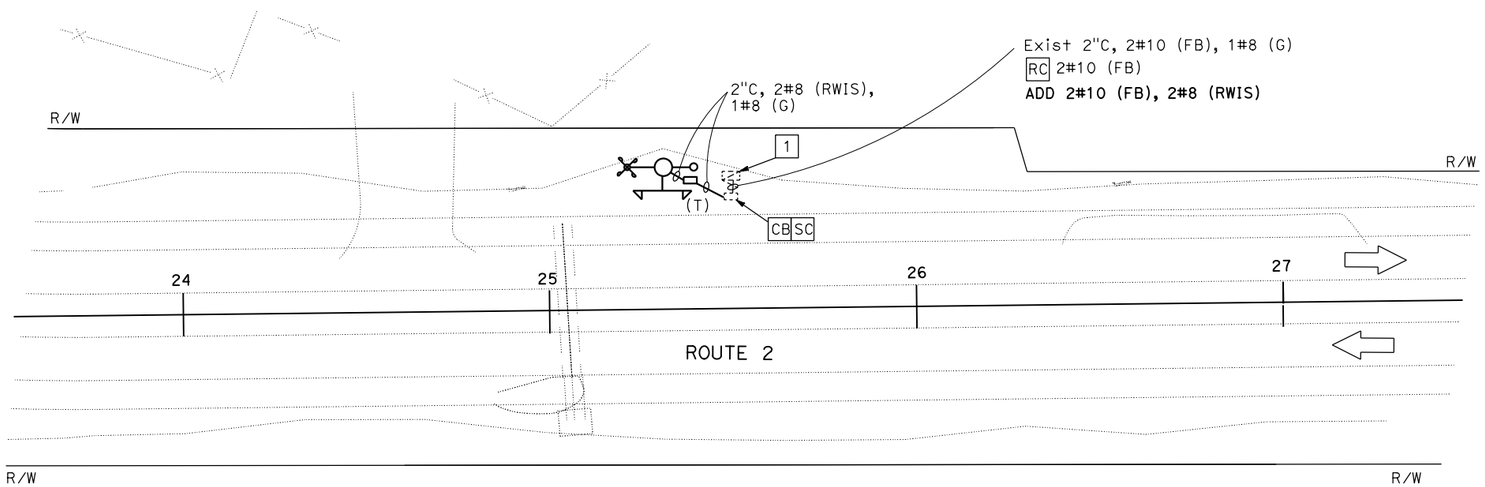
NOTES (THIS SHEET ONLY):

1. SEE SHEET E-26 FOR DETAILS.
2. INSTALL RWIS A MINIMUM DISTANCE OF 20′ FROM ETW.
3. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

LEGEND (THIS SHEET ONLY):

[1] EXISTING 120/240 V, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:

METER: 100 A, 240 V, 2P, MAIN BREAKER (TC-1)
15 A, 120 V, 1P (FB)
ADD 20 A, 120 V, 1P (RWIS)



(LOCATION 1)

ROAD WEATHER INFORMATION SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 20′

E-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 05-04-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	9	62

REGISTERED ELECTRICAL ENGINEER — DATE: 5-04-16

PLANS APPROVAL DATE: 05-09-16

REGISTERED PROFESSIONAL ENGINEER — FERDINAND DE LA CRUZ — No. E 17215 — Exp. 06-30-18 — ELECTRICAL — STATE OF CALIFORNIA

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

NOTES (THIS SHEET ONLY):

1. SEE SHEET E-30 FOR DETAILS.
2. INSTALL RWIS A MINIMUM DISTANCE OF 30′ FROM ETW.
3. INSTALL RWIS TOWER A MINIMUM DISTANCE OF 150′ FROM CMS STRUCTURE.
4. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

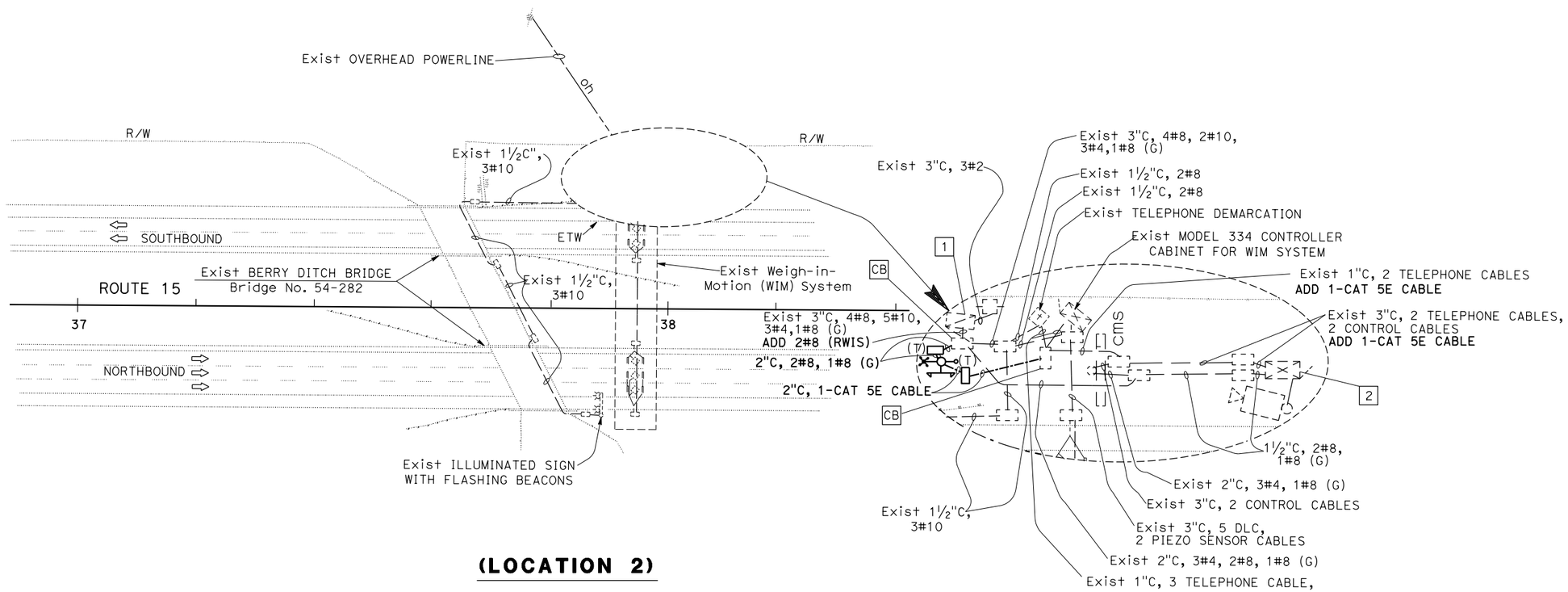
LEGEND (THIS SHEET ONLY):

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

METER A: 100 A, 240 V, 2P, MAIN BREAKER (LS-3)
30 A, 240 V, 2P FUTURE ROADWAY LIGHTING
15 A, 120 V, 1P FUTURE LIGHTING PEC

METER B: 100 A, 240 V, 2P. MAIN BREAKER (TC-1)
60 A, 240 V, 2P CHANGEABLE MESSAGE SIGN
20 A, 240 V, 2P SIGN ILLUMINATION/FLASHING BEACONS
15 A, 120 V, 1P PEC FUTURE SIGN ILLUMINATION
15 A, 120 V, 1P TELEPHONE DEMARCATION CABINET
30 A, 120 V, 1P MODEL 334 WEIGH-IN-MOTION CABINET
30 A, 120 V, 1P MODEL 334 CMS/CCTV CABINET
ADD 20 A, 120 V, 1P (RWIS)

2 INSTALL ETHERNET SWITCH AND ETHERNET EXTENDER IN EXISTING CABINET. INSTALL CAT5E CABLE AND CONNECT ETHERNET EXTENDER, EXISTING CELLULAR MODEM AND EXISTING 170 CONTROLLER TO THE ETHERNET SWITCH.



(LOCATION 2)

ROAD WEATHER INFORMATION SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 50′

E-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 05-04-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	10	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

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

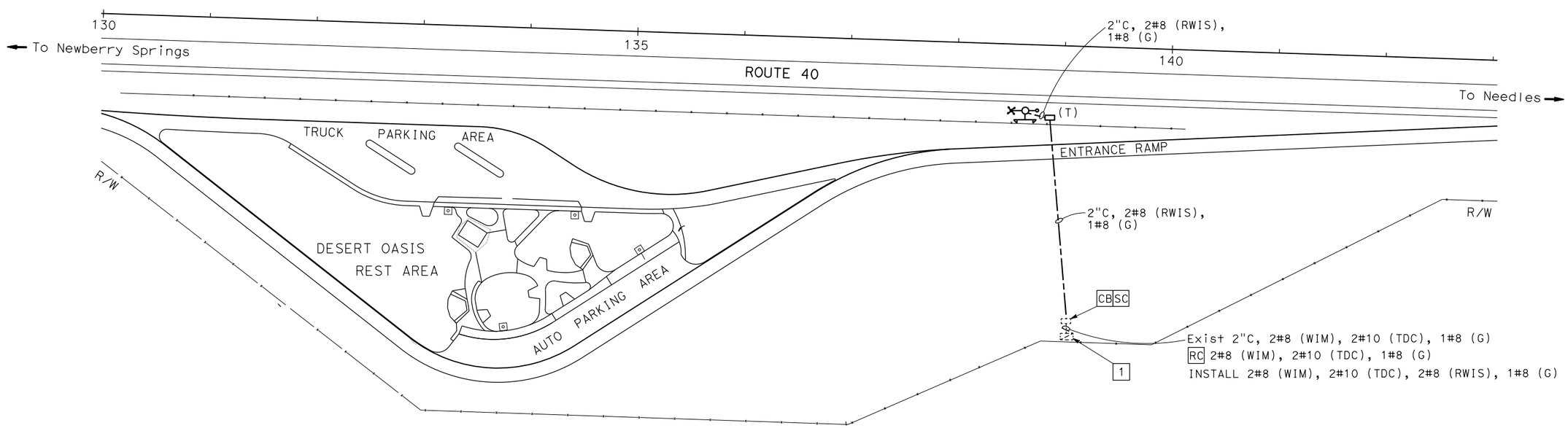
NOTES (THIS SHEET ONLY):

1. SEE SHEET E-26 FOR DETAILS.
2. INSTALL RWIS A MINIMUM DISTANCE OF 30' FROM ETW.
3. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

LEGEND (THIS SHEET ONLY):

[1] EXISTING 120/240 V, 1Ø, 3 WIRE SERVICE, ON PLYWOOD PANEL WITH THE FOLLOWING CIRCUIT BREAKERS:

METER: 100 A, 240 V, 2P, MAIN BREAKER (TC-1)
40 A, 120 V, 1P, CB (WIM)
20 A, 120 V, 1P, CB (TDC)
ADD 20 A, 120 V, 1P, CB (RWIS)



(LOCATION 3)

ROAD WEATHER INFORMATION SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 50'

E-5

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 05-04-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	11	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

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

NOTES (THIS SHEET ONLY):

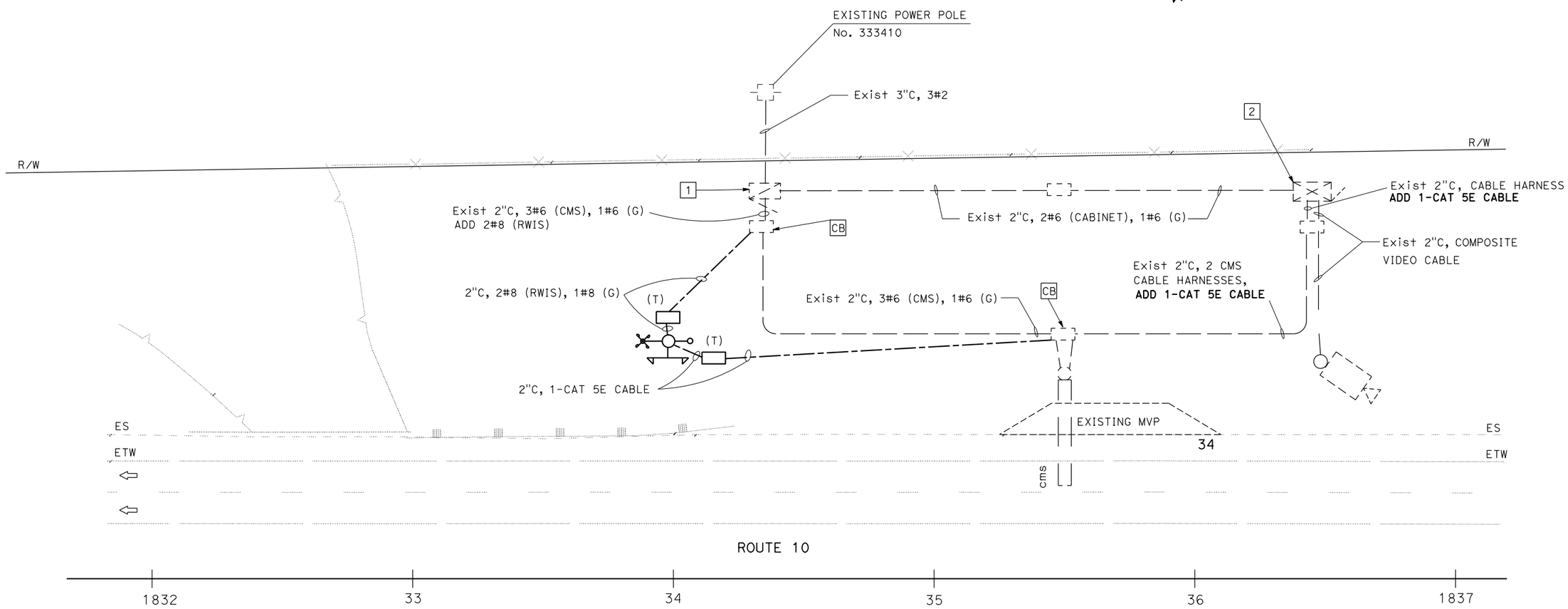
1. SEE SHEET E-26 FOR DETAILS.
2. INSTALL RWIS A MINIMUM DISTANCE OF 30' FROM ETW.
3. INSTALL RWIS TOWER A MINIMUM DISTANCE OF 150' FROM CMS STRUCTURE.
4. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

LEGEND (THIS SHEET ONLY):

1 EXISTING 120/240 V, 1Ø, 3 WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:
CALTRANS ID No. (CTID): 08-54-010-0-034.740-M
ADDRESS: 65950 I-10 FREEWAY, PALM SPRINGS, CA 92262

METER: 100 A, 240 V, 2P CB (MAIN)
30 A, 240 V, 2P CB (CMS)
30 A, 120 V, 1P CB (CABINET)
ADD 20 A, 120 V, 1P (RWIS)

2 INSTALL ETHERNET SWITCH AND ETHERNET EXTENDER IN EXISTING CABINET. INSTALL CAT5E CABLE AND CONNECT ETHERNET EXTENDER, EXISTING CELLULAR MODEM AND EXISTING 170 CONTROLLER TO THE ETHERNET SWITCH.



(LOCATION 4)

ROAD WEATHER INFORMATION SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 20'

E-6

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

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 08-30-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,RIV	Var	Var	12	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

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

NOTES (THIS SHEET ONLY):

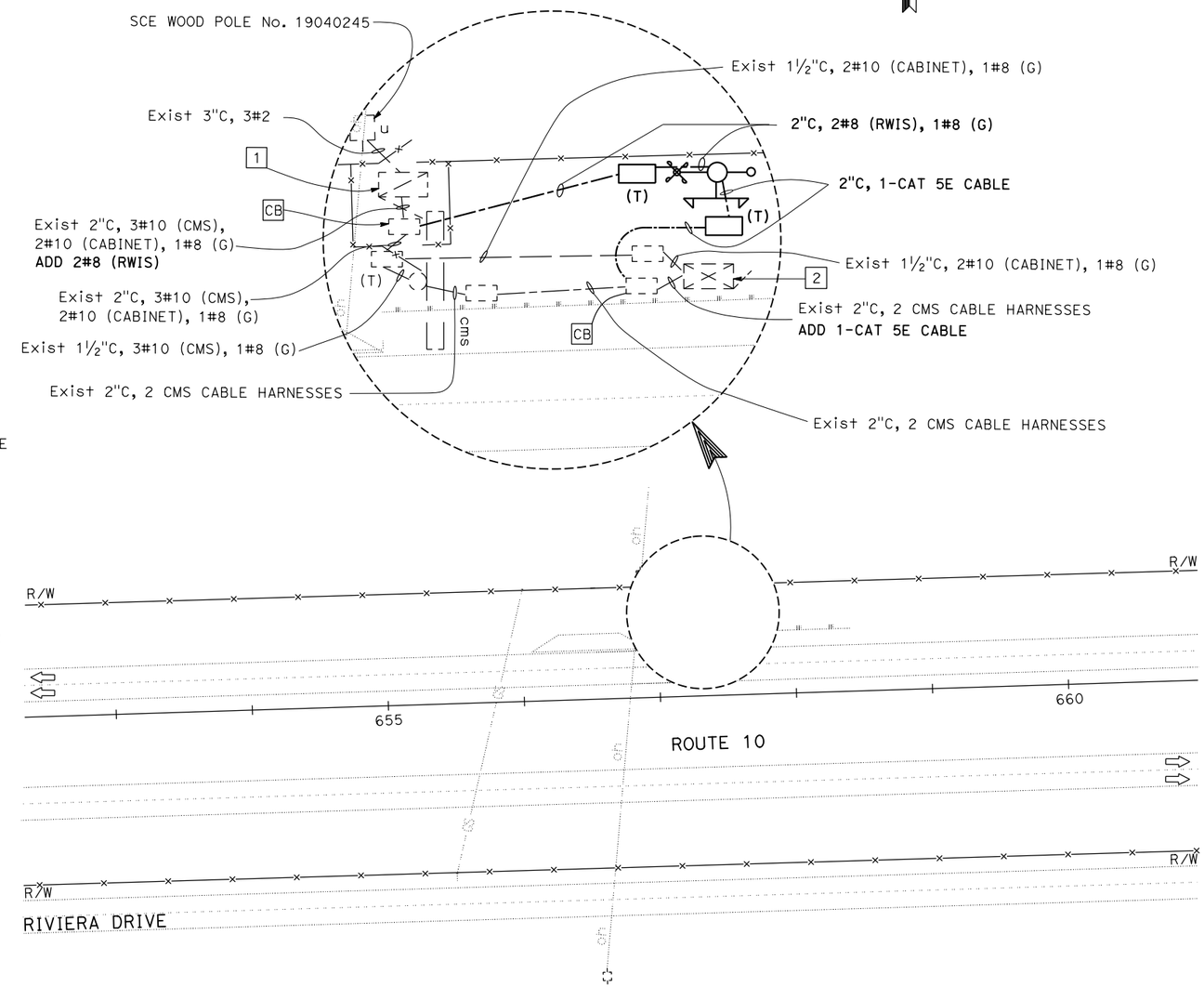
1. SEE SHEET E-30 FOR DETAILS.
2. INSTALL A MINIMUM DISTANCE OF 30' FROM ETW.
3. INSTALL RWIS A MINIMUM DISTANCE OF 150' FROM CMS STRUCTURE.
4. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

LEGEND (THIS SHEET ONLY):

1 EXISTING 120/240 V, 1Ø, 3 WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:
ADDRESS: 2710 EAST HOBSONWAY, BLYTHE
CALTRANS ID No. (CTID): 08-56-010-0-155.302-M

METER: 100 A, 240 V, 2P, CB (MAIN)
30 A, 240 V, 2P, CB (CMS)
30 A, 120 V, 1P, CB (CABINET)
ADD 20 A, 120 V, 1P, CB (RWIS)

2 INSTALL ETHERNET SWITCH AND ETHERNET EXTENDER IN EXISTING CABINET. INSTALL CAT5E CABLE AND CONNECT ETHERNET EXTENDER, EXISTING CELLULAR MODEM AND EXISTING 170 CONTROLLER TO THE ETHERNET SWITCH.



(LOCATION 5)

ROAD WEATHER INFORMATION SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 50'

E-7

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

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 08-30-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	2,10,15,18,40 46,79,91,95 138,210,330	Var	13	62

REGISTERED ELECTRICAL ENGINEER — DATE 5-04-16

PLANS APPROVAL DATE 05-09-16

REGISTERED PROFESSIONAL ENGINEER — FERDINAND DE LA CRUZ — No. E 17215 — Exp. 06-30-18 — 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.

NOTE (THIS SHEET ONLY):

1. SEE SHEET E-17 FOR ADDITIONAL WORK AT THE IE TMC.
2. INSTALL CABLES, CONNECTORS AND CONDUITS AS REQUIRED.
2. INSTALL RWIS TOWER A MINIMUM DISTANCE OF 30′ FROM ETW UNLESS PROTECTD BY MBGR.
3. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

MODIFYING ROAD WEATHER INFORMATION SYSTEM

LOCATION						EXISTING EQUIPMENT							INSTALL EQUIPMENT													NOTES	
Loc #	Co	Rte	Approx PM	DIRECTION	SITE DESCRIPTION	WSWD	PWVS/WVIS	RPU (RS)	RHATS (RC)	POLE (RC)	CCTV (RC)	(RS)	ES	WSWD	PWVS	EFOS	RHATS	RWIS TOWER & FOUNDATION	IP PTZ CAMERA	NIRS	PS200	4GLTE	485 SIM	NCM	2" CONDUIT (Approx)		SEE SHEETS FOR DETAILS	(X) SEE SHEETS FOR LOCATIONS
6	SBd	15	1.00	SB	AT JURUPA St OC	1	1	0	0	0	1		0	1	1	1	1	0	1	0	0	0	0	0	30′		E-27	E-19
7	SBd	15	11.60	NB	NORTH OF DUNCAN Rd	1	1	0	1	1	1		0	1	1	1	1	1	1	0	0	0	0	0	30′		E-28, SDS-1	E-19
8	SBd	15	12.87	NB	NORTHBOUND ON RAMP SIERRA Ave	1	1	1	1	0	1		0	1	1	0	1	0	1	0	1	1	0	1	30′		E-27	E-19
9	SBd	15	15.39	NB	0.25 MILES SOUTH OF GLEN HELEN Rd	1	1	0	0	1	1		0	1	1	1	1	1	1	0	0	0	0	1	30′		E-28, SDS-1	E-19
10	SBd	15	R17.23	SB	2.0 MILES NORTH OF KENWOOD Ave	1	1	1	1	0	0		1	1	1	0	1	1	0	0	1	1	0	1	30′		E-38, SDS-1	E-20
11	SBd	15	R21.70	SB	0.3 MILES NORTH OF Rte 138 Jct	1	1	0	1	1	1		1	1	1	0	1	1	1	0	0	1	0	1	30′		E-28, SDS-1	E-20
12	SBd	15	R25.00	SB	2.2 MILES SOUTH OF OAK HILL Rd	1	1	0	1	1	1		1	1	1	0	1	1	1	0	0	1	0	1	30′		E-28, SDS-1	E-20
13	SBd	15	R26.10	SB	1.1 MILES SOUTH OF OAK HILL Rd	1	1	0	1	1	1		1	1	1	0	1	1	1	0	0	1	0	1	30′		E-28, SDS-1	E-20
14	SBd	15	31.73	NB	Rte 395 Jct	1	1	1	1	1	0		1	1	1	0	1	1	1	2	1	1	2	1	30′		E-9, E-28, E-29, SDS-1	E-20
15	LOCATION REMOVED																											
16	SBd	40	0.64	EB	BARSTOW MAINTENANCE YARD	1	1	1	1	1	0		1	1	1	0	1	1	1	0	1	1	0	1	30′		E-28, SDS-1	E-21
17	SBd	138	6.80	WB	0.15 MILES EAST OF Rte 2 Jct	1	1	0	1	1	1		1	1	1	0	1	1	1	1	1	1	1	1	30′		E-28, SDS-1	E-20
18	SBd	18	20.59	EB	Rte 189 Jct	1	0	0	1	0	1		1	1	1	0	1	0	1	1	0	1	1	0	30′		E-31	
19	Riv	10	R24.30	EB	WEST OF HAUGEN-LEHMANN WAY	1	1	0	1	1	0		1	1	1	0	1	1	1	0	0	1	0	1	30′		E-28, SDS-1	E-18
20	Riv	10	29.98	EB	EAST OF Rte 62	1	1	0	1	1	0		1	1	1	0	1	1	1	0	0	1	0	1	30′		E-28, SDS-1	E-18
21	Riv	10	39.23	EB	WEST OF DATE PALM	1	1	0	1	1	0		1	1	1	0	1	1	1	0	0	1	0	1	30′		E-28, SDS-1	E-18
22	Riv	10	43.63	WB	EAST OF BOB HOPE Dr	1	1	0	1	1	0		1	1	1	0	1	1	1	0	0	1	0	1	30′		E-28, SDS-1	E-18
23	Riv	10	48.42	WB	WEST OF WASHINGTON Ave	1	1	0	1	1	0		1	1	1	0	1	1	1	0	0	1	0	1	30′		E-28, SDS-1	E-18
24	Riv	10	R52.97	WB	EAST OF JEFFERSON Ave	1	1	0	1	1	0		1	1	1	0	1	1	1	0	1	1	1	1	30′		E-28, SDS-1	E-18
25	Riv	10	59.47	WB	EAST OF DILLON Rd	1	1	0	1	1	0		1	1	1	0	1	1	1	0	1	1	0	1	30′		E-28, SDS-1	E-18
					TOTALS	19	18	3	17	15	9		16	19	19	3	19	16	18	4	7	16	5	16	30′			

MODIFYING EXISTING ELECTRICAL SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

E-8

REVISED BY | DATE REVISED

WALEED ABOUL-HOSN | FERDINAND DE LA CRUZ

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR | FERDINAND DE LA CRUZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans® ELECTRICAL DESIGN B

LAST REVISION 05-04-16 | DATE PLOTTED => 12-SEP-2016 | TIME PLOTTED => 15:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	14	62

REGISTERED ELECTRICAL ENGINEER — DATE 5-04-16

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — FERDINAND DE LA CRUZ — No. E 17215 — Exp. 06-30-18 — ELECTRICAL — STATE OF CALIFORNIA

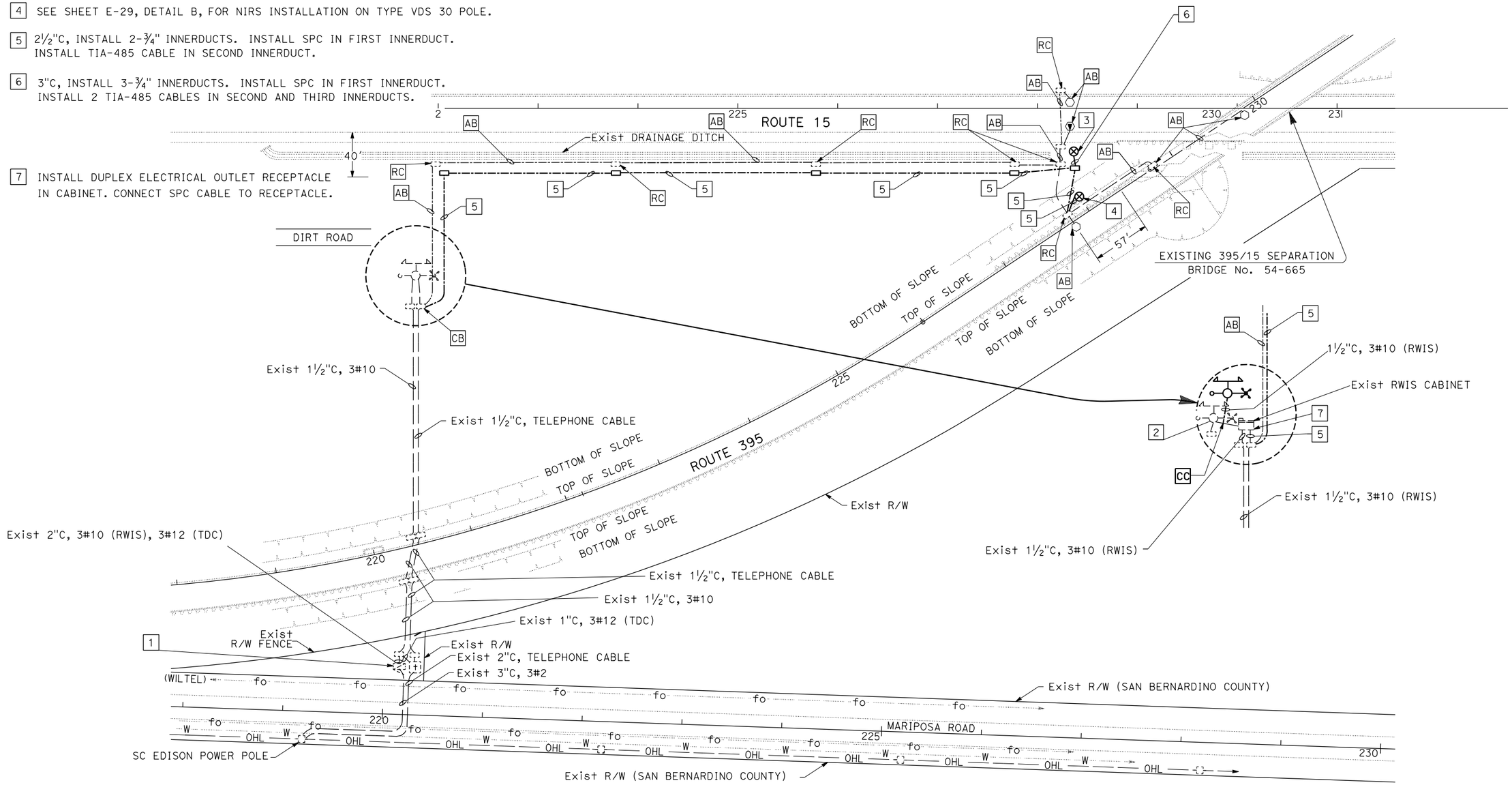
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND (THIS SHEET ONLY):

1. EXISTING 120/240 V, 1ø, 3 WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:
   METER: 100 A, 240 V, 2P, MAIN BREAKER (TC-1)
   15 A, 120 V, 1P, CB (TDC)
   20 A, 120 V, 1P, CB (RWIS)
2. RS Exist RWIS POLE AND EQUIPMENT. REFER TO SHEET E-28 FOR NEW RWIS INSTALLATION DETAILS.
3. SEE SHEET E-29, DETAIL A, FOR NIRS INSTALLATION ON TYPE VDS 30 POLE.
4. SEE SHEET E-29, DETAIL B, FOR NIRS INSTALLATION ON TYPE VDS 30 POLE.
5. 2½"C, INSTALL 2-¾" INNERDUCTS. INSTALL SPC IN FIRST INNERDUCT. INSTALL TIA-485 CABLE IN SECOND INNERDUCT.
6. 3"C, INSTALL 3-¾" INNERDUCTS. INSTALL SPC IN FIRST INNERDUCT. INSTALL 2 TIA-485 CABLES IN SECOND AND THIRD INNERDUCTS.
7. INSTALL DUPLEX ELECTRICAL OUTLET RECEPTACLE IN CABINET. CONNECT SPC CABLE TO RECEPTACLE.

NOTE (THIS SHEET ONLY):

1. INSTALL ALL NECESSARY CONNECTORS FOR THE TIA-485 CABLE IN THE CABINET AS REQUIRED BY MANUFACTURER. TIA-485 CABLE WILL BE CONNECTED TO OTHER TIA-485 CABLE ON SECOND TYPE VDS 30 POLE.
2. THE LOCATIONS OF WORK ARE FLEXIBLEAND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.



MODIFYING ROAD WEATHER INFORMATION SYSTEM (LOCATION 9)

MODIFYING EXISTING ELECTRICAL SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 50'

E-9

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY / DATE REVISED

LAST REVISION 08-30-16 — DATE PLOTTED => 12-SEP-2016 — TIME PLOTTED => 15:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	15	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

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

NOTES (THIS SHEET ONLY):

1. FOR LOCATIONS 3 & 4, REMOVE AND INSTALL ANTENNA COAXIAL CABLE APPROXIMATELY 200 FEET IN LENGTH.
2. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

MODIFYING HIGHWAY ADVISORY RADIO SYSTEM

LOCATION							RC EXISTING EQUIPMENT							INSTALL EQUIPMENT									NOTES	
Loc	COUNTY	Rte	Approx PM	DIRECTION	SITE DESCRIPTION	GPS COORDINATES (ZONE, EASTING & NORTHING)	TRANSMITTER	RECORDER	HAR INTERFACE	BATTERY	POWER SUPPLY	ANTENNA		DARP	AMRT	DCC	TCM	PSBU	ANTENNA	LA	4GLTE MODEM		SEE SHEET FOR DETAILS	X SEE SHEET FOR LOCATIONS
26	SBd	15	170.0	EB	MOUNTAIN PASS MAINTENANCE YARD	11S, 632089.00 m E, 3926200.00 m N	1	1	1	2	1	0		1	1	1	1	1	0	0	1		E-32	E-22
27	SBd	40	0.64	EB	BARSTOW MAINTENANCE YARD	11S, 500266.00 m E, 3860436.00 m N	1	1	1	2	1	0		1	1	1	1	1	0	0	1		E-32	E-21
28	SBd	40	R142.0	SB	ROUTE 40/ROUTE 95 Jct (NEEDLES MAINTENANCE YARD)	11S, 719074.00 m E, 3856264.00 m N	1	1	1	2	1	1		1	1	1	1	1	0	0	1		E-32	E-23
29	SBd	330	29.47	NB	ROUTE 330/ROUTE 210 Jct	11S, 481314.00 m E, 3776479.00 m N	1	1	1	2	1	1		1	1	1	1	1	1	1	1		E-32	E-25
30	Riv	15	40.86	NB	0.5 MILES SOUTH OF ROUTE 15/ROUTE 91 Jct	11S, 449386.00 m E, 3748179.00 m N	1	1	1	2	1	0		1	1	1	1	1	1	0	0		E-32	E-19
31	Riv	60	30.1	WB	0.5 MILES WEST OF ROUTE 60/ROUTE 10 Jct	11S, 500275.00 m E, 3754786.00 m N	1	1	1	2	1	0		1	1	1	1	1	0	0	1		E-32	E-18

REVISED BY | DATE REVISED

WALEED ABOUL-HOSN | FERDINAND DE LA CRUZ

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR | FERDINAND DE LA CRUZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN B

MODIFYING EXISTING ELECTRICAL SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

E-10

LAST REVISION 05-04-16 | DATE PLOTTED => 12-SEP-2016 TIME PLOTTED => 15:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	16	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.

NOTE (THIS SHEET ONLY):

1. INSTALL CABLES, CONNECTORS AND CONDUCTORS AS REQUIRED.
2. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

MODIFYING HIGHWAY ADVISORY RADIO SIGN

LOCATION							RS EXISTING EQUIPMENT								INSTALL FBS EQUIPMENT						NOTES	
Loc	Co	Rte	Approx PM	DIRECTION	SITE DESCRIPTION	GPS COORDINATES (ZONE, EASTING & NORTHING)	SOLAR PANEL	BATTERY & ENCLOSURE	COMMUNICATION EQUIPMENT	ENCLOSURE	CONDUCTORS AND CONDUITS	12' SIGNAL HEAD	FBC		PVPS	FBCA	EQUIPMENT ENCLOSURE	12" SIGNAL HEAD	4GLTE MODEM		SEE SHEETS FOR DETAILS	X SEE SHEETS FOR LOCATIONS
32	SBd	10	R39.1	EB	WEST OF COUNTY LINE Rd	11S, 493938.00 m E, 3762670.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-18
33	SBd	15	66.64	NB	NORTH OF OUTLET CENTER Dr	11S, 491456.00 m E, 3853422.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-20
34	SBd	15	76.60	SB	SOUTH OF OLD Hwy 58	11S, 502007.00 m E, 3862679.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-21
35	SBd	15	160.62	NB	NORTH OF CIMA Rd	11S, 617157.00 m E, 3921651.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-22
36	SBd	15	176.36	SB	NIPTON Rd SB ENTRANCE RAMP	11S, 640560.00 m E, 3926587.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-22
37	SBd	15	176.58	NB	NIPTON Rd NB ENTRANCE RAMP	11S, 640897.00 m E, 3926750.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-22
38	SBd	15	180.68	SB	SOUTH OF YATE WELLS Rd	11S, 642861.00 m E, 3933087.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-22
39	SBd	40	R5.71	WB	WEST OF TOWN OF DAGGET AND A St	11S, 507754.00 m E, 3857573.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-21
40	SBd	40	R135.32	EB	EAST OF HISTORIC Rd 66	11S, 709118.00 m E, 3862985.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-23
41	SBd	40	R151.97	WB	WEST OF PARK MOABI Rd	11S, 725880.00 m E, 3844815.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-23
42	SBd	95	R57.6	NB	ROUTE 95/ROUTE 40 Jct	11S, 704965.00 m E, 3862400.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-23
43	SBd	95	49.3	SB	4 MILES SOUTH OF E. BROADWAY	11S, 718594.00 m E, 3843914.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-23
44	SBd	210	R26.58	EB	EAST OF STERLING Ave	11S, 477934.00 m E, 3777368.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-25
45	SBd	210	R31.08	SB	0.8 MILES SOUTH OF WEST 5TH St	11S, 481521.00 m E, 3772789.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-25
46	Riv	10	R14.00	WB	EAST OF RAMSEY St	11S, 513983.00 m E, 3754153.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-18
47	Riv	15	36.02	NB	NORTH OF DOS LAGOS Dr	11S, 452825.00 m E, 3741467.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-19
48	Riv	15	47.74	SB	6TH St	11S, 448607.00 m E, 3755624.00 m N	1	1	1	1	1	2	1		0	0	0	0	0		E-33, E-34	E-19
49	Riv	60	24.9	EB	EAST OF GILMAN SPRINGS Rd	11S, 492520.00 m E, 3755856.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-18
50	Riv	79	39.17	EB	NORTH OF S. CALIFORNIA Ave	11S, 501703.00 m E, 3752091.00 m N	1	1	1	1	1	2	1		1	1	1	2	1		E-33, E-34	E-18
51	Riv	91	R3.02	EB	WEST OF SERFAS CLUB	11S, 442211.00 m E, 3749300.00 m N	1	1	1	1	1	2	1		0	0	0	0	0		E-33, E-34	E-19
52	Riv	91	12.57	WB	WEST OF TYLER St	11S, 457098.00 m E, 3751490.00 m N	1	1	1	1	1	2	1		0	0	0	0	0		E-33, E-34	E-19
TOTALS							21	21	21	21	21	42	21		18	18	18	36	18			

MODIFYING EXISTING ELECTRICAL SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

E-11

REVISED BY | DATE REVISED
WALEED ABOUL-HOSN | FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | FERDINAND DE LA CRUZ
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

LAST REVISION 05-04-16 | DATE PLOTTED => 12-SEP-2016 TIME PLOTTED => 15:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	17	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.

NOTE (THIS SHEET ONLY):

1. INSTALL CABLES, CONNECTORS AND CONDUCTORS AS REQUIRED.
2. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

MODIFYING WIND WARNING SIGN

LOCATION							RS EXISTING EQUIPMENT							INSTALL FBS EQUIPMENT						NOTES	
LOC	COUNTY	Rte	Approx PM	DIRECTION	SITE DESCRIPTION	GPS COORDINATES (ZONE, EASTING & NORTHING)	SOLAR PANEL	BATTERIES AND ENCLOSURE	COMMUNICATION EQUIPMENT	EQUIPMENT ENCLOSURE	FBCA	12" SIGNAL HEAD		PVPS	FBCA	ENCLOSURE	12" SIGNAL HEAD	4G LTE MODEM		SEE SHEETS FOR DETAILS	X SEE SHEETS FOR LOCATIONS
53	Riv	10	50.64	WB	WASHINGTON St WB EXIT RAMP	11S, 565011.00 m E, 3735693.00 m N	1	1	1	1	1	2		1	1	1	2	1		E-33 & E-34	E-18
54	Riv	10	R58.47	EB	DILLON Rd EB EXIT RAMP	11S, 575953.00 m E, 3730842.00 m N	1	1	1	1	1	2		1	1	1	2	1		E-33 & E-34	E-18
55	Riv	10	R58.91	EB	DILLON Rd EB ENTRANCE RAMP	11S, 576628.00 m E, 3730814.00 m N	1	1	1	1	1	2		1	1	1	2	1		E-33 & E-34	E-18
56	Riv	10	R60.33	WB	EAST OF DILLON Rd & WEST OF Ave 47	11S, 578835.00 m E, 3730299.00 m N	1	1	1	1	1	2		1	1	1	2	1		E-33 & E-34	E-18
57	Riv	10	R145.49	WB	EAST OF MESA DRIVE	11S, 711456.00 m E, 3721140.00 m N	1	1	1	1	1	2		1	1	1	2	1		E-33 & E-34	E-18
58	Riv	10	R154.26	WB	EAST OF ROUTE 10/ROUTE 95 Jct	11S, 725500.00 m E, 3721306.00 m N	1	1	1	1	1	2		1	1	1	2	1		E-33 & E-34	E-18
						TOTALS	6	6	6	6	6	12		6	6	6	12	6			

REVISED BY	DATE REVISED
WALEED ABOUL-HOSN	FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	FERDINAND DE LA CRUZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN B

MODIFYING EXISTING ELECTRICAL SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

E-12

LAST REVISION 05-04-16 | DATE PLOTTED => 12-SEP-2016 TIME PLOTTED => 15:32

MODIFYING WIRELESS VEHICLE DETECTION SYSTEM

LOCATION							EQUIPMENT NOTES					NOTES	
							RS		INSTALL			SEE SHEETS FOR DETAILS	X SEE SHEETS FOR LOCATIONS
Loc	Co	Rte	Approx PM	DIRECTION	SITE DESCRIPTION	GPS COORDINATES (ZONE, EASTING & NORTHING)	CCTV	MODEM	GROUNDING ELECTRODES	SIP CAMERA	4G LTE		
59	Riv	10	7.50	EB	BEAUMONT Ave	11S, 502074.00 m E, 3754037.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
60	Riv	10	9.00	EB	WEST OF HIGHLAND SPRINGS	11S, 504363.00 m E, 3754035.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
61	Riv	10	10.50	EB	EAST OF HIGHLAND SPRINGS	11S, 506756.00 m E, 3753937.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
62	Riv	10	R12.00	EB	22nd St		1	1	1	1	1	E-35, 36, 37	E-18
63	Riv	10	13.40	EB	S. SAN GORNONIO Ave	11S, 511409.00 m E, 3753740.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
64	Riv	10	R14.70	EB	EAST OF RAMSEY St	11S, 513862.00 m E, 3754070.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
65	Riv	10	R16.30	WB	MALKI ROAD	11S, 515967.00 m E, 3754602.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
66	Riv	10	R18.00	WB	EAST OF MORONGO TRAIL	11S, 518302.00 m E, 3753280.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
67	Riv	10	R19.40	EB	WEST OF MAIN St	11S, 520513.00 m E, 3753131.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
68	Riv	10	R21.70	CENTER	2.3 MILES EAST OF MAIN St	11S, 524204.00 m E, 3753835.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
69	Riv	10	R24.30	EB	HAUGEN-LEHMANN WAY	11S, 528613.00 m E, 3753734.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
70	Riv	10	26.10	EB	WHITEWATER REST AREA	11S, 531185.00 m E, 3753554.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
71	Riv	10	28.50	EB	1.2 MILES WEST OF ROUTE 62	11S, 534948.00 m E, 3753099.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
72	Riv	10	30.80	EB	GARNET Ave	11S, 538301.00 m E, 3752297.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
73	Riv	10	33.10	EB	INDIAN Ave	11S, 542124.00 m E, 3751628.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
74	Riv	10	35.60	EB	WEST OF GENE AUTRY	11S, 545269.00 m E, 3749504.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
75	Riv	10	38.00	EB	WEST OF DATE PALM Dr	11S, 548086.00 m E, 3746959.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
76	Riv	10	40.40	EB	0.9 MILES EAST OF DATE PALM Dr	11S, 551203.00 m E, 3744776.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
77	Riv	10	42.70	EB	WEST OF BOB HOPE Dr	11S, 554169.00 m E, 3742698.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
78	Riv	10	45.40	EB	1.1 MILES EAST OF MONTEREY Ave	11S, 557860.00 m E, 3739905.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
79	Riv	10	48.00	EB	1.1 MILES EAST OF COOK St	11S, 561176.00 m E, 3737579.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
80	Riv	10	50.50	EB	WASHINGTON St		1	1	1	1	1	E-35, 36, 37	E-18
81	Riv	10	R52.70	EB	JEFFERSON St	11S, 567919.00 m E, 3734457.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
82	Riv	10	54.70	EB	MONROE St	11S, 570820.00 m E, 3733479.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
83	Riv	10	R57.00	EB	ROUTE 111/ROUTE 10 SEPARATION		0	0	1	0	0	E-35, 36, 37	E-18
84	Riv	10	R58.90	CENTER	DILLON Rd	11S, 576711.00 m E, 3730872.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
85	Riv	10	R61.10	CENTER	2.25 MILES EAST OF DILLON Rd	11S, 580291.00 m E, 3729766.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
86	Riv	10	R64.70	CENTER	5.8 MILES EAST OF DILLON Rd	11S, 584555.00 m E, 3729259.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
87	Riv	10	R67.60	CENTER	8.7 MILES EAST OF DILLON Rd	11S, 588998.00 m E, 3728148.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
88	Riv	10	R70.20	CENTER	1.5 MILES WEST OF CACTUS CITY REST AREA	11S, 593004.00 m E, 3727076.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
89	Riv	10	R72.90	CENTER	1 MILE EAST OF CACTUS CITY REST AREA	11S, 597430.00 m E, 3726708.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
90	Riv	10	R75.70	CENTER	5.8 MILES WEST OF COTTONWOOD SPRINGS Rd	11S, 601689.00 m E, 3725878.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
91	Riv	10	R78.50	CENTER	3.0 MILES WEST OF COTTONWOOD SPRINGS Rd	11S, 605905.00 m E, 3725416.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
92	Riv	10	R81.20	CENTER	0.3 MILES WEST OF COTTONWOOD SPRINGS Rd	11S, 610564.00 m E, 3725121.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
93	Riv	10	R84.20	CENTER	1.9 MILES WEST OF CHIRIACO SUMMIT Rd	11S, 615281.00 m E, 3725161.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
94	Riv	10	R86.90	CENTER	0.9 MILES EAST OF CHIRIACO SUMMIT Rd	11S, 619949.00 m E, 3725483.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
95	Riv	10	R89.80	CENTER	0.3 MILES WEST OF HAYFIELD Rd	11S, 624191.00 m E, 3726124.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
96	Riv	10	R92.70	CENTER	2.5 MILES EAST OF HAYFIELD Rd	11S, 628846.00 m E, 3726594.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
97	Riv	10	R95.40	CENTER	RED CLOUD MINE Rd	11S, 633222.00 m E, 3727353.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
98	Riv	10	R98.00	CENTER	4.1 MILES WEST OF EAGLE MOUNTAIN Rd	11S, 637166.00 m E, 3728478.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
99	Riv	10	R100.40	CENTER	1.5 MILES WEST OF EAGLE MOUNTAIN Rd	11S, 640459.00 m E, 3729416.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
100	Riv	10	R103.40	CENTER	1.7 MILES WEST OF ROUTE 177	11S, 645454.00 m E, 3730773.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
101	Riv	10	R106.20	CENTER	1.1 MILES EAST OF ROUTE 177	11S, 649978.00 m E, 3731252.00 m N	1	1	1	1	1	E-35, 36, 37	E-18
102	Riv	10	R109.20	CENTER	4.1 MILES EAST OF ROUTE 177	11S, 654863.00 m E, 3730602.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
103	Riv	10	R111.80	CENTER	2.6 MILES WEST OF CORN SPRINGS Rd	11S, 654863.00 m E, 3730602.00 m N	0	0	1	0	0	E-35, 36, 37	E-18
						SUBTOTAL (THIS SHEET)	19	19	45	19	19		

APPROVED FOR ELECTRICAL WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	18	62

REGISTERED ELECTRICAL ENGINEER — DATE 5-04-16

PLANS APPROVAL DATE 05-09-16

REGISTERED PROFESSIONAL ENGINEER — FERDINAND DE LA CRUZ — No. E 17215 — Exp. 06-30-18 — 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.

NOTE (THIS SHEET ONLY):

1. INSTALL CABLES, CONNECTORS AND CONDUCTORS AS REQUIRED.
2. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

MODIFYING EXISTING ELECTRICAL SYSTEM

NO SCALE **E-13**

LAST REVISION 05-04-16 | DATE PLOTTED => 12-SEP-2016 | TIME PLOTTED => 15:32

REVISED BY | DATE REVISED

WALEED ABOUL-HOSN | FERDINAND DE LA CRUZ

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR | FERDINAND DE LA CRUZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans ELECTRICAL DESIGN B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	19	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.

NOTE (THIS SHEET ONLY):

1. INSTALL CABLES, CONNECTORS AND CONDUICTORS AS REQUIRED.
2. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

MODIFYING WIRELESS VEHICLE DETECTION SYSTEM

LOCATION							EQUIPMENT NOTES					NOTES	
							RS		INSTALL			SEE SHEETS FOR DETAILS	SEE SHEETS FOR LOCATIONS
Loc	Co	Rte	Approx PM	DIRECTION	SITE DESCRIPTION	GPS COORDINATES (ZONE, EASTING & NORTHING)	CCTV	MODEM	GROUNDING ELECTRODES	SIP CAMERA	4G LTE		
104	Riv	10	R114.40	CENTER	CORN SPRINGS Rd	11S, 662832.00 m E, 3728327.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-18
105	Riv	10	R116.80	CENTER	2.4 MILES EAST OF CORN SPRINGS Rd	11S, 666340.00 m E, 3727148.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-18
106	Riv	10	R119.60	CENTER	5.2 MILES EAST OF CORN SPRINGS Rd	11S, 671197.00 m E, 3725529.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-18
107	Riv	10	R122.20	CENTER	7.8 MILES EAST OF CORN SPRINGS Rd	11S, 675089.00 m E, 3724240.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-18
108	Riv	10	R125.10	CENTER	10.7 MILES EAST OF CORN SPRINGS Rd	11S, 679495.00 m E, 3722618.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-18
109	Riv	10	R127.90	CENTER	2.0 MILES WEST OF FORD DRY LAKE Rd	11S, 684195.00 m E, 3721194.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-18
110	Riv	10	R130.90	CENTER	1.5 MILES EAST OF FORD DRY LAKE Rd	11S, 688355.00 m E, 3720322.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-18
111	Riv	10	R134.00	CENTER	1 MILE WEST OF WILEY'S WELL Rd	11S, 693354.00 m E, 3720511.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-18
112	Riv	10	R136.80	CENTER	1.7 MILES EAST OF WILEY'S WELL Rd	11S, 697797.00 m E, 3720836.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-18
113	Riv	10	R139.30	CENTER	4.2 MILES EAST OF WILEY'S WELL Rd	11S, 701828.00 m E, 3721022.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-18
114	Riv	10	R141.90	CENTER	6.8 MILES EAST OF WILEY'S WELL Rd	11S, 705657.00 m E, 3721117.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-18
115	Riv	10	R144.40	CENTER	1 MILE EAST OF MESA Dr	11S, 709625.00 m E, 3721113.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-18
116	Riv	10	R146.90	CENTER	KEIM St	11S, 713741.00 m E, 3720935.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-18
117	Riv	10	R149.50	CENTER	0.4 MILES EAST OF ROUTE 78	11S, 717924.00 m E, 3720988.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-18
118	Riv	10	R152.20	CENTER	S. LOVEKIN Blvd	11S, 722200.00 m E, 3721166.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-18
119	Riv	10	R154.80	EB	0.7 EAST OF ROUTE 95	11S, 726351.00 m E, 3721291.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-18
SUBTOTAL (THIS SHEET)							5	5	16	5	5		
TOTAL (SHEETS E-13 & E-14)							24	24	61	24	24		

MODIFYING EXISTING ELECTRICAL SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

E-14

REVISED BY | DATE REVISED
WALEED ABOUL-HOSN | FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | FERDINAND DE LA CRUZ
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

LAST REVISION 05-04-16 | DATE PLOTTED => 12-SEP-2016 TIME PLOTTED => 15:32

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	20	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.

MODIFYING WIRELESS VEHICLE DETECTION SYSTEM

LOCATION							EQUIPMENT NOTES					NOTES	
							RS		INSTALL			SEE SHEETS FOR DETAILS	X SEE SHEETS FOR LOCATIONS
Loc	Co	Rte	Approx PM	DIRECTION	SITE DESCRIPTION	GPS COORDINATES (ZONE, EASTING & NORTHING)	CCTV	MODEM	GROUNDING ELECTRODES	SIP CAMERA	4G LTE		
120	SBd	15	14.90	NB	KENWOOD Ave	11S, 460980.00 m E, 3788410.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
121	SBd	15	17.20	NB	2 MILES NORTH OF KENWOOD Ave	11S, 458616.00 m E, 3791131.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
122	SBd	15	19.30	NB	0.5 MILES SOUTH OF CLEGHORN Rd	11S, 458446.00 m E, 3794426.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
123	SBd	15	21.40	NB	ROUTE 138 Jct	11S, 456247.00 m E, 3796940.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
124	SBd	15	23.10	NB	2.0 MILES NORTH OF ROUTE 138 Jct	11S, 455786.00 m E, 3799533.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
125	SBd	15	23.20	SB	2.0 MILES NORTH OF ROUTE 138 Jct	11S, 455600.00 m E, 3799604.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
126	SBd	15	24.60	SB	2.5 MILES SOUTH OF OAK HILL Rd	11S, 457176.00 m E, 3800607.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
127	SBd	15	25.10	NB	2.0 MILES SOUTH OF OAK HILL Rd	11S, 458706.00 m E, 3800363.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
128	SBd	15	28.70	NB	OAK HILL Rd	11S, 460268.00 m E, 3802512.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
129	SBd	15	31.10	NB	0.5 MILES NORTH OF RANCHERO Rd	11S, 462456.00 m E, 3805600.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
130	SBd	15	32.40	NB	JOSHUA St	11S, 463656.00 m E, 3807352.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
131	SBd	15	33.90	NB	MAIN St	11S, 464982.00 m E, 3809382.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
132	SBd	15	35.50	CENTER	1.5 MILES NORTH OF MAIN St	11S, 466392.00 m E, 3811595.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
133	SBd	15	37.40	NB	BEAR VALLEY Rd	11S, 468192.00 m E, 3814298.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
134	SBd	15	40.40	NB	AT ROUTE 18/PALMDALE Rd	11S, 470351.00 m E, 3818360.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
135	SBd	15	41.60	NB	NORTH OF ROY ROGERS Dr	11S, 470818.00 m E, 3820306.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
136	SBd	15	43.30	NB	SOUTH OF D St	11S, 472136.00 m E, 3822438.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
137	SBd	15	44.80	NB	0.3 MILES NORTH OF STODDARD WELLS Rd	11S, 473705.00 m E, 3824202.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
138	SBd	15	46.30	NB	1.9 MILES NORTH OF STODDARD WELLS Rd	11S, 475197.00 m E, 3826305.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
139	SBd	15	47.80	NB	3.4 MILES NORTH OF STODDARD WELLS Rd	11S, 476548.00 m E, 3828197.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
140	SBd	15	50.50	NB	1.4 MILES SOUTH OF DALE EVANS Pkwy	11S, 478914.00 m E, 3831795.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
141	SBd	15	52.50	NB	0.8 MILES NORTH OF DALE EVANS Pkwy	11S, 478914.00 m E, 3831795.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
142	SBd	15	54.70	NB	1 MILE SOUTH OF WILD WASH Rd	11S, 480511.00 m E, 3838158.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
143	SBd	15	56.70	NB	0.8 MILES NORTH OF WILD WASH Rd	11S, 481726.00 m E, 3841104.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
144	SBd	15	59.10	NB	1 MILE SOUTH OF HODGE Rd	11S, 483751.00 m E, 3844293.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
145	SBd	15	60.90	NB	0.7 MILES NORTH OF HODGE Rd	11S, 485540.00 m E, 3846410.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
146	SBd	15	63.00	NB	3 MILES NORTH OF HODGE Rd	11S, 488056.00 m E, 3848862.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
147	SBd	15	65.80	NB	OUTLET CENTER Dr	11S, 491117.00 m E, 3852047.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-20
148	SBd	15	67.60	NB	1 MILE SOUTH OF LENWOOD Rd	11S, 491811.00 m E, 3854926.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-20
149	SBd	15	69.10	NB	0.3 MILES NORTH OF LENWOOD Rd	11S, 492368.00 m E, 3857270.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-21
150	SBd	15	70.60	NB	0.5 MILES NORTH OF ROUTE 58	11S, 493554.00 m E, 3859252.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
151	SBd	15	72.30	NB	2 MILES NORTH OF ROUTE 58	11S, 495862.00 m E, 3860370.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
152	SBd	15	73.90	NB	0.5 MILES SOUTH OF ROUTE 15/ROUTE 40 IC	11S, 498591.00 m E, 3860363.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
153	SBd	15	76.00	CENTER	1 MILE NORTH OF MAIN St	11S, 501232.00 m E, 3862183.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-21
154	SBd	15	78.10	NB	1.4 MILES NORTH OF ROUTE 58	11S, 504224.00 m E, 3862598.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
155	SBd	15	R80.90	CENTER	1 MILE SOUTH OF GHOST TOWN Rd	11S, 508821.00 m E, 3862084.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-21
156	SBd	15	R83.70	CENTER	1 MILE SOUTH OF YERMO St	11S, 512959.00 m E, 3862683.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
157	SBd	15	R85.60	NB	FIRST St	11S, 516342.00 m E, 3863174.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-21
158	SBd	15	R88.00	CENTER	0.4 MILES SOUTH OF MINNEOLA Rd	11S, 520030.00 m E, 3863765.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
159	SBd	15	R90.10	CENTER	1.7 MILES NORTH OF MINNEOLA Rd	11S, 523287.00 m E, 3864587.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-21
160	SBd	15	R92.60	CENTER	3.4 MILES SOUTH OF HARVARD Rd	11S, 527491.00 m E, 3866375.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-21
161	SBd	15	R95.00	CENTER	1 MILE SOUTH OF HARVARD Rd	11S, 530158.00 m E, 3867855.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
162	SBd	15	R97.80	CENTER	1.4 MILES NORTH OF HARVARD Rd	11S, 534266.00 m E, 3870053.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-21
						SUBTOTAL (THIS SHEET)	21	21	43	21	21		

APPROVED FOR ELECTRICAL WORK ONLY

NOTE (THIS SHEET ONLY):

1. INSTALL CABLES, CONNECTORS AND CONDUCTORS AS REQUIRED.
2. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

MODIFYING EXISTING ELECTRICAL SYSTEM

NO SCALE **E-15**

LAST REVISION 08-30-16 | DATE PLOTTED => 12-SEP-2016 | TIME PLOTTED => 15:32

REVISED BY | DATE REVISED

WALEED ABOUL-HOSN | FERDINAND DE LA CRUZ

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR | FERDINAND DE LA CRUZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans® ELECTRICAL DESIGN B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	21	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

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

NOTES (THIS SHEET ONLY):

1. INSTALL CABLES, CONNECTORS AND CONDUCTORS AS REQUIRED.
2. THE LOCATIONS OF WORK ARE FLEXIBLE AND MAY BE ADJUSTED TO MITIGATE ANY CONFLICTS WITH EXISTING UTILITY FACILITIES. EXISTING UTILITY FACILITIES ARE NOT INCLUDED ON THESE PLANS.

MODIFYING WIRELESS VEHICLE DETECTION SYSTEM

LOCATION							CONSTRUCTION NOTES					NOTES	
							RS		INSTALL			SEE SHEETS FOR DETAILS	X SEE SHEETS FOR LOCATIONS
Loc	Co	Rte	Approx PM	DIRECTION	SITE DESCRIPTION	GPS COORDINATES (ZONE, EASTING & NORTHING)	CCTV	MODEM	GROUNDING ELECTRODES	SIP CAMERA	4G LTE		
163	SBd	15	R100.60	CENTER	3.0 MILES SOUTH OF FIELD Rd	11S, 538444.00 m E, 3872290.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
164	SBd	15	R103.20	CENTER	SOUTH OF FIELD Rd	11S, 542207.00 m E, 3874115.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-21
165	SBd	15	R105.90	CENTER	2.4 MILES NORTH OF FIELD Rd	11S, 546137.00 m E, 3875856.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
166	SBd	15	R108.60	CENTER	2.8 MILES SOUTH OF AFTON Rd	11S, 549830.00 m E, 3878057.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
167	SBd	15	R111.00	CENTER	0.5 MILES SOUTH OF AFTON Rd	11S, 552654.00 m E, 3880326.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
168	SBd	15	R113.60	CENTER	2.6 MILES NORTH OF AFTON Rd	11S, 556406.00 m E, 3882323.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-21
169	SBd	15	R116.10	CENTER	4.3 MILES SOUTH OF BASIN Rd	11S, 560226.00 m E, 3882993.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
170	SBd	15	R118.50	CENTER	2.0 MILES SOUTH OF BASIN Rd	11S, 563978.00 m E, 3883967.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
171	SBd	15	R121.00	CENTER	NORTH OF BASIN Rd	11S, 567510.00 m E, 3884882.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
172	SBd	15	R123.60	CENTER	0.8 MILES SOUTH OF RAZOR Rd	11S, 570875.00 m E, 3887293.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
173	SBd	15	R126.10	CENTER	2.0 MILES NORTH OF RAZOR Rd	11S, 573712.00 m E, 3890685.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-21
174	SBd	15	R128.70	CENTER	1.5 MILES SOUTH OF ZZYZX Rd	11S, 576171.00 m E, 3893978.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
175	SBd	15	R131.40	CENTER	1.0 MILES NORTH OF ZZYZX Rd	11S, 576171.00 m E, 3893978.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
176	SBd	15	R133.90	CENTER	2.0 MILES SOUTH OF W BAKER Blvd	11S, 581755.00 m E, 3899258.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-21
177	SBd	15	R135.80	CENTER	WEST BAKER Blvd OC	11S, 583320.00 m E, 3901877.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-21
178	SBd	15	R138.30	NB	EAST BAKER Blvd OC	11S, 586537.00 m E, 3904486.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-22
179	SBd	15	141.00	NB	2.5 MILES NORTH OF EAST BAKER Blvd	11S, 589664.00 m E, 3907188.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-22
180	SBd	15	143.50	NB	5.0 MILES NORTH OF EAST BAKER Blvd	11S, 592830.00 m E, 3909672.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-22
181	SBd	15	146.30	NB	3.3 MILES SOUTH OF HALLORAN SPRINGS Rd	11S, 596306.00 m E, 3912399.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-22
182	SBd	15	148.70	NB	1.0 MILES SOUTH OF HALLORAN SPRINGS Rd	11S, 599576.00 m E, 3914656.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-22
183	SBd	15	151.40	NB	2.5 MILES NORTH OF HALLORAN SPRINGS Rd	11S, 604520.00 m E, 3916582.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-22
184	SBd	15	153.60	NB	2.0 MILES SOUTH OF HALLORAN SUMMIT Rd	11S, 606864.00 m E, 3917431.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-22
185	SBd	15	156.40	NB	1 MILES NORTH OF HALLORAN SUMMIT Rd	11S, 610974.00 m E, 3918888.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-22
186	SBd	15	158.80	CENTER	3.0 MILES NORTH OF HALLORAN SUMMIT Rd	11S, 610974.00 m E, 3918888.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-22
187	SBd	15	161.30	CENTER	VALLEY WELLS REST AREA	11S, 618075.00 m E, 3922095.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-22
188	SBd	15	163.50	CENTER	0.7 MILES NORTH OF CIMA Rd	11S, 621147.00 m E, 3923465.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-22
189	SBd	15	166.10	CENTER	3.5 MILES NORTH OF CIMA Rd	11S, 625364.00 m E, 3925348.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-22
190	SBd	15	168.50	CENTER	3.0 MILES SOUTH OF BAILEY Rd	11S, 628677.00 m E, 3926602.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-22
191	SBd	15	170.90	NB	0.5 MILES SOUTH OF BAILEY Rd	11S, 632154.00 m E, 3926073.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-22
192	SBd	15	173.20	SB	1.8 MILES NORTH OF BAILEY Rd	11S, 636280.00 m E, 3926221.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-22
193	SBd	15	173.50	NB	2.0 MILES NORTH OF BAILEY Rd	11S, 636636.00 m E, 3925951.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-22
194	SBd	15	175.90	CENTER	0.5 MILES SOUTH OF NIPTON Rd	11S, 640172.00 m E, 3926049.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-22
195	SBd	15	178.40	NB	2.0 MILES NORTH OF NIPTON Rd	11S, 641754.00 m E, 3929551.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-22
196	SBd	15	180.80	CENTER	0.5 MILES SOUTH OF YATES WELL Rd	11S, 642934.00 m E, 3933205.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-22
197	SBd	15	183.40	CENTER	2.0 MILES NORTH OF YATES WELL Rd	11S, 644239.00 m E, 3937132.00 m N	1	1	1	1	1	E-35, E-36, E-37	E-22
198	SBd	15	185.90	CENTER	0.3 MILES SOUTH OF STATELINE	11S, 645520.00 m E, 3940993.00 m N	0	0	1	0	0	E-35, E-36, E-37	E-22
						SUBTOTAL (THIS SHEET)	23	23	36	23	23		
						TOTAL (SHEETS E-14 & E-16)	44	44	79	44	44		

APPROVED FOR ELECTRICAL WORK ONLY

MODIFYING EXISTING ELECTRICAL SYSTEM

NO SCALE **E-16**

LAST REVISION 05-04-16 | DATE PLOTTED => 12-SEP-2016 TIME PLOTTED => 15:32

REVISED BY | DATE REVISED

WALEED ABOUL-HOSN | FERDINAND DE LA CRUZ

CALCULATED-DESIGNED BY | CHECKED BY

FUNCTIONAL SUPERVISOR | FERDINAND DE LA CRUZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

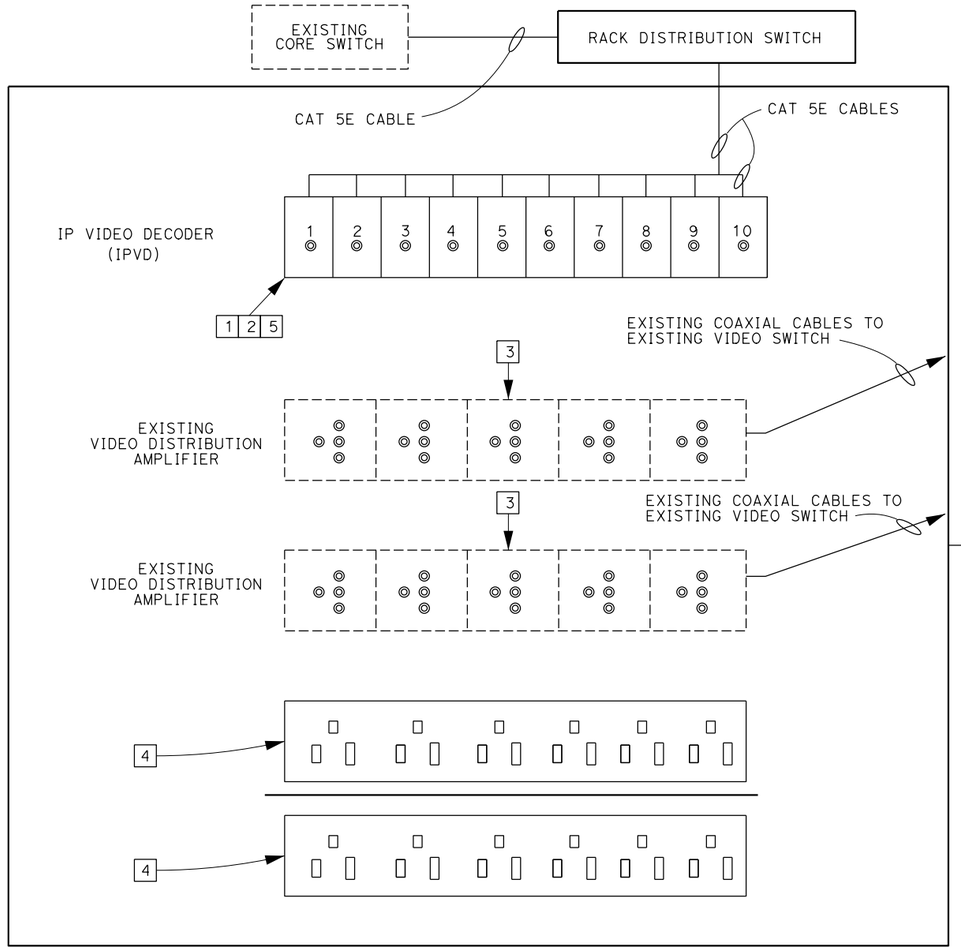
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	22	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

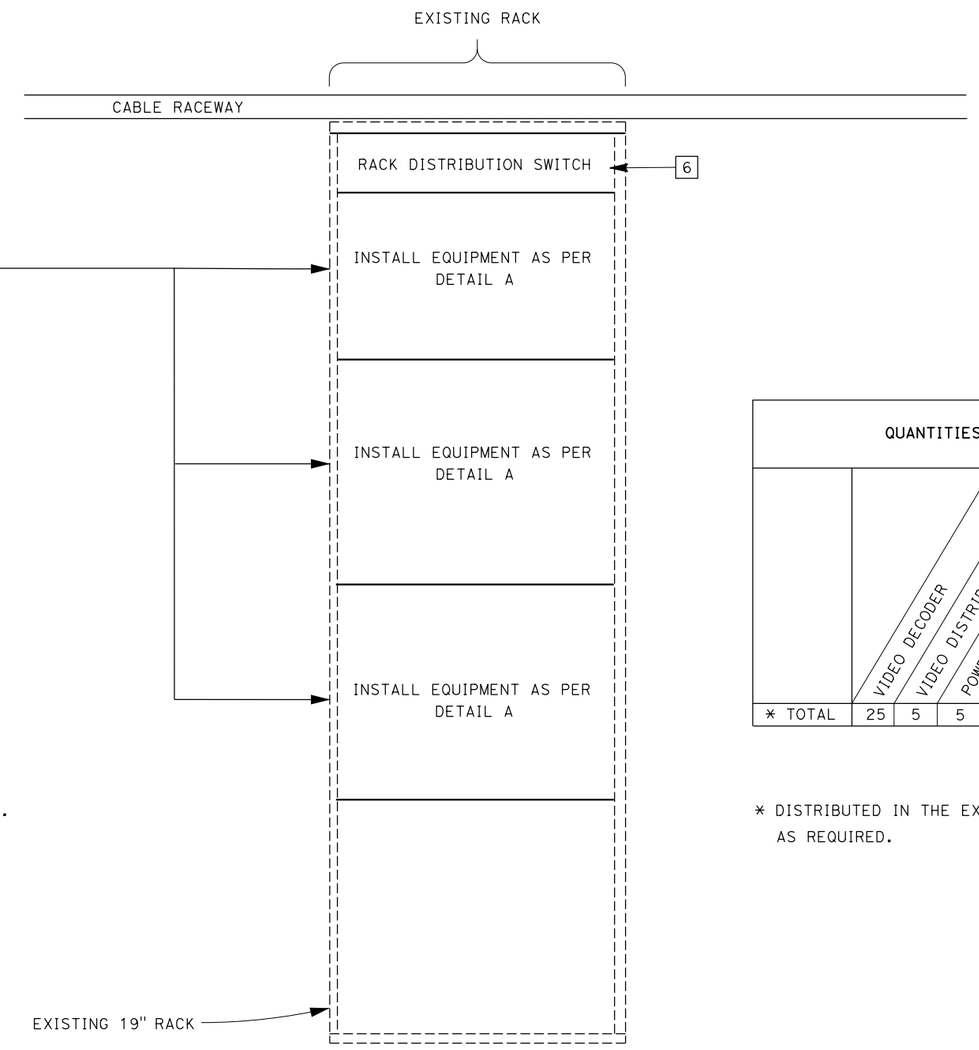
05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.



DETAIL A



TMC EQUIPMENT

QUANTITIES

	VIDEO DECODER	VIDEO DISTRIBUTION AMP	POWER STRIP	RACK DISTRIBUTION SWITCH
* TOTAL	25	5	5	1

* DISTRIBUTED IN THE EXISTING 19" RACK, AS REQUIRED.

LEGEND (THIS SHEET ONLY):

1. INSTALL IPVD AND CONNECT COMPOSITE VIDEO OUTPUTS INTO EXISTING VIDEO DISTRIBUTION AMPLIFIER INPUTS. IPVD CAN BE RACK MOUNTED OR INSTALLED ON A CONTRACTOR-SUPPLIED SHELF. CONNECT EACH VIDEO DECODER OUTPUT TO EACH VIDEO DISTRIBUTION AMPLIFIER INPUT.
2. CONNECT CAT 5E CABLE FROM RDS TO EXISTING CORE SWITCH LOCATED ON SEPARATE 19" RACK APPROXIMATELY 30' AWAY, USE EXISTING CABLE RACEWAY.
3. INSTALL 2 DEPARTMENT-FURNISHED VIDEO DISTRIBUTION AMPLIFIERS AND CONNECT THE OUTPUT OF EACH TO THE EXISTING VIDEO DISTRIBUTION SWITCH USING THE EXISTING COAXIAL CABLES.
4. INSTALL 2-8 RACK MOUNTED OUTLET POWER STRIP.
5. CONNECT EACH IPVD ETHERNET PORT TO THE RDS.
6. INSTALL RACK DISTRIBUTION SWITCH.

MODIFYING EXISTING ELECTRICAL SYSTEM

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

E-17

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: LUIS PENALOZA
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 08-30-16 | DATE PLOTTED => 12-SEP-2016 | TIME PLOTTED => 15:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	23	62

REGISTERED ELECTRICAL ENGINEER — DATE 5-04-16

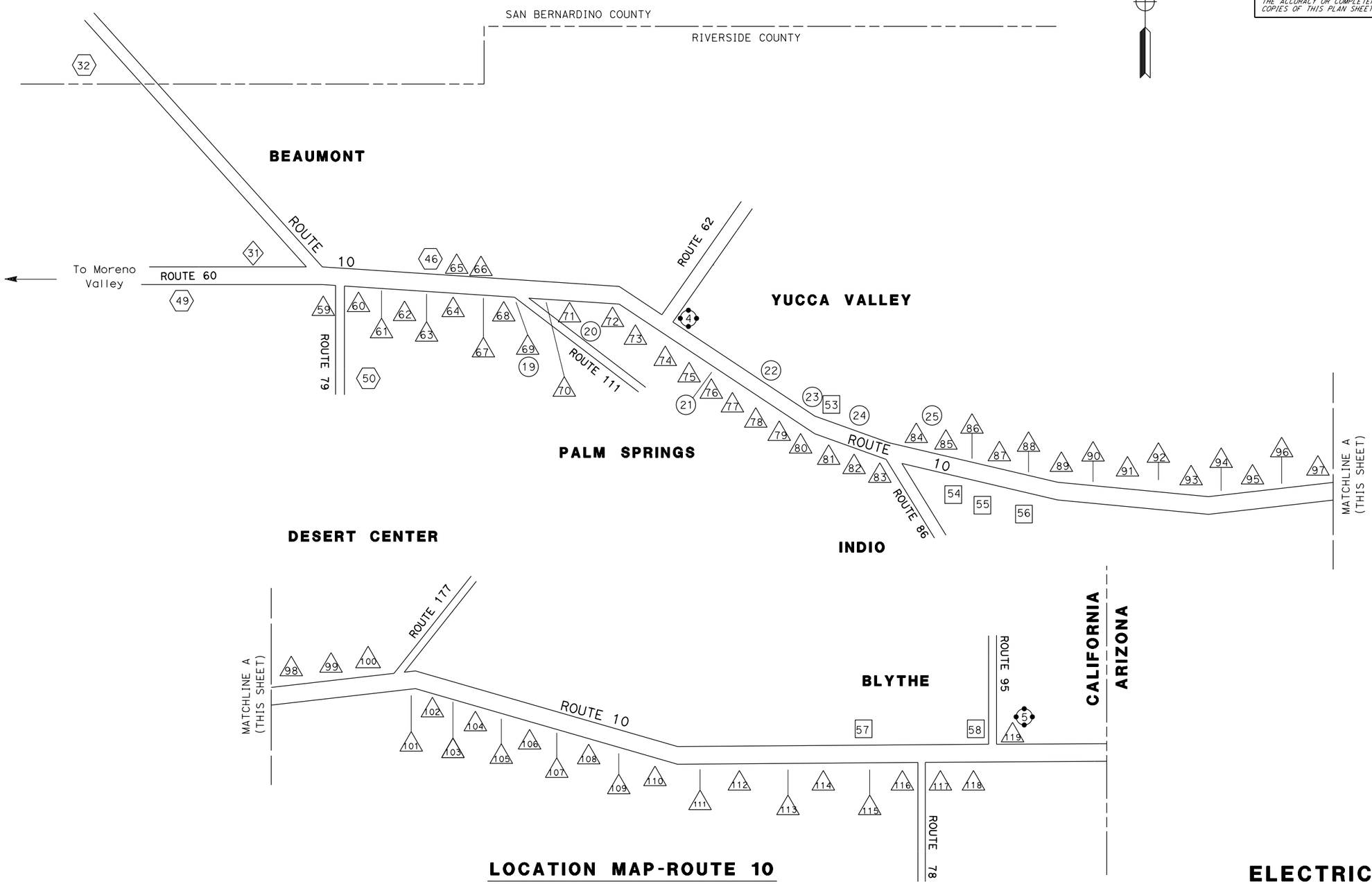
PLANS APPROVAL DATE 05-09-16

REGISTERED PROFESSIONAL ENGINEER — FERDINAND DE LA CRUZ — No. E 17215 — Exp. 06-30-18 — 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.

NOTE (SHEETS E-18 TO E-25):

1. ALL LOCATIONS ARE APPROXIMATE.



LOCATION MAP-ROUTE 10

ELECTRICAL DETAILS

NO SCALE

E-18

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: LUIS PENALOZA
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 05-04-16 | DATE PLOTTED => 12-SEP-2016 | TIME PLOTTED => 15:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	24	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

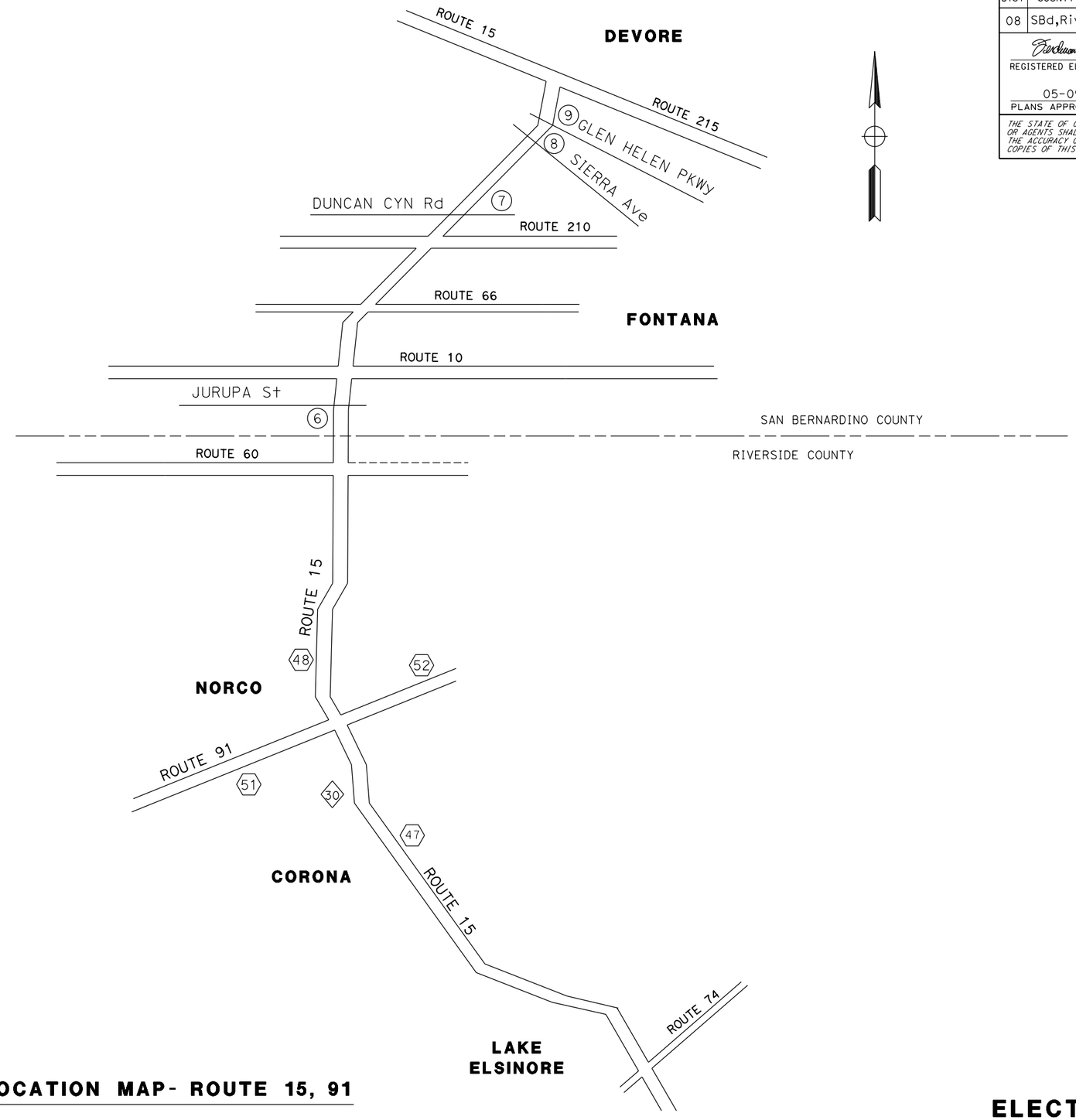
05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
FERDINAND DE LA CRUZ
No. E 17215
Exp. 06-30-18
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.

NOTE (THIS SHEET ONLY):

1. HAR 30 IS LOCATED IN THE CALTRANS MAINTENANCE YARD:
   842 EL SOBRANTE RD.
   CORONA, CA 91719



LOCATION MAP- ROUTE 15, 91

ELECTRICAL DETAILS

NO SCALE

E-19

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: LUIS PENALOZA
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 05-04-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	25	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

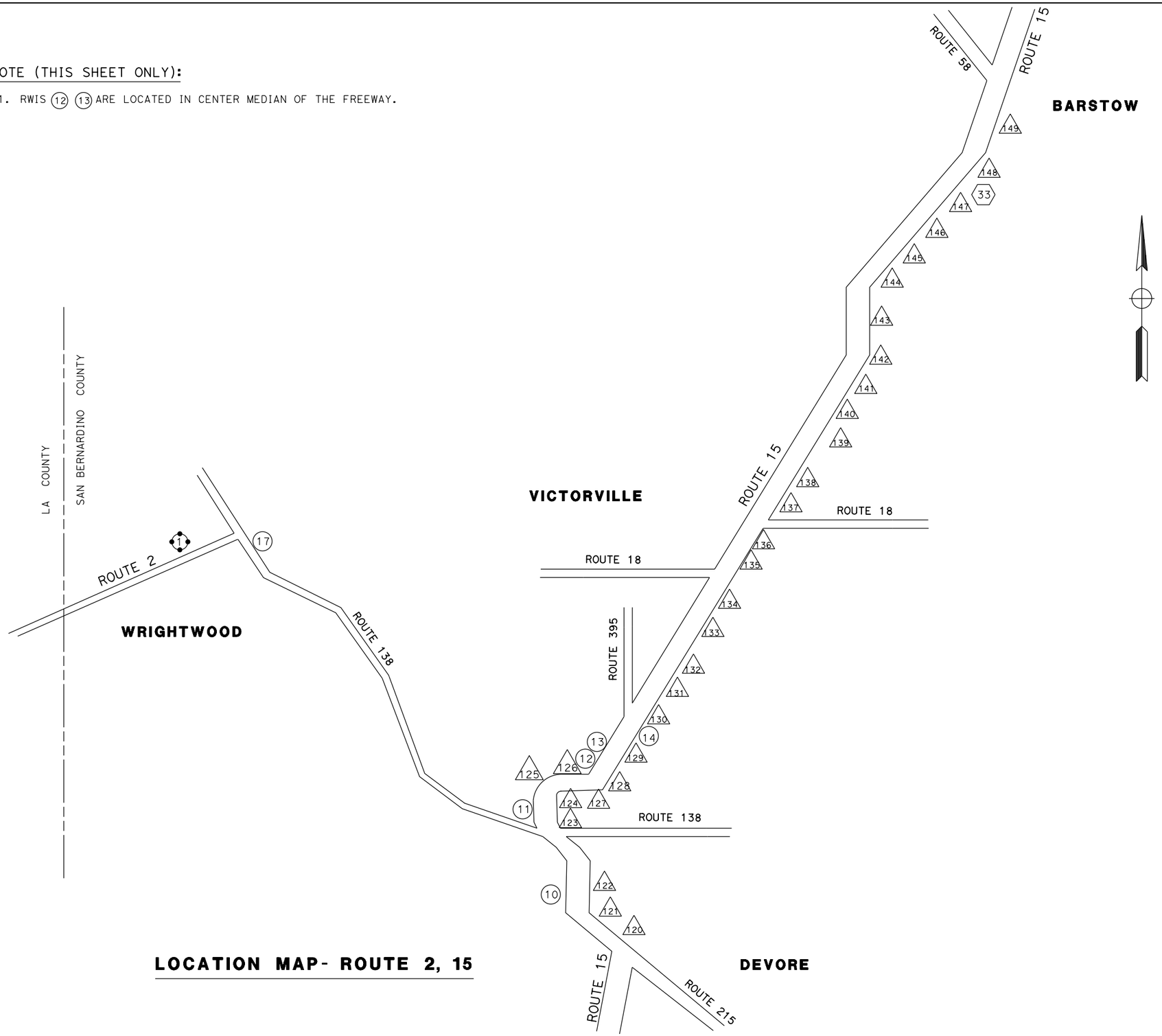
PLANS APPROVAL DATE 05-09-16

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.

NOTE (THIS SHEET ONLY):

1. RWIS (12) (13) ARE LOCATED IN CENTER MEDIAN OF THE FREEWAY.



LOCATION MAP- ROUTE 2, 15

ELECTRICAL DETAILS

NO SCALE **E-20**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans® **ELECTRICAL DESIGN B**

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ

CALCULATED-DESIGNED BY: LUIS PENALOZA

CHECKED BY: FERDINAND DE LA CRUZ

REVISED BY

DATE REVISED

LAST REVISION 05-04-16

DATE PLOTTED => 12-SEP-2016

TIME PLOTTED => 15:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	26	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

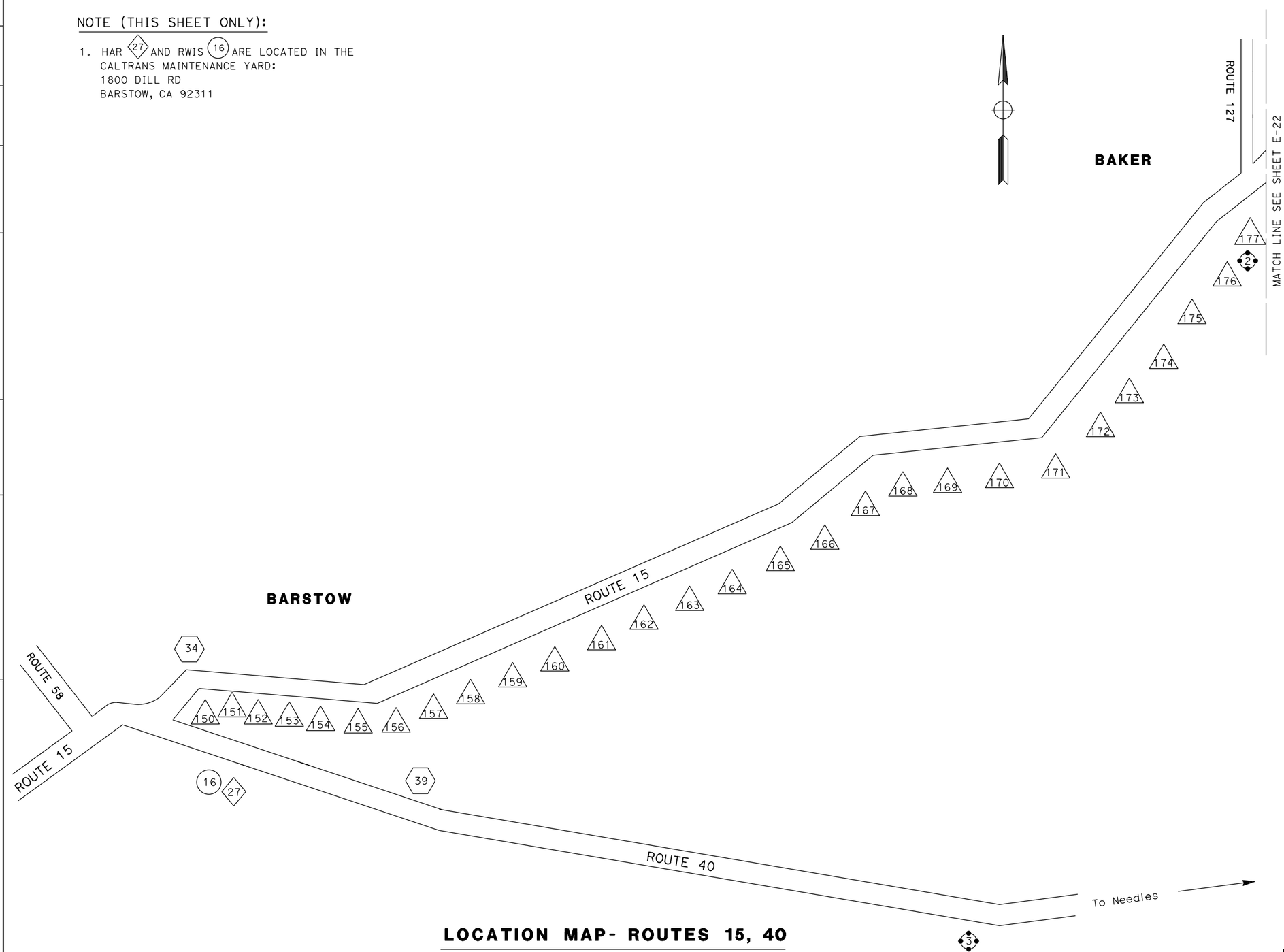
05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.

NOTE (THIS SHEET ONLY):

1. HAR (27) AND RWIS (16) ARE LOCATED IN THE CALTRANS MAINTENANCE YARD:
   1800 DILL RD
   BARSTOW, CA 92311



LOCATION MAP- ROUTES 15, 40

ELECTRICAL DETAILS

NO SCALE

E-21

REVISED BY	
DATE REVISED	
LUIS PENALOZA	
FERDINAND DE LA CRUZ	
CALCULATED-DESIGNED BY	
CHECKED BY	
FUNCTIONAL SUPERVISOR	
FERDINAND DE LA CRUZ	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

LAST REVISION 05-04-16 | DATE PLOTTED => 12-SEP-2016 | TIME PLOTTED => 15:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	27	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

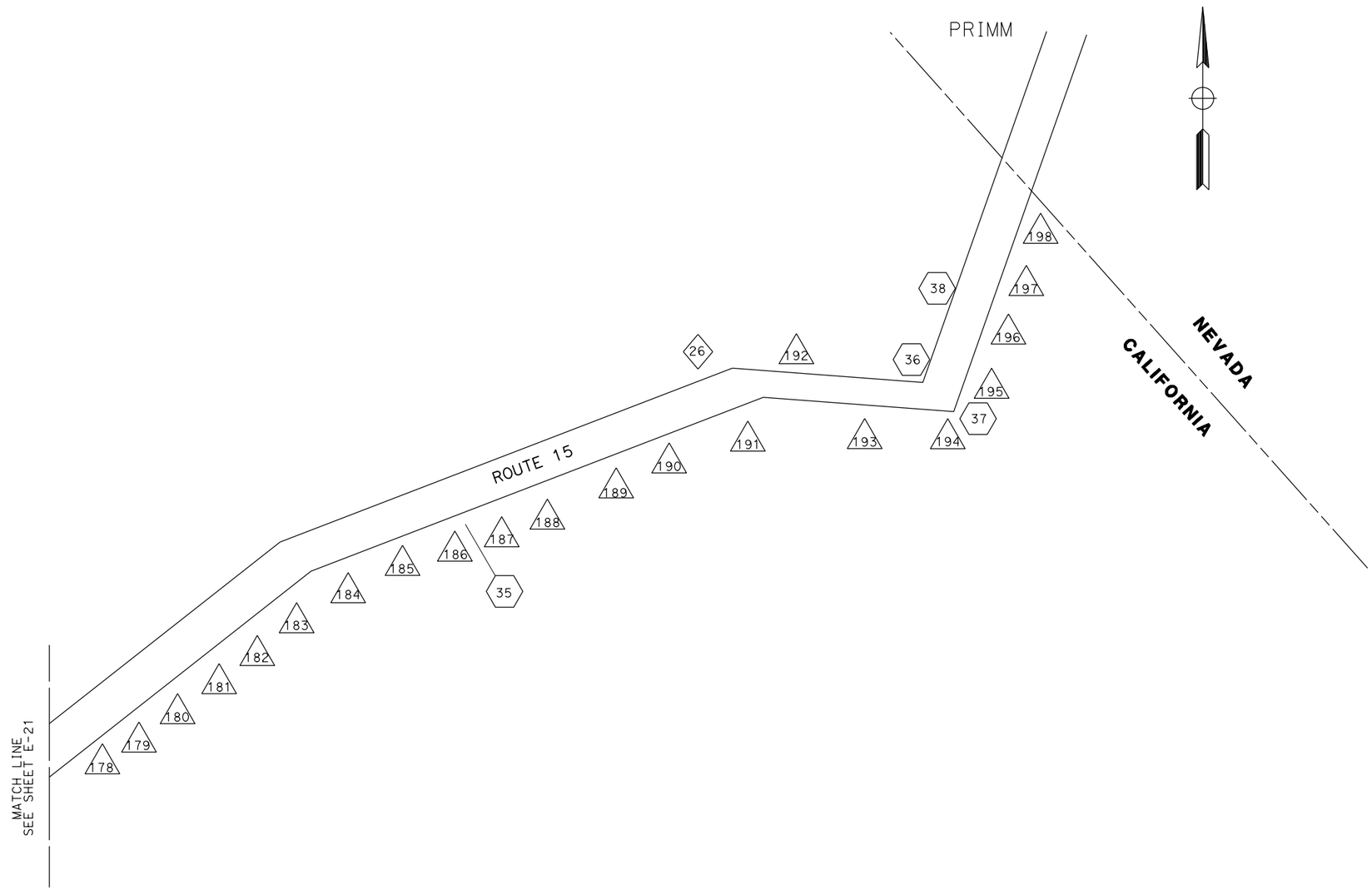
05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.

NOTE (THIS SHEET ONLY):

1. HAR (26) IS LOCATED IN THE CALTRANS MAINTAINENCE YARD: 94200 CLARK MOUNTAIN RD MOUNTAIN PASS, CA 92364



LOCATION MAP- ROUTE 15

ELECTRICAL DETAILS

NO SCALE **E-22**

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

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: LUIS PENALOZA
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 08-30-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	28	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

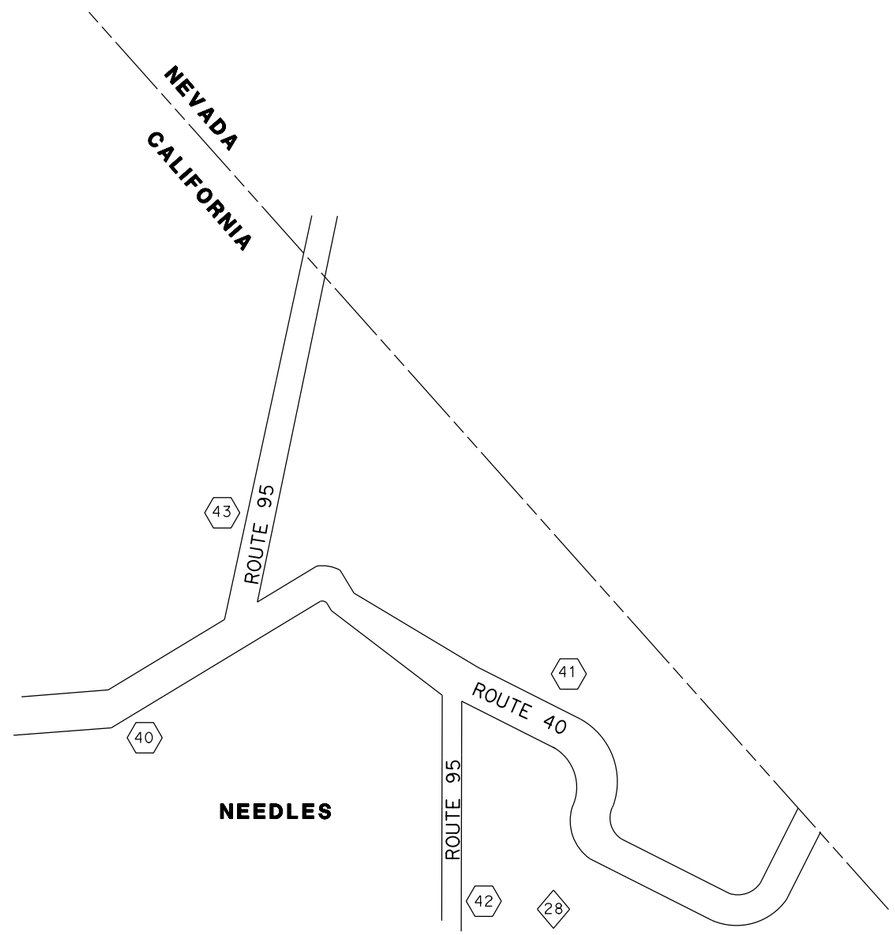
05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.

NOTE (THIS SHEET ONLY):

1. HAR 28 IS LOCATED IN THE CALTRANS MAINTENANCE YARD:
800 SAN CLEMENTE ST.
NEEDLES, CA 92363



LOCATION MAP- ROUTE 40, 95

ELECTRICAL DETAILS

NO SCALE **E-23**

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

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: LUIS PENALOZA
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 08-30-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:33

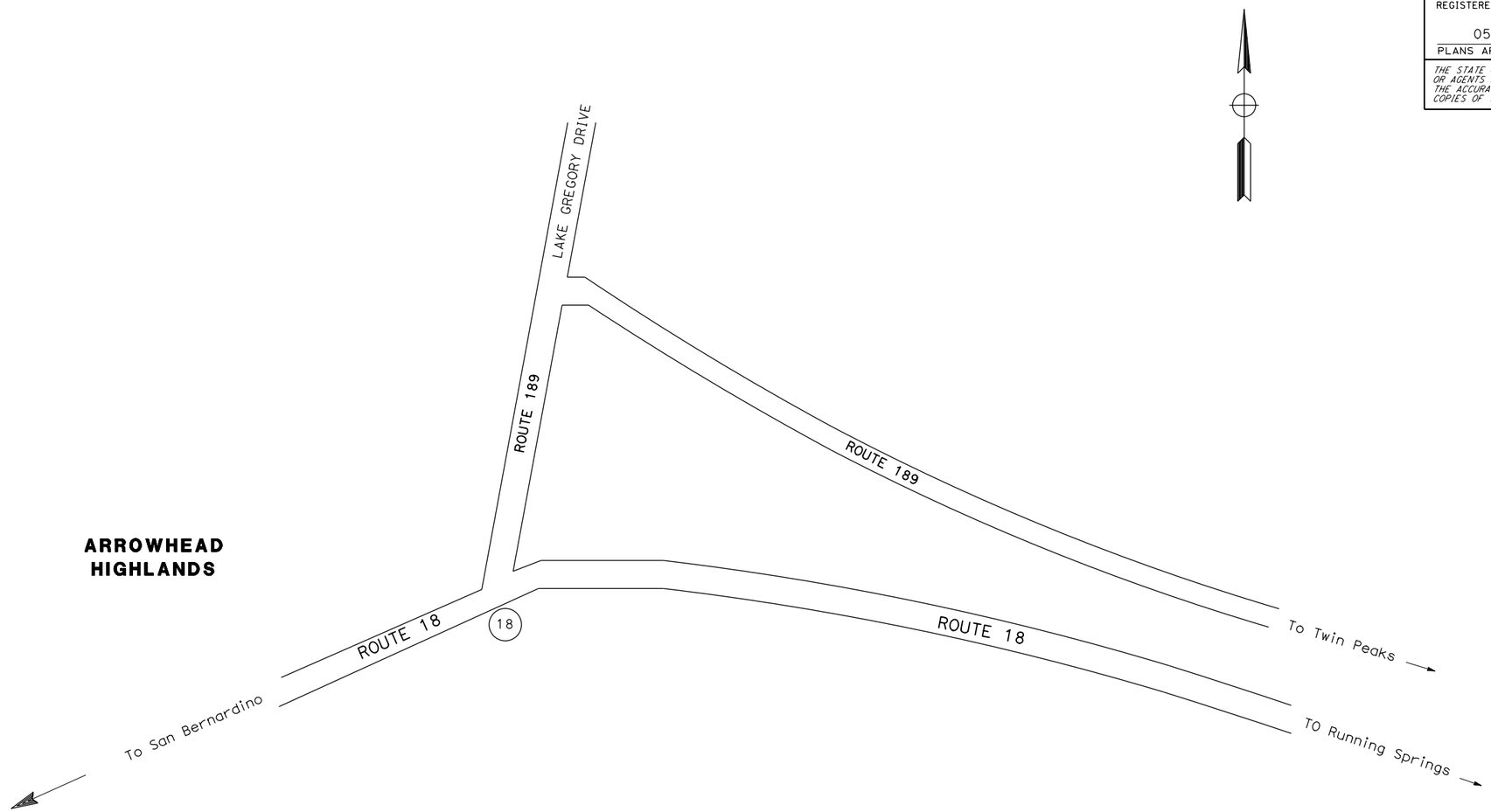
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	29	62

REGISTERED ELECTRICAL ENGINEER — DATE 5-04-16

PLANS APPROVAL DATE 05-09-16

REGISTERED PROFESSIONAL ENGINEER — FERDINAND DE LA CRUZ — No. E 17215 — Exp. 06-30-18 — 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.



LOCATION MAP- ROUTE 18

ELECTRICAL DETAILS

NO SCALE **E-24**

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

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: LUIS PENALOZA
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 08-30-16 | DATE PLOTTED => 12-SEP-2016 | TIME PLOTTED => 15:33

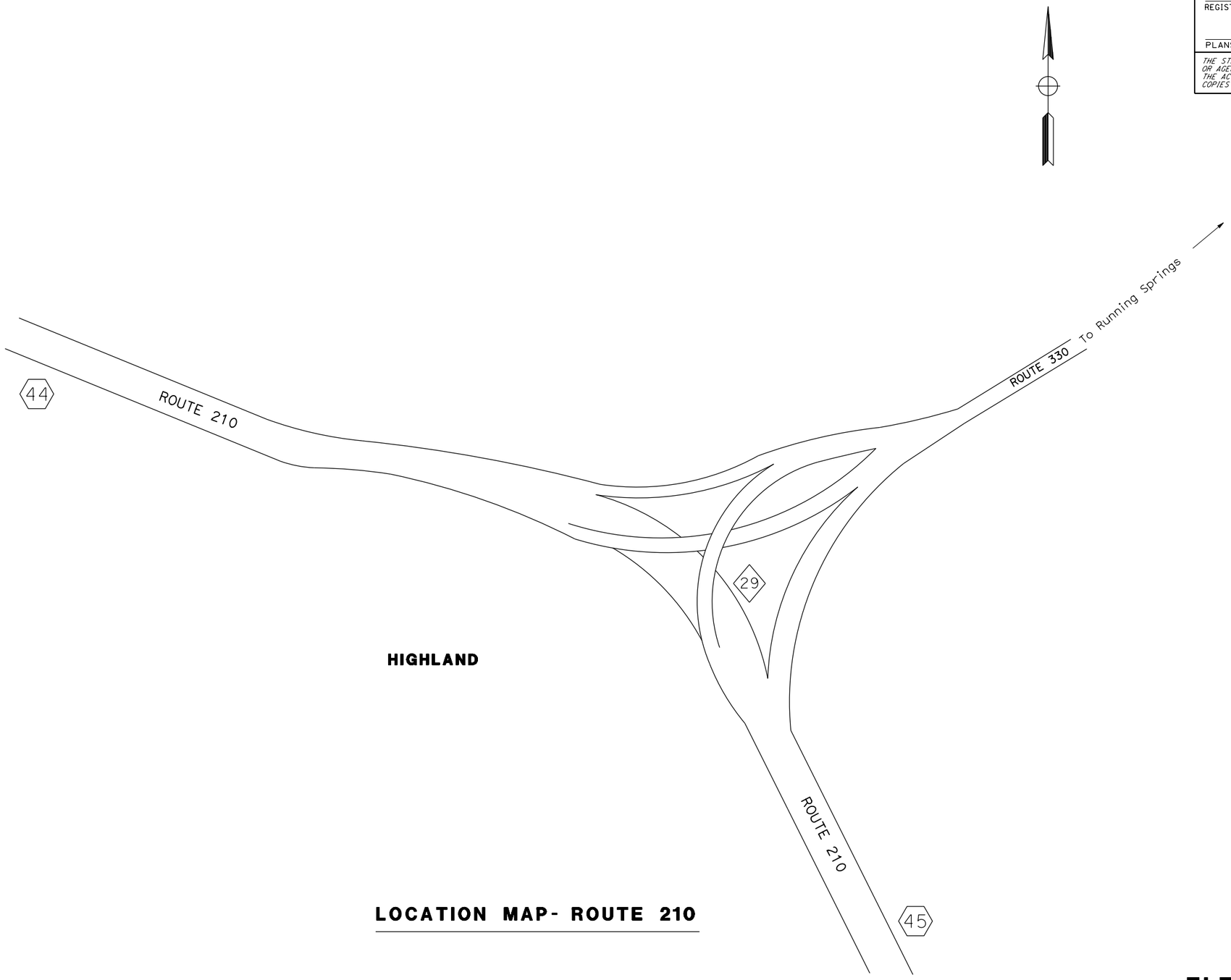
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	30	62

REGISTERED ELECTRICAL ENGINEER 5-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
FERDINAND DE LA CRUZ
No. E 17215
Exp. 06-30-18
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.



LOCATION MAP- ROUTE 210

ELECTRICAL DETAILS

NO SCALE **E-25**

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

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: LUIS PENALOZA
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 08-30-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	31	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

PLANS APPROVAL DATE 05-09-16

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

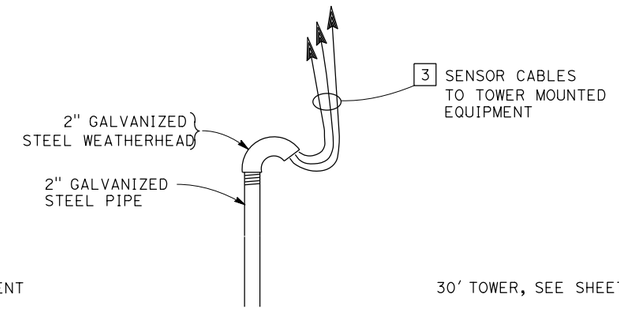
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE (THIS SHEET ONLY):

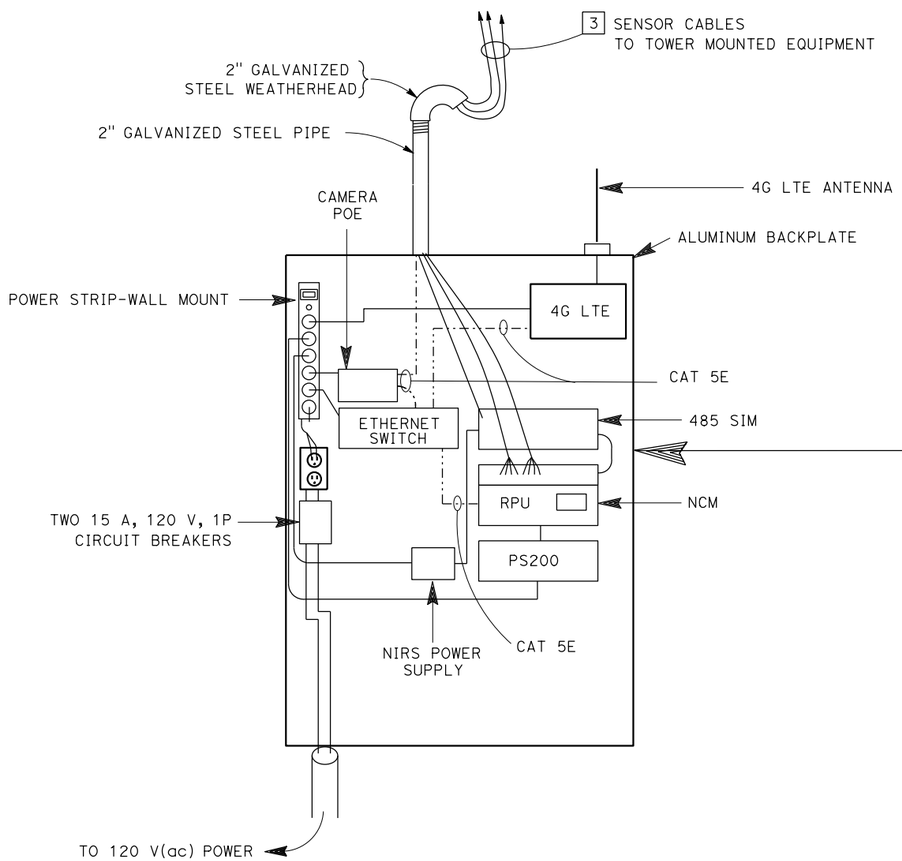
1. INSTALL EQUIPMENT AS PER SHEET E-2.

LEGEND (THIS SHEET ONLY):

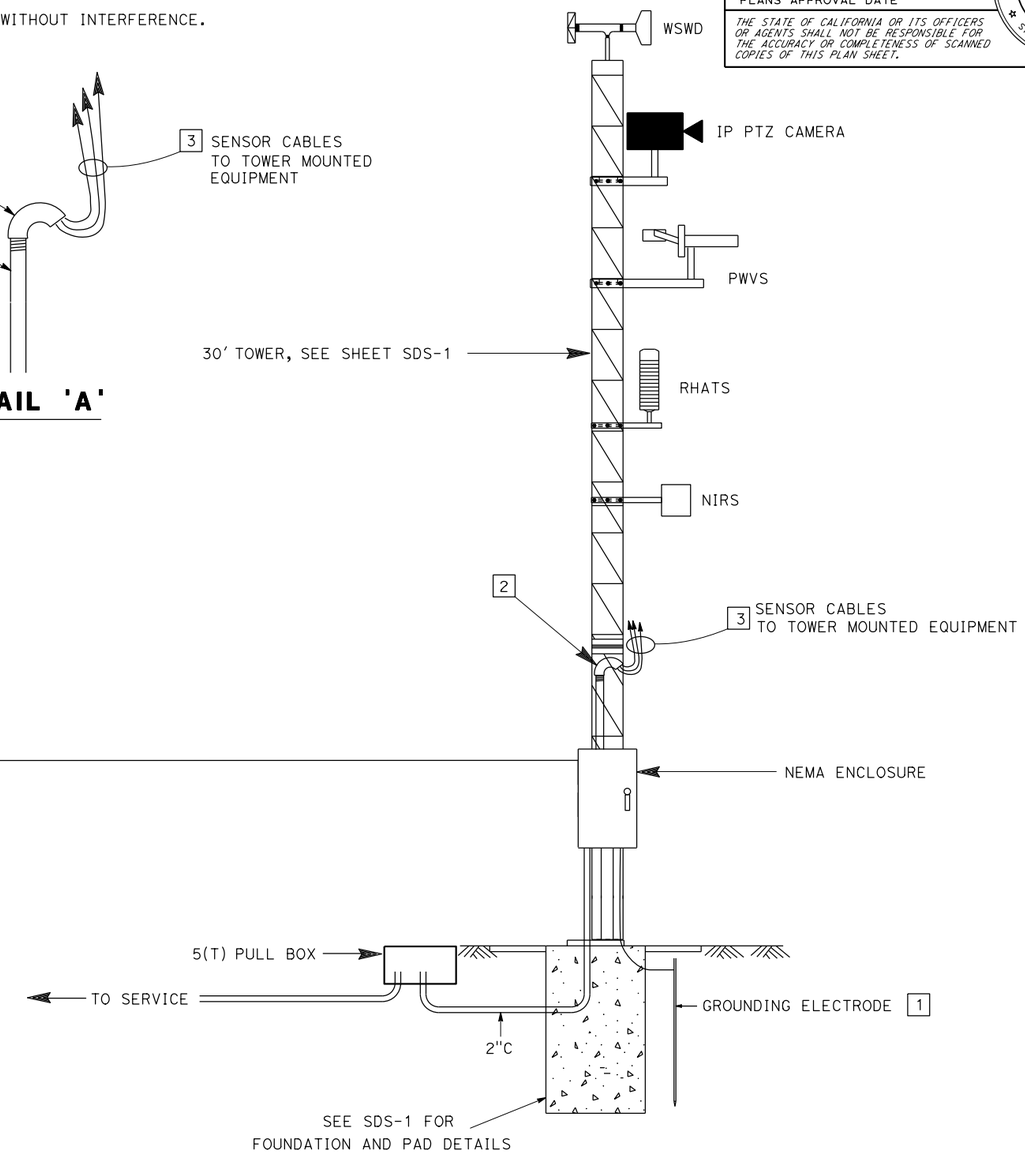
1. 10 FOOT GROUNDING ELECTRODE
2. INSTALL WEATHER HEAD BELOW HINGE MECHANISM. SEE DETAIL 'A' ON THIS SHEET.
3. FASTEN CABLES TO ALLOW THE TOWER TO BE LOWERED WITHOUT INTERFERENCE.



DETAIL 'A'



ENCLOSURE



ROAD WEATHER INFORMATION SYSTEM

(LOCATIONS 1, 3 & 4)

ELECTRICAL DETAILS

NO SCALE **E-26**

REVISED BY	DATE REVISED
WALEED ABOUL-HOSN	FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	FERDINAND DE LA CRUZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans ELECTRICAL DESIGN B

LAST REVISION 05-04-16 DATE PLOTTED => TIME PLOTTED => 15:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	32	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

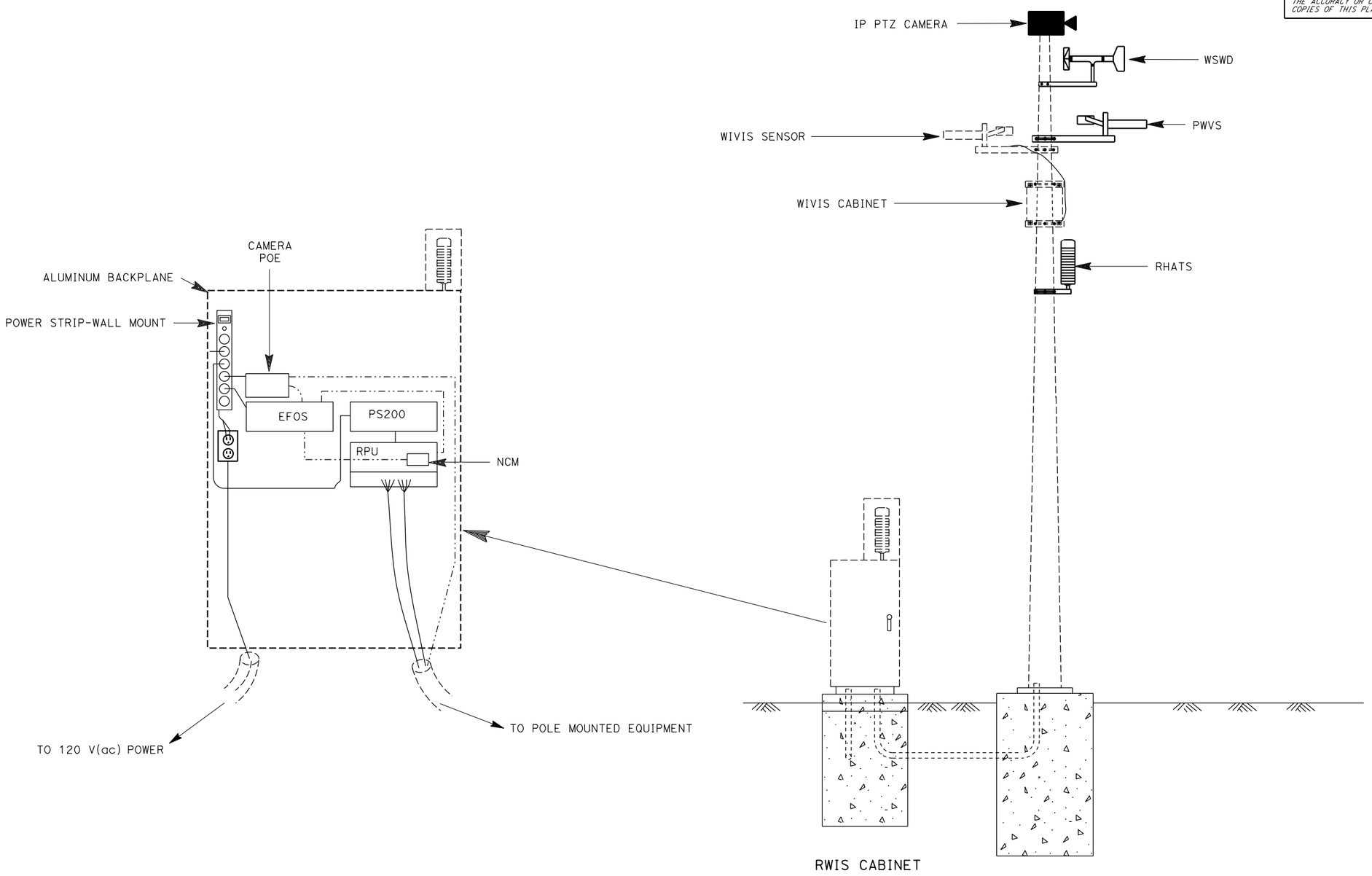
05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.

NOTE (THIS SHEET ONLY):

1. INSTALL EQUIPMENT AS PER SHEET E-8.



MODIFYING ROAD WEATHER INFORMATION SYSTEM

(MODIFIED LOCATIONS 6 & 8)

ELECTRICAL DETAILS

NO SCALE **E-27**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 08-30-16
DATE PLOTTED => TIME PLOTTED => 15:33

BORDER LAST REVISED 7/2/2010
USERNAME => s106356
DGN FILE => 0812000338ua027.dgn
RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3
UNIT 2292
PROJECT NUMBER & PHASE 08120003381

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	33	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

PLANS APPROVAL DATE 05-09-16

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

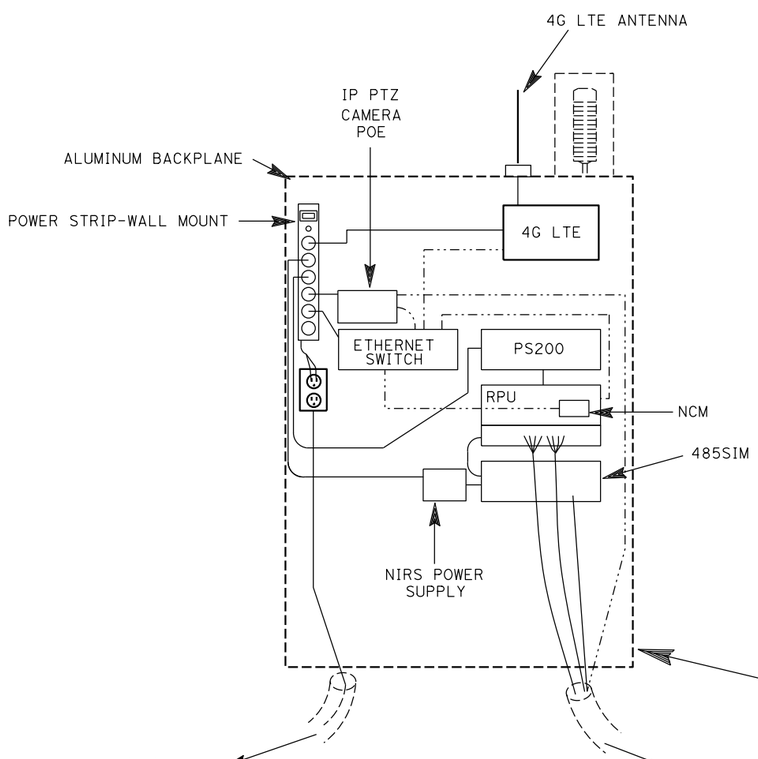
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

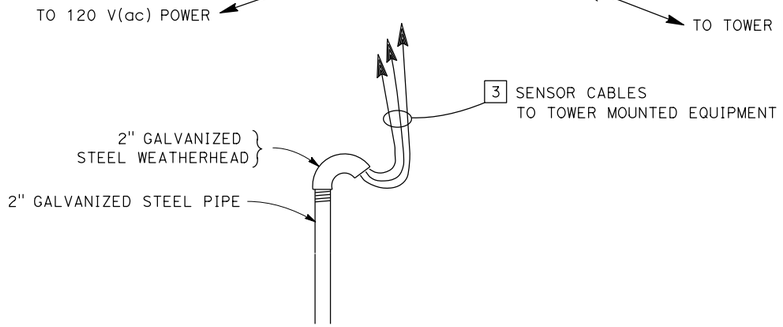
NOTE (THIS SHEET ONLY):

1. NOT ALL EQUIPMENT WILL BE INSTALLED AT EVERY LOCATION. SEE SHEET E-8 FOR DETAILS.

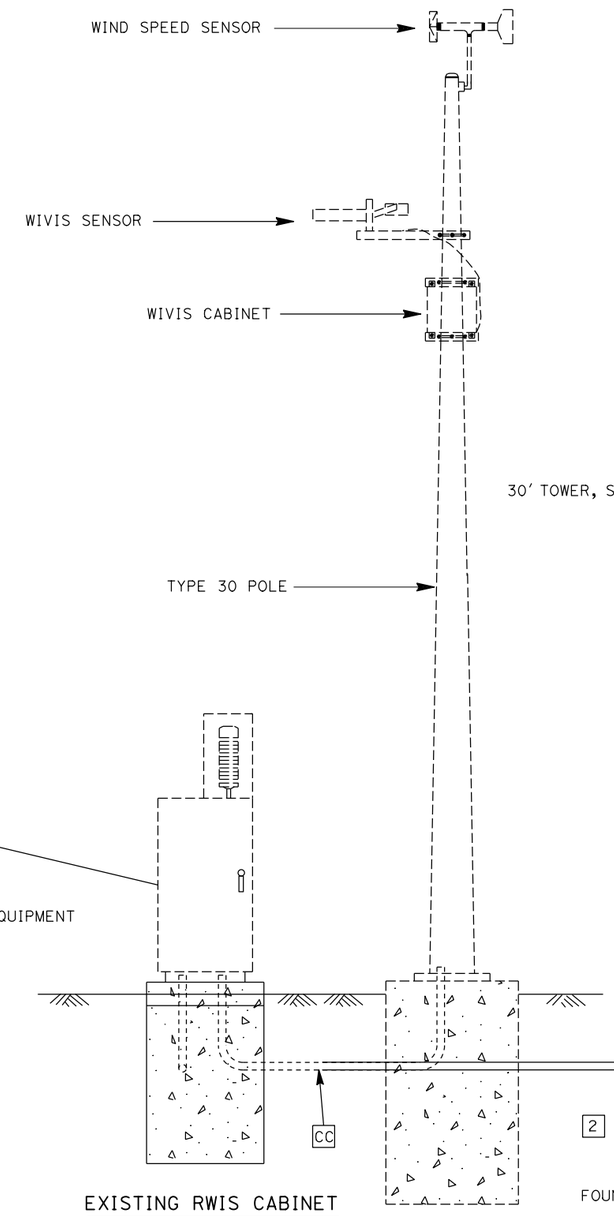
LEGEND (THIS SHEET ONLY):

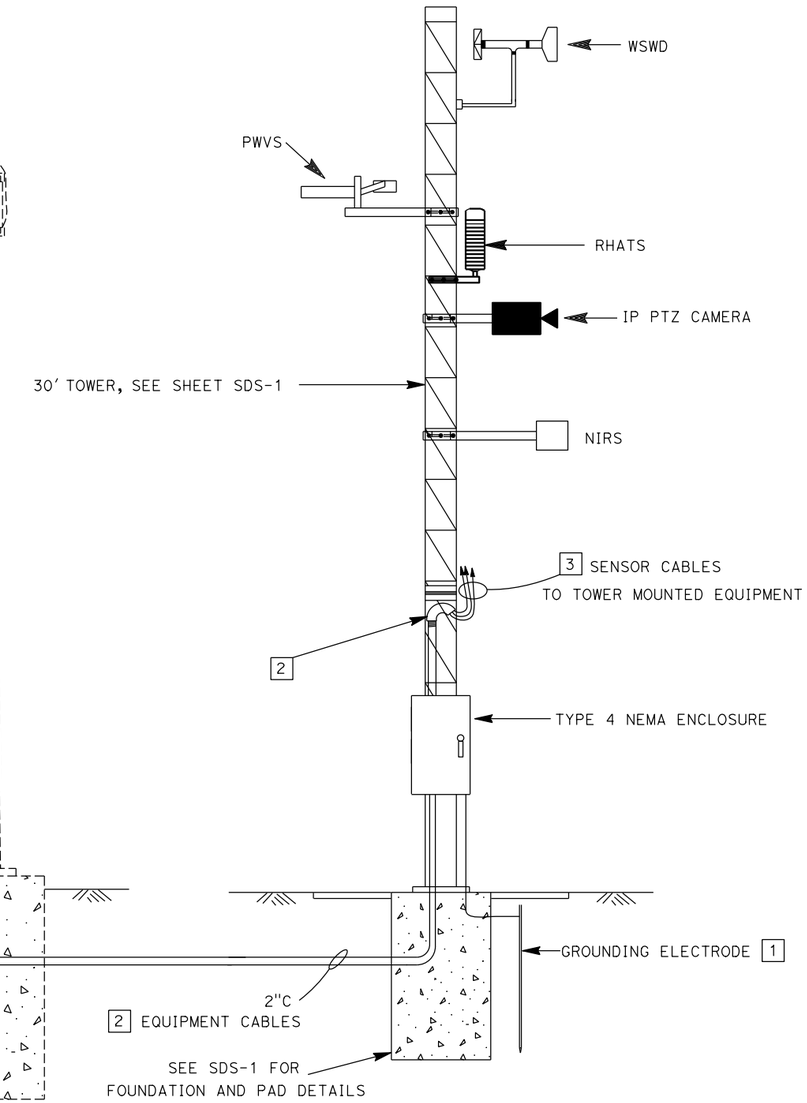
1. 10 FOOT GROUNDING ELECTRODE CONNECT TO TOWER.
2. INSTALL WEATHER HEAD BELOW HINGE MECHANISM. SEE DETAIL 'A' ON THIS SHEET.
3. FASTEN CABLES TO THE TOWER ON THE HINGE SIDE.
4. INSTALL SPC FOR LOCATION 14 ONLY.





DETAIL 'A'





MODIFYING ROAD WEATHER INFORMATION SYSTEM

(MODIFIED LOCATION 7, 9, 11, 12, 13, 14, 16, 17, 19, 20, 21, 22, 23, 24, 25)

ELECTRICAL DETAILS

NO SCALE

E-28

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY / DATE REVISED

LAST REVISION 08-30-16 DATE PLOTTED => TIME PLOTTED => 15:33

BORDER LAST REVISED 7/2/2010 | USERNAME => s106356 DGN FILE => 0812000338ua028.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2292 | PROJECT NUMBER & PHASE 08120003381

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	34	62

REGISTERED ELECTRICAL ENGINEER — DATE 05-04-16

PLANS APPROVAL DATE 05-09-16

REGISTERED PROFESSIONAL ENGINEER — FERDINAND DE LA CRUZ — No. E 17215 — Exp. 06-30-18 — 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.

DETAIL 'C'

ENCLOSURE

DETAIL 'D'

ENCLOSURE

LEGEND (THIS SHEET ONLY):

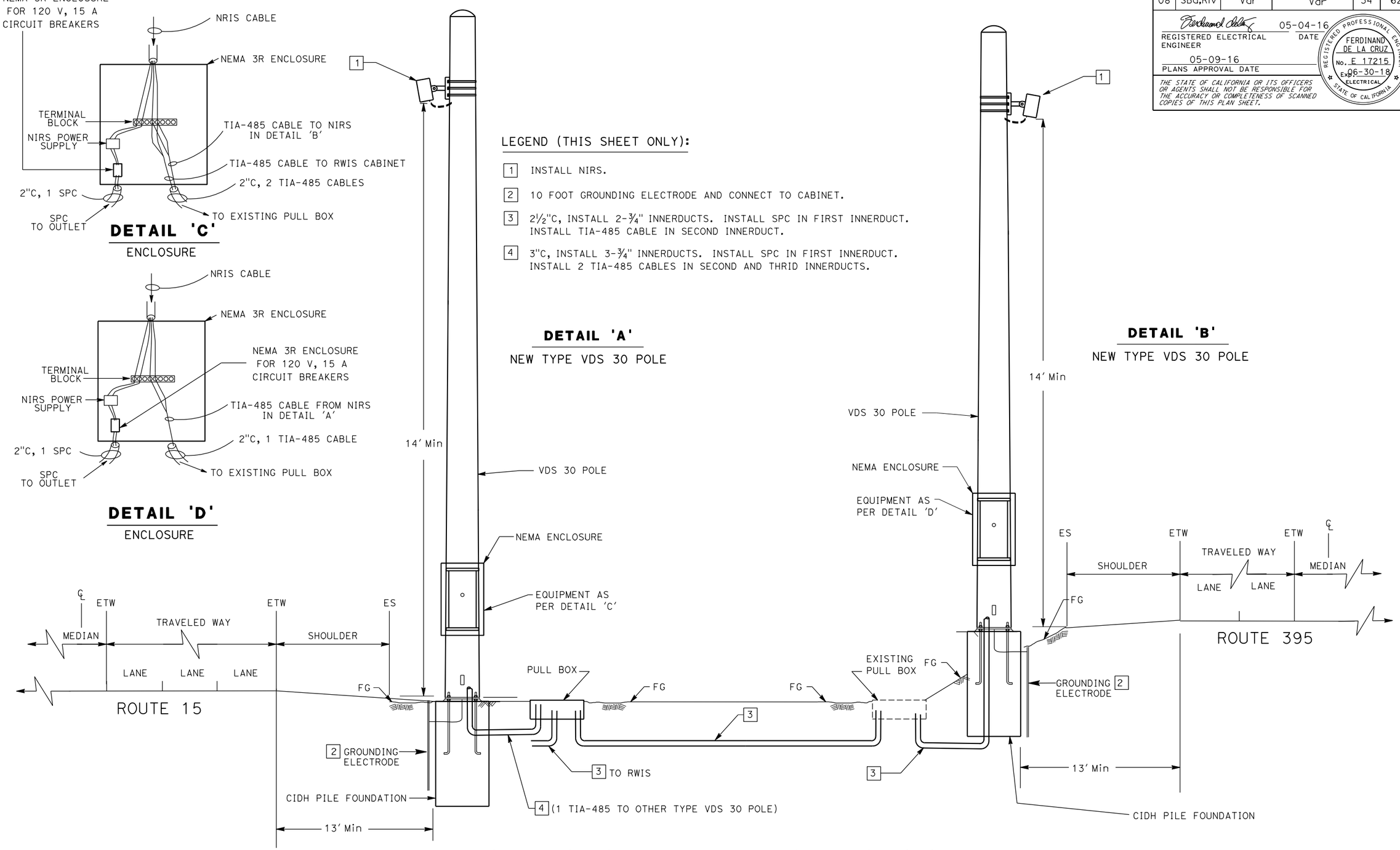
1. INSTALL NIRS.
2. 10 FOOT GROUNDING ELECTRODE AND CONNECT TO CABINET.
3. 2½"C, INSTALL 2-¾" INNERDUCTS. INSTALL SPC IN FIRST INNERDUCT. INSTALL TIA-485 CABLE IN SECOND INNERDUCT.
4. 3"C, INSTALL 3-¾" INNERDUCTS. INSTALL SPC IN FIRST INNERDUCT. INSTALL 2 TIA-485 CABLES IN SECOND AND THRID INNERDUCTS.

DETAIL 'A'

NEW TYPE VDS 30 POLE

DETAIL 'B'

NEW TYPE VDS 30 POLE



MODIFYING ROAD WEATHER INFORMATION SYSTEM

(LOCATION 14)

ELECTRICAL DETAILS

NO SCALE **E-29**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ

CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN — CHECKED BY: FERDINAND DE LA CRUZ

REVISED BY — DATE REVISED

LAST REVISION 05-04-16 — DATE PLOTTED => TIME PLOTTED => 15:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	35	62

REGISTERED ELECTRICAL ENGINEER — DATE 05-04-16

PLANS APPROVAL DATE 05-09-16

REGISTERED PROFESSIONAL ENGINEER — FERDINAND DE LA CRUZ — No. E 17215 — Exp. 06-30-18 — 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.

NOTE (THIS SHEET ONLY);

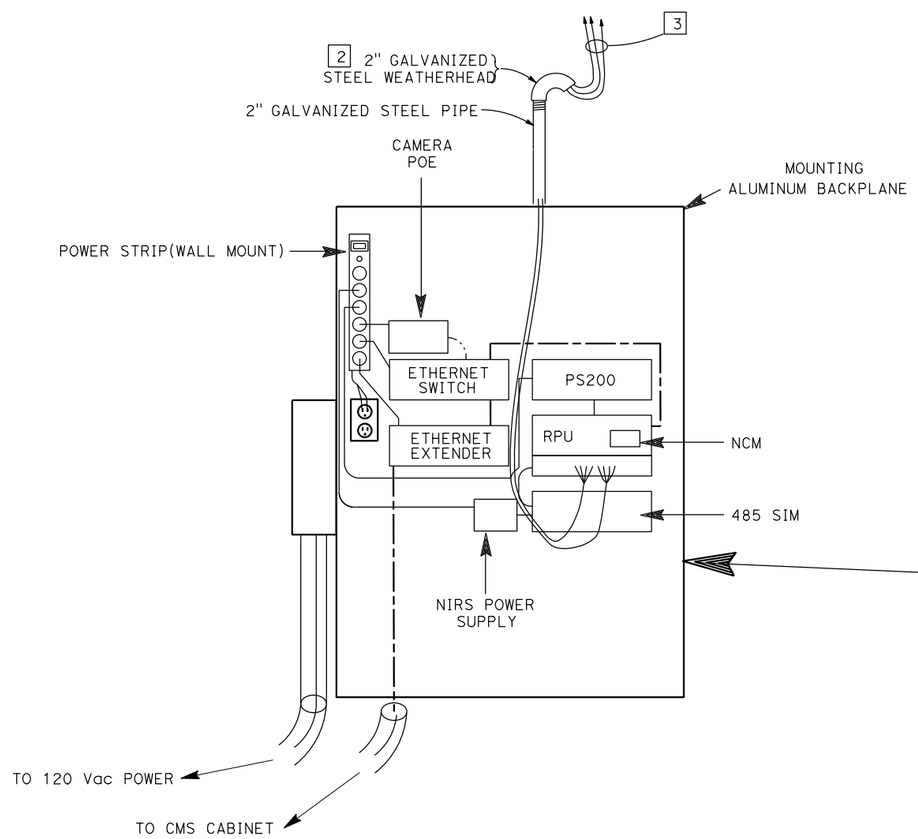
1. INSTALL EQUIPMENT AS PER SHEET E-2.

LEGEND (THIS SHEET ONLY);

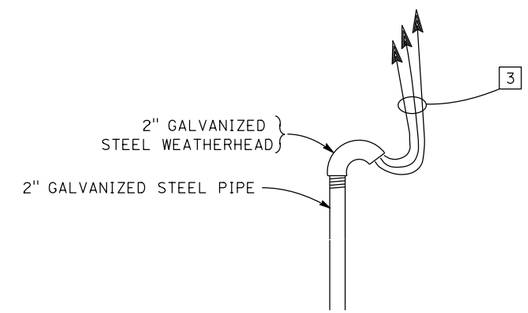
1. 10 FOOT GROUNDING ELECTRODE CONNECTED TO CABINET.
2. INSTALL WEATHERHEAD BELOW HINGE MECHANISM. SEE DETAIL 'A' ON THIS SHEET.
3. FASTEN CABLES TO THE TOWER ON THE HINGE SIDE.

RWIS EQUIPMENT:

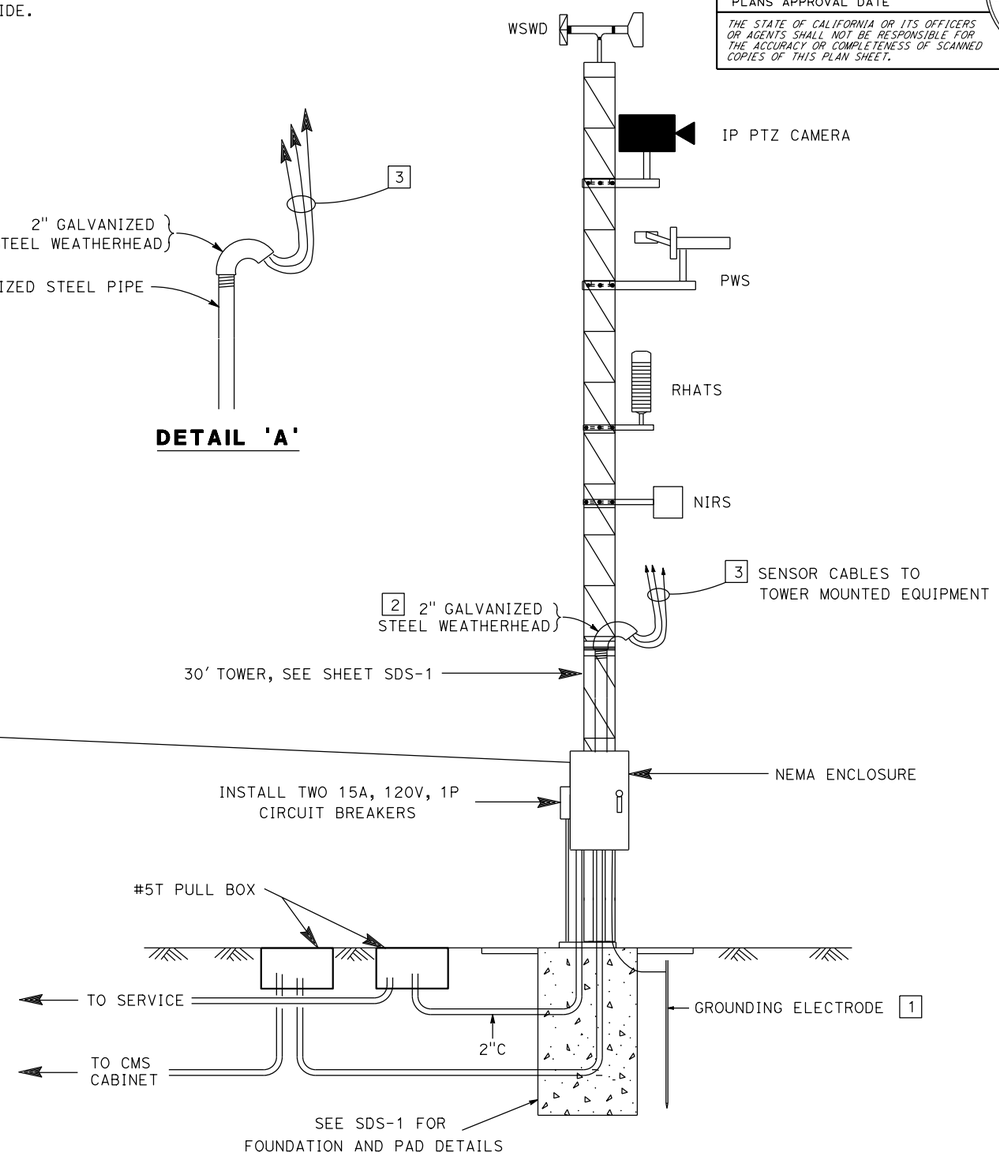
—— - —— - CAT 5E CABLE



ENCLOSURE



DETAIL 'A'



ROAD WEATHER INFORMATION SYSTEM

LOCATION (2 & 5)

ELECTRICAL DETAILS

NO SCALE

E-30

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 05-04-16 | DATE PLOTTED => | TIME PLOTTED => 15:33

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	36	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

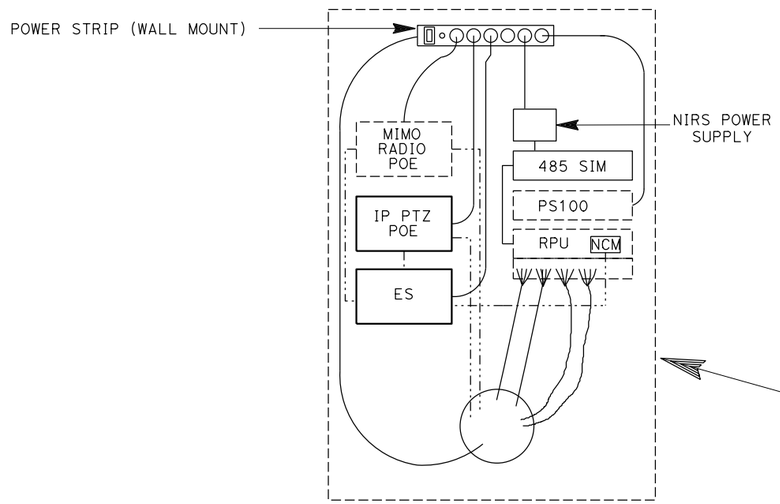
05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

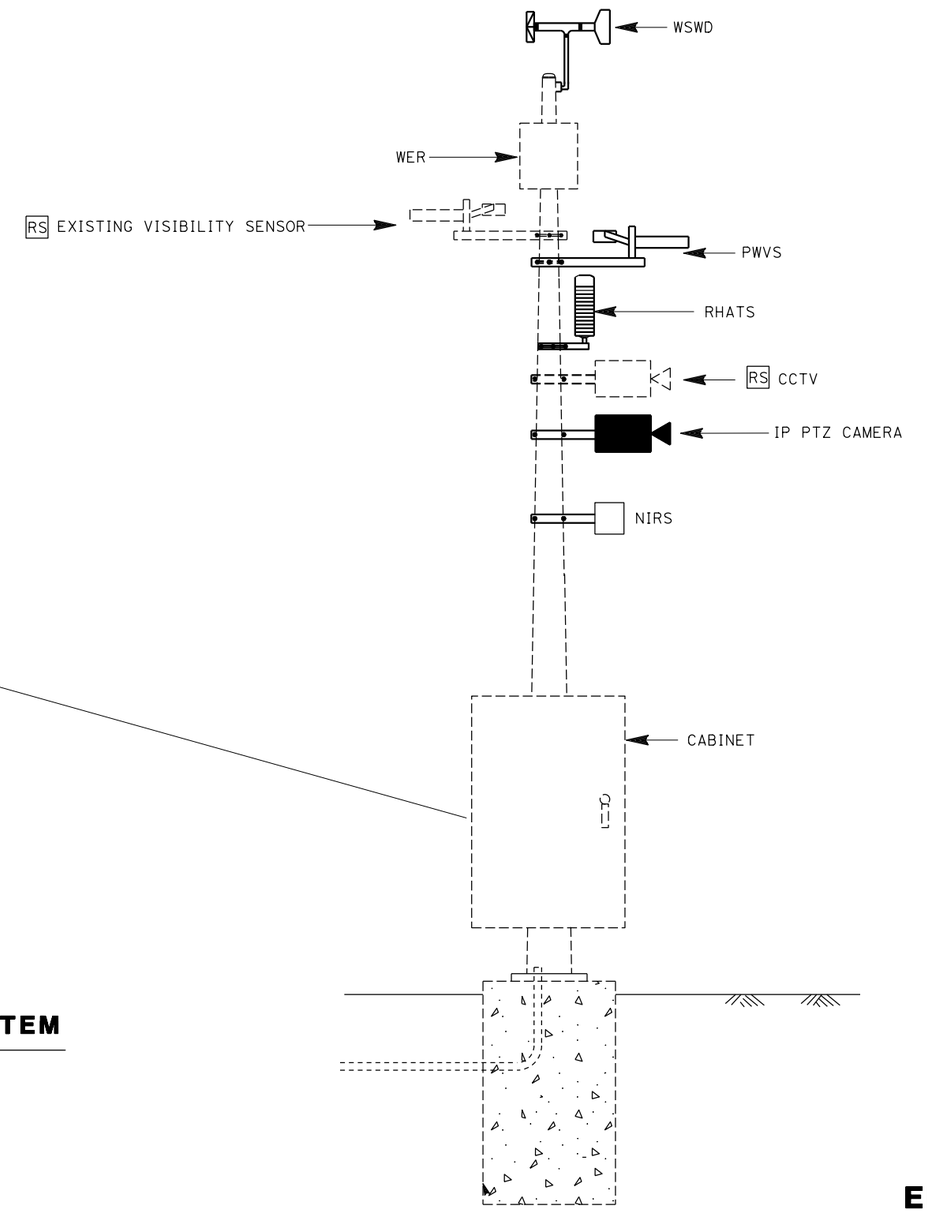
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND (THIS SHEET ONLY):

1 INSTALL EQUIPMENT AS PER SHEET E-8



POLE MOUNTED CABINET



MODIFYING ROAD WEATHER INFORMATION SYSTEM

(LOCATION 18)

ELECTRICAL DETAILS

NO SCALE **E-31**

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

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 08-30-16 | DATE PLOTTED => TIME PLOTTED => 15:33

BORDER LAST REVISED 7/2/2010 | USERNAME => s106356 | DGN FILE => 0812000338ua031.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 2292 | PROJECT NUMBER & PHASE 08120003381

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	37	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

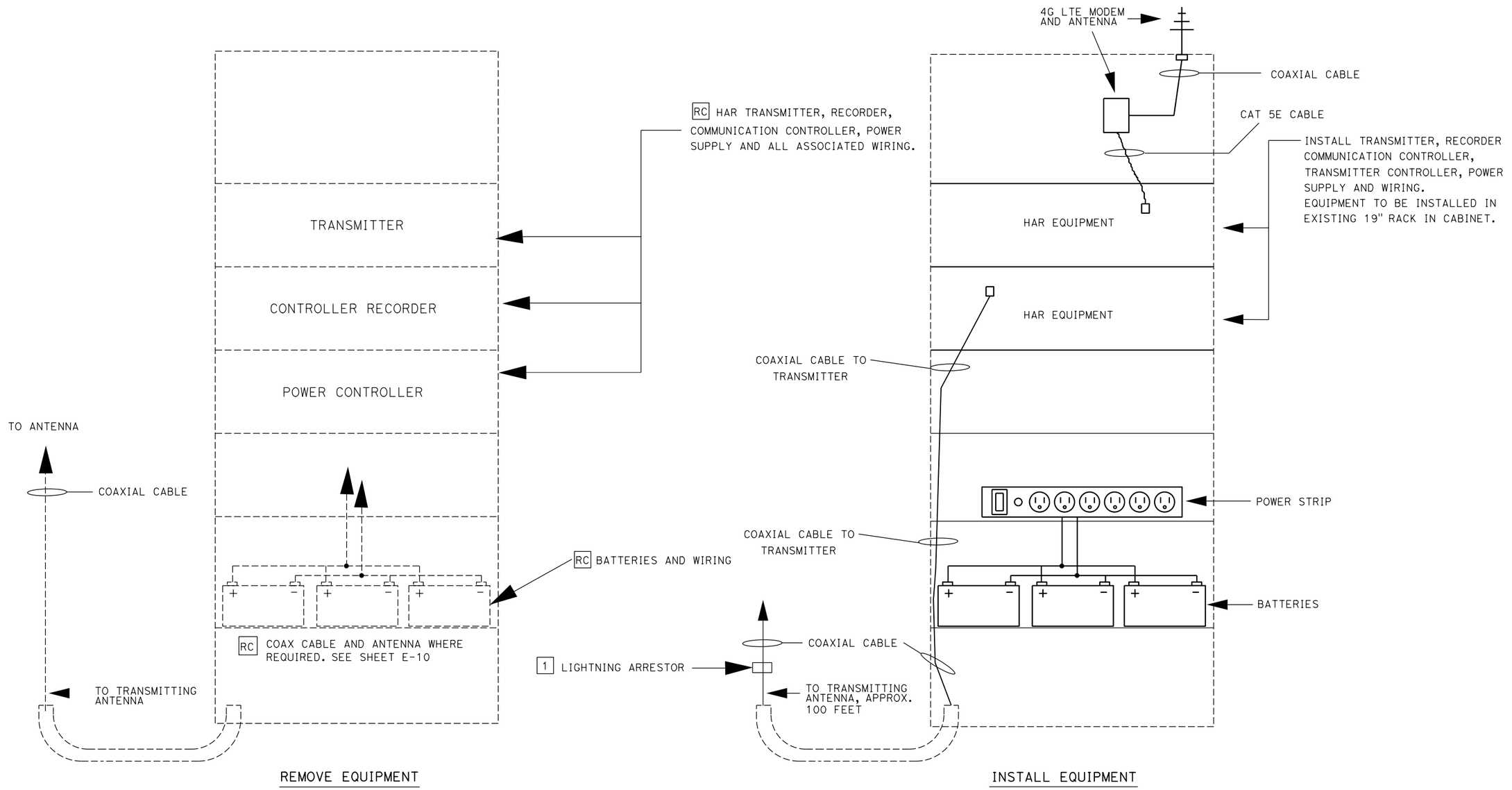
05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

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

LEGEND (THIS SHEET ONLY)

1 INSTALL LIGHTNING ARRESTOR ON ANTENNA POLE AS PER MANUFACTURER SPECIFICATIONS.



MODIFY HIGHWAY ADVISORY RADIO SYSTEM

ELECTRICAL DETAILS

NO SCALE **E-32**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR	FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY	WALEED ABOUL-HOSN
CHECKED BY	FERDINAND DE LA CRUZ
REVISED BY	
DATE REVISED	

LAST REVISION 05-04-16 | DATE PLOTTED => 12-SEP-2016 TIME PLOTTED => 15:34

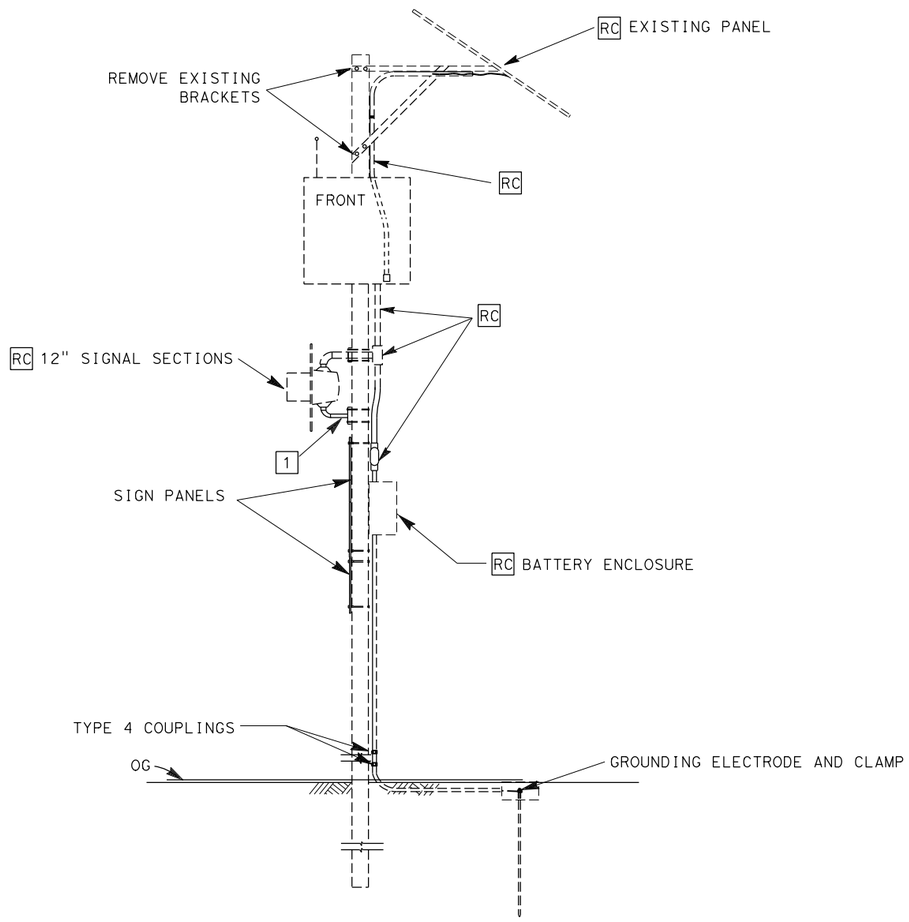
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	38	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

05-09-16
PLANS APPROVAL DATE

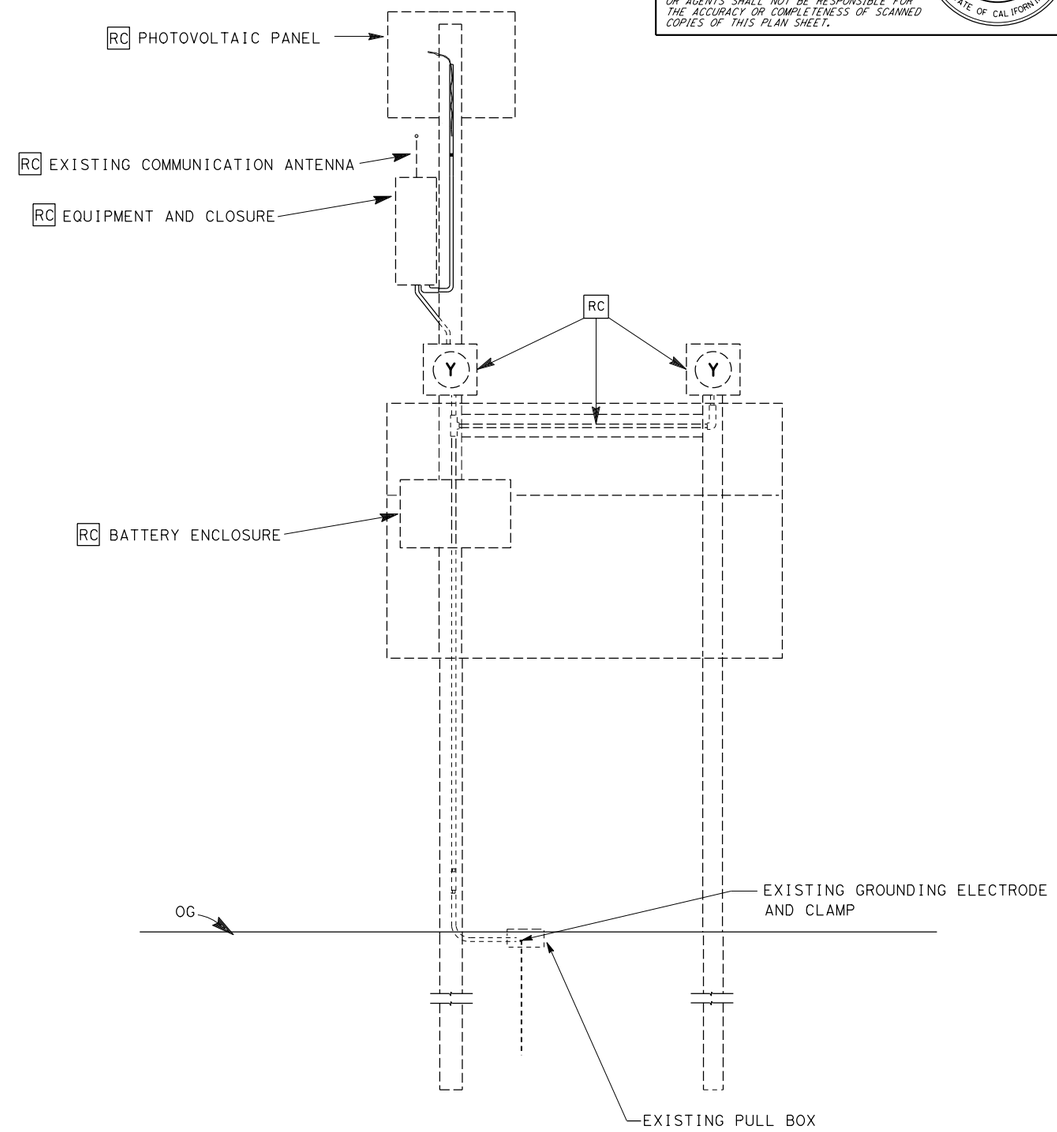
REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

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.



EXISTING FLASHING BEACON WITH PHOTOVOLTAIC PANEL AND SIGN

SIDE VIEW



FRONT VIEW

MODIFYING HAR SIGN SYSTEM
WIND WARNING SIGN SYSTEM

(REMOVAL)

ELECTRICAL DETAILS

NO SCALE **E-33**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 08-30-16 | DATE PLOTTED => TIME PLOTTED => 15:34

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	39	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

PLANS APPROVAL DATE 05-09-16

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

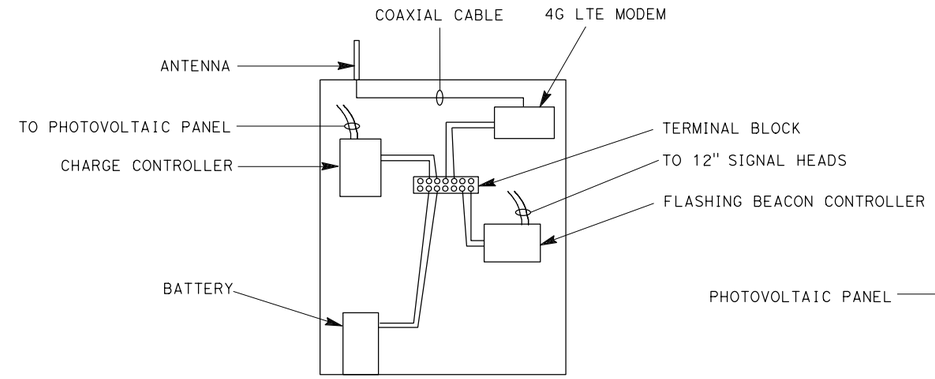
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE (THIS SHEET ONLY):

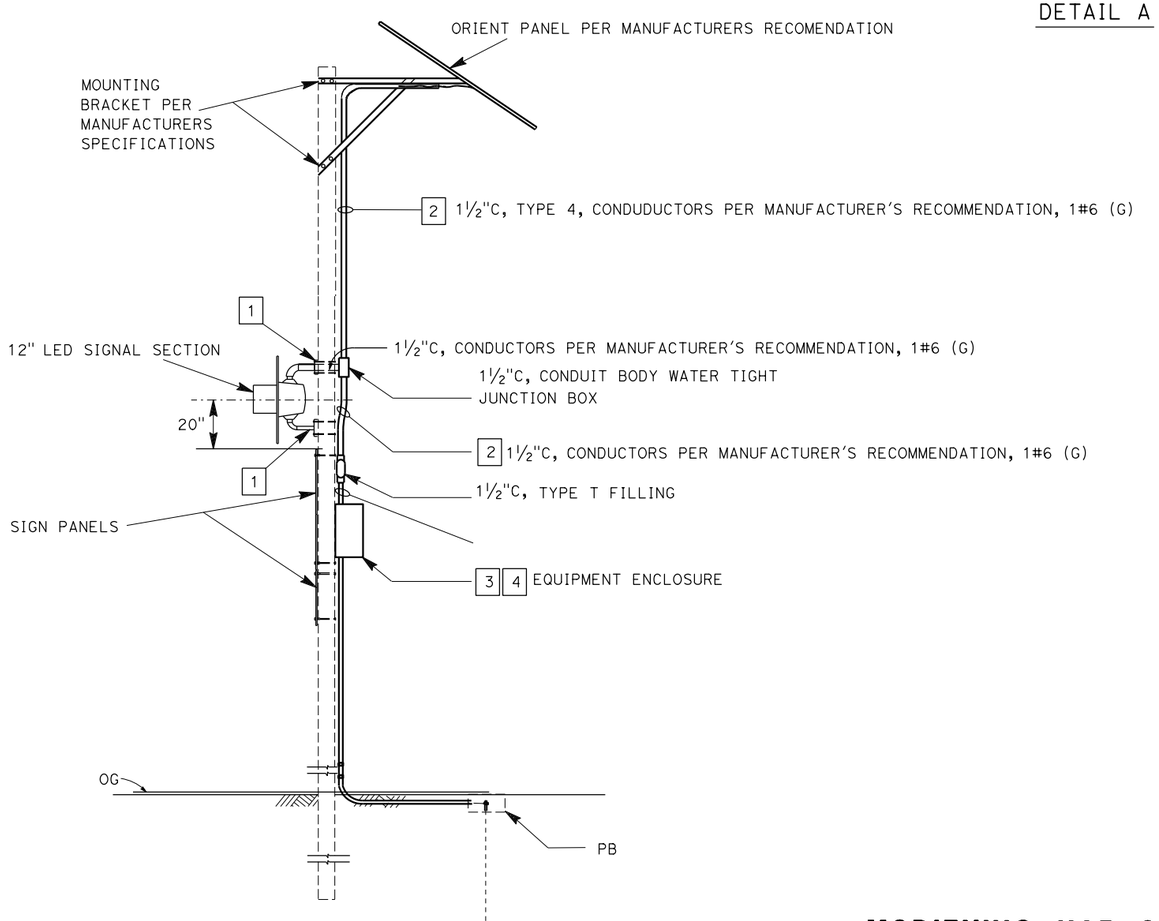
1. CONDUIT AND JUNCTION BOXES MUST BE TYPE 1 UNLESS OTHERWISE NOTED.

LEGEND (THIS SHEET ONLY):

1. 1½" Std MOUNTING FLANGE WITH 4 THRU BOLTS.
2. INSTALL CONDUIT CLAMPS-24" MAXIMUM SPACING.
3. MOUNT ENCLOSURE TO WOOD POST.
4. INSTALL EQUIPMENT IN ENCLOSURE AS PER DETAIL "A". INSTALL CONDUCTORS, CABLES AND CONNECTORS AS REQUIRED

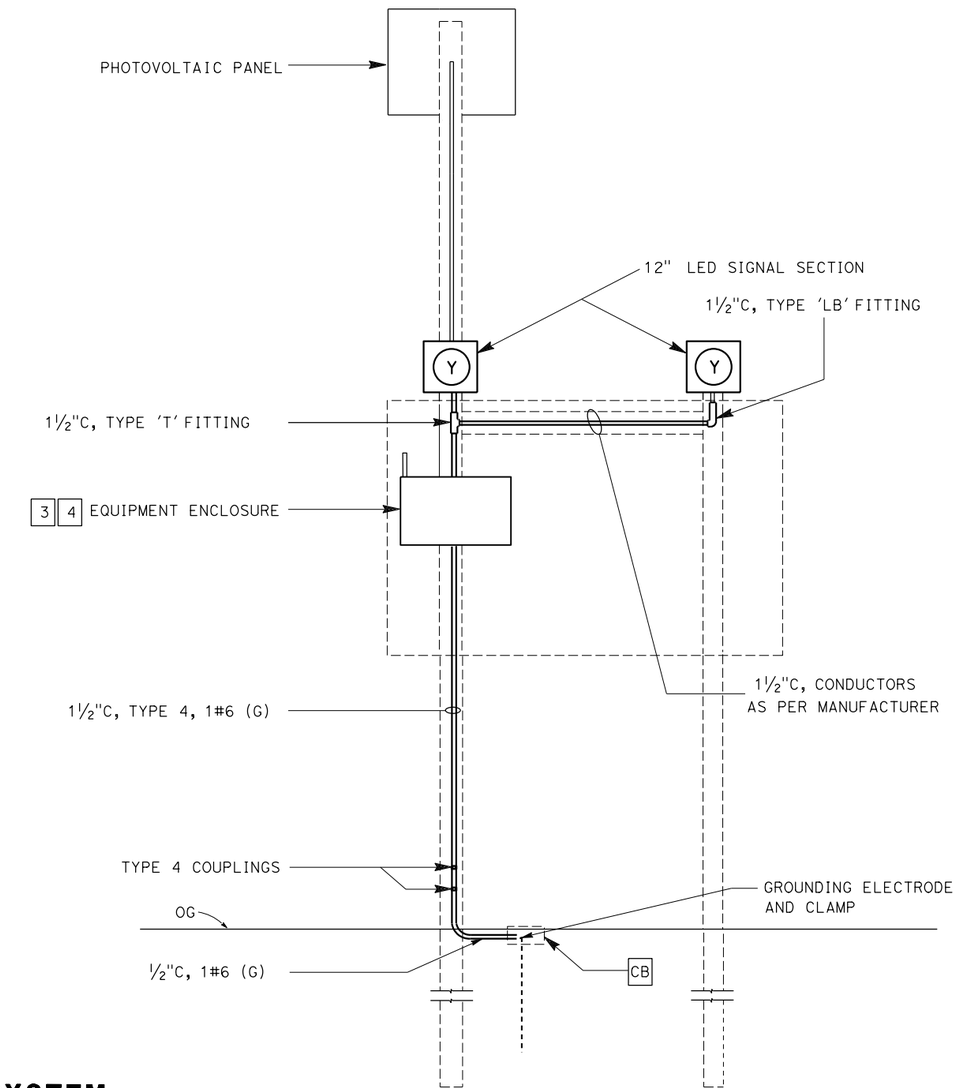


DETAIL A



FLASHING BEACON WITH SOLAR PANEL AND SIGN

SIDE VIEW



FRONT VIEW

MODIFYING HAR SIGN SYSTEM

WIND WARNING SIGN SYSTEM

(INSTALL EQUIPMENT)

ELECTRICAL DETAILS

NO SCALE

E-34

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ

CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN

CHECKED BY: FERDINAND DE LA CRUZ

REVISED BY | DATE REVISED

LAST REVISION 08-30-16 | DATE PLOTTED => 12-SEP-2016 | TIME PLOTTED => 15:34

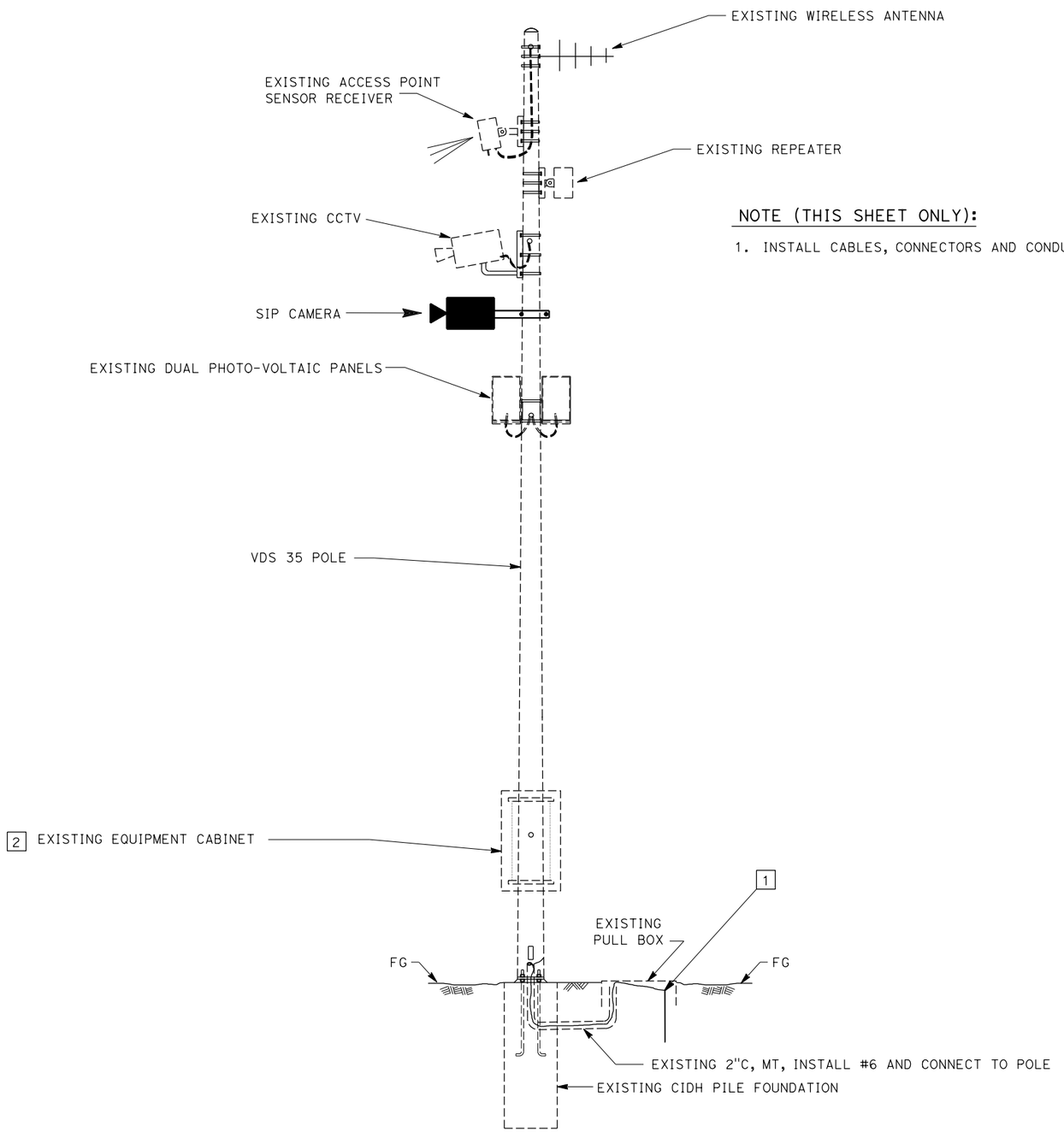
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	40	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.



NOTE (THIS SHEET ONLY):

1. INSTALL CABLES, CONNECTORS AND CONDUCTORS AS REQUIRED.

LEGEND (THIS SHEET ONLY):

1 INSTALL 10' GROUNDING ELECTRODE IN EXISTING PULL BOX AND CONNECT TO POLE.

2 SEE SHEETS E-36 & E-37 FOR DETAILS

MODIFY WIRELESS VEHICLE DETECTION SYSTEM

ELECTRICAL DETAILS

NO SCALE **E-35**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 08-30-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:34

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	41	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

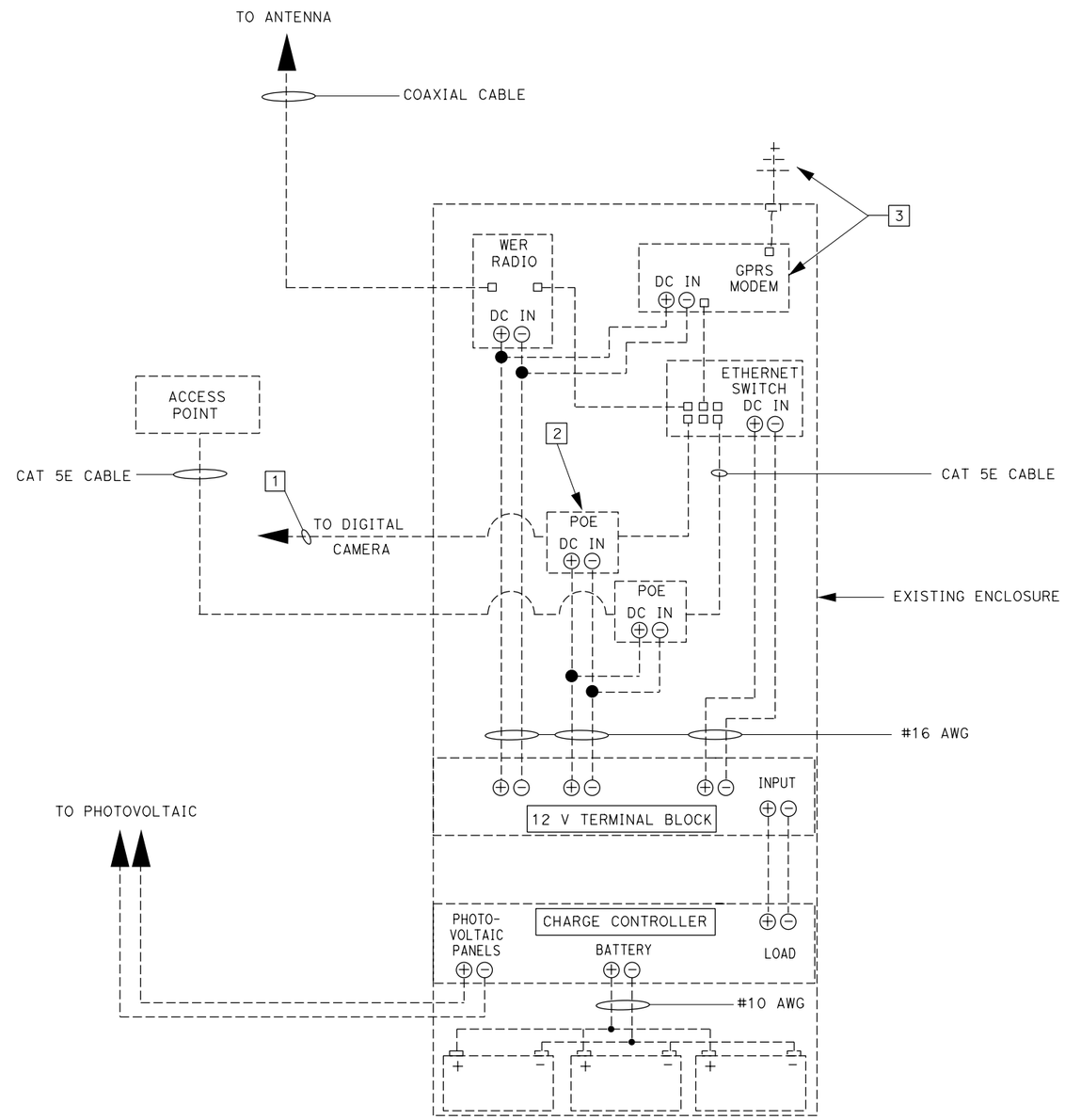
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND (THIS SHEET ONLY):

1 RS EXISTING CCTV CABLE.

2 RS POE

3 RS EXISTING GPRS MODEM AND ANTENNA.



MODIFY WIRELESS VEHICLE DETECTION SYSTEM

(REMOVE EQUIPMENT)

ELECTRICAL DETAILS

NO SCALE **E-36**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

FUNCTIONAL SUPERVISOR: FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY: WALEED ABOUL-HOSN
CHECKED BY: FERDINAND DE LA CRUZ
REVISED BY
DATE REVISED

LAST REVISION 08-30-16
DATE PLOTTED => 12-SEP-2016
TIME PLOTTED => 15:34

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	42	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

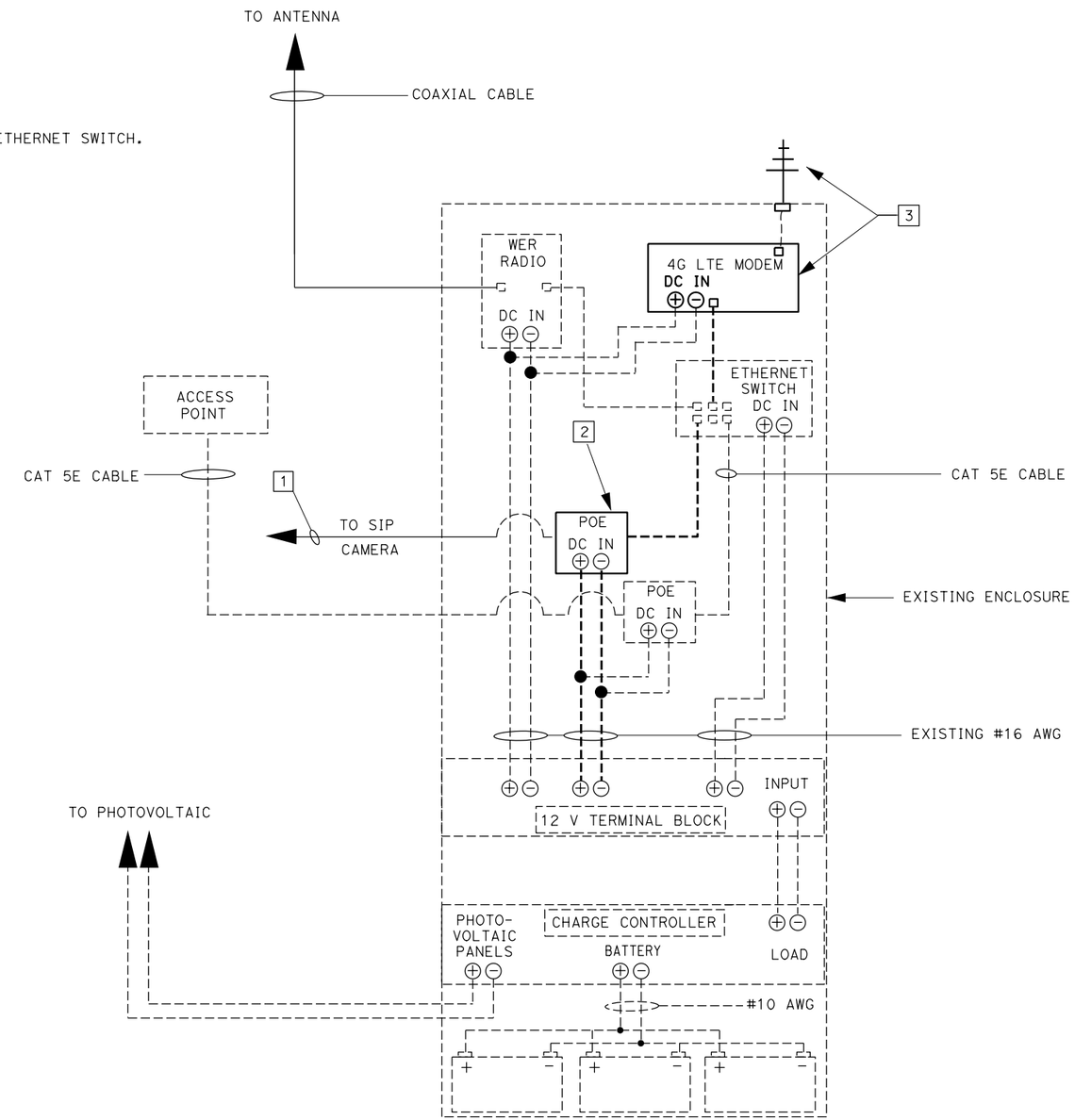
05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

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

LEGEND (THIS SHEET ONLY):

1. CAT5E CABLE TO SIP CAMERA
2. POE CONNECTED TO 12V TERMINAL BLOCK AND EXISTING ETHERNET SWITCH.
3. 4G LTE MODEM AND ANTENNA, CONNECTED TO ETHERNET SWITCH.



MODIFY WIRELESS VEHICLE DETECTION SYSTEM

(INSTALL EQUIPMENT)

ELECTRICAL DETAILS

NO SCALE **E-37**

REVISED BY | DATE REVISED
WALEED ABOUL-HOSN | FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | FERDINAND DE LA CRUZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

LAST REVISION 08-30-16 | DATE PLOTTED => 12-SEP-2016 TIME PLOTTED => 15:34

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	43	62

REGISTERED ELECTRICAL ENGINEER 05-04-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 ELECTRICAL STATE OF CALIFORNIA

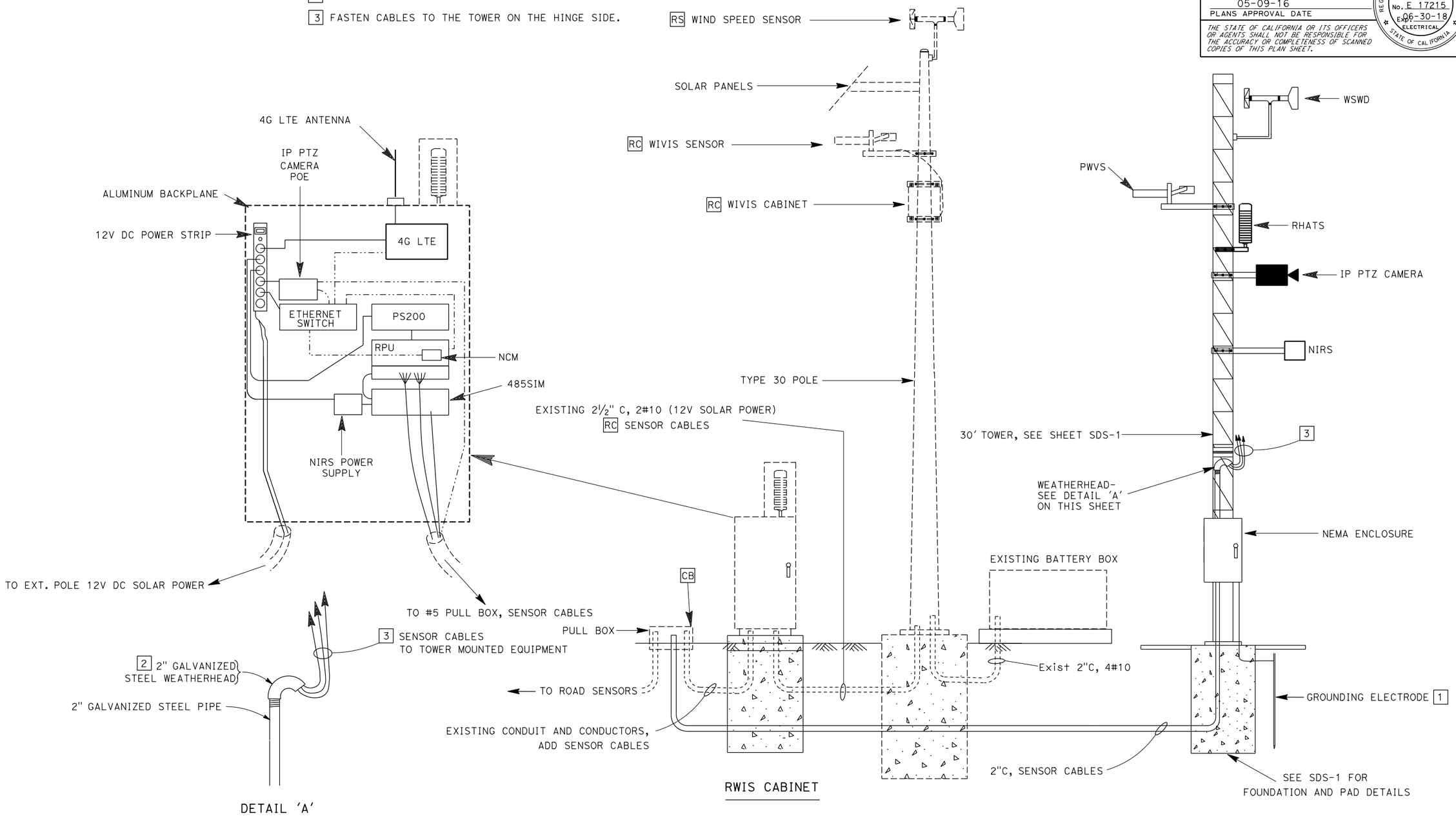
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE (THIS SHEET ONLY):

1. INSTALL EQUIPMENT AS PER SHEET E-8.

LEGEND (THIS SHEET ONLY):

1. 10 FOOT GROUNDING ELECTRODE CONNECTED TO TOWER.
2. INSTALL WEATHERHEAD BELOW HINGE MECHANISM.
3. FASTEN CABLES TO THE TOWER ON THE HINGE SIDE.



MODIFY ROAD WEATHER INFORMATION SYSTEM

(LOCATION 5)

ELECTRICAL DETAILS

NO SCALE

E-38

REVISED BY	DATE REVISED
WALEED ABOUL-HOSN	FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY	CHECKED BY
FUNCTIONAL SUPERVISOR	FERDINAND DE LA CRUZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN B

LAST REVISION 08-30-16 | DATE PLOTTED => TIME PLOTTED => 15:34

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	44	62

REGISTERED ELECTRICAL ENGINEER 05-06-16 DATE

05-09-16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER FERDINAND DE LA CRUZ No. E 17215 Exp. 06-30-18 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.

NOTE:

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

ROAD WEATHER INFORMATION SYSTEM

SHEET No.	RWIS TOWER AND FOUNDATION	NEMA ENCLOSURE (TYPE 4)	2"C, TYPE 3, SCHEDULE 80	TYPE 5(T) PULLBOX	PWVS	IP IPTZ CAMERA	WSWD	RHATS	NIRS	ETHERNET SWITCH	ETHERNET EXTENDER	4G LTE MODEM	NCM	485 SIM	PS200	#8 CONDUCTOR	#10 CONDUCTOR	CAT 5E
	EA	EA	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF
E-3	1	1	50	1	1	1	1	1	1	1	—	1	1	1	1	100	50	—
E-4	1	1	100	2	1	1	1	1	1	2	2	—	1	1	1	1,000	—	500
E-5	1	1	250	1	1	1	1	1	—	1	—	1	1	—	1	1,000	—	—
E-6	1	1	500	1	1	1	1	1	—	1	—	1	1	—	1	300	—	500
E-7	1	1	150	2	1	1	1	1	1	2	2	—	1	—	1	600	—	500

MODIFYING EXISTING ELECTRICAL SYSTEM

SHEET No.	RWIS TOWER AND FOUNDATION	NEMA ENCLOSURE (TYPE 4)	2"C, TYPE 3, SCHEDULE 80	INNERDUCT	TYPE 5(T) PULLBOX	VDS 30 POLE	PWVS	IP IPTZ CAMERA	WSWD	RHATS	NIRS	ETHERNET SWITCH	4G LTE MODEM	NCM	485 SIM	PS200	EFOS	TIA-485	SPC	#10 CONDUCTOR
	EA	EA	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF	LF	LF
E-8 AND E-9	16	16	800	2000	5	2	19	18	19	19	4	16	16	16	4	7	4	1,000	1,000	50

	DARP	AMRT	DCC	TCM	PSBU	ANTENNA	LA	4G LTE MODEM	BATTERIES
	EA	EA	EA	EA	EA	EA	EA	EA	EA
E-10	6	6	6	6	6	2	1	5	18

	PVPS	FBC	NEMA ENCLOSURE	12" SIGNAL HEAD	4G LTE MODEM	SOLAR PANEL
	EA	EA	EA	EA	EA	EA
E-11	18	18	18	36	18	18
E-12	6	6	6	12	6	18

	SIP CAMERA	POE	GROUND ROD	4G LTE MODEM
	EA	EA	EA	EA
E-13	19	19	45	19
E-14	5	5	16	5
E-15	21	21	43	21
E-16	23	23	36	23

ELECTRICAL QUANTITIES

E-39

REVISED BY | DATE REVISED
WALEED ABOUL-HOSN | FERDINAND DE LA CRUZ
CALCULATED-DESIGNED BY | CHECKED BY
FUNCTIONAL SUPERVISOR | FERDINAND DE LA CRUZ
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans® ELECTRICAL DESIGN B

LAST REVISION | DATE PLOTTED => 08-30-16 | TIME PLOTTED => 15:34

M

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

N

N	NORTH
NB	NORTHBOUND
No.	NUMBER (MUST HAVE PERIOD)
Nos.	NUMBERS (MUST HAVE PERIOD)
NPS	NOMINAL PIPE SIZE
NS	NEAR SIDE
NSP	NEW STANDARD PLAN
NTS	NOT TO SCALE

O

Oblr	OBLITERATE
OC	OVERCROSSING
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OG	ORIGINAL GROUND
OGAC	OPEN GRADED ASPHALT CONCRETE
OGFC	OPEN GRADED FRICTION COURSE
OH	OVERHEAD
OHWM	ORDINARY HIGH WATER MARK
O-O	OUT TO OUT
Opp	OPPOSITE
OSD	OVERSIDE DRAIN

P

p	PAGE
PAP	PERFORATED ALUMINUM PIPE
PB	PULL BOX
PC	POINT OF CURVATURE,
	PRECAST
PCC	POINT OF COMPOUND CURVE,
	PORTLAND CEMENT CONCRETE
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
PCP	PERFORATED CONCRETE PIPE,
	PRESTRESSED CONCRETE PIPE
PCVC	POINT OF COMPOUND VERTICAL CURVE
PEC	PERMIT TO ENTER AND CONSTRUCT
Ped	PEDESTRIAN
Ped OC	PEDESTRIAN OVERCROSSING
Ped UC	PEDESTRIAN UNDERCROSSING
Perm Mtl	PERMEABLE MATERIAL

P continued

PG	PROFILE GRADE
PI	POINT OF INTERSECTION
PJP	PARTIAL JOINT PENETRATION
Pkwy	PARKWAY
℄,PL	PLATE
P/L	PROPERTY LINE
PM	POST MILE,
	TIME FROM NOON TO MIDNIGHT
PN	PAVING NOTCH
POC	POINT OF HORIZONTAL CURVE
POT	POINT OF TANGENT
POVC	POINT OF VERTICAL CURVE
PP	PIPE PILE,
	PLASTIC PIPE,
	POWER POLE
PPL	PREFORMED PERMEABLE LINER
PPP	PERFORATED PLASTIC PIPE
PRC	POINT OF REVERSE CURVE
PRF	PAVEMENT REINFORCING FABRIC
PRVC	POINT OF REVERSE VERTICAL CURVE
PS&E	PLANS, SPECIFICATIONS AND ESTIMATES
PS, P/S	PRESTRESSED
PSP	PERFORATED STEEL PIPE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
Pvmt	PAVEMENT

Q

Qty	QUANTITY

R

R	RADIUS
R & D	REMOVE AND DISPOSE
R & S	REMOVE AND SALVAGE
R/C	RATE OF CHANGE
RCA	REINFORCED CONCRETE ARCH
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RCPA	REINFORCED CONCRETE PIPE ARCH
Rd	ROAD
Reinf	REINFORCED,
	REINFORCEMENT,
	REINFORCING
Rel	RELOCATE
Repl	REPLACEMENT
Ret	RETAINING
Rev	REVISED, REVISION
Rdwy	ROADWAY
RHMA	RUBBERIZED HOT MIX ASPHALT
Riv	RIVER
RM	ROAD-MIXED
RP	RADIUS POINT,
	REFERENCE POINT
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION,
	REVISED STANDARD PLAN
Rt	RIGHT
Rte	ROUTE
RW	REDWOOD,
	RETAINING WALL
R/W	RIGHT OF WAY
Rwy	RAILWAY

S

S	SOUTH,
	SUPPLEMENT
SAE	STRUCTURE APPROACH EMBANKMENT
Salv	SALVAGE
SAPP	STRUCTURAL ALUMINUM PLATE PIPE
SB	SOUTHBOUND
SC	SAND CUSHION
SCSP	SLOTTED CORRUGATED STEEL PIPE
SD	STORM DRAIN
Sec	SECOND,
	SECTION
Sep	SEPARATION
SG	SUBGRADE
Shld	SHOULDER
Sht	SHEET
Sim	SIMILAR
₵	STATION LINE
SM	SELECTED MATERIAL
Spec	SPECIAL,
	SPECIFICATIONS
SPP	SLOTTED PLASTIC PIPE
SS	SLOPE STAKE
SSBM	STRAP AND SADDLE BRACKET METHOD
SSD	STRUCTURAL SECTION DRAIN
SSPA	STRUCTURAL STEEL PLATE ARCH
SSPP	STRUCTURAL STEEL PLATE PIPE
SSPPA	STRUCTURAL STEEL PLATE PIPE ARCH
SSRP	STEEL SPIRAL RIB PIPE
St	STREET
Sta	STATION
STBB	SINGLE THRIE BEAM BARRIER
Std	STANDARD
Str	STRUCTURE
Surf	SURFACING
SW	SIDEWALK,
	SOUND WALL
Swr	SEWER
Sym	SYMMETRICAL
S4S	SURFACE 4 SIDES

T

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

T continued

TS	TRANSVERSE,
	TRAFFIC SIGNAL,
	TUBULAR STEEL
Typ	TYPICAL

U

UC	UNDERCROSSING
UD	UNDERDRAIN
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UP	UNDERPASS

V

V	VALVE,
	DESIGN SPEED
Var	VARIABLE,
	VARIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
Vert	VERTICAL
Via	VIADUCT
Vol	VOLUME

W

W	WEST,
	WIDTH
WB	WESTBOUND
WH	WEEP HOLE
WM	WIRE MESH
WS	WATER SURFACE
WSP	WELDED STEEL PIPE
Wt	WEIGHT
WV	WATER VALVE
WW	WINGWALL
WWLOL	WINGWALL LAYOUT LINE

X

X Sec	CROSS SECTION
Xing	CROSSING

Y

Yr	YEAR
Yrs	YEARS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	45	62

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

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 05-09-16

UNIT OF MEASUREMENT SYMBOLS:

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

TABLE A

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

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

TABLE B

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

* For use on a sign panel only

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ABBREVIATIONS (SHEET 2 OF 2)

NO SCALE

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

REVISED STANDARD PLAN RSP A10B

2010 REVISED STANDARD PLAN RSP A10B

6-7-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	46	62

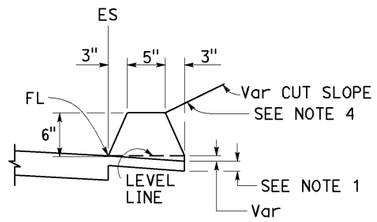
REGISTERED CIVIL ENGINEER

January 15, 2016
PLANS APPROVAL DATE

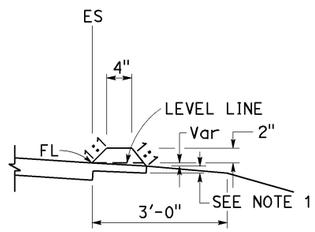
REGISTERED PROFESSIONAL ENGINEER
Michael Janzen
No. 44788
Exp. 3-31-16
CIVIL
STATE OF CALIFORNIA

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.

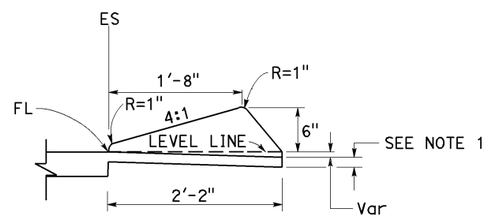
TO ACCOMPANY PLANS DATED 05-09-16



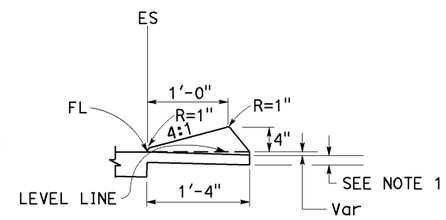
TYPE A
See Notes 3 and 5



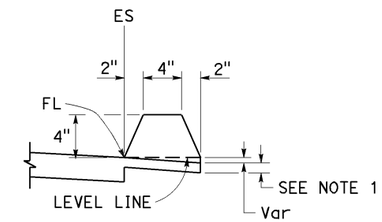
TYPE C



TYPE D

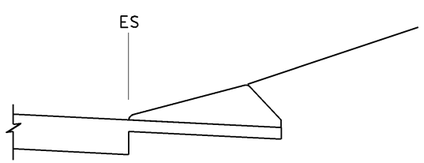


TYPE E

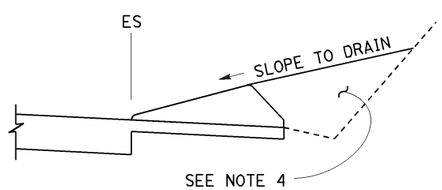


TYPE F
See Note 5

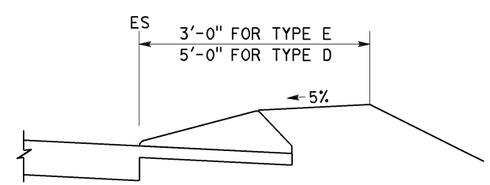
DIKES



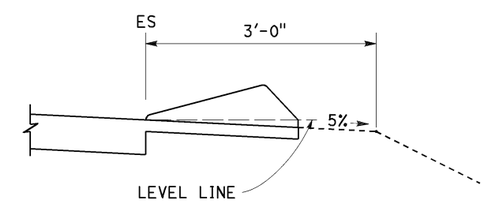
CASE C-1
Cut Slope



CASE C-2
Cut Slope



CASE F



CASE R
See Note 2

TYPE D AND E BACKFILL DETAILS

NOTES:

1. For HMA shoulders only, extend top layer of HMA placed on the shoulder under dike with no joint at the ES. For projects with OGFC shoulders, do not extend OGFC under dike. See project plans for modified dike detail.
2. Case R applies to retrofit only projects where restrictive conditions do not provide enough width for Case F backfill.
3. Type A dike only to be used where restrictive slope conditions do not provide enough width to use Type D or Type E dike.
4. Fill and compact with excavated material to top of dike.
5. Use Type A or F dike, where dike is required with guardrail installations. See Revised Standard Plan RSP A77N4 for dike positioning details. See Revised Standard Plan RSP A77N3 for hinge point offsets with guardrail.

DIKE QUANTITIES

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

Quantities based on 5% cross slope.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

HOT MIX ASPHALT DIKES

NO SCALE

RSP A87B DATED JANUARY 15, 2016 SUPERSEDES RSP A87B DATED JULY 19, 2013 AND STANDARD PLAN A87B DATED MAY 20, 2011 - PAGE 120 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A87B

2010 REVISED STANDARD PLAN RSP A87B

11-17-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	47	62

REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Gurinderpal Bhullar No. C48815 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 05-09-16

2010 REVISED STANDARD PLAN RSP T9

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		
					X	Y	Z **
	TANGENT 2L	MERGING L	SHIFTING L/2	SHOULDER L/3	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%
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 recommmended 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

4-30-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	48	62

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Gurinderpal Bhullar No. C48815 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 05-09-16

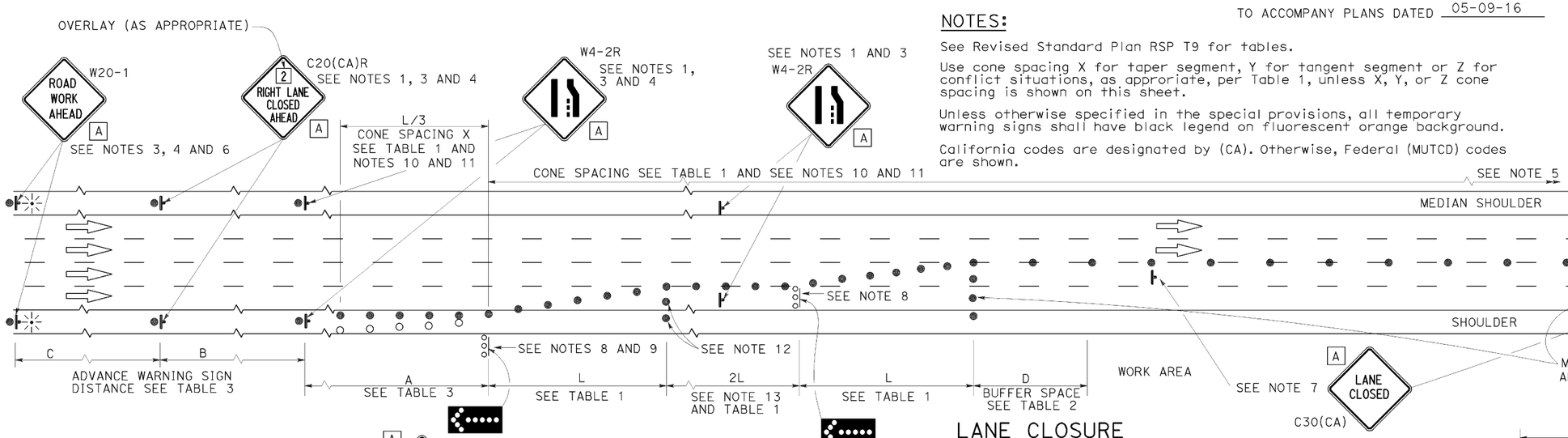
NOTES:

See Revised Standard Plan RSP T9 for tables.

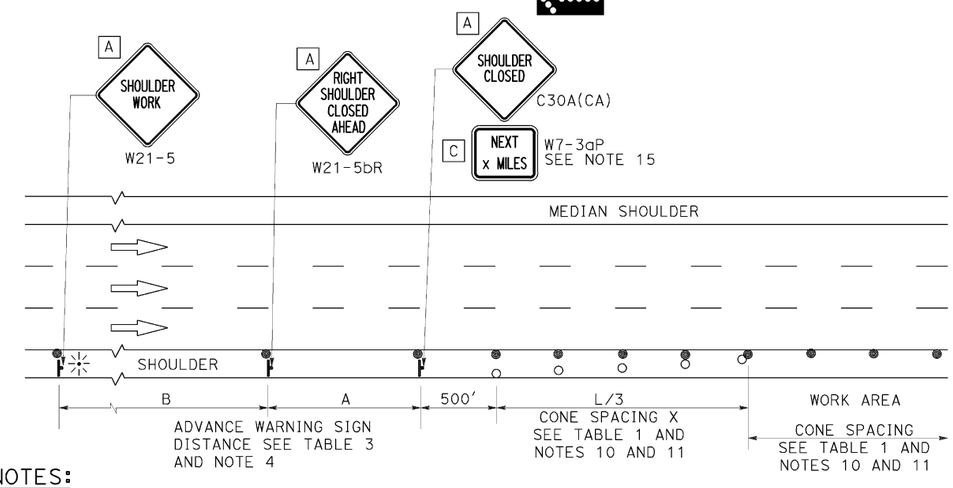
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as approriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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

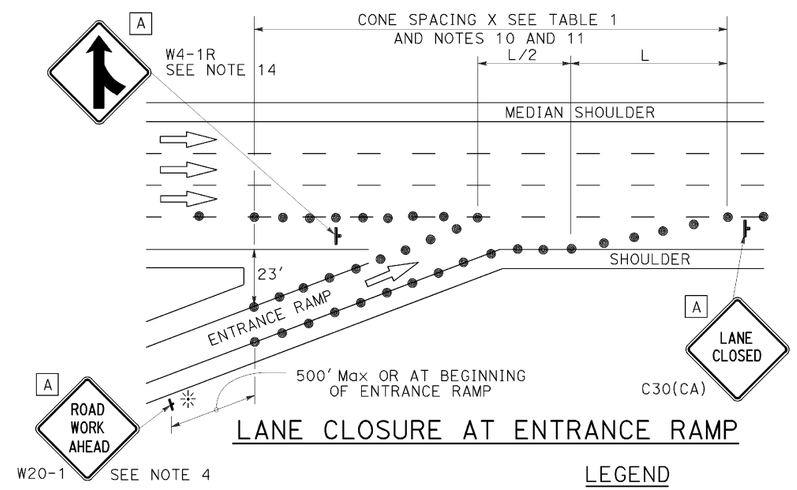
California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.



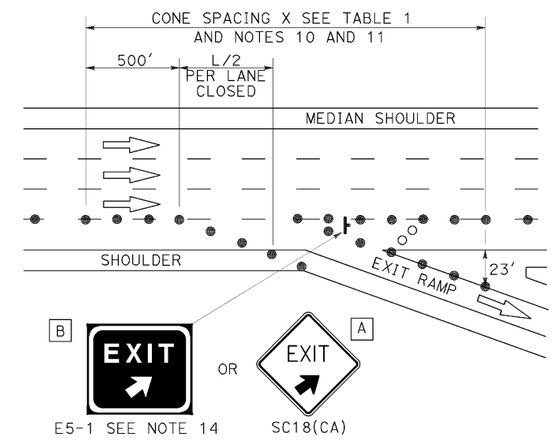
LANE CLOSURE



SHOULDER CLOSURE



LANE CLOSURE AT ENTRANCE RAMP



LANE CLOSURE AT EXIT RAMP

NOTES:

1. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
2. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
3. Duplicate sign installations are not required:
   a) On opposite shoulder if at least one-half of the available lanes remain open to traffic.
   b) In the median if the width of the median shoulder is less than 8' and the outside lanes are to be closed.
4. Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
5. A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
6. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) sign for the first advance warning sign.
7. Place a C30(CA) sign every 2000' throughout length of lane closure.
8. One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
9. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at top of crest vertical curve or on a horizontal curve.
10. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
11. Portable delineators, placed at one-half the spacing indicated for traffic cones may be used instead of cones for daytime closures only.
12. Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
13. Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
14. Unless otherwise specified in the special provisions, the E5-1 or SC18(CA) and W4-1 signs shall be used as shown.
15. A W7-3aP "NEXT ___ MILES" plaque must be used if theshoulder closure extends beyond the distance that can be perceived by road users.

LEGEND

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

SIGN PANEL SIZE (Min)

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON FREEWAYS AND EXPRESSWAYS

NO SCALE

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

REVISED STANDARD PLAN RSP T10

2010 REVISED STANDARD PLAN RSP T10

12-18-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	49	62

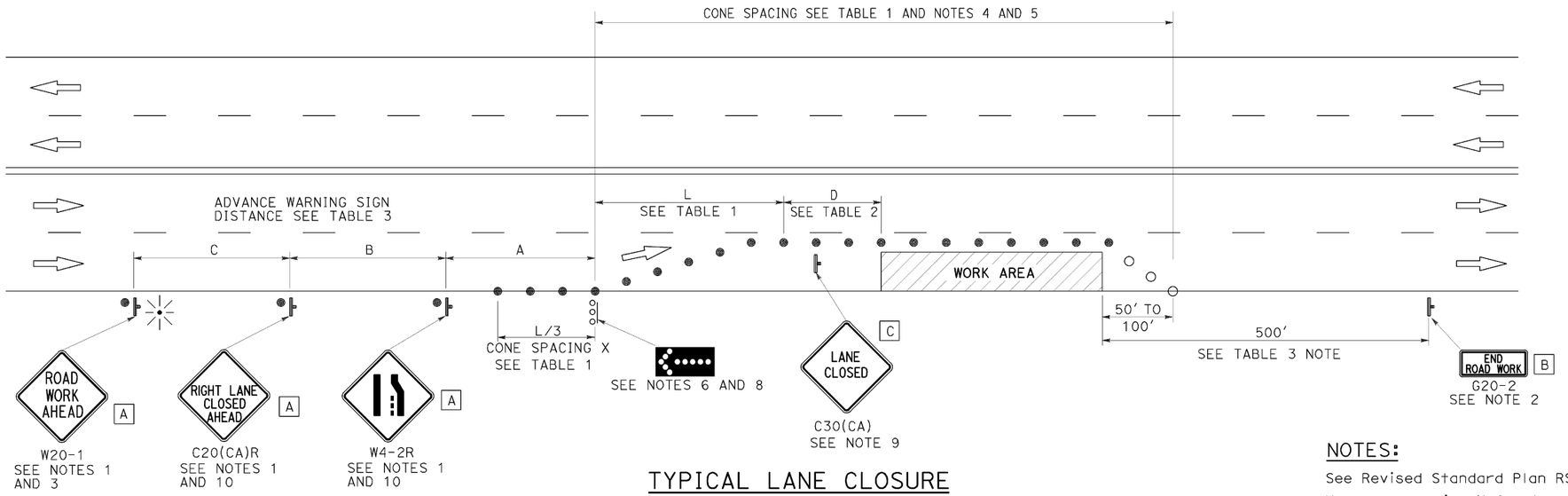
REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Gurinderpal Bhullar No. C48815 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 05-09-16



TYPICAL LANE CLOSURE

NOTES:

1. Each advance warning sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
2. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
3. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a C20(CA) sign for the first advance warning sign.
4. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
6. Flashing arrow sign shall be either Type I or Type II.
7. For approach speeds over 50 mph, use the "Traffic Control System for Lane Closure On Freeways And Expressways" plan for lane closure details and requirements.
8. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
9. Place a C30(CA) sign every 2000' throughout length of lane closure.
10. Median lane closures shall conform to the details as shown except that C20(CA)L and W4-2L signs shall be used.
11. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.

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 approriate, 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.

LEGEND

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

SIGN PANEL SIZE (Min)

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS

NO SCALE

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

REVISED STANDARD PLAN RSP T11

2010 REVISED STANDARD PLAN RSP T11

4-2-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var		62

REGISTERED CIVIL ENGINEER

April 19, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Gurinderpal Bhullar No. C48815 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 05-09-16

LEGEND

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

SIGN PANEL SIZE (Min)

- A 48" x 48"
- B 24" x 24"
- C 36" x 18"

NOTES:

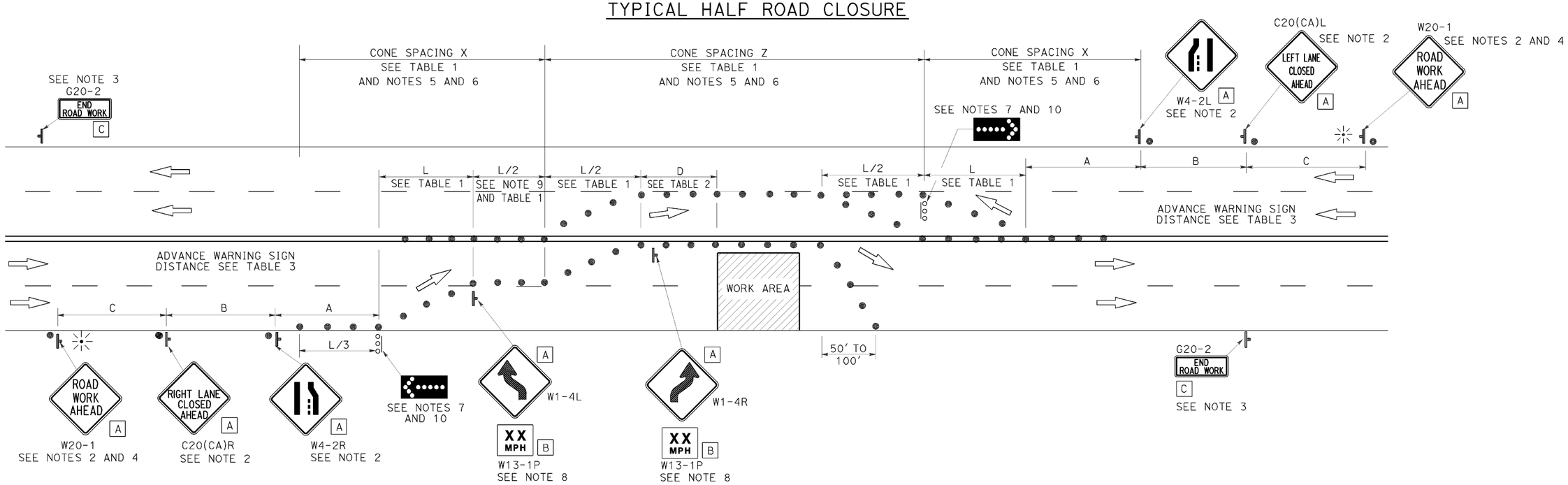
See Revised Standard Plan RSP T9 for tables.

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

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

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

TYPICAL HALF ROAD CLOSURE



NOTES:

1. At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closure unless, otherwise directed by the Engineer.
2. Each advance warning sign in each direction of travel shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
3. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious, or ends within a larger project's limits.
4. 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.
5. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
6. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
7. Flashing arrow signs shall be either Type I or Type II.
8. Advisory speed will be determined by the Engineer. The W13-1P Plaque will not be required when advisory speed is more than the posted or maximum speed limit.
9. Unless otherwise specified in the special provisions, the tangent (L/2) shall be used.
10. A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR HALF ROAD CLOSURE ON MULTILANE CONVENTIONAL HIGHWAYS AND EXPRESSWAYS

NO SCALE

RSP T12 DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T12
DATED MAY 20, 2011 - PAGE 240 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T12

2010 REVISED STANDARD PLAN RSP T12

4-2-13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	51	62

Devinder Singh
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Devinder Singh
No. C50470
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.

TO ACCOMPANY PLANS DATED 05-09-16

2010 REVISED STANDARD PLAN RSP T13

NOTES:

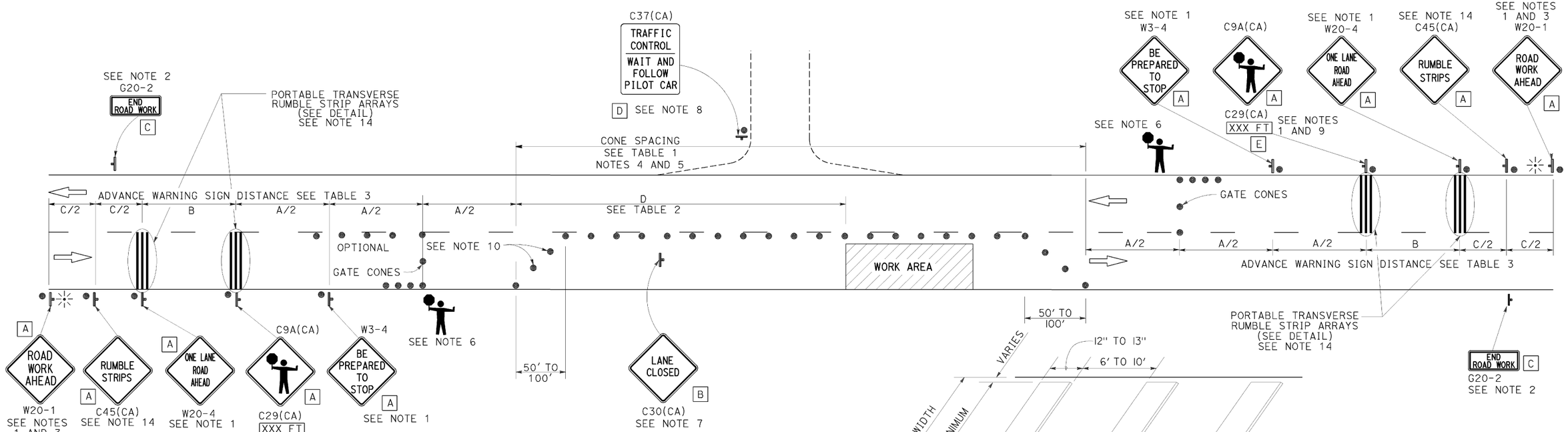
See Revised Standard Plan RSP T9 for tables.

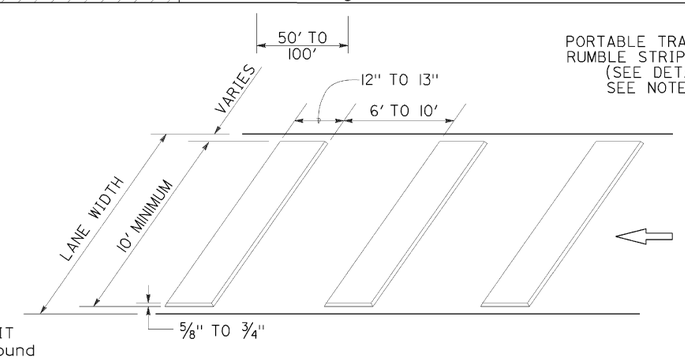
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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

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

TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL





PORTABLE TRANSVERSE RUMBLE STRIP ARRAY DETAIL

NOTES:

1. Each advance warning sign in each direction of travel shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
2. A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
3. If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a W20-4 sign for the first advance warning sign.
4. All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
5. Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
6. Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging-station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.
7. Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
8. When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
9. An optional C29(CA) sign may be placed below the C9A(CA) sign.
10. Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.
11. The color of the portable transverse rumble strips shall be black or orange. Use 2 arrays, each array shall consist of 3 rumble strips.
12. Portable transverse rumble strips shall not be placed on sharp horizontal or vertical curves nor shall they be placed through pedestrian crossings.
13. If the portable transverse rumble strips become out of alignment (skewed) by more than 6 inches, measured from one end to the other, they shall be readjusted to bring the placement back to the original location.
14. Portable transverse rumble strips are not required if any one of the following conditions is satisfied:
    A. Work duration occupies a location for four hours or less
    B. Posted speed limit is below 45 MPH
    C. Work is of emergency nature
    D. Work zone is in snow or icy weather conditions

SIGN PANEL SIZE (Min)

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

LEGEND

- TRAFFIC CONE
- TEMPORARY TRAFFIC CONTROL SIGN
- PORTABLE FLASHING BEACON
- FLAGGER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE ON TWO LANE CONVENTIONAL HIGHWAYS

NO SCALE

RSP T13 DATED OCTOBER 30, 2015 SUPERSEDES RSP T13 DATED OCTOBER 17, 2014, RSP T13 DATED JULY 18, 2014 AND RSP T13 DATED APRIL 19, 2013 AND STANDARD PLAN T13 DATED MAY 20, 2011 - PAGE 241 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T13

10-13-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	52	62

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER 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 05-09-16

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

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

MISCELLANEOUS ELECTROLIERS

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

NOTES:

1. 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.
2. Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

STANDARD ELECTROLIER

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1A

2010 REVISED STANDARD PLAN RSP ES-1A

9-29-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	53	62

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER 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 05-09-16

CONDUIT

NEW	EXISTING	
		LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
		TRAFFIC SIGNAL CONDUIT
C	c	COMMUNICATION CONDUIT
T	t	TELEPHONE CONDUIT
F	f	FIRE ALARM CONDUIT
FO	fo	FIBER OPTIC CONDUIT
		CONDUIT TERMINATION
R	r	CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

SERVICE EQUIPMENT

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

POLE-MOUNTED SERVICE DESIGNATION

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

FLASHING BEACON

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

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
PV	PV	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

SIGNAL EQUIPMENT Cont

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

NOTES:

1. All signal sections shall be 12" unless shown otherwise.
2. 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

8-19-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	54	62

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER 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 05-09-16

EQUIPMENT IDENTIFICATION

ILLUMINATED SIGN IDENTIFICATION:

SIGN No. 12345 — SIGN EQUIPMENT IDENTIFICATION CHARACTERS - PLACE ON POST OR STRUCTURE

10 ISL SCI 1.0
- 10 — TRANSFORMER RATING (kVA)
- ISL — LIGHTING CONTROL TYPE
- SCI — NUMBER AND TYPE OF FIXTURES

DO NOT PLACE ON STANDARD OR STRUCTURE

ELECTROLIER OR EQUIPMENT IDENTIFICATION:

L2745 - 15'-0"
- 15'-0" — MAST ARM LENGTH, IF SHOWN. DO NOT PLACE ON STANDARD OR STRUCTURE
- L2745 — EQUIPMENT IDENTIFICATION CHARACTERS - PLACE ON STANDARD OR STRUCTURE. EXISTING EQUIPMENT IDENTIFICATION CHARACTERS ARE SHOWN IN PARENTHESIS

CONDUIT AND CONDUCTOR IDENTIFICATION:

1½"C, 2#10, 15#14, 2 DLC, 12P#18 (PAIR)
- 2#10, 15#14, 2 DLC, 12P#18 — NUMBER AND SIZE OF CONDUCTORS AND CABLES
- 1½"C — SIZE OF CONDUIT IN INCHES

ø1, ø2, ø2P, etc.	TRAFFIC PHASE IDENTIFICATION FOR SIGNALS, DETECTORS AND PHASE DIAGRAMS
1 2 3	LEGEND NUMBERS
A B C	EQUIPMENT, SIGNAL POLES, INSTALLATION OR ITEMS
1 2 3	CONDUIT RUN NUMBERS

SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):

19A - 3 - 100
- 100 — WIND VELOCITY = 100 mph
- 3 — CASE 3 ARM LOADING
- 19A — STANDARD TYPE
- STANDARD PLAN SHEET NUMBER
- DETAIL, NUMBER, SECTION, TYPE OR ELEVATION

MISCELLANEOUS EQUIPMENT

NEW	EXISTING	
CMS	cms	CHANGEABLE MESSAGE SIGN
		CLOSED CIRCUIT TELEVISION CAMERA
		HIGHWAY ADVISORY RADIO POLE AND ANTENNA
EMS	ems	LED EXTINGUISHABLE MESSAGE SIGN
M V	m v	DETECTION DEVICE M = MICROWAVE SENSOR V = VIDEO IMAGE SENSOR

WIRING DIAGRAM LEGEND

----	EXTERNAL CONDUCTOR
——	CONDUCTOR OR BUS
	TIE POINT
	CONTACTOR COIL
	CONTACTOR, NO CONTACT
	TERMINAL BLOCKS
	CONTACTOR, NC CONTACT
	ENCLOSURE BOND
	GROUNDING ELECTRODE
	CIRCUIT BREAKER
	RECEPTACLE

PULL BOXES

NEW	EXISTING	
		PULL BOX, No. 5 UNLESS OTHERWISE INDICATED OR NOTED
3	9A(21)	PULL BOX, ADDITIONAL DESIGNATIONS OR DESCRIPTIONS

3 No. 3½ PULL BOX
5 No. 5 PULL BOX
6 No. 6 PULL BOX
7 No. 7 PULL BOX (CEILING)
8 No. 8 PULL BOX
9 No. 9 PULL BOX (STRUCTURE)
9A No. 9A PULL BOX (STRUCTURE)

(C) COMMUNICATIONS PULL BOX
(E) PULL BOX WITH EXTENSION
(S) SPRINKLER CONTROL PULL BOX
(21) ANCHOR BOLTS AND CONDUIT FOR FUTURE INSTALLATION OF TYPE 21 STANDARD
(T) TRAFFIC PULL BOX

VEHICLE DETECTORS

5 J 9 U
- U = UPPER
- L = LOWER
- SLOT NUMBER IN INPUT FILE
- INPUT FILE (I OR J)
- PHASE

NEW	EXISTING	
		TYPE A LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE B LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE C LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE D LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE E LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
		TYPE Q LOOP DETECTOR. OUTLINE OF SAW CUT SHOWN
DH	dh	DETECTOR HANDHOLE
		MICROWAVE OR VIDEO DETECTION ZONE

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED APRIL 15, 2016 SUPERSEDES RSP ES-1C DATED OCTOBER 30, 2015 AND 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

1-22-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	55	62

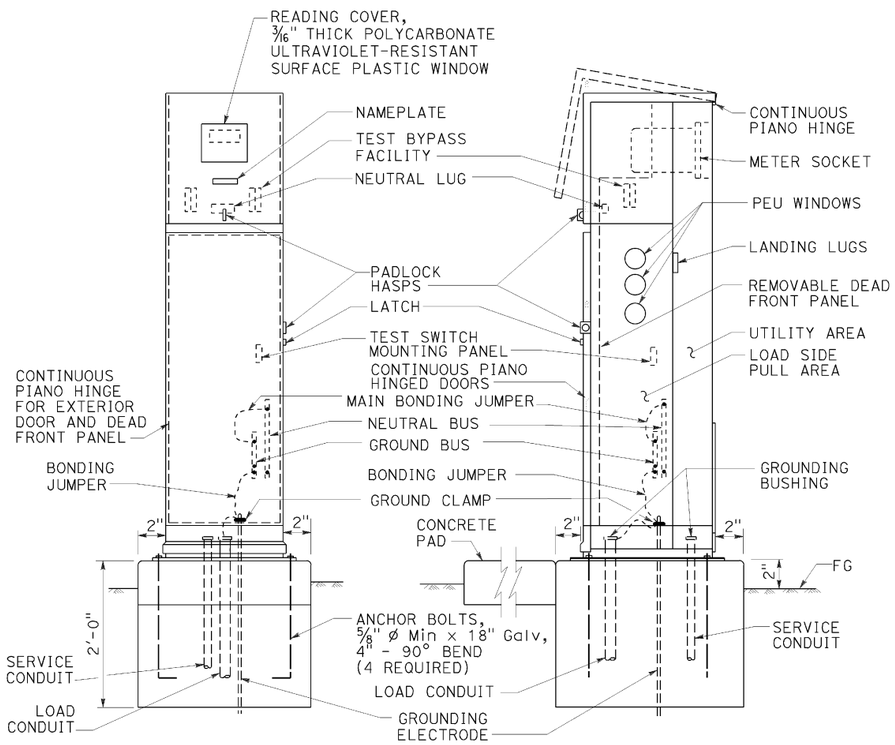
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

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

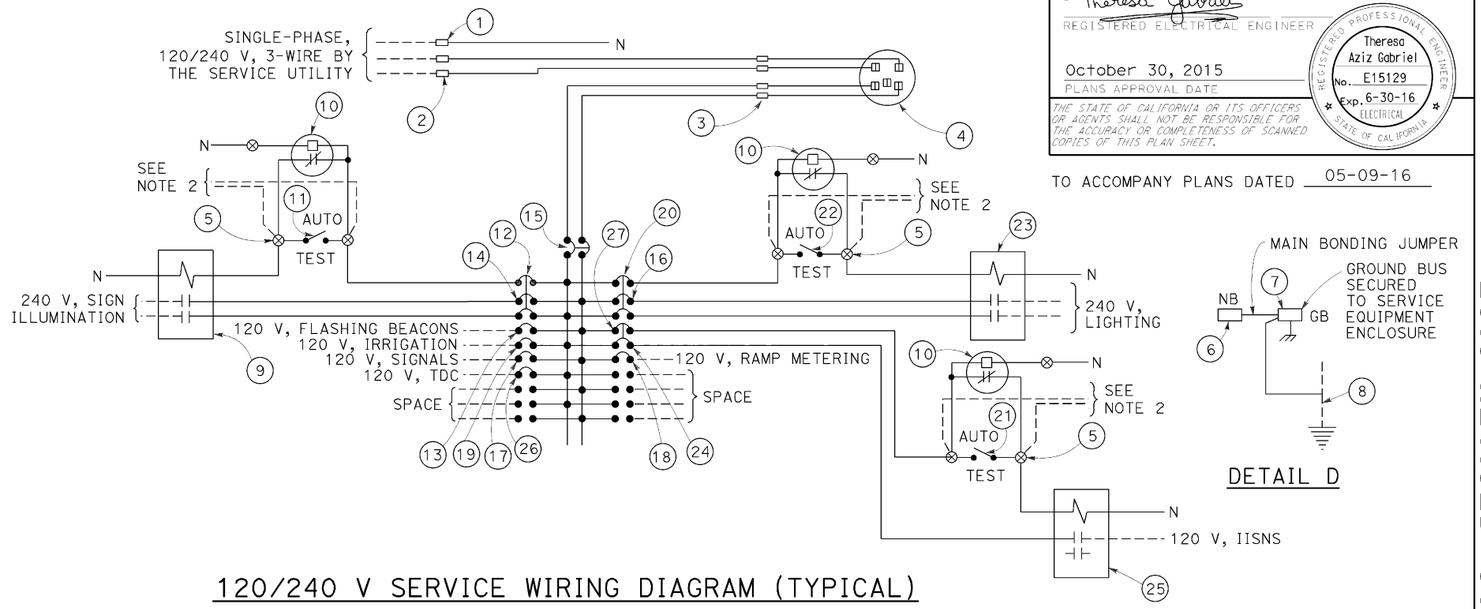
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 05-09-16



TYPE III-BF SERVICE EQUIPMENT ENCLOSURE (TYPICAL)

DETAIL A



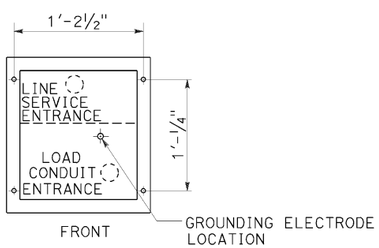
120/240 V SERVICE WIRING DIAGRAM (TYPICAL)

DETAIL C

DETAIL D

TYPE III-B SERVICE EQUIPMENT ENCLOSURE LEGEND (120/240 V)

ITEM	COMPONENT	NAMEPLATE DESCRIPTION	ITEM	COMPONENT	NAMEPLATE DESCRIPTION
1	NEUTRAL LUG		14	30 A, 240 V, 2P, CB	SIGN ILLUMINATION
2	LANDING LUG		15	100 A, 240 V, 2P, CB	MAIN BREAKER
3	TEST BYPASS FACILITY		16	30 A, 240 V, 2P, CB	LIGHTING
4	METER SOCKET AND SUPPORT		17	50 A, 120 V, 1P, CB	SIGNALS
5	TERMINAL BLOCKS		18	30 A, 120 V, 1P, CB	RAMP METERING
6	NEUTRAL BUS		19	20 A, 120 V, 1P, CB	IRRIGATION
7	GROUND BUS		20	15 A, 120 V, 1P, CB	LIGHTING CONTROL
8	GROUNDING ELECTRODE		21	15 A, 1P, TEST SWITCH	IISNS TEST SWITCH
9	30 A, 2P, NO CONTACTOR	SIGN ILLUMINATION	22	15 A, 1P, TEST SWITCH	LIGHTING TEST SWITCH
10	PHOTOELECTRIC UNIT (NOTE 4)	PEU	23	60 A, 2P, NO CONTACTOR	LIGHTING
11	15 A, 1P, TEST SWITCH	SIGN ILLUMINATION TEST SWITCH	24	15 A, 120 V, 1P, CB	IISNS
12	15 A, 120 V, 1P, CB	SIGN ILLUMINATION CONTROL	25	30 A, 2P, NO CONTACTOR	IISNS
13	15 A, 120 V, 1P, CB	FLASHING BEACON	26	20 A, 120 V, IP, CB	TELEPHONE DEMARCATION CABINET
			27	15 A, 120 V, 1P, CB	IISNS CONTROL



BASE FOR TYPE III-B SERVICE EQUIPMENT ENCLOSURE

DETAIL B

NOTES:

1. Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
2. Connect to remote test switch mounted on lighting standards, sign post or structure when required.
3. Items 1 and 6 shall be isolated from the service equipment enclosure.
4. Type V photoelectric control shall be used unless otherwise indicated on the plans.
5. Item 12, 20 and 27 shall be ganged operated CB.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SERVICE EQUIPMENT ENCLOSURE AND TYPICAL WIRING DIAGRAM, TYPE III-B SERIES)

NO SCALE

RSP ES-2E DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-2E DATED MAY 20, 2011 - PAGE 432 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-2E

2010 REVISED STANDARD PLAN RSP ES-2E

8-20-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	56	62

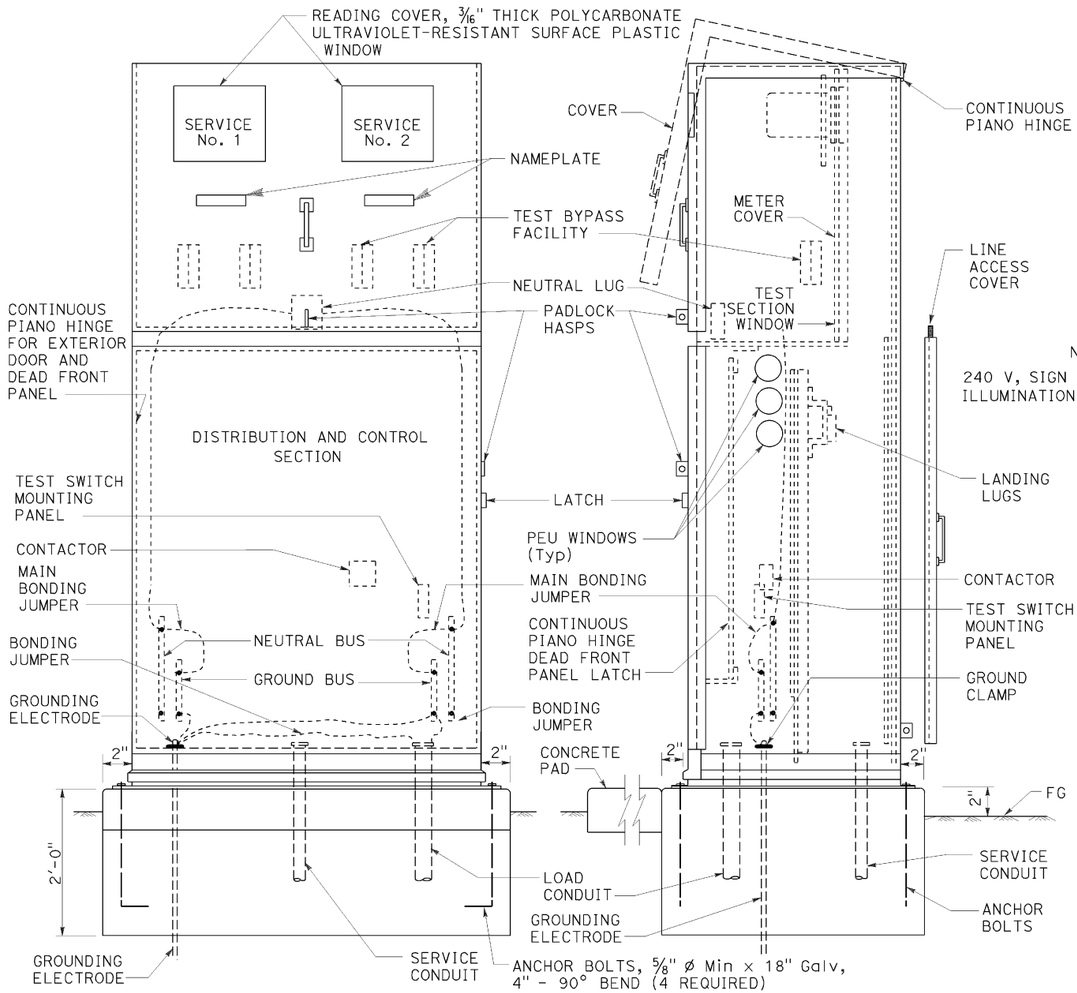
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

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

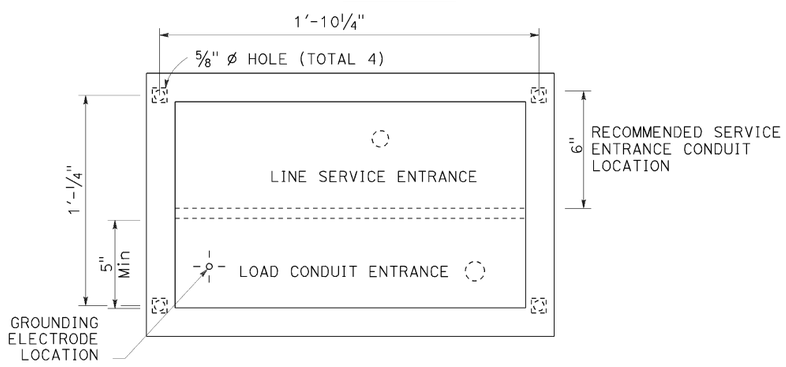
TO ACCOMPANY PLANS DATED 05-09-16



FRONT VIEW SIDE VIEW

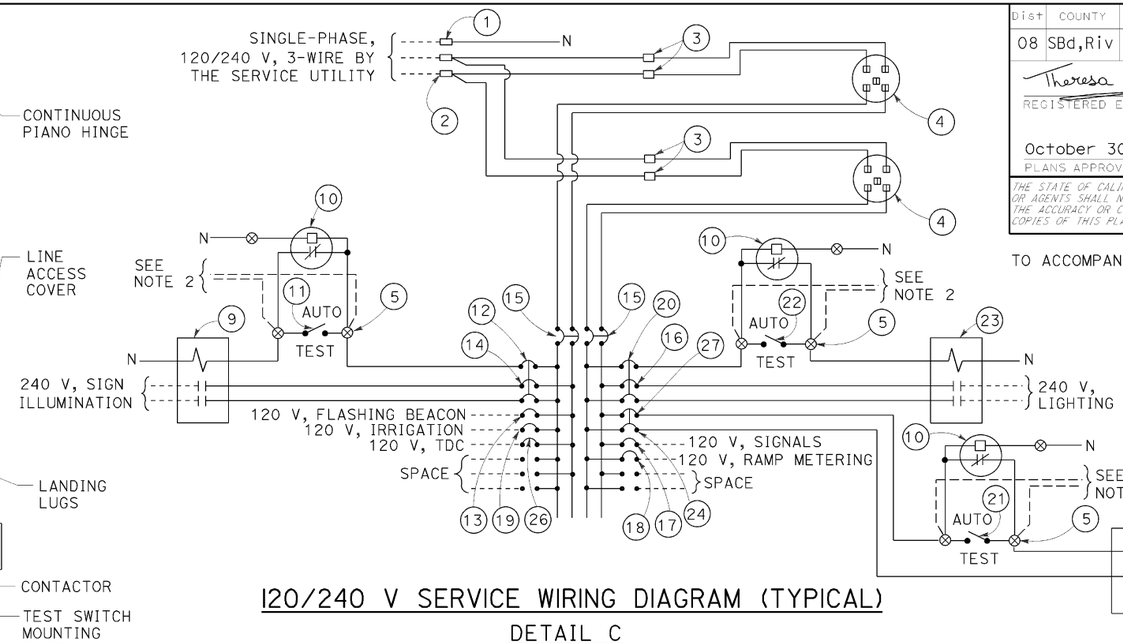
TYPE III-CF SERVICE EQUIPMENT ENCLOSURE (TYPICAL)

DETAIL A



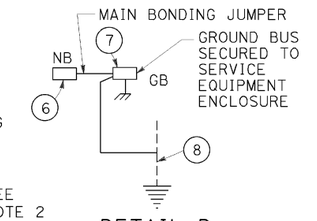
BASE FOR TYPE III-C SERVICE EQUIPMENT ENCLOSURE

DETAIL B



120/240 V SERVICE WIRING DIAGRAM (TYPICAL)

DETAIL C



DETAIL D

TYPE III-C SERVICE EQUIPMENT ENCLOSURE LEGEND (120/240 V)

ITEM	COMPONENT	NAMEPLATE DESCRIPTION	ITEM	COMPONENT	NAMEPLATE DESCRIPTION
1	NEUTRAL LUG		14	30 A, 240 V, 2P, CB	SIGN ILLUMINATION
2	LANDING LUG		15	100 A, 240 V, 2P, CB	MAIN BREAKER
3	TEST BYPASS FACILITY		16	30 A, 240 V, 2P, CB	LIGHTING
4	METER SOCKET AND SUPPORT		17	50 A, 120 V, 1P, CB	SIGNALS
5	TERMINAL BLOCKS		18	30 A, 120 V, 1P, CB	RAMP METERING
6	NEUTRAL BUS		19	20 A, 120 V, 1P, CB	IRRIGATION
7	GROUND BUS		20	15 A, 120 V, 1P, CB	LIGHTING CONTROL
8	GROUNDING ELECTRODE		21	15 A, 1P, TEST SWITCH	IISNS TEST SWITCH
9	30 A, 2P, NO CONTACTOR	SIGN ILLUMINATION	22	15 A, 1P, TEST SWITCH	LIGHTING TEST SWITCH
10	PHOTOELECTRIC UNIT (NOTE 4)	PEU	23	60 A, 2P, NO CONTACTOR	LIGHTING
11	15 A, 1P, TEST SWITCH	SIGN ILLUMINATION TEST SWITCH	24	15 A, 120 V, 1P, CB	IISNS
12	15 A, 120 V, 1P, CB	SIGN ILLUMINATION CONTROL	25	30 A, 2P, NO CONTACTOR	IISNS
13	15 A, 120 V, 1P, CB	FLASHING BEACON	26	20 A, 120 V, 1P, CB	TELEPHONE DEMARCATION CABINET
			27	15 A, 120 V, 1P, CB	IISNS CONTROL

NOTES:

1. Unless otherwise indicated on the plans, service equipment items shall be provided for each service equipment enclosure as shown.
2. Connect to remote test switch mounted on lighting standards, sign post or structure when required.
3. Items 1 and 6 shall be isolated from the service equipment enclosure.
4. Type V photoelectric control shall be used unless otherwise indicated on the plans.
5. Item 12, 20 and 27 shall be ganged operated CB.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SERVICE EQUIPMENT ENCLOSURE AND TYPICAL WIRING DIAGRAM TYPE III-C SERIES)

NO SCALE

RSP ES-2F DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-2F DATED MAY 20, 2011 - PAGE 433 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-2F

2010 REVISED STANDARD PLAN RSP ES-2F

8-19-15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd,Riv	Var	Var	57	62

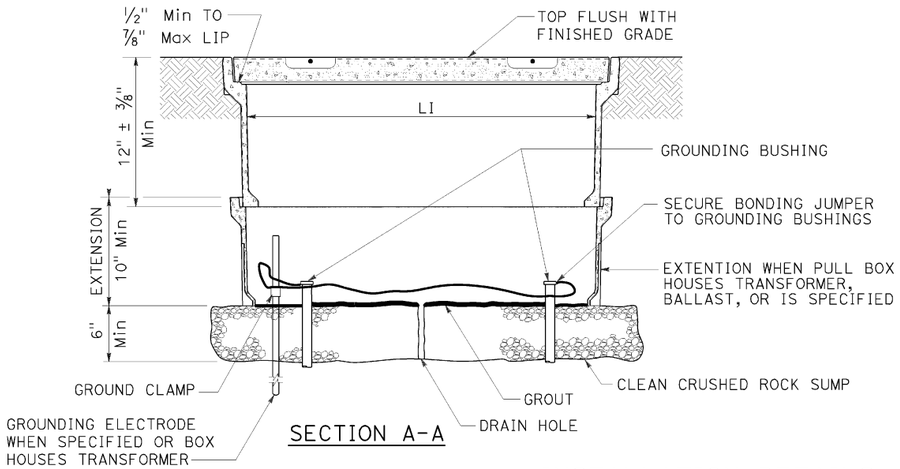
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

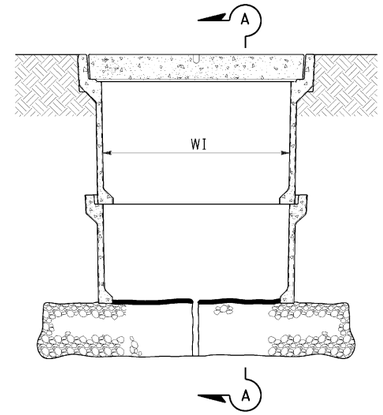
REGISTERED PROFESSIONAL ENGINEER Theresa Aziz Gabriel No. E15129 Exp. 6-30-16 ELECTRICAL STATE OF CALIFORNIA

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 05-09-16



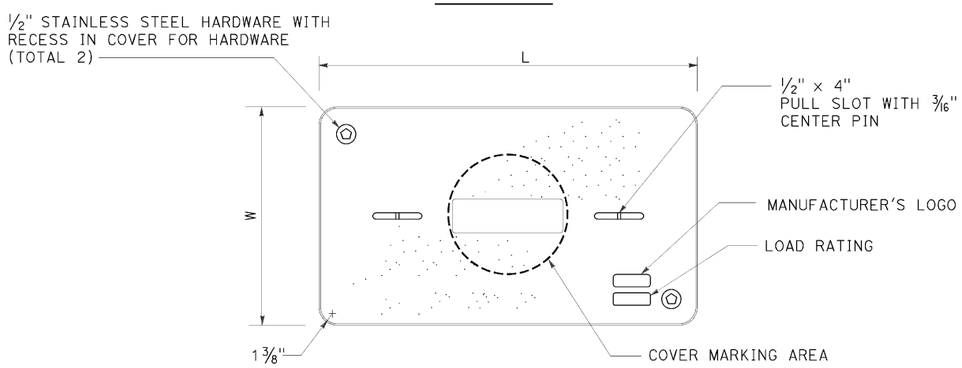
SECTION A-A



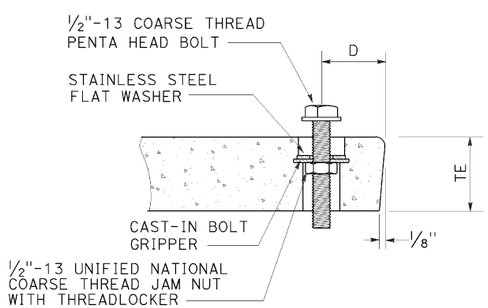
SIDE VIEW

INSTALLATION DETAILS

DETAIL A

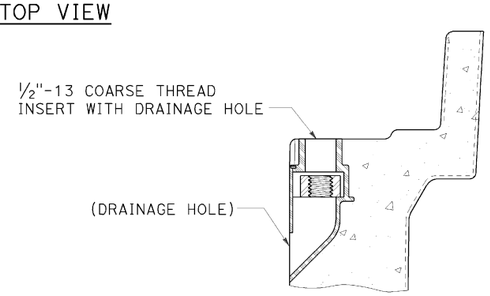


COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT

OR SIMILAR



TYPICAL THREADED INSERT

OR SIMILAR

NOTES:

1. 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.
2. 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.
3. 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 APRIL 15, 2016 SUPERSEDES RSP ES-8A DATED OCTOBER 30, 2015 AND 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

1-22-16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
08	SBd,Riv	Var	Var	58	62

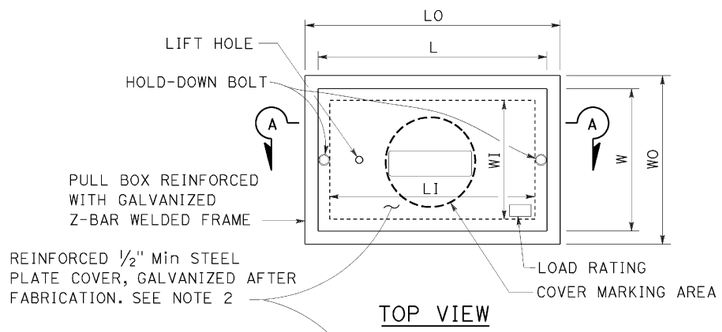
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

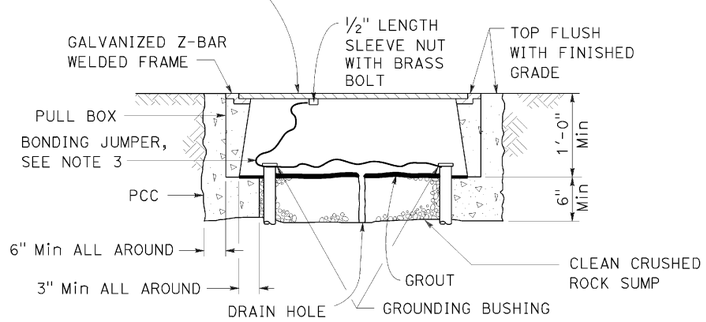
REGISTERED PROFESSIONAL ENGINEER Theresa Aziz Gabriel No. E15129 Exp. 6-30-16 ELECTRICAL STATE OF CALIFORNIA

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 05-09-16



TOP VIEW



SECTION A-A

No. 3½(T), No. 5(T) AND No. 6(T) TRAFFIC PULL BOX

NOTES:

1. Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
2. Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
3. Bonding jumper for metal covers shall be 3' long, minimum.
4. 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 ⅛" greater.
5. 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 ⅛".

DIMENSION TABLE

PULL BOX	PULL BOX						COVER	
	MINIMUM * THICKNESS	MINIMUM DEPTH BOX AND EXTENSION	LO	LI	WO	WI	L **	W **
No. 3½(T)	1½"	1'-0"	1'-10" - 1'-11"	1'-5" - 1'-6½"	1'-3" - 1'-4"	10" - 1'-0"	1'-8" -1'-8½"	1'-1" - 1'-2"
No. 5(T)	1¾"	1'-0"	2'-5" - 2'-6"	2'-0" - 2'-1"	1'-6" - 1'-7"	1'-1" - 1'-2"	2'-3" - 2'-3½"	1'-4" - 1'-4½"
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'-9½"	1'-8" - 1'-8½"

* EXCLUDING CONDUIT WEB ** TOP DIMENSION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (TRAFFIC PULL BOX)

NO SCALE

RSP ES-8B DATED APRIL 15, 2016 SUPERSEDES RSP ES-8B DATED OCTOBER 30, 2015 AND 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

1-22-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	59	62

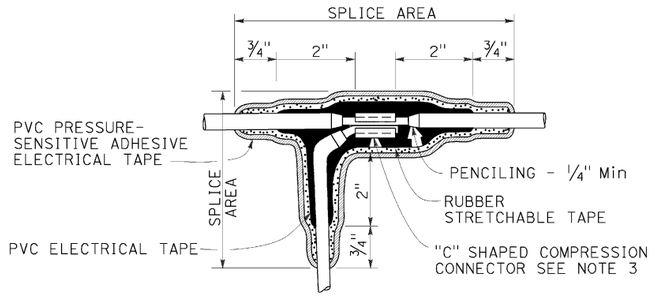
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

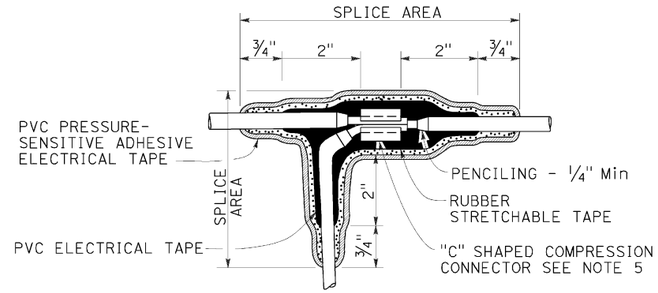
April 15, 2016
PLANS APPROVAL DATE

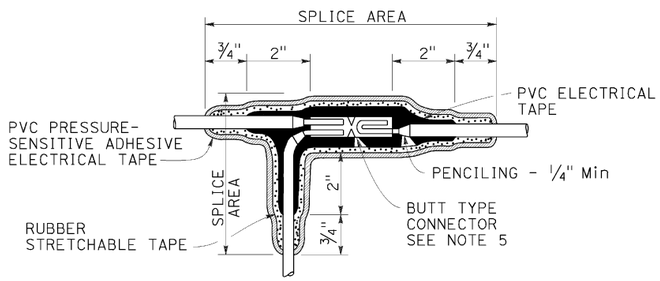
REGISTERED PROFESSIONAL ENGINEER Theresa Aziz Gabriel No. E15129 Exp. 6-30-16 ELECTRICAL STATE OF CALIFORNIA

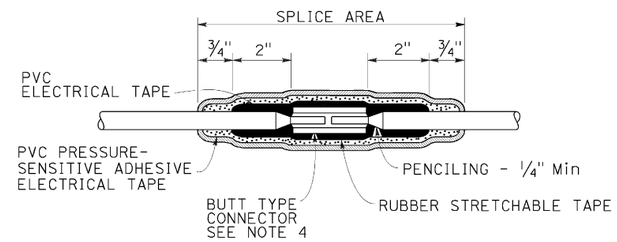
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 05-09-16

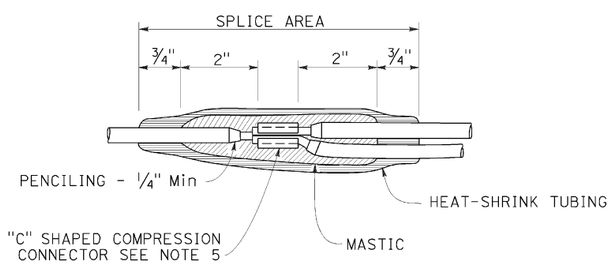


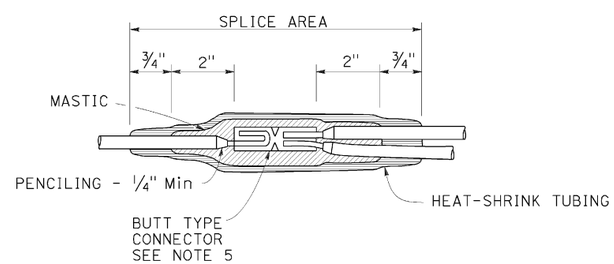


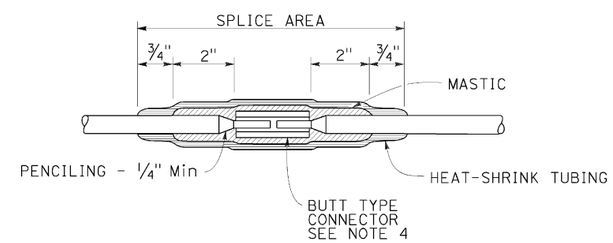




TYPICAL SPLICE INSULATION METHOD B







TYPICAL SPLICE INSULATION HEAT-SHRINK TUBING

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.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (SPLICE INSULATION METHODS DETAILS)

NO SCALE

RSP ES-13A DATED APRIL 15, 2016 SUPERSEDES RSP ES-13A DATED OCTOBER 30, 2015 AND 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

1-22-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	60	62

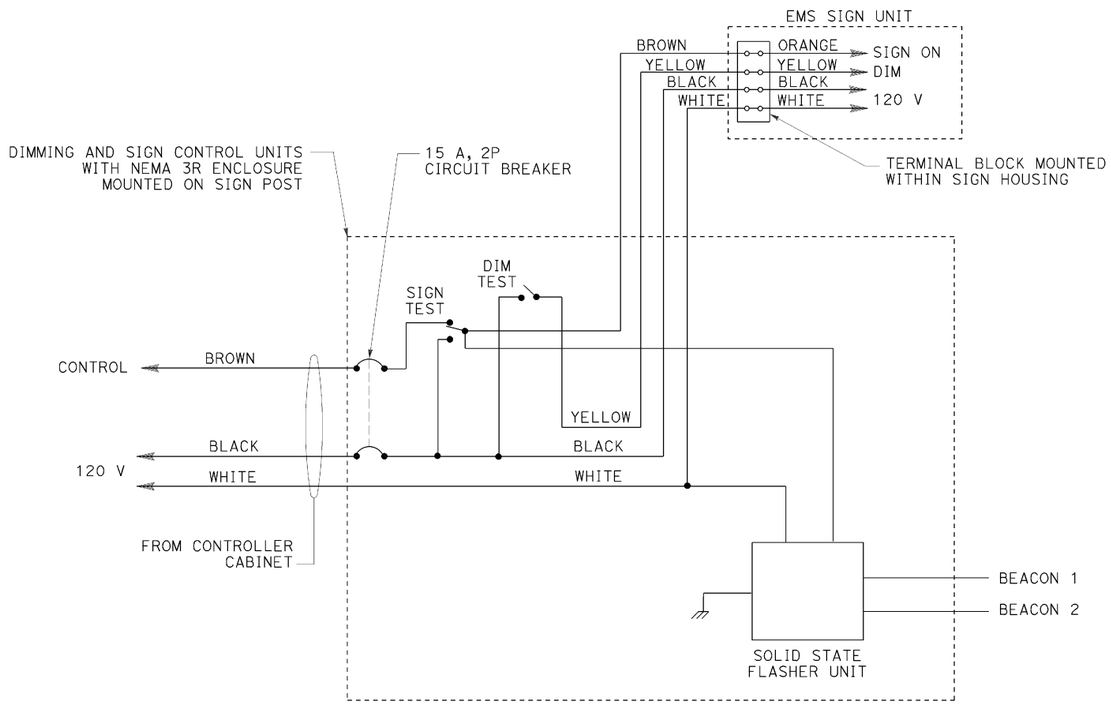
Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

April 15, 2016
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
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.

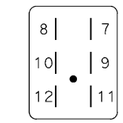
TO ACCOMPANY PLANS DATED 05-09-16



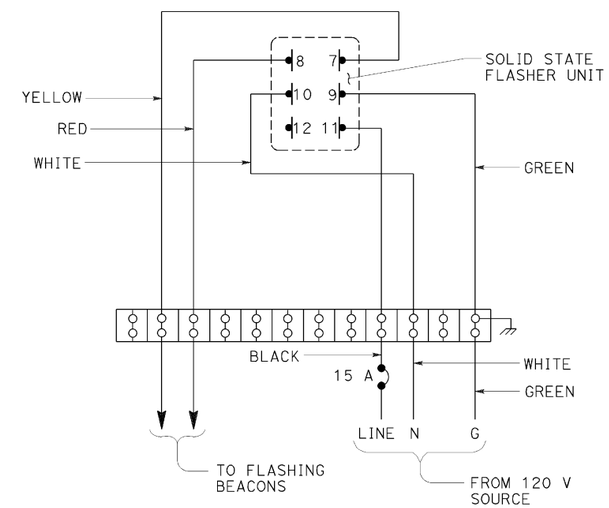
WIRING DIAGRAM
LED EXTINGUISHABLE MESSAGE SIGN
DETAIL A

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

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



CONNECTOR SOCKET
SOLID STATE FLASHER UNIT



WIRING DIAGRAM
FLASHING BEACON CONTROL ASSEMBLY
DETAIL B

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (CONTROL ASSEMBLY WIRING DIAGRAMS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-14B

2010 REVISED STANDARD PLAN RSP ES-14B

1-22-16

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
08	SBd,Riv	Var	Var	61	62

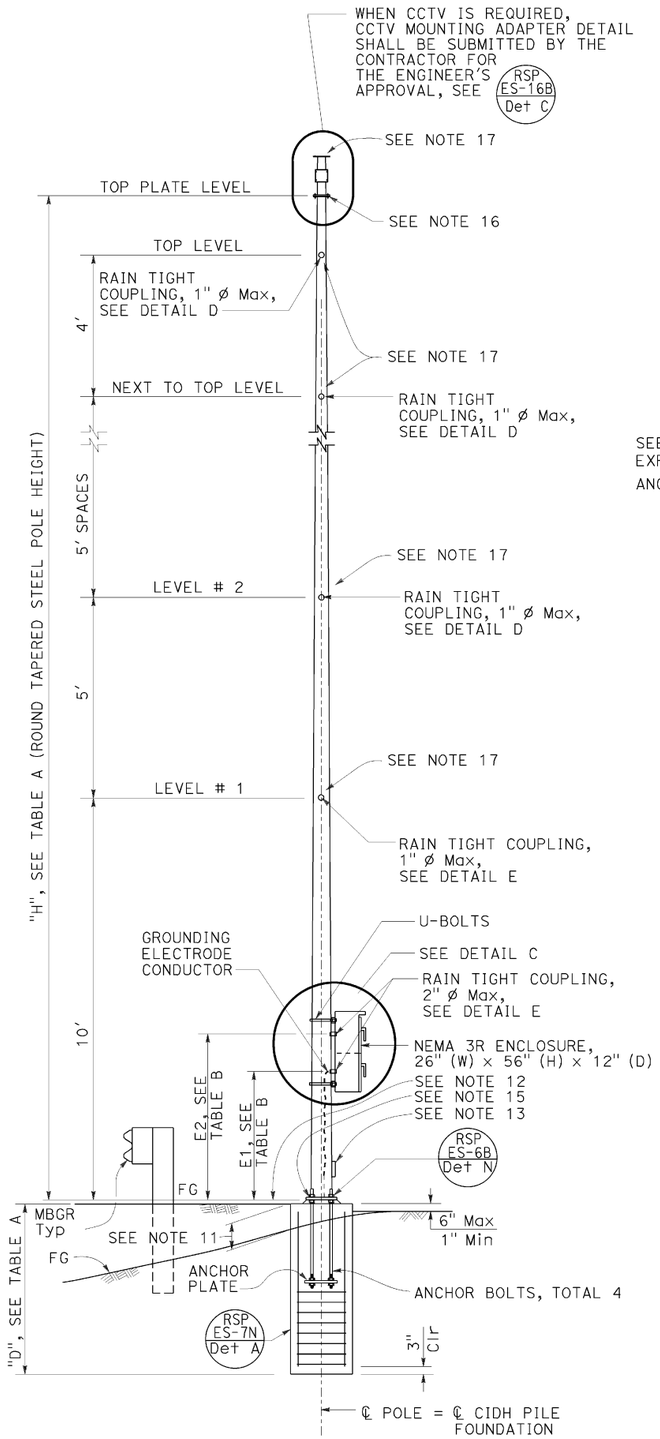
REGISTERED CIVIL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Stanley P. Johnson
No. C57793
Exp. 3-31-16
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 05-09-16



ELEVATION A

TABLE A

POLE TYPE	POLE DATA: HEIGHT "H"	Min OD BASE	Min OD TOP	THICKNESS	BASE PLATE DATA: "C"	THICKNESS	ANCHOR BOLTS SIZE	BC = BOLT CIRCLE	"D" 2'-6" ø CIDH Pile: LEVEL GROUND	UP TO 2:1
VDS 30	30'	8"	3⅞"	0.1793"	1'-1½"	1½"	1½" ø x 3'-0"	1'-1½"	11'-0"	13'-0"
VDS 35	35'	8⅝"			1'-2"			1'-2"	11'-0"	
VDS 40	40'	9⅜"			1'-3"			1'-3"	12'-0"	14'-0"

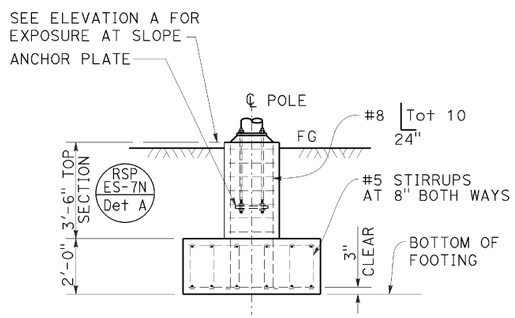
TABLE B

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

TABLE C

SPREAD FOOTING

GROUND	FOOTING SIZE (LENGTH x WIDTH x DEPTH)	REINFORCEMENT TOP & BOTTOM
LEVEL	8'-6" x 8'-6" x 2'-0"	12 - #5 EW
UP TO 2:1	10'-0" x 10'-0" x 2'-0"	15 - #5 EW

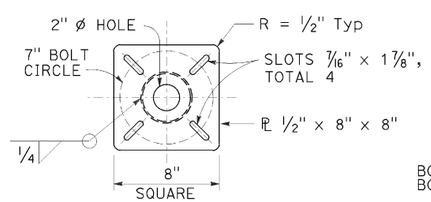


ALTERNATIVE FOOTING
ELEVATION B

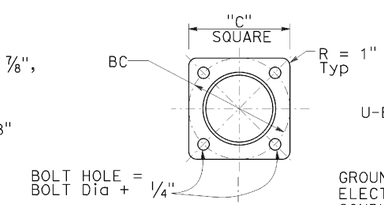
TABLE D - LIMITATION ON ATTACHMENTS *

LOCATION	MAXIMUM TOTAL EPA PER LEVEL (SQUARE FEET)	MAXIMUM TOTAL WEIGHT (lb)
LEVEL #1	14	200
LEVEL #2		
LEVEL #3	10 ***	
LEVEL #4 (VDS 35 AND VDS 40 ONLY)	2.5	50
LEVEL #5 (VDS 40 ONLY)		
NEXT TO TOP LEVEL		
TOP LEVEL		
ON TOP PLATE LEVEL **		

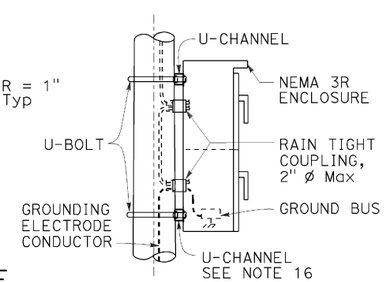
* MAXIMUM HORIZONTAL EXTENT BEYOND POLE FACE IS 4 FEET.
** MAXIMUM EXTENT ABOVE TOP PLATE IS 3 FEET.
*** 14 IF LEVEL #1 IS ZERO.



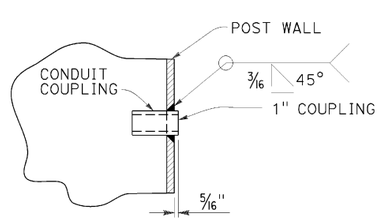
TOP PLATE
DETAIL A



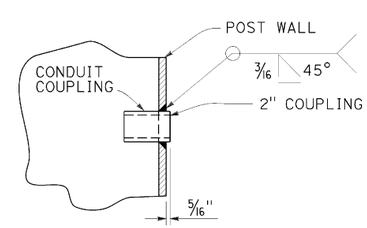
BASE PLATE
DETAIL B



DETAIL C



1" COUPLING
DETAIL D



2" COUPLING
DETAIL E

NOTES:

1. All steel shall be galvanized after fabrication.
2. The foundation shall be treated as level ground condition if the slope inclination is flatter than 4 : 1 (Horizontal : Vertical)
3. For devices mounted and mounting heights, see TABLE B.
4. Design Specification: AASHTO Standard Specification for structural support for highway signs, luminaires and traffic signal dated 2001.
5. Wind Loadings: 100 mph (3-second gust)
6. Unit Stresses (Structural Steel):
   a. fy = 55,000 psi (tapered steel tube)
   b. fy = 50,000 psi (unless otherwise noted)
7. Anchor bolts: fy = 55,000 psi
8. Unit Stresses (Reinforced Concrete):
   a. f'c = 3,600 psi
   b. fy = 60,000 psi
9. Verify all controlling field dimensions before ordering of fabricating any material.
10. When no barriers are used, the NEMA 3R enclosure shall be located on the downstream side and perpendicular to the roadway.
11. 1'-3" (Max) for sloped finished grade.
12. Bottom of base plate.
13. Handhole. RSP ES-7M Det B / RSP ES-7M Det A
14. Top plate.
    Install a blank flange on the top plate when closed circuit television is not used.
165. ES-7O Elev B
16. U-channel with bracket.
17. Use the manufacturer's Effective Projected Area (EPA) for attachments. Assign attachments to nearest level and sum each level, see Table D for limitations.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (CLOSED CIRCUIT TELEVISION WITH VEHICLE DETECTION SYSTEM, 30' TO 40' POLE)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-16D

2010 REVISED STANDARD PLAN RSP ES-16D

8-24-15

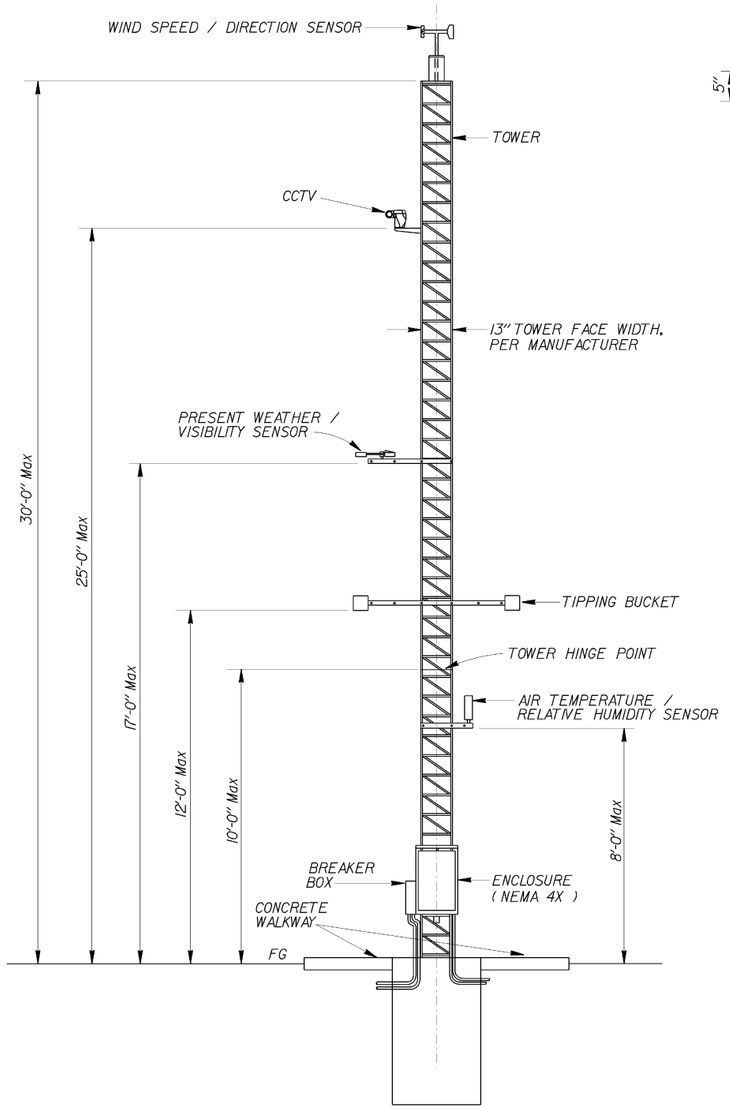
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
08	SBd,Riv	Var	Var	62	62

Devang K. Vora 5/19/16
REGISTERED CIVIL ENGINEER DATE

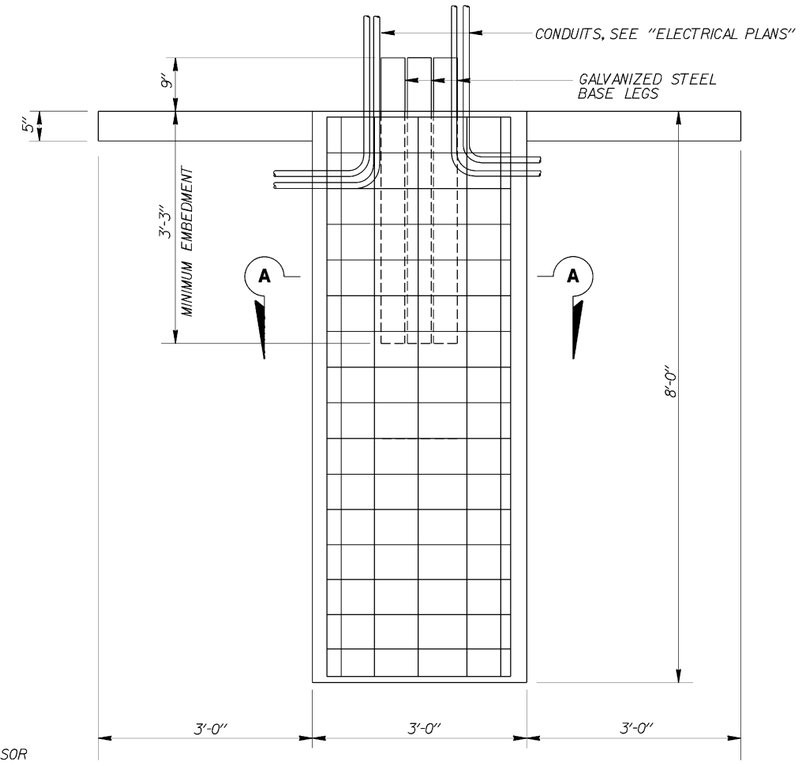
5/19/16
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER DEVANG VORA No. C76546 Exp. 12/31/16 CIVIL STATE OF CALIFORNIA

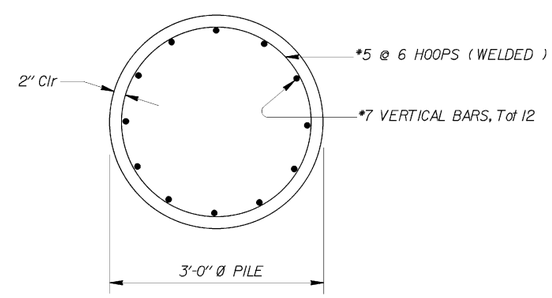
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



RWIS TOWER



RWIS FOUNDATION DETAIL



SECTION A-A

GENERAL NOTES:

SPECIFICATIONS:

Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Sixth Edition.

LOADING:

Wind loadings: 100 MPH (3 second gust)

UNIT STRESSES:

Reinforced concrete: f'c = 3,600 psi
fy = 60,000 psi

NOTES:

1. Not all equipment installed at every location. See "ELECTRICAL PLANS" for details.
2. Place anchorage pattern of embedded galvanized steel base legs as required by supplier to attach aluminum frame per manufacturer's specifications.
3. RWIS foundation must be structural concrete.
4. Foundation design is based on AASHTO LTS-6 article 13.6 Broms' approximate procedure assuming a cohesive material. The angle of internal friction used is 28 degrees and unit weight of soil used is 120 lbs/ft³.

NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

STANDARD PLAN SHEET No.
DETAIL No.

NO SCALE

BRANCH CHIEF JEFF WOODY

	BY	CHECKED
DESIGN	DEVANG VORA	JEFF WOODY
DETAILS	R. YEE	DEVANG VORA
QUANTITIES	DEVANG VORA	JEFF WOODY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH

BRIDGE NO.
POST MILE Var

ROADSIDE WEATHER INFORMATION SYSTEM (RWIS)
FOUNDATION DETAILS

SES-1

(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

UNIT: 3619
PROJECT NUMBER & PHASE: 0812000338-1
CONTRACT NO.: 08-1C6304

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES 8/4/15 8/6/15 8/20/15 10/6/15 10/7/15 10/29/15 5/20/16 5/18/16

SHEET OF

FILE => /2015sd/08-1C6304/ses-1

USERNAME => s115241 DATE PLOTTED => 19-MAY-2016 TIME PLOTTED => 09:15