

SHEET No.	INDEX OF PLANS DESCRIPTION
1	TITLE AND LOCATION MAP
2	CONSTRUCTION AREA SIGNS
3	EROSION CONTROL LEGEND AND QUANTITIES
4-21	ELECTRICAL PLANS
22-37	REVISED STANDARD PLANS

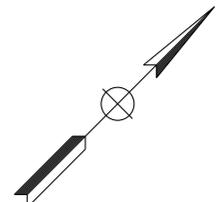
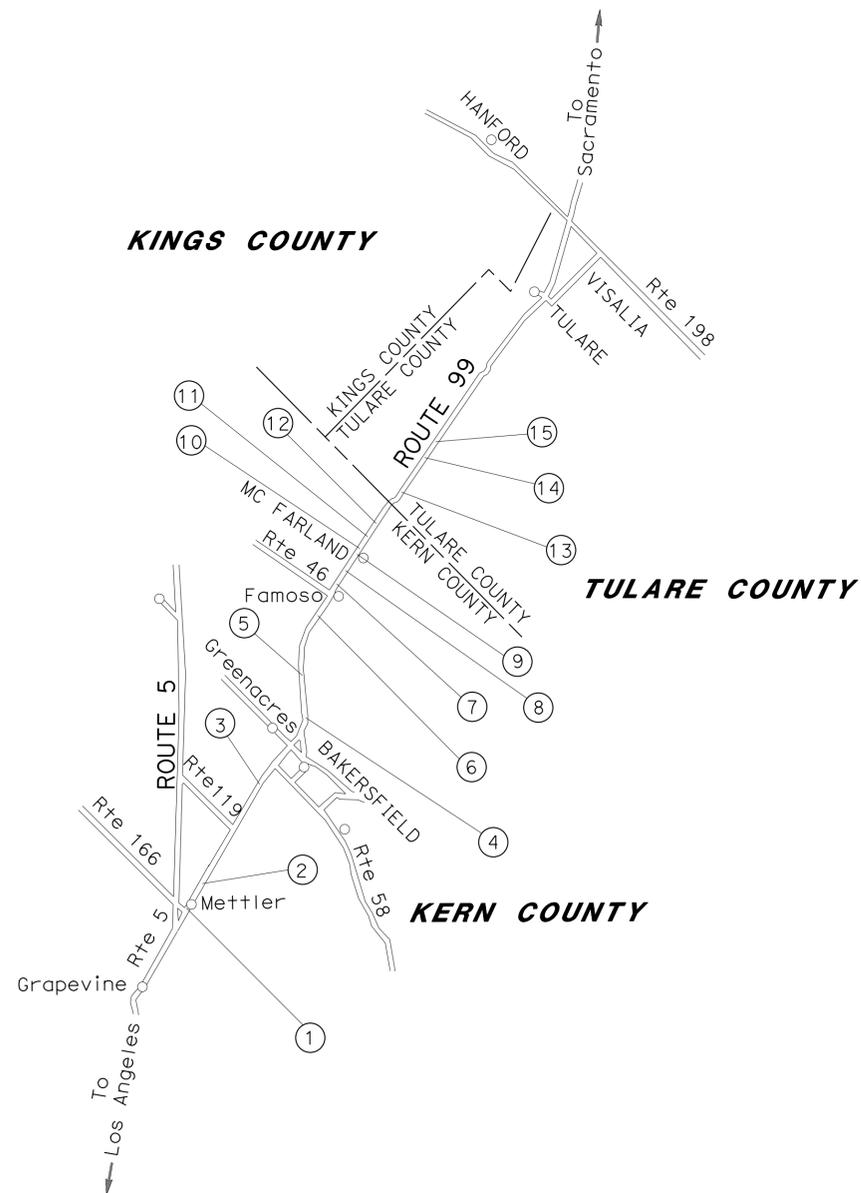
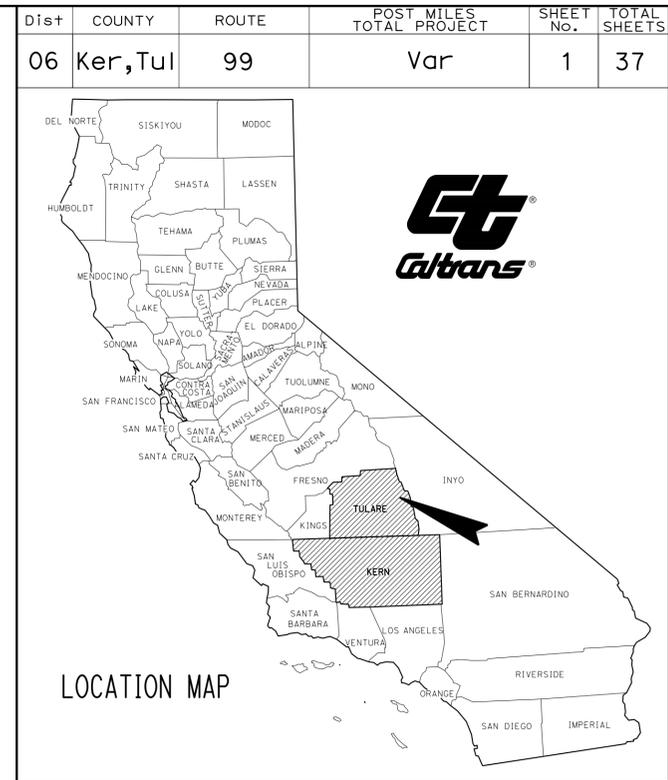
THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

# STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

## PROJECT PLANS FOR CONSTRUCTION ON STATE HIGHWAY

### IN KERN AND TULARE COUNTIES AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



LOCATIONS OF CONSTRUCTION

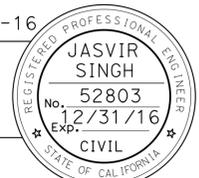
No.	COUNTY	ROUTE	POST MILE	DIRECTION	DESCRIPTION
①	Ker	99	2.66	NB/SB	AT ROUTE 166
②	Ker	99	5.47	NB/SB	AT DAVID Rd
③	Ker	99	22.24	NB/SB	AT WILSON Rd
④	Ker	99	28.20	NB/SB	AT OLIVE Dr
⑤	Ker	99	38.90	NB/SB	AT MERCED Ave
⑥	Ker	99	40.93	NB/SB	AT KIMBERLINA Rd
⑦	Ker	99	45.83	NB/SB	1.5 MILES NORTH OF ROUTE 46
⑧	Ker	99	49.66	NB/SB	AT NORTH OF SHERWOOD Ave
⑨	Ker	99	54.39	NB/SB	AT WOOLOMES Ave
⑩	Ker	99	55.05	NB/SB	AT FIRST Ave
⑪	Ker	99	55.72	NB/SB	AT NORTH OF ROUTE 155
⑫	Ker	99	56.47	NB/SB	AT SOUTH OF CECIL Ave
⑬	Tul	99	0.36	NB/SB	AT NORTH OF COUNTY LINE Rd
⑭	Tul	99	5.47	NB/SB	2.5 MILES NORTH OF AVENUE 24
⑮	Tul	99	7.50	NB/SB	AT AVENUE 56

PROJECT MANAGER  
JEANNIE WILEY  
  
 DESIGN ENGINEER  
ALI ALOATAMI

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

NO SCALE

*Jasvir Singh* 02-01-16  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER

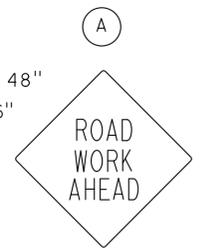


February 1, 2016  
PLANS APPROVAL DATE

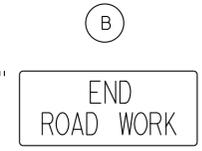
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

CONTRACT No.	<b>06-OT3304</b>
PROJECT ID	<b>0615000063</b>

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



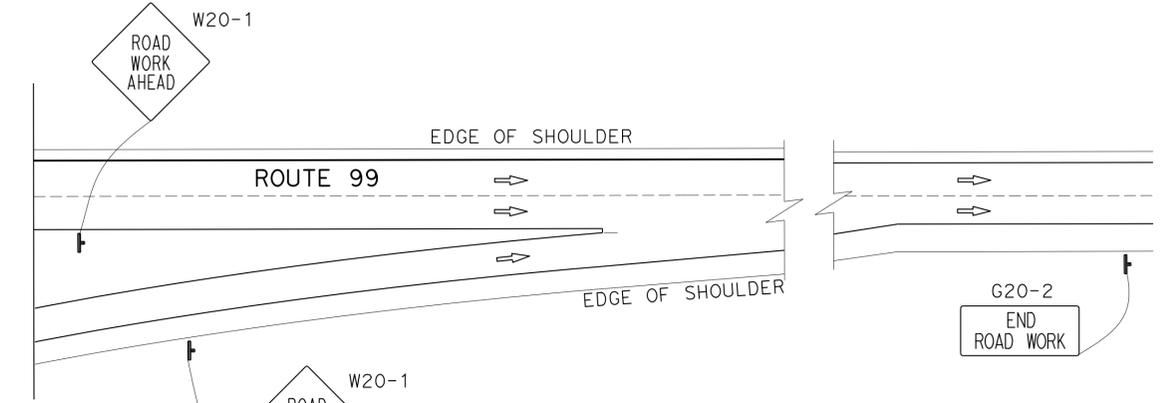
SIGN CODE G20-2  
 PANEL SIZE 48" X 24"  
 POST SIZE 4" x 6"  
 No. OF POST 1



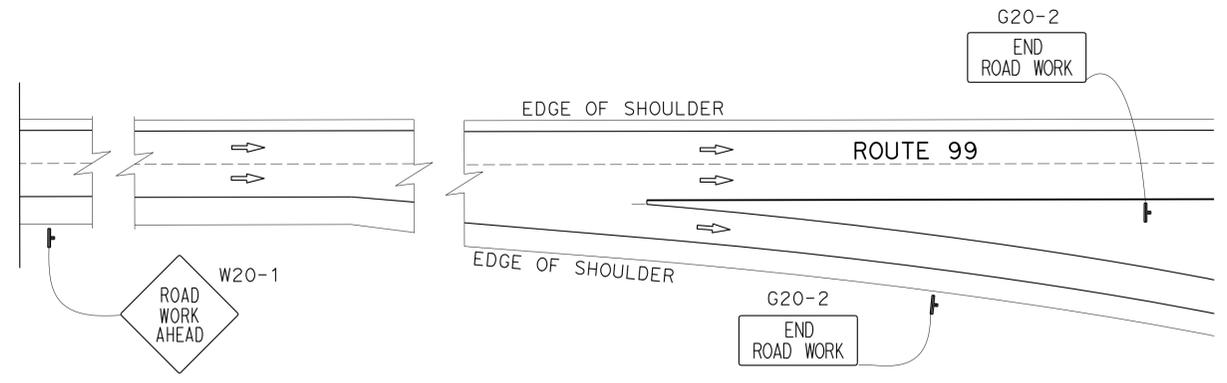
**LEGEND**  
 DIRECTION OF TRAFFIC  
 CONSTRUCTION AREA SIGNS

**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

LOCATION No.	DIRECTION	SIGN No. (A)	SIGN No. (B)
①	NB	2	1
	SB	1	2
②	NB	2	1
	SB	2	2
③	NB	2	1
	SB	2	2
④	NB	2	1
	SB	1	2
⑤	NB	1	2
	SB	2	2
⑥	NB	1	2
	SB	2	2
⑦	NB	1	2
	SB	1	2
⑧	NB	2	1
	SB	1	2
⑨	NB	2	1
	SB	1	2
⑩	NB	2	2
	SB	1	2
⑪	NB	1	2
	SB	2	2
⑫	NB	2	1
	SB	4	3
⑬	NB	1	1
	SB	1	2
⑭	NB	2	1
	SB	2	2
⑮	NB	2	1
	SB	1	2
EACH		47	51



**TYPICAL PLACEMENT OF CONSTRUCTION AREA SIGNS AT ON RAMP/CONNECTOR**



**TYPICAL PLACEMENT OF CONSTRUCTION AREA SIGNS AT OFF RAMP/CONNECTOR**

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

**CONSTRUCTION AREA SIGNS**

NO SCALE

**CS-1**

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 TRAFFIC DESIGN  
 Et Caltrans®  
 FUNCTIONAL SUPERVISOR: MOHAMMAD QATAMI  
 CHECKED BY: MAZIN AL-ALI  
 DESIGNED BY: SARAH LESNICKOWSKI  
 REVISIONS: (None listed)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	3	38

*Edward A. Hibbs*  
LICENSSED LANDSCAPE ARCHITECT

2-1-16  
PLANS APPROVAL DATE

02/28/18  
01/12/16

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

### EROSION CONTROL QUANTITIES

SHEET	LOCATION					DESCRIPTION	COMPOST	DRY SEED	HYDROMULCH	REMARKS	
	No.	Co/Rte	POST MILE	SB	NB		SQFT	SQFT	SQFT		
NOT SHOWN ON PLANS	1	Ker/99	2.66		X	EROSION CONTROL	291	291	291	AT Rte 166	
	2		5.47	X			486	486	486	AT COPUS Rd	
	3		22.24	X			144	144	144	N OF WILSON Rd	
	4		R28.20	X			341	341	341	N OF OLIVE Dr	
	5		R38.90	X	X		747	747	747	S OF MERCED Ave	
	6		R40.93	X	X		742	742	742	S OF KIMBERLINA Rd	
	7		45.83	X			199	199	199	N OF Rte 46 AT CMS	
	8		49.66				X	144	144	144	N OF KERN Ave OC
	9		54.39	X	X		613	613	613	AT WOOLLOMES Ave	
	10		55.05				X	663	663	663	S OF 1ST Ave
	11	55.72	X				757	757	757	N OF Rte 155, DELANO	
	12	56.47	X				757	757	757	S OF CECIL Ave OC	
	13	0.36	X				713	713	713	N OF COUNTY LINE Rd	
	14	Tul/99	5.47				X	199	199	199	S OF AVENUE 48
	15	7.50	X				641	641	641	N OF SIERRA Ave	
TOTAL							7,437	7,437	7,437		

### SEED MIX

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

### EROSION CONTROL

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

## EROSION CONTROL LEGEND AND QUANTITIES ECL-1

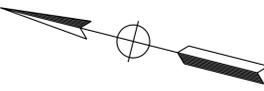
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	4	37

*Paul Matos* 01-31-16  
 REGISTERED ELECTRICAL ENGINEER DATE

2-1-16  
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER  
**PAUL MATOS**  
 No. 18757  
 Exp. 06/30/17  
 ELECTRICAL  
 STATE OF CALIFORNIA



**NOTES:**

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

**LEGEND: (FOR THIS SHEET ONLY)**

- Exist 120/240 V, 1 $\phi$ , 3-WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE WITH THE FOLLOWING CIRCUIT BREAKERS:  
Ctid No. 06500990002640L

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER**	YES	—
15	120	1	CONTROL	YES	—
70	120	1	SIGNAL	YES	—
15	120	1	LIGHTING 1	YES	V
30	240	2	SPARE	YES	—
30	240	2	SIGN ILLUMINATION	YES	—
30	120	1	TMS*	YES	—
—	—	3	SPACE	—	—

\*FURNISH AND INSTALL CB AND NAMEPLATE.  
 \*\* **RS** Exist 3-POLE CB. FURNISH AND INSTALL 2-POLE MAIN CB AND NAMEPLATE.

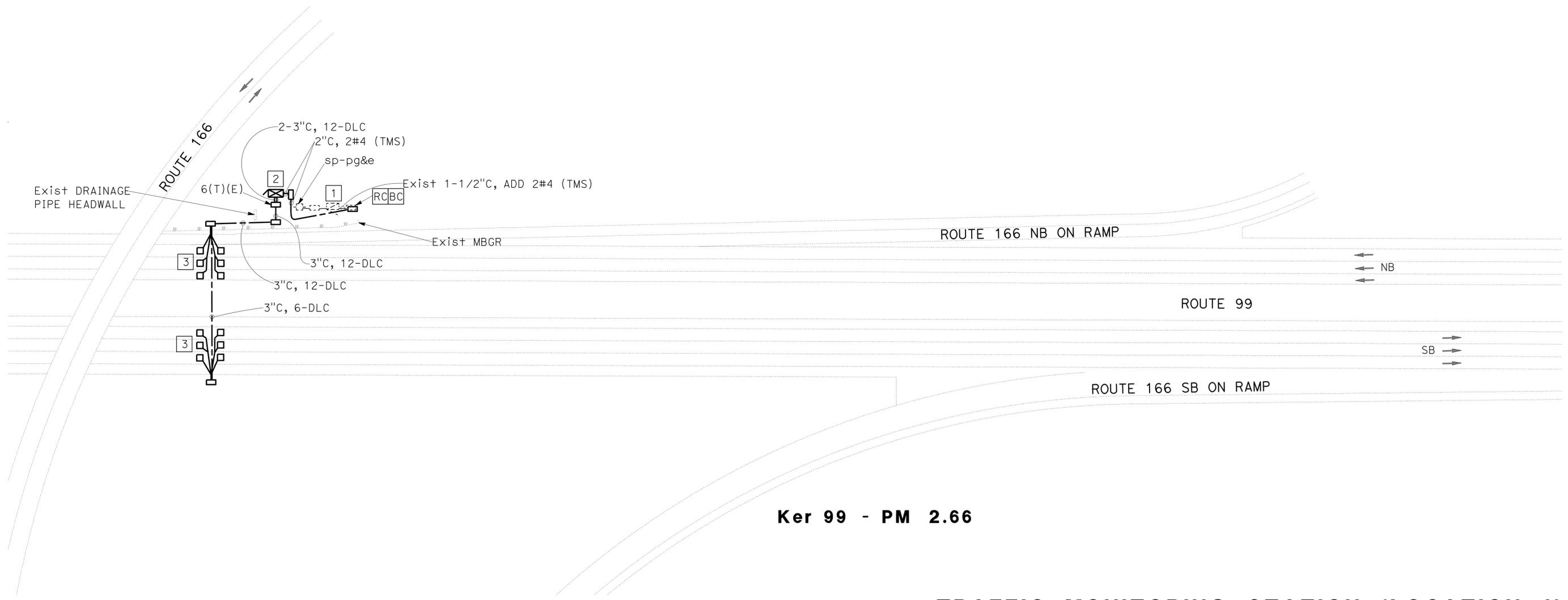
- FURNISH AND INSTALL 334L CABINET AND WIRELESS MODEM. INSTALL DF MODEL 2070E CONTROLLER UNIT.

- SEE DETAILS ON SHEET E-16 FOR DETECTOR LOOP PLACEMENT AND DESIGNATION.

**ABBREVIATIONS:**

PG&E PACIFIC GAS AND ELECTRIC COMPANY  
 SCE SOUTHERN CALIFORNIA EDISON  
 STC SCREENED TRANSMISSION CABLE

REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.



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

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

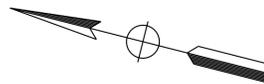
LAST REVISION: DATE PLOTTED => 05-FEB-2016     
 01-31-16     
 TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	5	37

*Paul Matos* 01-31-16  
 REGISTERED ELECTRICAL ENGINEER DATE  
 2-1-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 PAUL MATOS  
 No. 18757  
 Exp. 06/30/17  
 ELECTRICAL  
 STATE OF CALIFORNIA

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



**NOTES:**

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

**LEGEND: (FOR THIS SHEET ONLY)**

- Exist 120/240 V, 1Ø, 3-WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE.
- 120/240 V, 1Ø, 3-WIRE, TYPE III-CF SERVICE EQUIPMENT ENCLOSURE PER DETAIL C ON SHEET E-18 WITH THE FOLLOWING CIRCUIT BREAKERS:

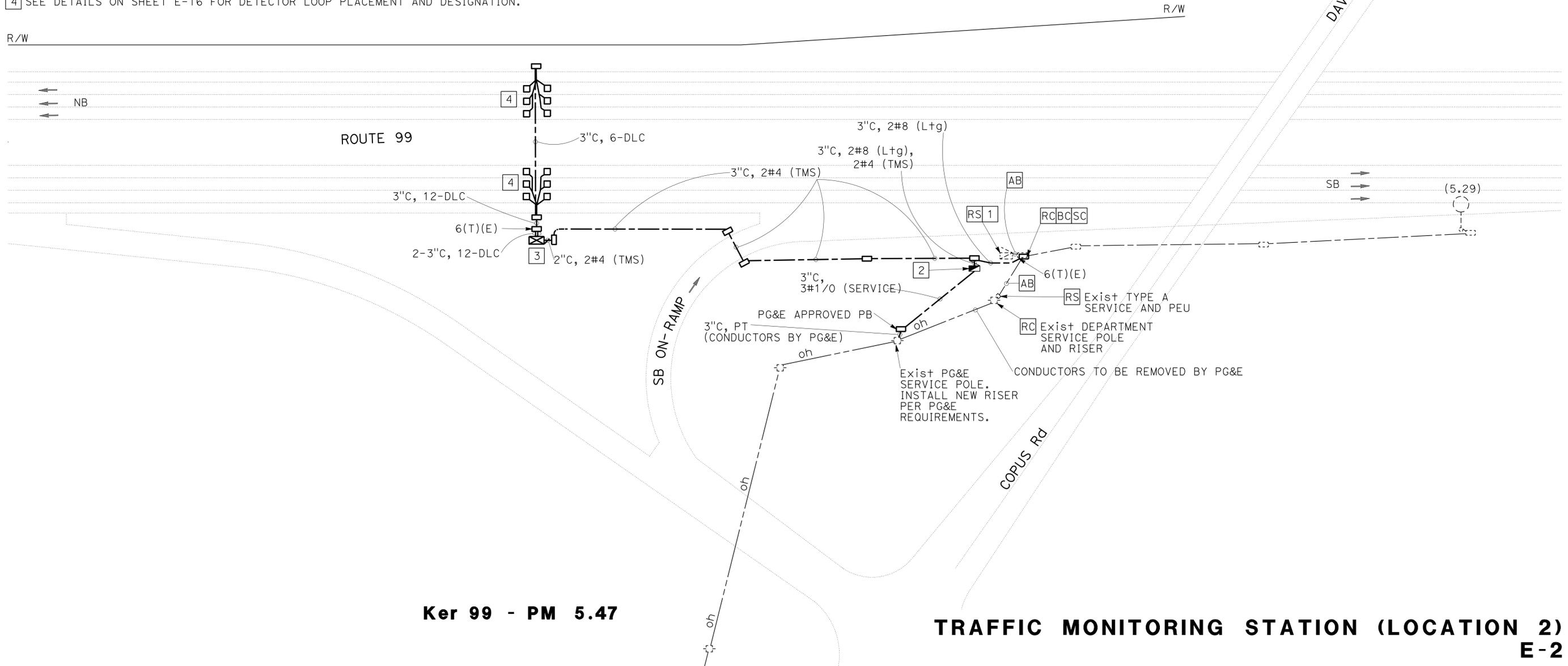
Ctid No. 06500990005381L

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	—
20	240	2	LIGHTING CONTROL	YES	V
30	240	2	HIGHWAY LIGHTING	YES	V
40	240	2	SPARE	YES	—
—	—	—	SPACE	—	—
—	—	—	SPACE	—	—

Ctid No. 06500990005381T

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	—
30	120	1	TMS	YES	—
20	120	1	SPARE	YES	—
40	240	2	SPARE	YES	—
—	—	—	SPACE	—	—
—	—	—	SPACE	—	—

- FURNISH AND INSTALL 334L CABINET AND WIRELESS MODEM. INSTALL DF MODEL 2070E CONTROLLER UNIT.
- SEE DETAILS ON SHEET E-16 FOR DETECTOR LOOP PLACEMENT AND DESIGNATION.



**Ker 99 - PM 5.47**

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

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Caltrans®  
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 CHECKED BY: PAUL MATOS  
 DESIGNED BY: TYLER LAING  
 REVISIONS: REVISED BY: PAUL MATOS, DATE: 01-31-16





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

**LEGEND: (FOR THIS SHEET ONLY)**

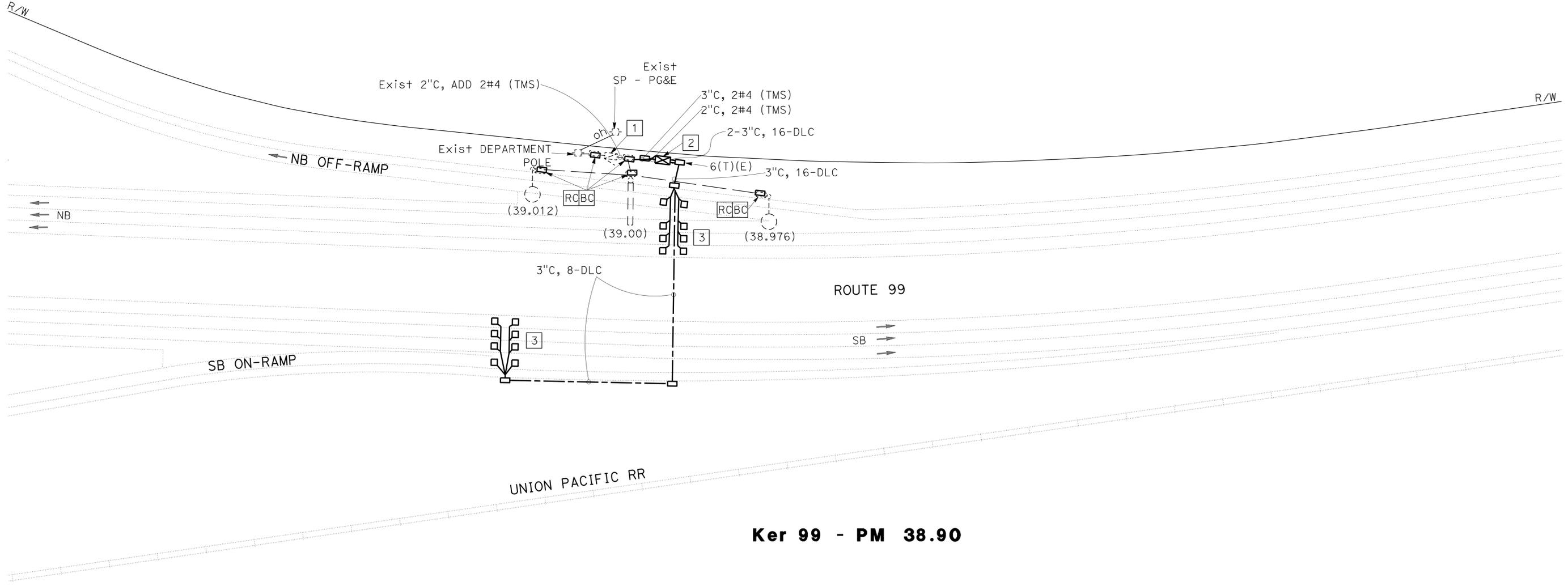
1 Exist 120/240 V, 1 $\phi$ , 3-WIRE, TYPE III-AF SERVICE EQUIPMENT ENCLOSURE - MODIFY CIRCUIT BREAKERS AS FOLLOWS: Ctid No. 06500990038962L

2 FURNISH AND INSTALL 334L CABINET AND WIRELESS MODEM. INSTALL DF MODEL 2070E CONTROLLER UNIT.

3 SEE DETAILS ON SHEET E-16 FOR DETECTOR LOOP PLACEMENT AND DESIGNATION.

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	—
20	240	2	HIGHWAY LIGHTING	YES	V
20	120	1	SPARE	YES	—
15	120	1	SIGN LIGHTING CONTROL	YES	—
15	120	1	HIGHWAY LIGHTING CONTROL	YES	—
20	240	2	SIGN LIGHTING	YES	—
30	120	1	TMS*	YES	—
—	—	4	SPACE	—	—

\*FURNISH AND INSTALL CB AND NAMEPLATE.



**Ker 99 - PM 38.90**

**TRAFFIC MONITORING STATION (LOCATION 5)  
E-5**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 CALCULATED/DESIGNED BY: TYLER LAING  
 CHECKED BY: PAUL MATOS  
 REVISED BY: DATE REVISION  
 REVISIONS:

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 CALCULATED/DESIGNED BY: TYLER LAING  
 CHECKED BY: PAUL MATOS  
 REVISED BY: DATE  
 REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

**NOTES:**

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

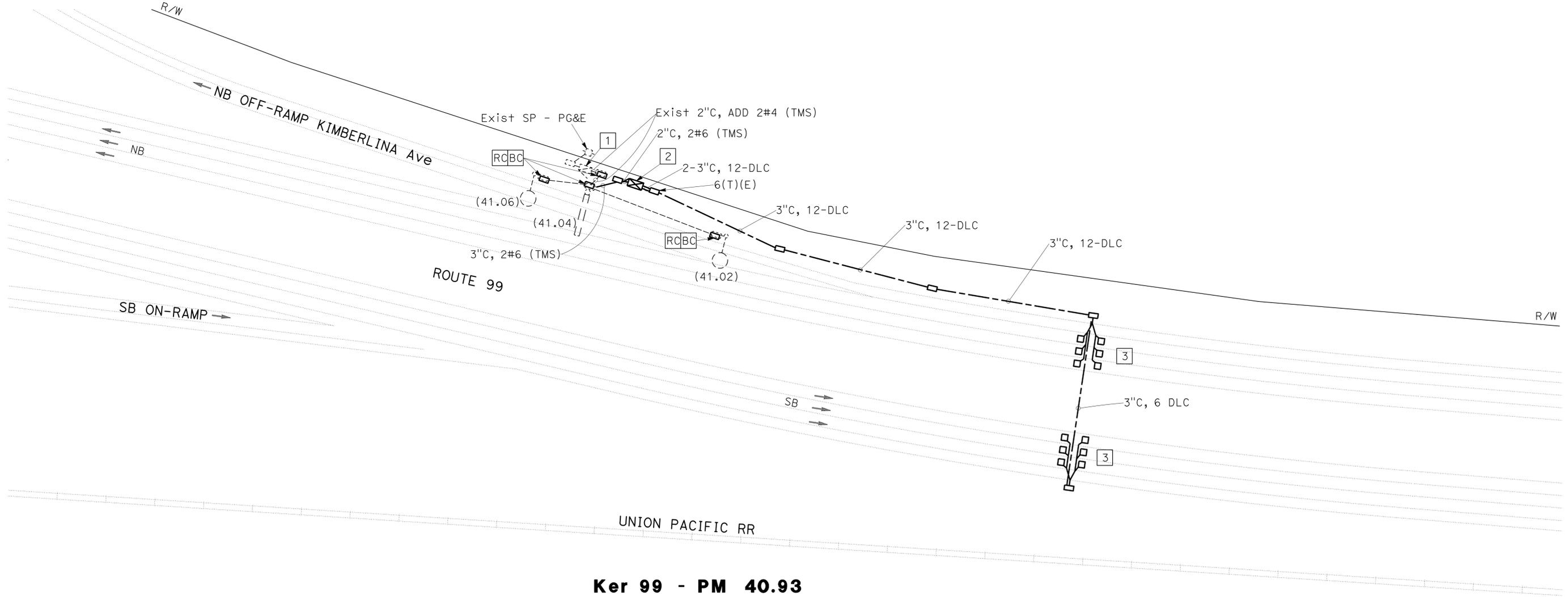
**LEGEND: (FOR THIS SHEET ONLY)**

- Exist 120/240 V, 1 $\phi$ , 3-WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE -  
 MODIFY CIRCUIT BREAKERS AS FOLLOWS: Ctid No. 06500990041060L

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER***	YES	---
40	120	1	SPARE***	YES	---
30	120	1	TMS*	YES	---
40	240	2	HIGHWAY LIGHTING	YES	V
30	120	1	SIGN LIGHTING	YES	V
15	120	1	LIGHTING CONTROL**	YES	---

- FURNISH AND INSTALL 334L CABINET AND WIRELESS MODEM. INSTALL DF MODEL 2070E CONTROLLER UNIT.
- SEE DETAILS ON SHEET E-16 FOR DETECTOR LOOP PLACEMENT AND DESIGNATION.

\*FURNISH AND INSTALL CB AND NAMEPLATE.  
 \*\*FURNISH AND INSTALL NAMEPLATE.  
 \*\*\* [RS] Exist 3-POLE CB. FURNISH AND INSTALL 2-POLE MAIN CB, 1-POLE SPARE CB, AND NAMEPLATES.



**Ker 99 - PM 40.93**

**TRAFFIC MONITORING STATION (LOCATION 6)  
 E-6**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

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

Paul Matos 01-31-16  
 REGISTERED ELECTRICAL ENGINEER DATE

2-1-16  
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER  
 PAUL MATOS  
 No. 18757  
 Exp. 06/30/17  
 ELECTRICAL  
 STATE OF CALIFORNIA

LAST REVISION: DATE PLOTTED => 05-FEB-2016 01-31-16 TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	10	37

*Paul Matos* 01-31-16  
 REGISTERED ELECTRICAL ENGINEER DATE

2-1-16  
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER  
**PAUL MATOS**  
 No. 18757  
 Exp. 06/30/17  
 ELECTRICAL  
 STATE OF CALIFORNIA

**NOTES:**

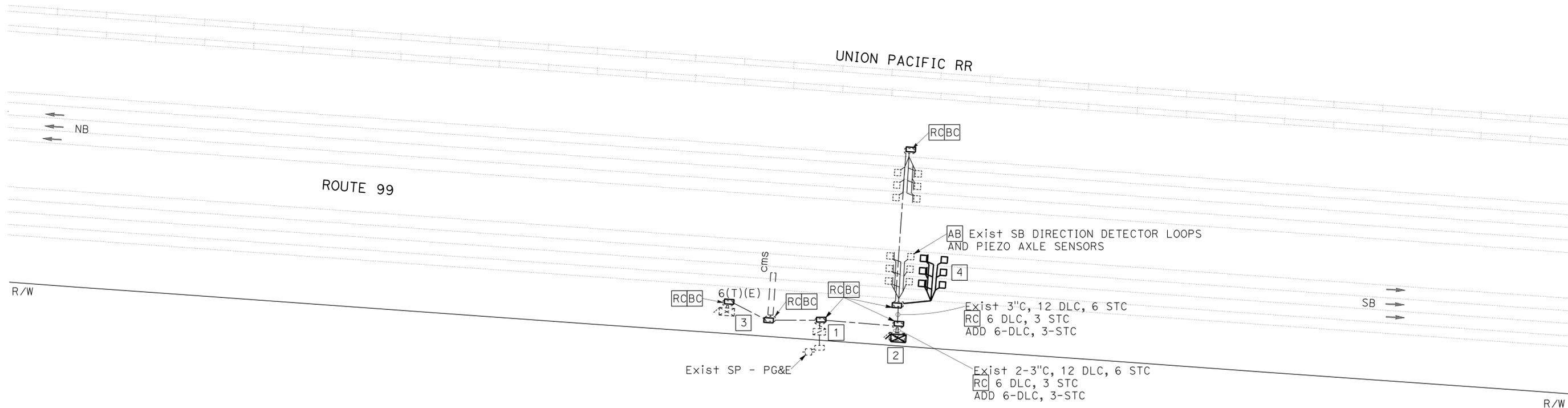
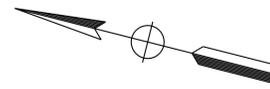
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ALL PULL BOXES MUST BE No. 5(T)(E) UNLESS OTHERWISE NOTED.

**LEGEND: (FOR THIS SHEET ONLY)**

- Exist 120/240 V, 1 $\phi$ , 3-WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE - MODIFY CIRCUIT BREAKERS AS FOLLOWS: Ctid No. 06500990049830T

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
200	240	2	SERVICE DISCONNECT	YES	---
30	120	1	TMS*	YES	---
40	120	1	334C CABINET	YES	---
80	120	1	CMS #4	YES	---
80	120	2	CMS #3	YES	---
80	120	1	CMS #2	YES	---
80	120	1	CMS #1	YES	---

\* **RS** Exist CB AND NAMEPLATE. FURNISH AND INSTALL CB AND NAMEPLATE.



**Ker 99 - PM 45.83**

- RS** Exist 334c CABINET. FURNISH AND INSTALL 334L CABINET ON Exist FOUNDATION. FURNISH AND INSTALL WIRELESS MODEM. INSTALL DF MODEL 2070E CONTROLLER UNIT.
- Exist CMS CONTROLLER CABINET.
- SEE DETAILS ON SHEET E-16 FOR DETECTOR LOOP AND PIEZO AXLE SENSOR PLACEMENT, DESIGNATION, AND INSTALLATION.

**TRAFFIC MONITORING STATION (LOCATION 7)  
E-7**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Tyler Laing  
 Paul Matos  
 Ali Bakhdoouj  
 Functional Supervisor  
 Calculated/Designed By  
 Checked By  
 Revised By  
 Date Revised

LAST REVISION DATE PLOTTED => 05-FEB-2016 01-31-16 TIME PLOTTED => 14:01

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	11	37
<i>Paul Matos</i> 01-31-16 REGISTERED ELECTRICAL ENGINEER DATE			REGISTERED PROFESSIONAL ENGINEER <b>PAUL MATOS</b> No. 18757 Exp. 06/30/17 ELECTRICAL STATE OF CALIFORNIA		
2-1-16			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

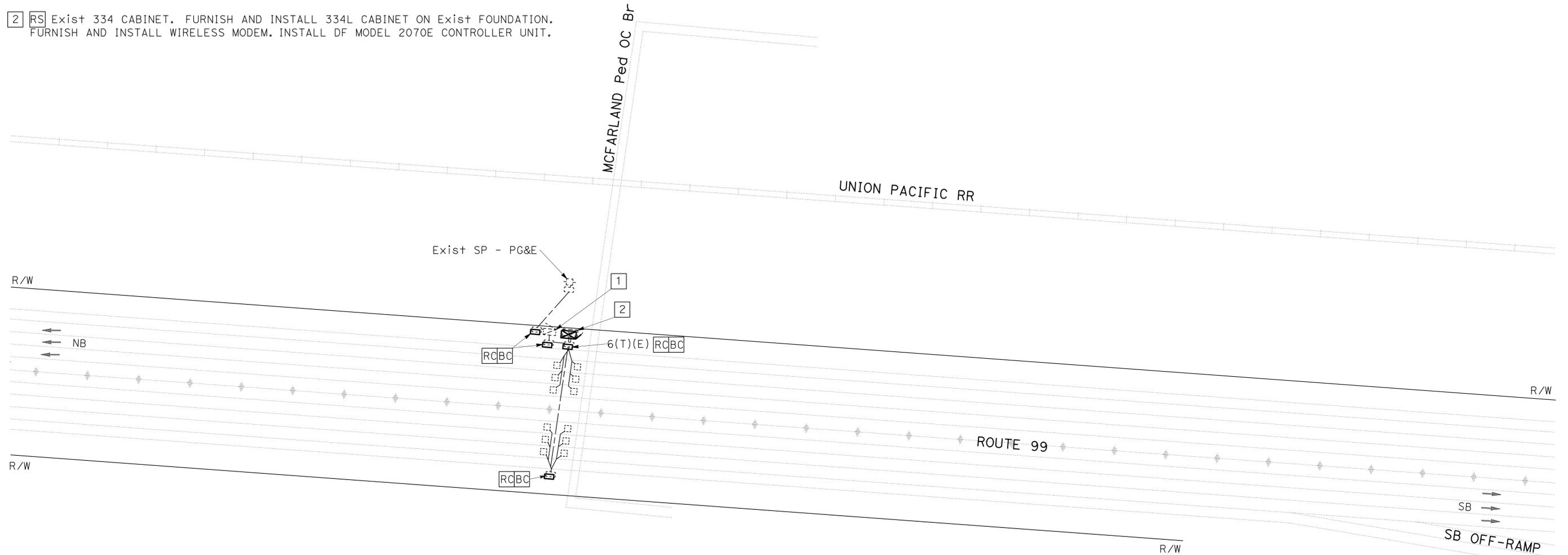


**NOTES:**

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

**LEGEND: (FOR THIS SHEET ONLY)**

- Exist 120/240 V, 1Ø, 3-WIRE, TYPE III-AF SERVICE EQUIPMENT ENCLOSURE.
- RS Exist 334 CABINET. FURNISH AND INSTALL 334L CABINET ON Exist FOUNDATION. FURNISH AND INSTALL WIRELESS MODEM. INSTALL DF MODEL 2070E CONTROLLER UNIT.



**Ker 99 - PM 49.66**

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

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

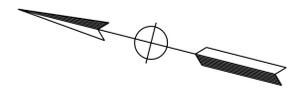
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	REVISOR	DATE
<b>Caltrans</b>	TYLER LAING	01-31-16
	PAUL MATOS	02-01-16
	ALI BAKHDOUD	

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

*Paul Matos* 01-31-16  
 REGISTERED ELECTRICAL ENGINEER DATE  
 2-1-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**PAUL MATOS**  
 No. 18757  
 Exp. 06/30/17  
 ELECTRICAL  
 STATE OF CALIFORNIA

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



**NOTES:**

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

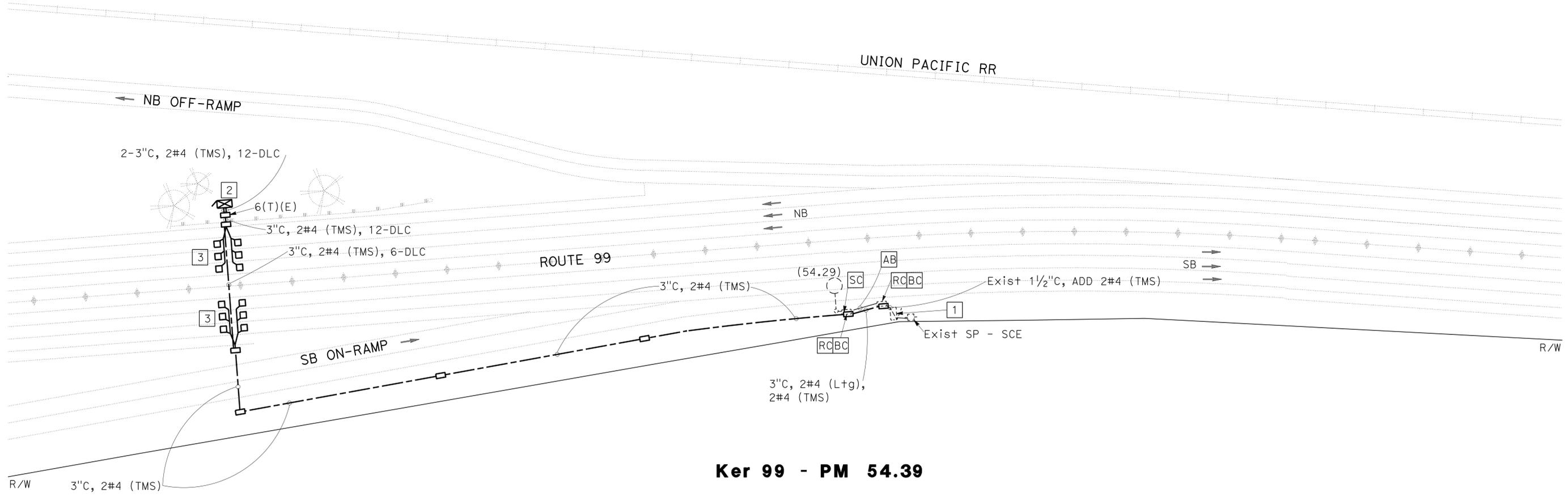
**LEGEND: (FOR THIS SHEET ONLY)**

- Exist 120/240 V, 1 $\phi$ , 3-WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE -  
MODIFY CIRCUIT BREAKERS AS FOLLOWS: Ctid No. 06500990054310L
- FURNISH AND INSTALL 334L CABINET AND WIRELESS MODEM.  
INSTALL DF MODEL 2070E CONTROLLER UNIT.
- SEE DETAILS ON SHEET E-16 FOR DETECTOR LOOP PLACEMENT AND DESIGNATION.

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER**	YES	---
15	120	1	CONTROL	YES	---
30	120	1	TMS*	YES	---
70	120	1	TDS	YES	---
30	240	2	SIGN ILLUMINATION	YES	---
30	240	2	LIGHTING	YES	---
---	---	4	SPACE	---	---

\*\* [RS] Exist 3-POLE CB. FURNISH AND INSTALL 2-POLE MAIN CB.  
 \* FURNISH AND INSTALL CB AND NAMEPLATE.

REVISIONS: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.



**Ker 99 - PM 54.39**

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

APPROVED FOR ELECTRICAL WORK ONLY

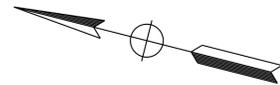
SCALE: 1"=50'

LAST REVISION: DATE PLOTTED => 05-FEB-2016   
 01-31-16   
 TIME PLOTTED => 14:01









**NOTES:**

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

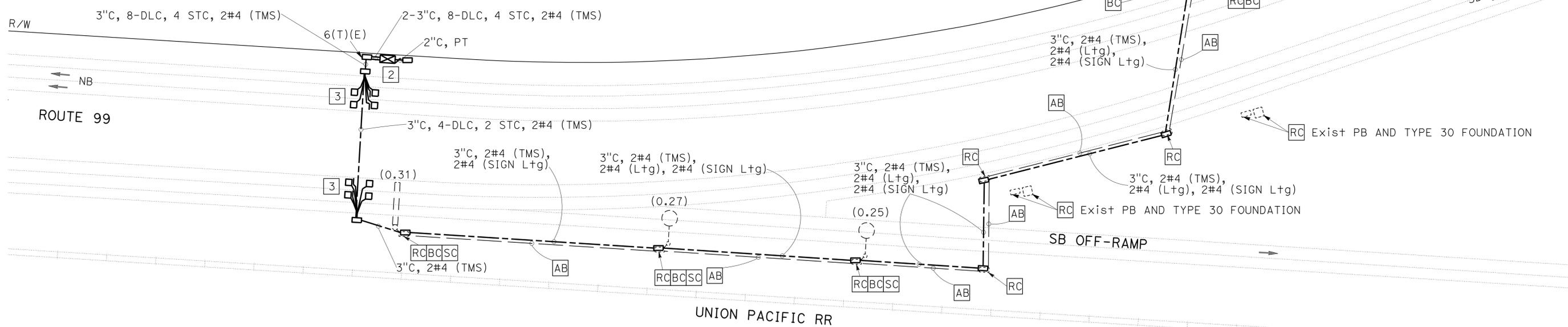
**LEGEND: (FOR THIS SHEET ONLY)**

- Exist 120/240 V, 1 $\phi$ , 3-WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE - MODIFY CIRCUIT BREAKERS AS FOLLOWS: Ctid No. 06460990000200L

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER*	YES	—
30	120	1	TMS**	YES	—
20	120	1	SPARE**	YES	—
30	240	2	SIGN LIGHTING	YES	V
30	240	2	HIGHWAY LIGHTING	YES	V
—	—	2	SPACE	—	—

\* **RS** Exist 4-POLE CB. FURNISH AND INSTALL 2-POLE CB.  
 \*\* FURNISH AND INSTALL CB AND NAMEPLATE.

- FURNISH AND INSTALL 334L CABINET AND WIRELESS MODEM. INSTALL DF MODEL 2070E CONTROLLER UNIT.
- SEE DETAILS ON SHEET E-16 FOR DETECTOR LOOP AND PIEZO AXLE SENSOR PLACEMENT, DESIGNATION, AND INSTALLATION.



**Tul 99 - PM 0.36**

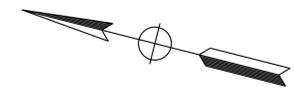
**TRAFFIC MONITORING STATION (LOCATION 13)  
E-13**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Alttrans®  
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 CALCULATED/DESIGNED BY: TYLER LAING  
 CHECKED BY: PAUL MATOS  
 REVISED BY: PAUL MATOS  
 DATE REVISED:

LAST REVISION: DATE PLOTTED => 05-FEB-2016  
 01-31-16 TIME PLOTTED => 14:02



**NOTES:**

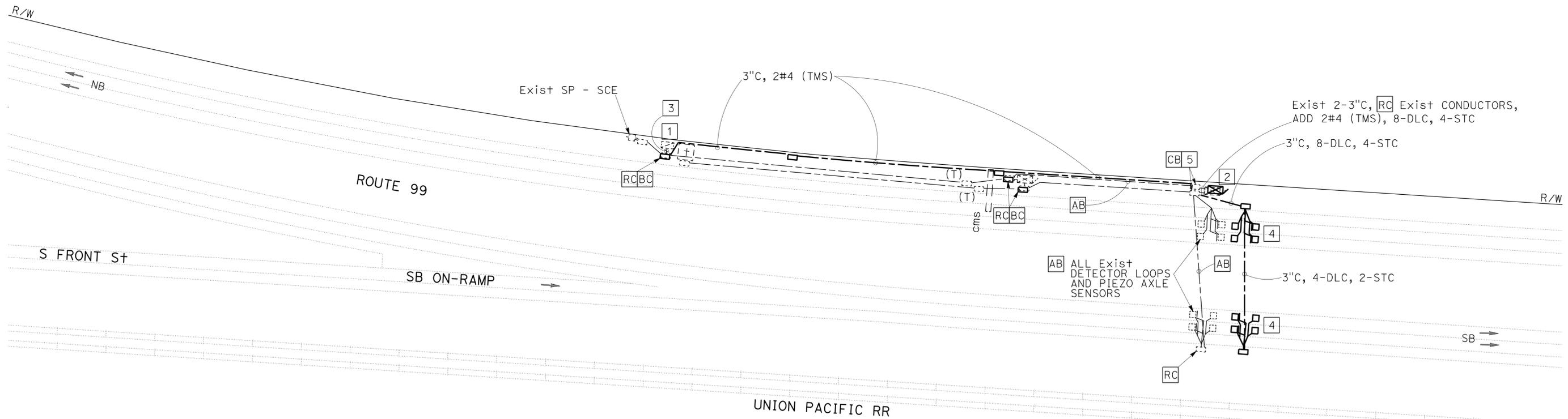
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- ALL PULL BOXES MUST BE No. 5(T)(E) UNLESS OTHERWISE NOTED.

**LEGEND: (FOR THIS SHEET ONLY)**

- Exist 120/240 V, 1 $\phi$ , 3-WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE - MODIFY CIRCUIT BREAKERS AS FOLLOWS: Ctid No. 06460990004780T

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	—
30	120	1	VCS*	YES	—
80	120	1	CMS	YES	—
80	240	2	CMS	YES	—
80	240	2	CMS	YES	—
80	240	2	CMS	YES	—
20	240	2	TYPE M CABINET	YES	—
20	240	2	TDC	YES	—

\*FURNISH AND INSTALL CB AND NAMEPLATE.



- Exist 334 CABINET. FURNISH AND INSTALL 334L CABINET ON Exist FOUNDATION. FURNISH AND INSTALL WIRELESS MODEM. INSTALL DF MODEL 2070E CONTROLLER UNIT.
- Exist 2" C, RC Exist CONDUCTORS (VCS). INSTALL 2#4 (VCS). PROTECT IN PLACE ALL OTHER Exist CONDUCTORS.
- SEE DETAILS ON SHEET E-16 FOR DETECTOR LOOP AND PIEZO AXLE SENSOR PLACEMENT, DESIGNATION, AND INSTALLATION.
- Exist No. 6 PB COVER. FURNISH AND INSTALL TAMPER RESISTANT PB COVER.

**Tul 99 - PM 5.47**

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

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Alt Bakhdoud  
 Tyler Laing  
 Paul Matos  
 Revised By  
 Date Revised  
 Calculated/Designed By  
 Checked By  
 Functional Supervisor  
 Alt Bakhdoud  
 Department of Transportation  
 Caltrans

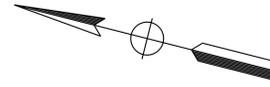
LAST REVISION | DATE PLOTTED => 05-FEB-2016  
 01-31-16 | TIME PLOTTED => 14:02

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

*Paul Matos* 01-31-16  
 REGISTERED ELECTRICAL ENGINEER DATE  
 2-1-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 PAUL MATOS  
 No. 18757  
 Exp. 06/30/17  
 ELECTRICAL  
 STATE OF CALIFORNIA

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



**NOTES:**

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

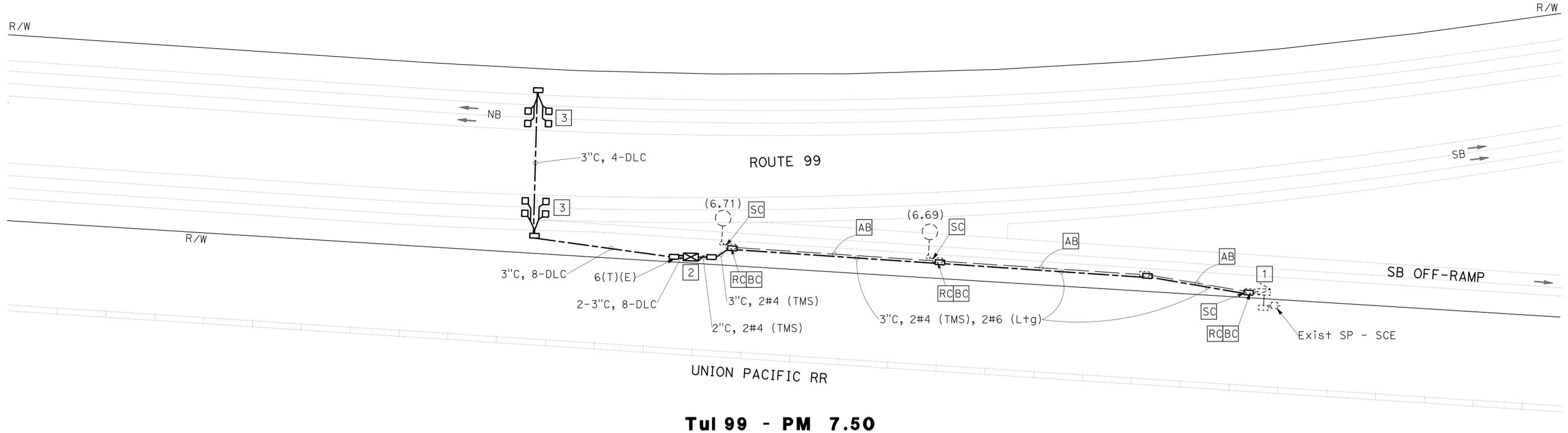
**LEGEND: (FOR THIS SHEET ONLY)**

- Exist 120/240 V, 1 $\phi$ , 3-WIRE, TYPE III-BF SERVICE EQUIPMENT ENCLOSURE - MODIFY CIRCUIT BREAKERS AS FOLLOWS: Ctid No. 06460990007530L

AMPERES	VOLTS	POLES	NAMEPLATE	METER	PHOTOELECTRIC CONTROL TYPE
100	240	2	MAIN BREAKER	YES	—
30	120	1	TMS*	YES	—
20	120	1	SPARE*	YES	—
30	240	2	HIGHWAY LIGHTING	YES	V

\*FURNISH AND INSTALL CB AND NAMEPLATE.

- FURNISH AND INSTALL 334L CABINET AND WIRELESS MODEM. INSTALL DF MODEL 2070E CONTROLLER UNIT.
- SEE DETAILS ON SHEET E-16 FOR DETECTOR LOOP PLACEMENT AND DESIGNATION.



**Tul 99 - PM 7.50**

**TRAFFIC MONITORING STATION (LOCATION 15)  
E-15**

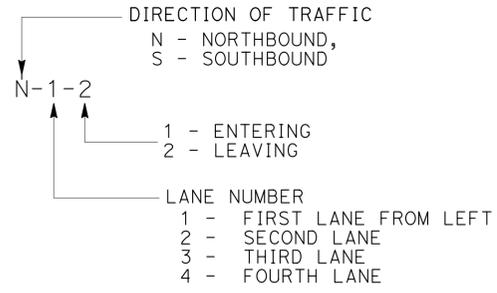
APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1"=50'

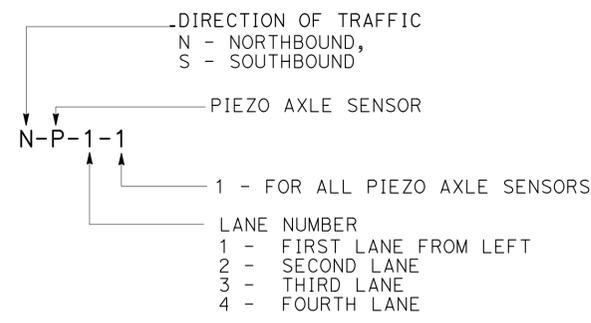
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Alttrans®  
 FUNCTIONAL SUPERVISOR: ALI BAKHDOUD  
 CALCULATED/DESIGNED BY: TYLER LAING  
 CHECKED BY: PAUL MATOS  
 REVISED BY: DATE REVISION



**INDUCTIVE LOOP DETECTOR SENSOR DESIGNATION**

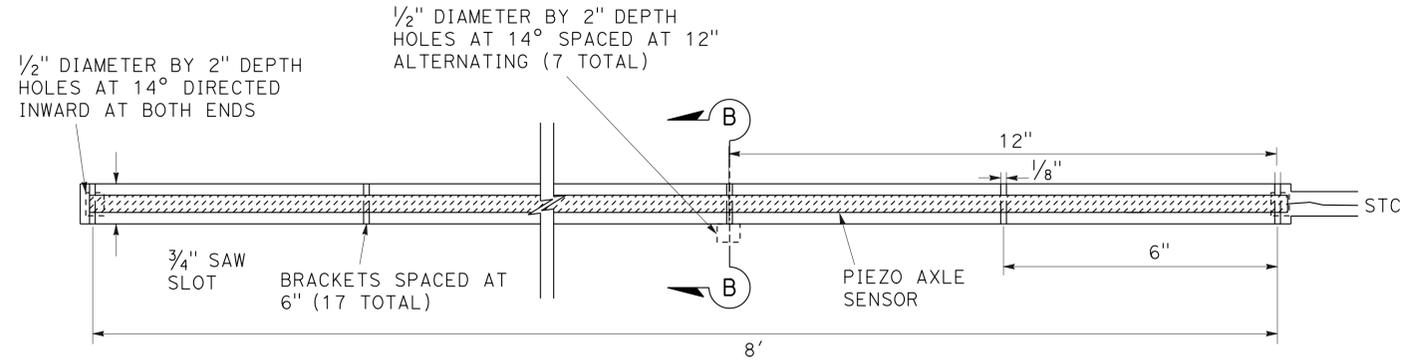
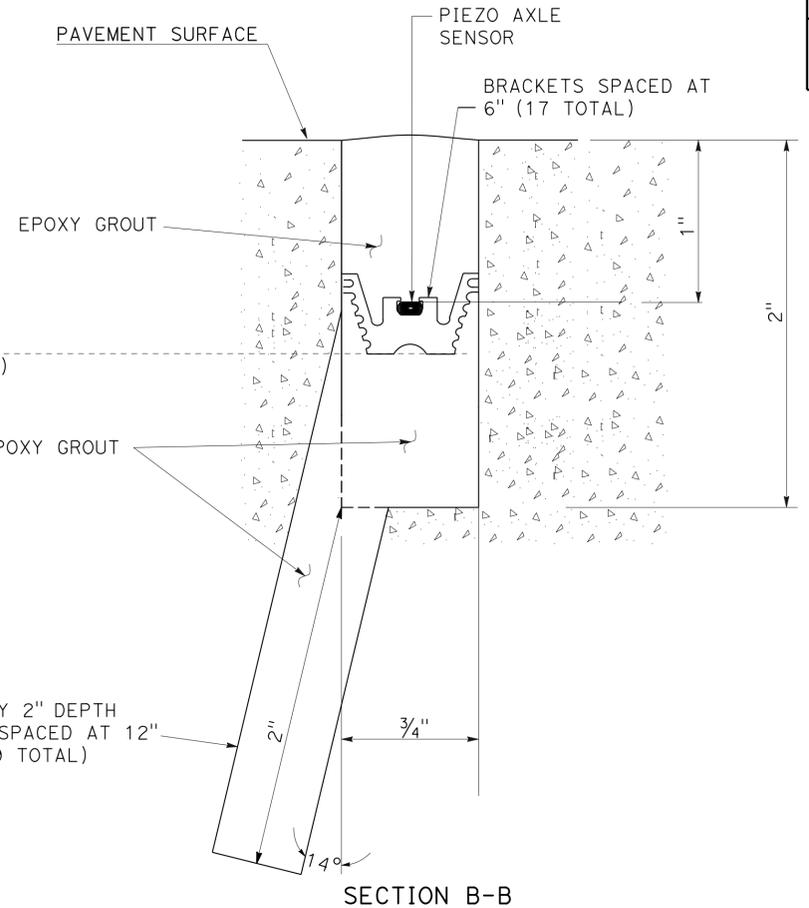
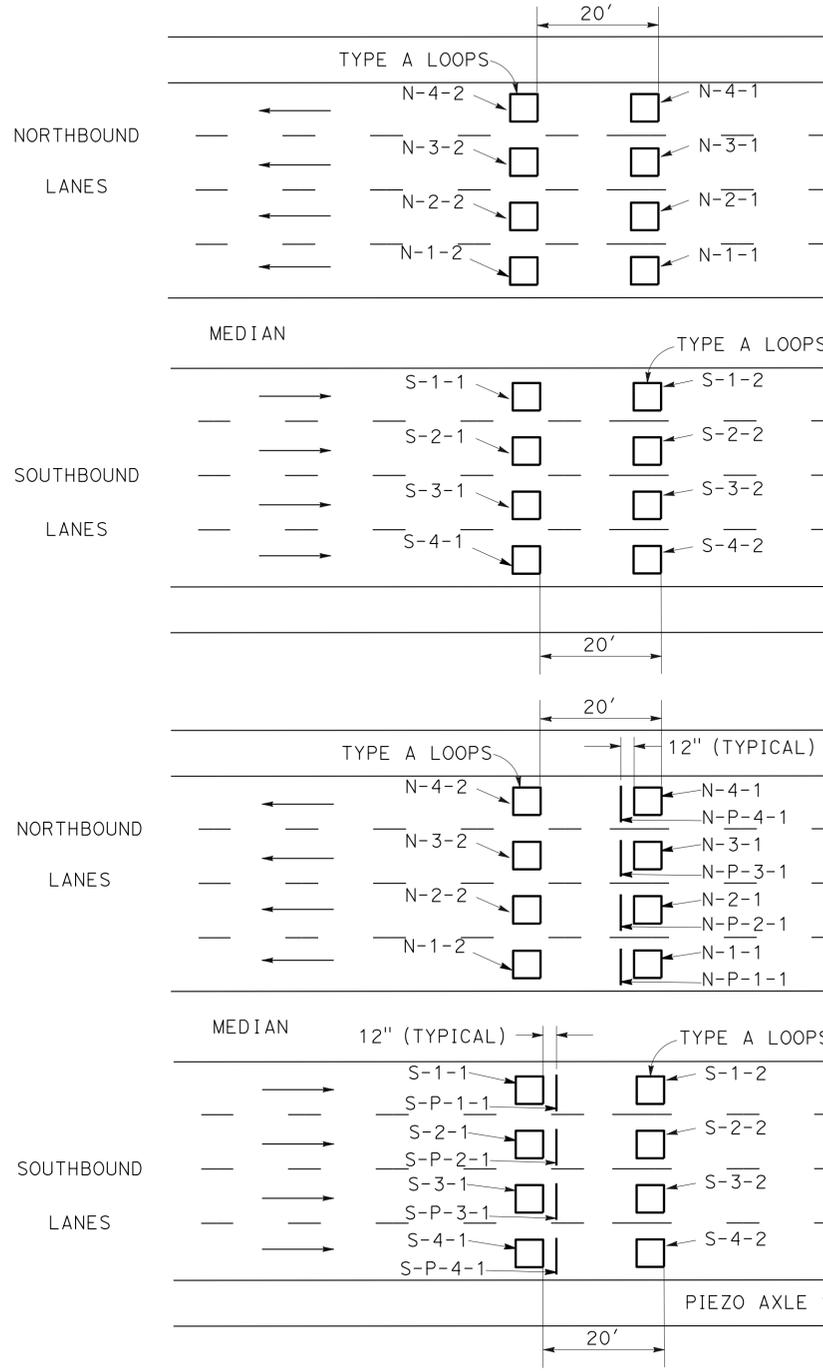


**PIEZO AXLE SENSOR DESIGNATION**



TMS (TYP) -  
 ADJUST FOR ACTUAL NUMBER OF LANES

VCS (TYP) -  
 ADJUST FOR ACTUAL NUMBER OF LANES



LOOP DETECTOR AND PIEZO AXLE SENSOR  
 PLACEMENT AND DESIGNATION  
**DETAIL A**

PIEZO AXLE SENSOR INSTALLATION  
**TOP VIEW  
 DETAIL B**

**ELECTRICAL DETAILS  
 E-16**

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 Tyler Laing Paul Matos  
 Ali Bakhdoud

LAST REVISION DATE PLOTTED => 05-FEB-2016  
 01-31-16 TIME PLOTTED => 14:02

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

FUNCTIONAL SUPERVISOR  
 ALI BAKHDOUD

CALCULATED-DESIGNED BY  
 CHECKED BY

TYLER LAING  
 PAUL MATOS

REVISED BY  
 DATE REVISED

**NOTES:**

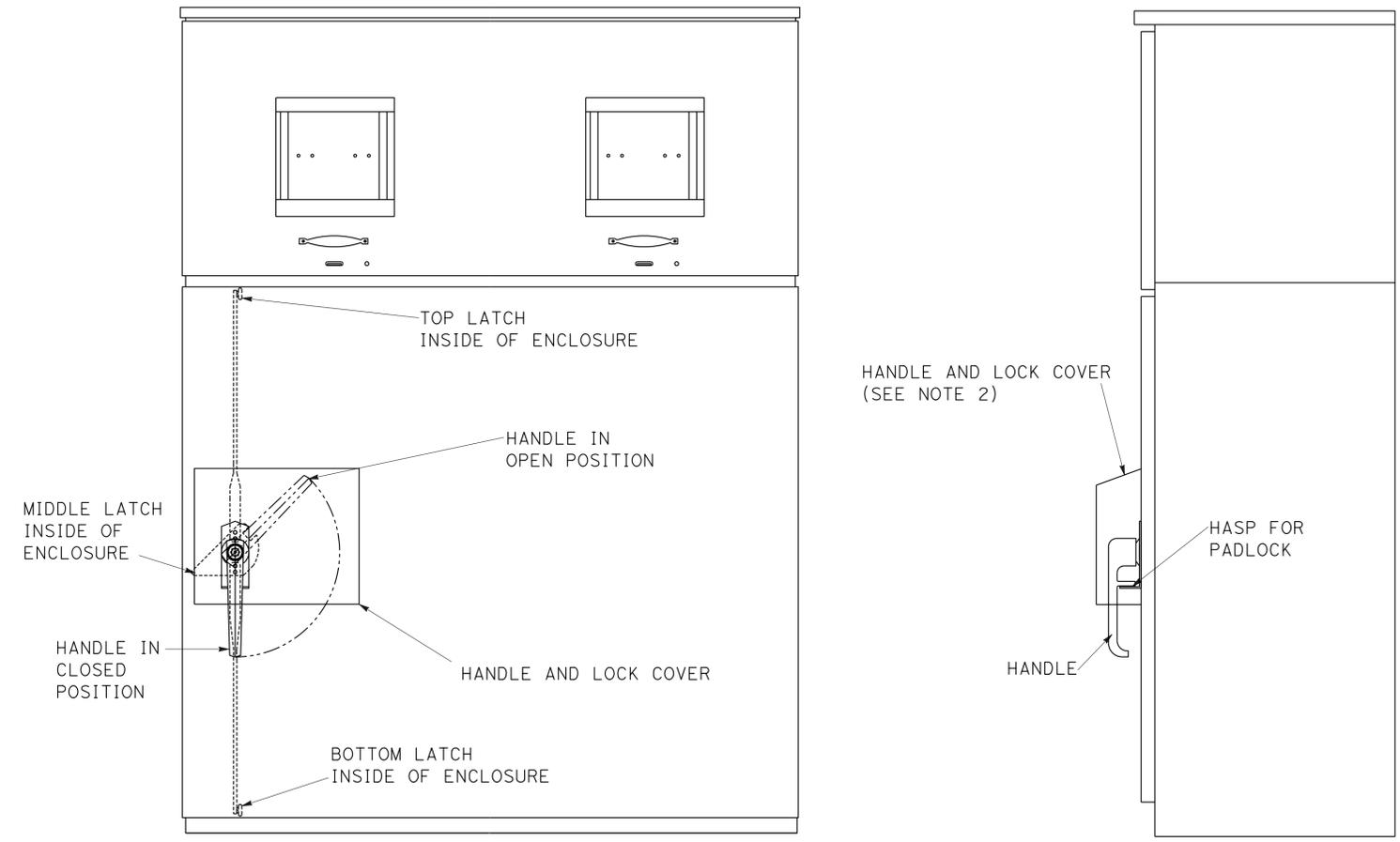
1. SEE STANDARD PLANS FOR DETAILS NOT SHOWN.
2. WELD LOCK COVER AROUND HANDLE.

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

*Paul Matos* 01-31-16  
 REGISTERED ELECTRICAL ENGINEER DATE  
 2-1-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 PAUL MATOS  
 No. 18757  
 Exp. 06/30/17  
 ELECTRICAL  
 STATE OF CALIFORNIA

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



TYPE III CF SERVICE EQUIPMENT ENCLOSURE,  
 3 POINT LATCH, HANDLE, AND LOCK COVER  
**DETAIL C**

APPROVED FOR ELECTRICAL WORK ONLY

**ELECTRICAL DETAILS  
 E-17**

NO SCALE

**NOTE:**

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	21	37

01-31-16  
 REGISTERED ELECTRICAL ENGINEER DATE  
 2-1-16  
 PLANS APPROVAL DATE

PAUL MATOS  
 No. 18757  
 Exp. 06/30/17  
 ELECTRICAL  
 STATE OF CALIFORNIA

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

**TRAFFIC MONITORING STATION**

SHEET No.	LOCATION No.	EA														LF							
		No. 5(T)(E) PB	No. 6 TAMPER RESISTANT PB COVER	No. 6(T)(E) PB	DETECTOR LOOP, TYPE A	TYPE III-CF SERVICE EQUIPMENT ENCLOSURE FOUNDATION	TYPE III-CF SERVICE EQUIPMENT ENCLOSURE	30A, 2P CONTACTOR	30A, 1P CB	30A, 2P CB	100A, 2P CB	TYPE 334L CONTROLLER CABINET FOUNDATION WITH ANCHOR BOLTS	TYPE 334L CONTROLLER CABINET	WIRELESS MODEM	PIEZO AXLE SENSOR WITH STC	PG&E APPROVED PB	2" CONDUIT (TYPE 1)	3" CONDUIT (TYPE 1)	3" CONDUIT (TYPE 3)	No. 8 (G) CONDUCTOR (CU)	No. 4 CONDUCTOR (AL)	No. 1/0 CONDUCTOR (AL)	DLC
E-1	1	5		1	12			1	3	2	2	1	1	1	1	1	10	40	335	160	320		2340
E-2	2	7		2	12	1	1	1	3	2	2	1	1	1	1	1	10	60	815	740	1220	300	1140
E-3	3	9		1	12							1	1	1									
E-4	4	7		1	12				1			1	1	1	6		10	40	220	240	480		660
E-5	5	9		1	16				1			1	1	1			10	40	430	100	200		3440
E-6	6	9		1	12				2		1	1	1	1			10	40	650	125	250		6900
E-7	7	5		1	6				1			1	1	3									480
E-8	8	3		1								1	1										
E-9	9	7		1	12				1		1	1	1	1				40	850	880	1900		1080
E-10	10	7		1	12				1	1	1	1	1	6			10	40	540	700	1400		1680
E-11	11	8		1	12				2			1	1	1			10	40	1125	975	3050		1590
E-12	12	3	2	1	12				1		1	1	1	1			10	40	210	90	180		1590
E-13	13	10		1	8				2		1	1	1	4			10	40	1200	1200	6000		800
E-14	14	7	2		8				1			1	1	4					750	600	1200		1400
E-15	15	7		1	8				2			1	1	1			10	40	900	750	1500		2060

**ELECTRICAL QUANTITIES  
 E-18**

APPROVED FOR ELECTRICAL WORK ONLY

NO SCALE

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

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	22	37
<i>Grace M. Tsushima</i> REGISTERED CIVIL ENGINEER					
July 19, 2013 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

REGISTERED PROFESSIONAL ENGINEER

Grace M. Tsushima

No. C49814

Exp. 9-30-14

CIVIL

STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 2-1-16

**UNIT OF MEASUREMENT SYMBOLS:**

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

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:

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

\* For use on a sign panel only

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

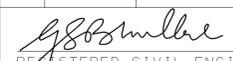
**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

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

2010 REVISED STANDARD PLAN RSP A10B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	23	37

  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE



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

TO ACCOMPANY PLANS DATED 2-1-16

TABLE 1

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

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

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

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

TABLE 2

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

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

\*\* - Longitudinal buffer space or flagger station spacing

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

TABLE 3

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

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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM TABLES  
 FOR LANE AND RAMP CLOSURES**

NO SCALE

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

**REVISED STANDARD PLAN RSP T9**

2010 REVISED STANDARD PLAN RSP T9

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

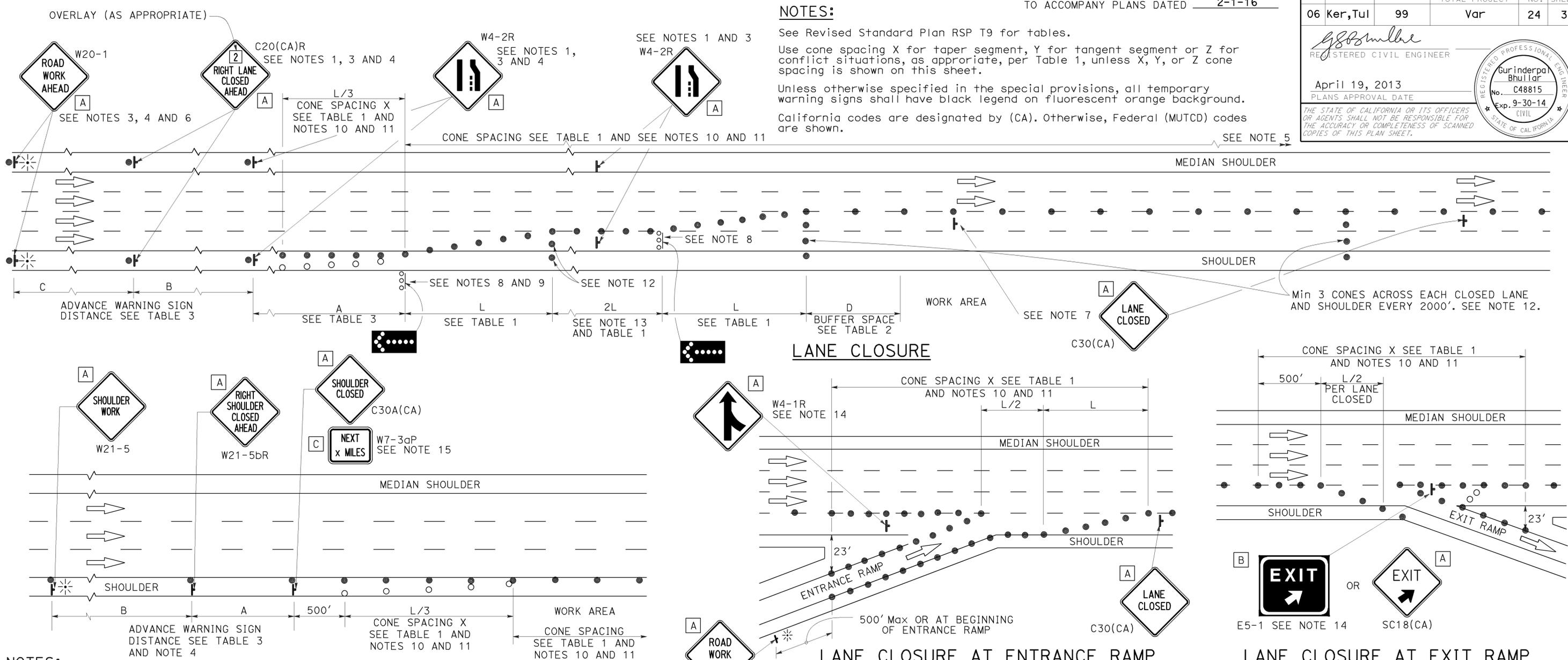
REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

TO ACCOMPANY PLANS DATED 2-1-16

**NOTES:**

See Revised Standard Plan RSP T9 for tables.  
 Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.  
 Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.  
 California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.



**NOTES:**

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.

**SHOULDER CLOSURE**

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

W20-1 SEE NOTE 4

**LEGEND**

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

**SIGN PANEL SIZE (Min)**

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

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T10**

2010 REVISED STANDARD PLAN RSP T10

# TYPICAL RAMP CLOSURES

## SIGN PANEL SIZE (Min)

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

## LEGEND

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

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

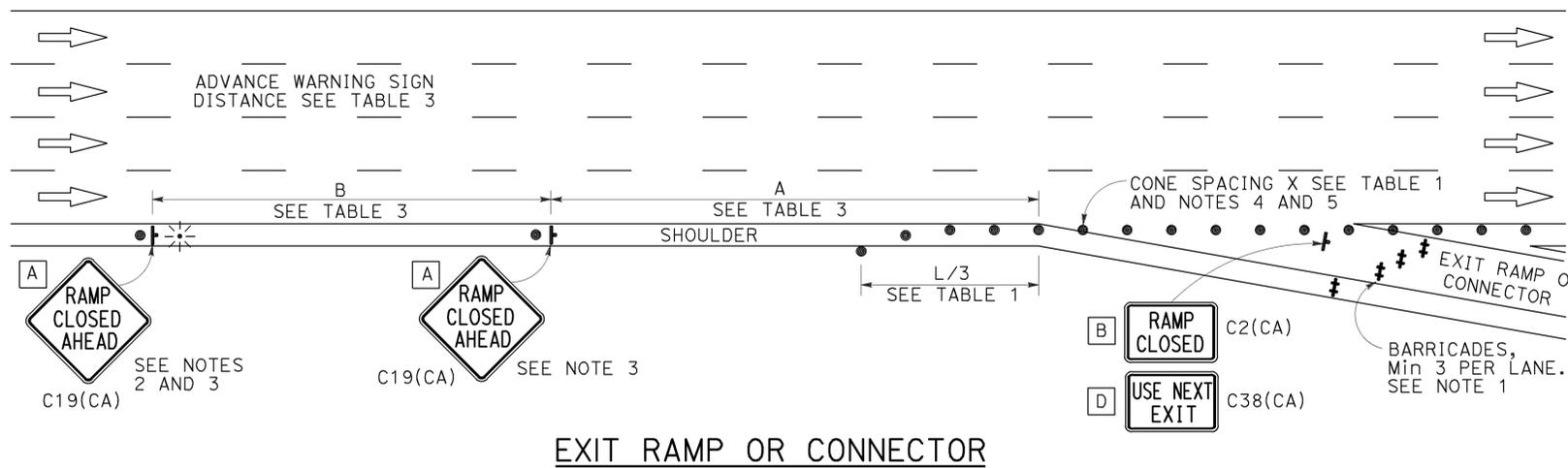
*Gurinderpal Bhullar*  
 REGISTERED CIVIL ENGINEER  
 April 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

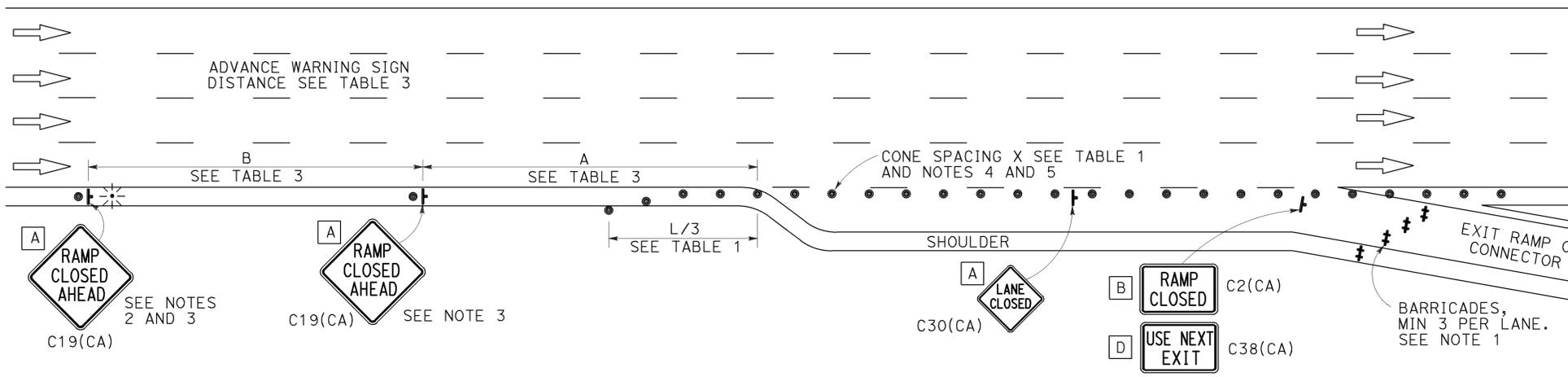
TO ACCOMPANY PLANS DATED 2-1-16

## NOTES:

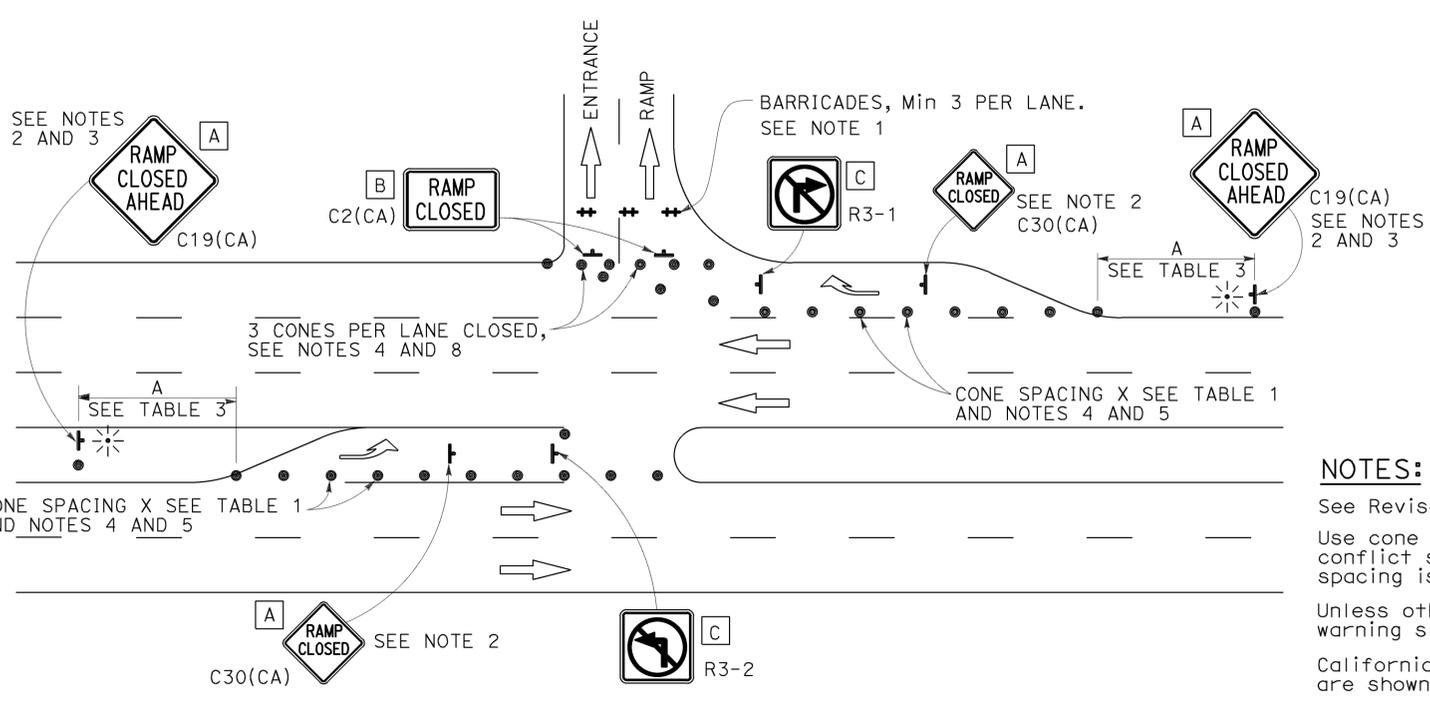
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed by the Engineer, on all guide signs that refer to the closed ramp. The letter size on the overlay shall be the same as the guide sign.
- Each advance C19(CA) "RAMP CLOSED AHEAD" sign shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. A flashing beacon shall be placed on top of the first C19(CA) sign during hours of darkness.
- All cones used for ramp closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime ramp closures only.
- At least one person shall be assigned to provide full time maintenance of traffic control devices, unless otherwise directed by the Engineer.
- The existing "EXIT" signs shall be covered during ramp closures.
- A minimum of 3 cones shall be placed transversely across each closed lane and shoulder.



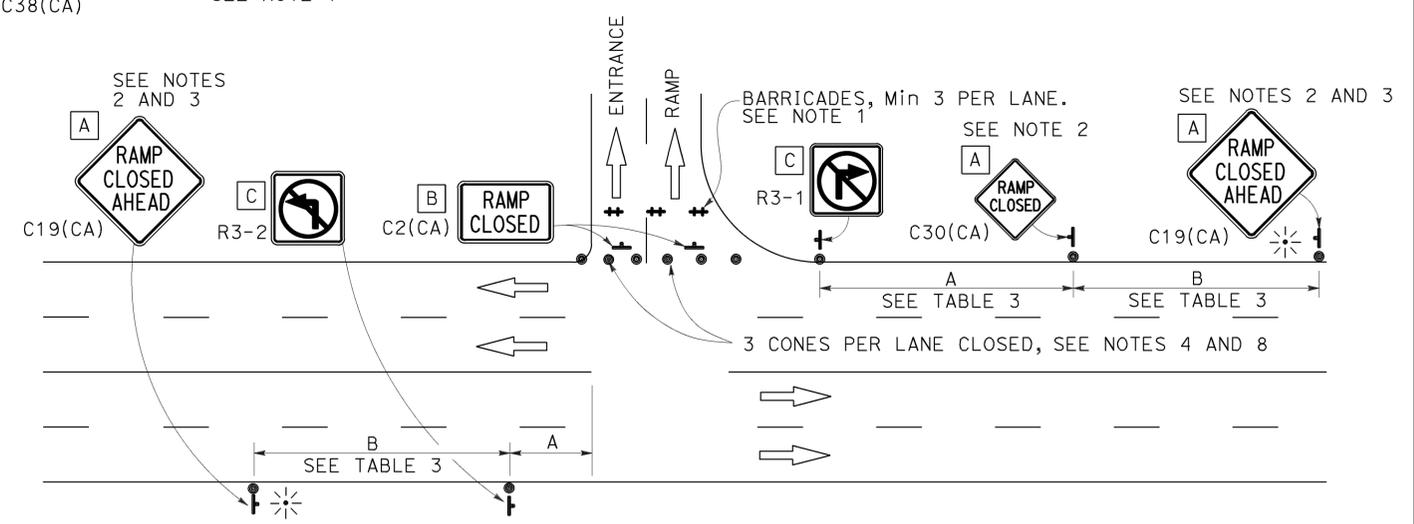
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

## NOTES:

- See Revised Standard Plan RSP T9 for tables.
- Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.
- Unless otherwise specified in the special provisions, all temporary warning signs shall have black legend on fluorescent orange background.
- California codes are designated by (CA). Otherwise, Federal (MUTCD) codes are shown.

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

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

**REVISED STANDARD PLAN RSP T14**

2010 REVISED STANDARD PLAN RSP T14

**LEGEND:**

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

**ABBREVIATIONS**

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

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

*Theresa Gabriel*  
REGISTERED ELECTRICAL ENGINEER

October 30, 2015  
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 2-1-16

**SOFFIT AND WALL-MOUNTED LUMINAIRES**

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

**NOTE:**

Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

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

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)**

NO SCALE

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

**REVISED STANDARD PLAN RSP ES-1A**

**MISCELLANEOUS ELECTROLIERS**

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

**NOTES:**

- LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
- Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

**STANDARD ELECTROLIER**

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

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	27	37

*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 October 30, 2015  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 2-1-16

**CONDUIT**

NEW	EXISTING	
		LIGHTING CONDUIT, UNLESS OTHERWISE INDICATED OR NOTED
		TRAFFIC SIGNAL CONDUIT
		COMMUNICATION CONDUIT
		TELEPHONE CONDUIT
		FIRE ALARM CONDUIT
		FIBER OPTIC CONDUIT
		CONDUIT TERMINATION
		CONDUIT RISER ATTACHED TO THE STRUCTURE OR SERVICE POLE

**SIGNAL EQUIPMENT**

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)
		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

**SERVICE EQUIPMENT**

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

**POLE-MOUNTED SERVICE DESIGNATION**

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

**FLASHING BEACON**

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

**SIGNAL EQUIPMENT Cont**

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

**NOTES:**

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

**ILLUMINATED OVERHEAD SIGN**

NEW	EXISTING	
		SINGLE POST, SINGLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, DOUBLE ILLUMINATED SIGN, BALANCED BUTTERFLY
		SINGLE POST, SINGLE ILLUMINATED SIGN, FULL CANTILEVER
		DOUBLE POST, SINGLE ILLUMINATED SIGN
		SINGLE ILLUMINATED SIGN MOUNTED ON STRUCTURE
		DOUBLE POST, SINGLE ILLUMINATED SIGN WITH ELECTROLIER

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS  
(LEGEND AND ABBREVIATIONS)**

NO SCALE

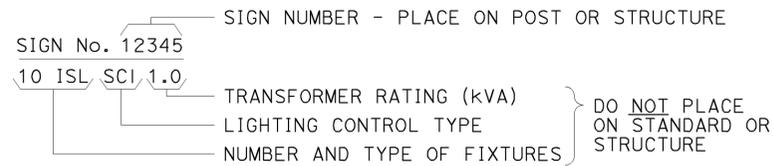
RSP ES-1B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-1B DATED JULY 19, 2013 AND STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-1B**

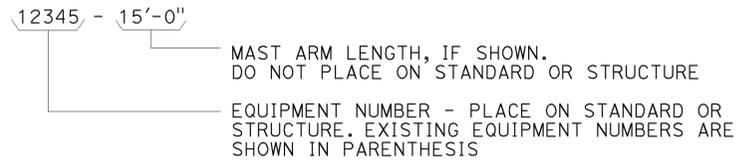
2010 REVISED STANDARD PLAN RSP ES-1B

### EQUIPMENT IDENTIFICATION

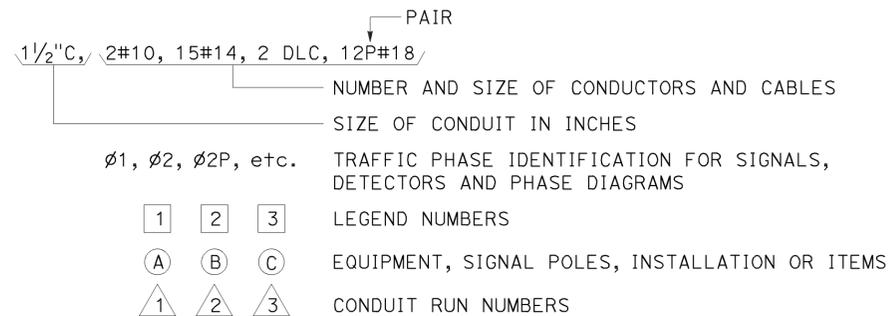
#### ILLUMINATED SIGN IDENTIFICATION NUMBER:



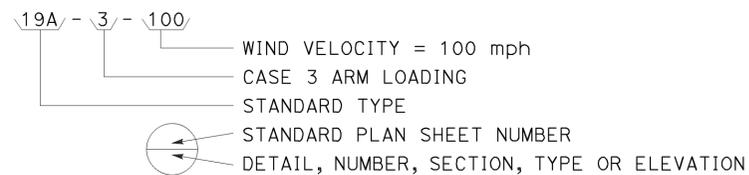
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



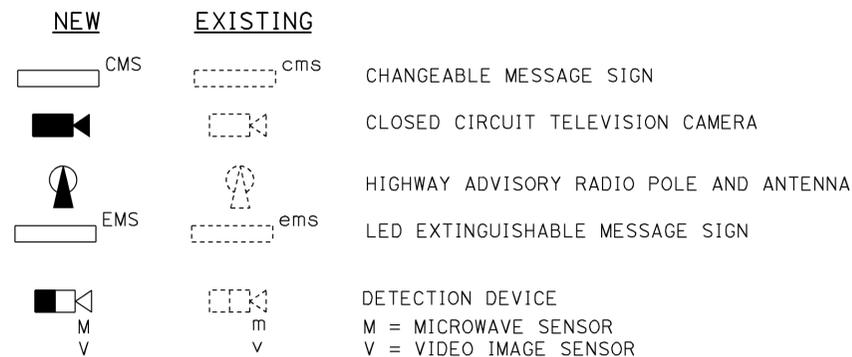
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



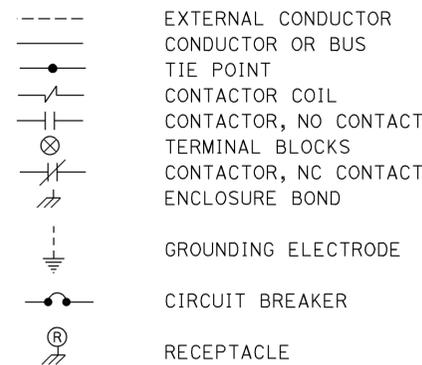
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



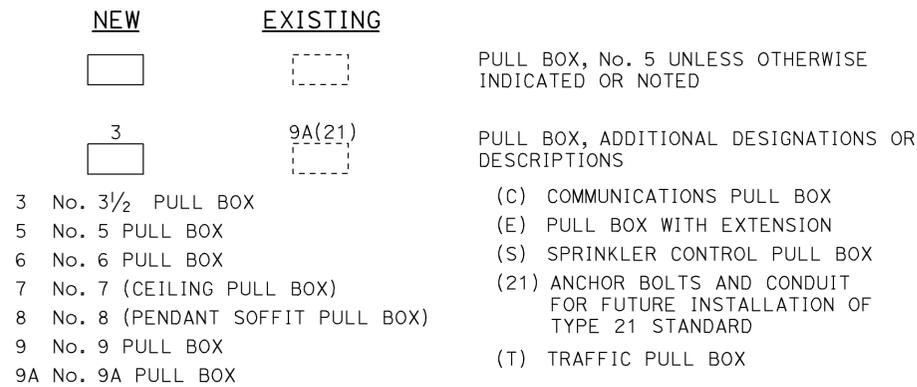
### MISCELLANEOUS EQUIPMENT



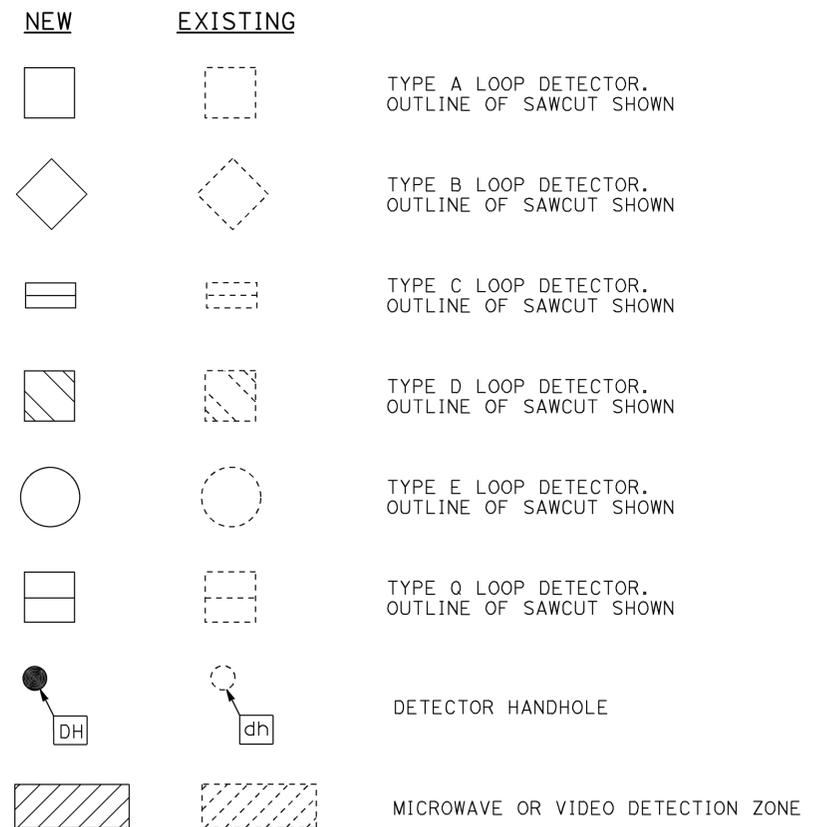
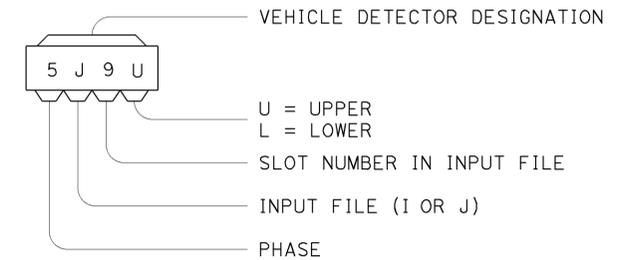
### WIRING DIAGRAM LEGEND



### PULL BOXES



### VEHICLE DETECTORS



STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

## ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

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

**REVISED STANDARD PLAN RSP ES-1C**

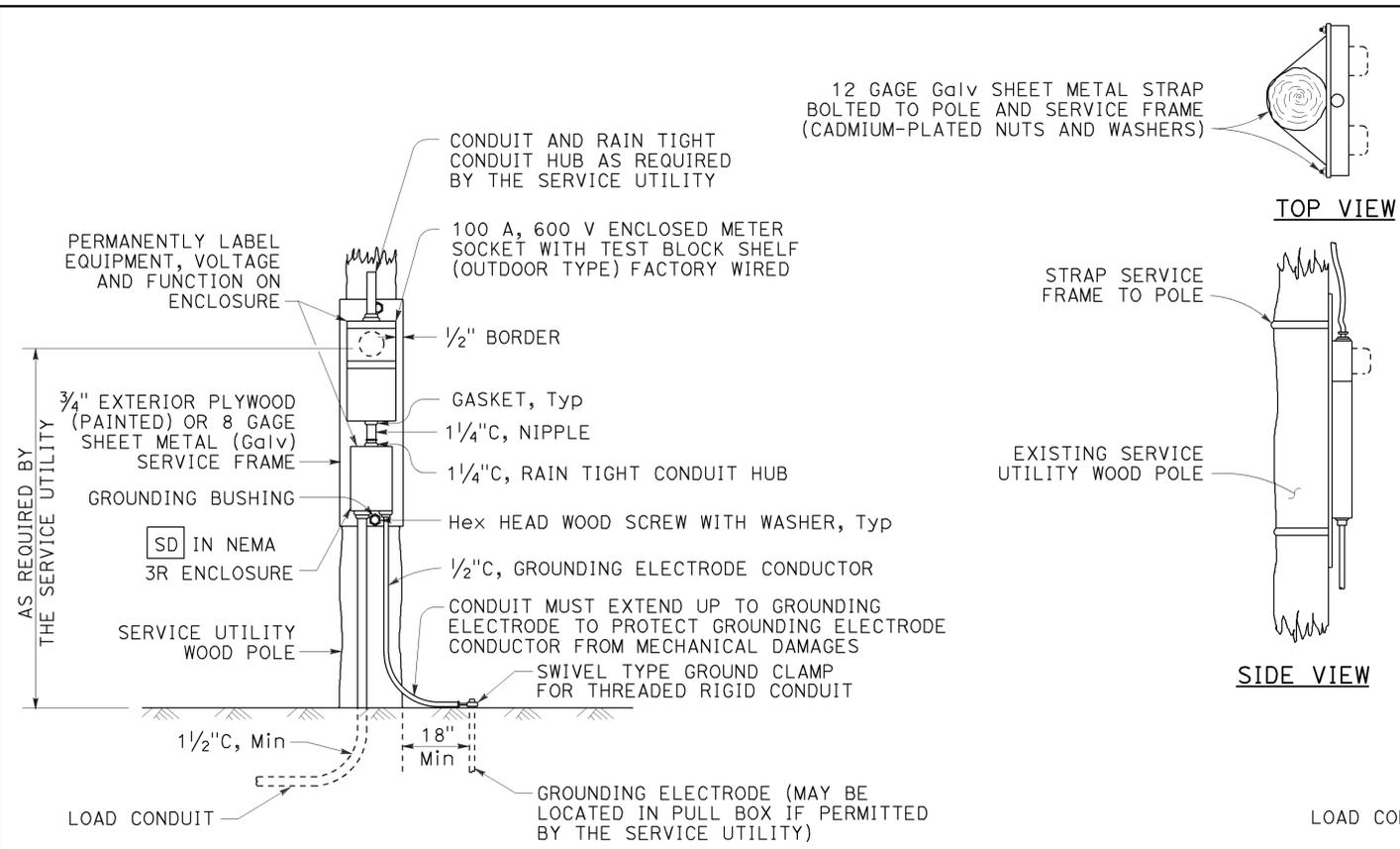
2010 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	29	37

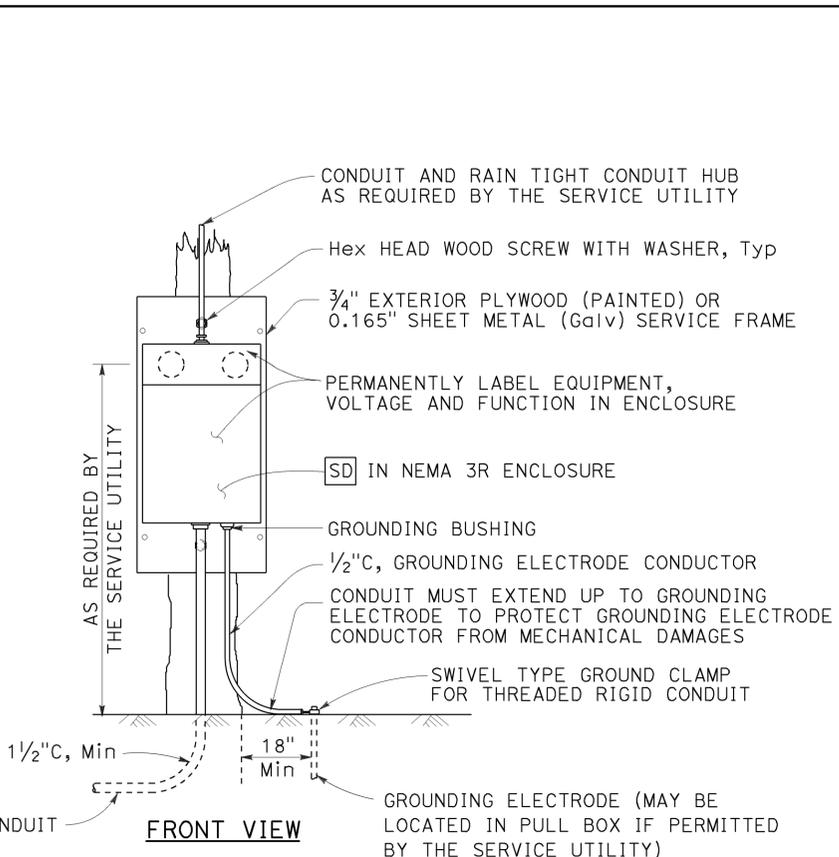
Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 October 30, 2015  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



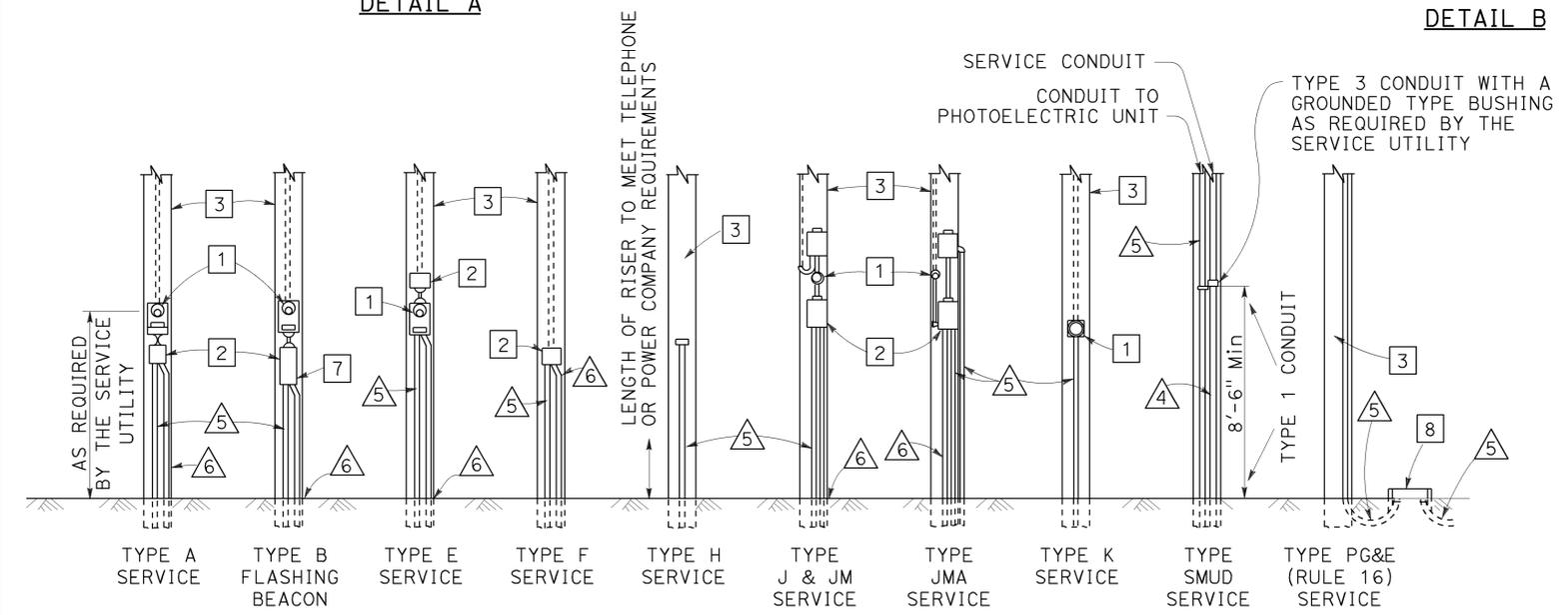
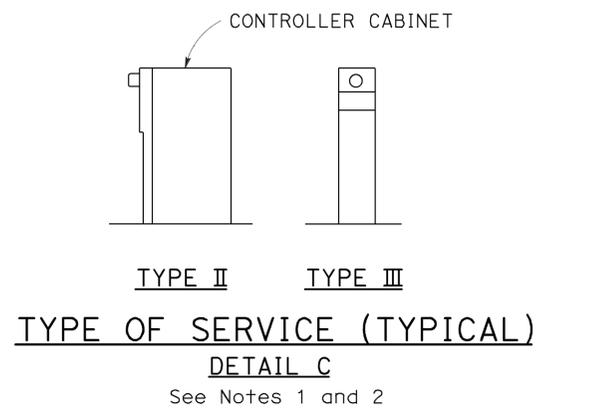
TO ACCOMPANY PLANS DATED 2-1-16



**TYPE SCE-1**  
DETAIL A

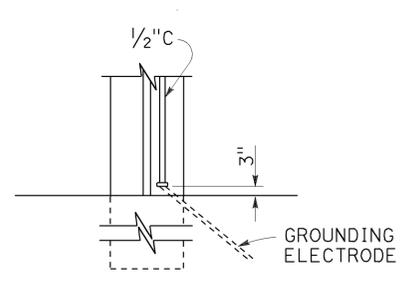


**TYPE SCE-2**  
DETAIL B

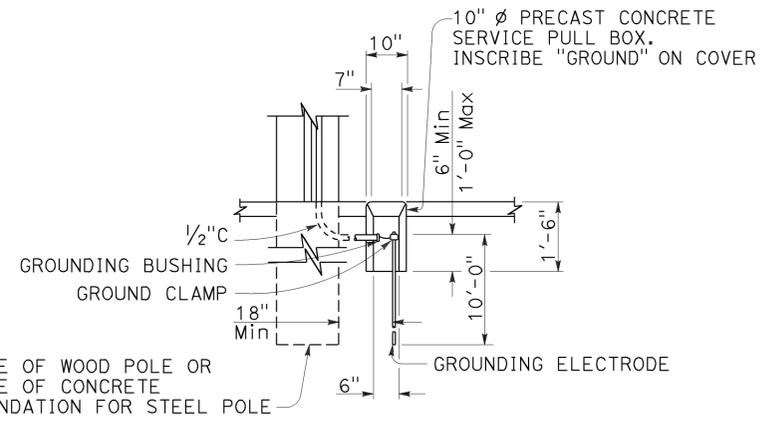


- LEGEND:**
- 1 METER SOCKET.
  - 2 SERVICE ENCLOSURE WITH A MINIMUM 60 A RATED MAIN CIRCUIT BREAKER, UNLESS OTHERWISE SHOWN.
  - 3 A. UTILITY OWNED POLE. THE SERVICE UTILITY WILL FURNISH AND INSTALL REQUIRED SERVICE RISER, PEU WITH CONDUCTORS AND OTHER EQUIPMENT AS NEEDED.  
B. STATE OWNED POLE. THE CONTRACTOR SHALL FURNISH AND INSTALL REQUIRED SERVICE RISER AND EQUIPMENT.
  - 4 2" C, SERVICE CONDUIT MUST HAVE A GROUNDED TYPE BUSHING INSTALLED AT UPPER END OF THE METALLIC POLE RISER CONDUIT. A GROUNDING CONDUCTOR MUST BE ATTACHED TO THE BUSHING, CARRIED THROUGH THE CONDUIT RUN AND ATTACHED TO THE SERVICE EQUIPMENT ENCLOSURE'S GROUNDING ELECTRODE.
  - 5 CONDUIT, LENGTH AND SIZE AS REQUIRED.
  - 6 1/2" C, 1#6. SEE DETAIL E.
  - 7 FLASHING BEACON CONTROL ASSEMBLY.
  - 8 SERVICE PULL BOX, No. 5 UNLESS OTHERWISE NOTED, FURNISHED AND INSTALLED BY THE CONTRACTOR. SERVICE UTILITY SHALL DETERMINE THE EXACT LOCATION.

**POLE MOUNTED SERVICE INSTALLATIONS**  
DETAIL D



**TYPE A**  
See Note 3



**TYPE B**  
See Note 4

**SERVICE GROUNDING**  
DETAIL E

- NOTES:**
- Type II service equipment enclosure mounted on the side of a controller cabinet.
  - Type III complete free-standing service equipment enclosure.
  - Ground clamp and required fittings must be accessible. Conduit must extend to protect grounding electrode conductor from mechanical damage.
  - Use where service utility requires 18" clearance between grounding electrode and the pole or service equipment enclosure. Installation shown is for sidewalk or paved areas. In unpaved areas, omit special service pull box and locate ground clamp above ground or locate ground clamp in nearest pull box.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS**  
**(SERVICE EQUIPMENT)**

NO SCALE

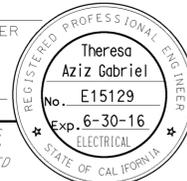
RSP ES-2A DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-2A DATED MAY 20, 2011 - PAGE 428 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-2A**

2010 REVISED STANDARD PLAN RSP ES-2A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	30	37

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



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

TO ACCOMPANY PLANS DATED 2-1-16

NOTES:

1. The plan shows the approximate location of devices within the enclosure. Components may be rearranged, however, the "working" clearances within the service equipment enclosure shall be maintained.
2. In unpaved areas a raised portland cement concrete pad 2'-0" x 4" x width of foundation shall be constructed in front of new service equipment enclosure installation. Pad shall be set to elevation of foundation.
3. Plug-in circuit breakers may be mounted in the vertical or horizontal position. Cable-in/cable-out circuit breakers shall be mounted in the vertical position.
4. Type III-AF and Type III-BF service equipment enclosures shall have the meter viewing windows located on the front side of the service equipment enclosures.
5. Type III-AR and Type III-BR service equipment enclosure shall be similarly constructed as Type III-AF and Type III-BF respectively, except the meter viewing windows shall be located on the back side of the service equipment enclosures.

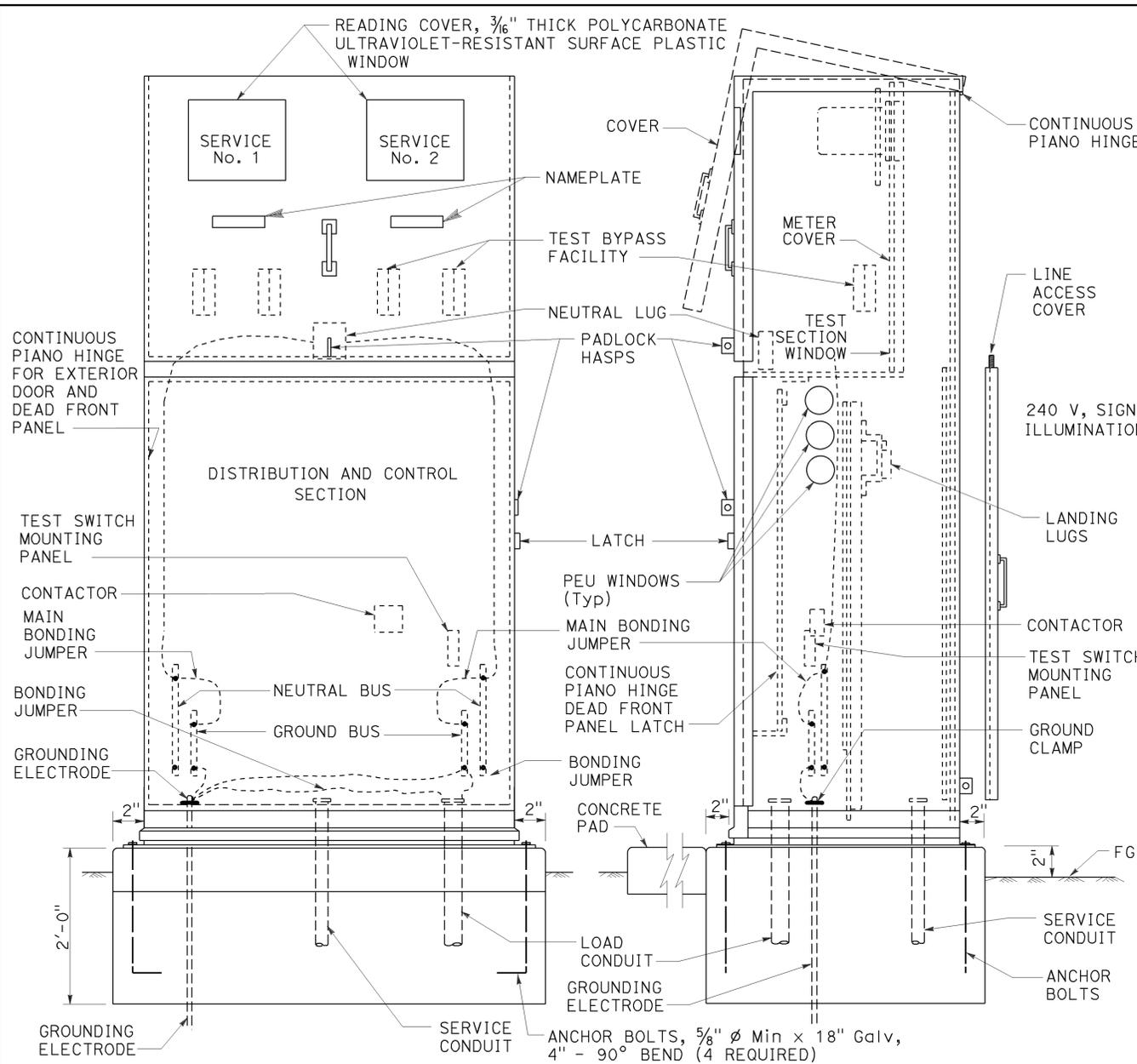
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (SERVICE EQUIPMENT ENCLOSURE  
 NOTES TYPE III SERIES)**

NO SCALE

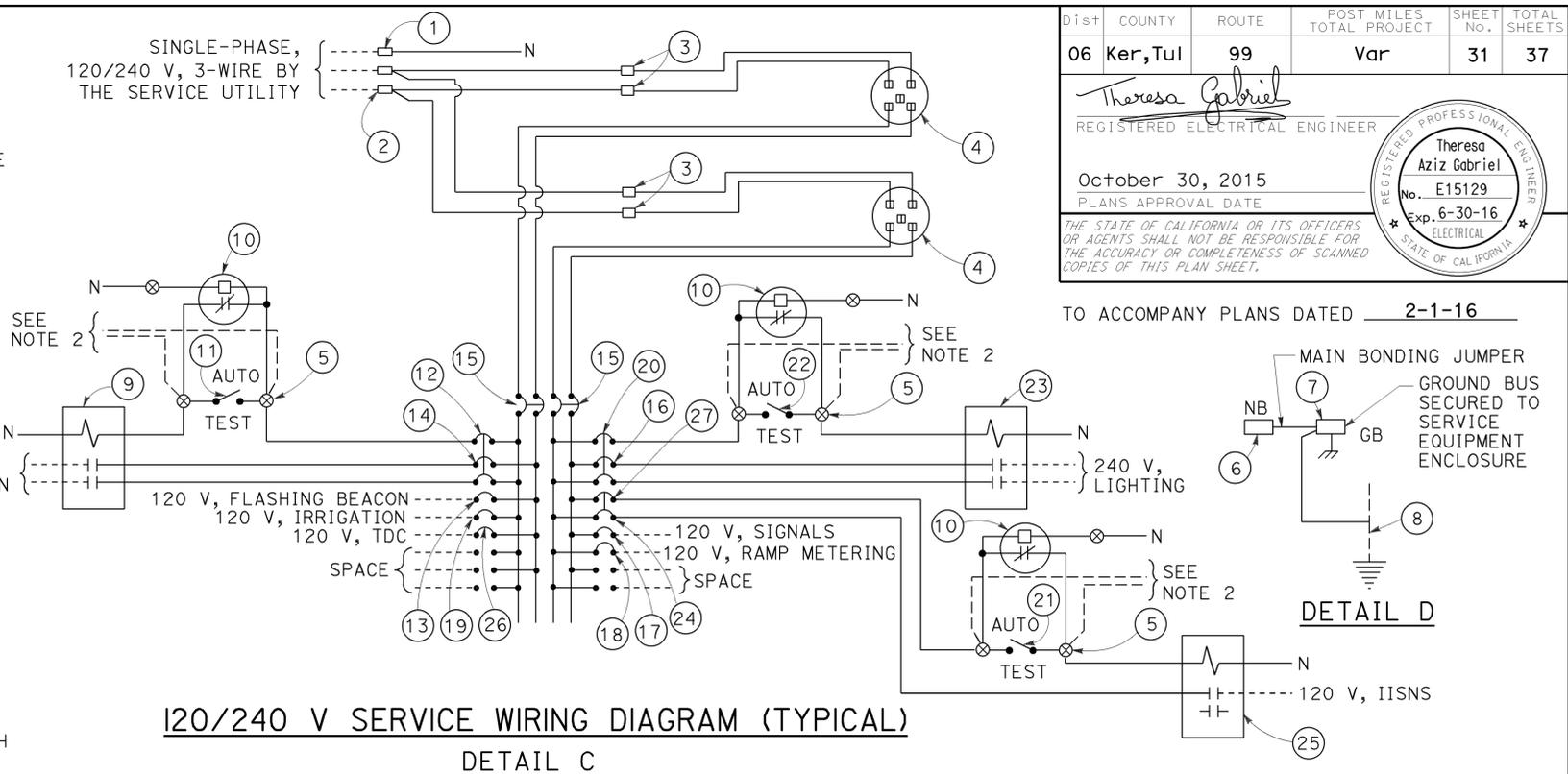
RSP ES-2C DATED OCTOBER 30, 2015 SUPERSEDES STANDARD PLAN ES-2C DATED MAY 20, 2011 - PAGE 430 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-2C**

2010 REVISED STANDARD PLAN RSP ES-2C



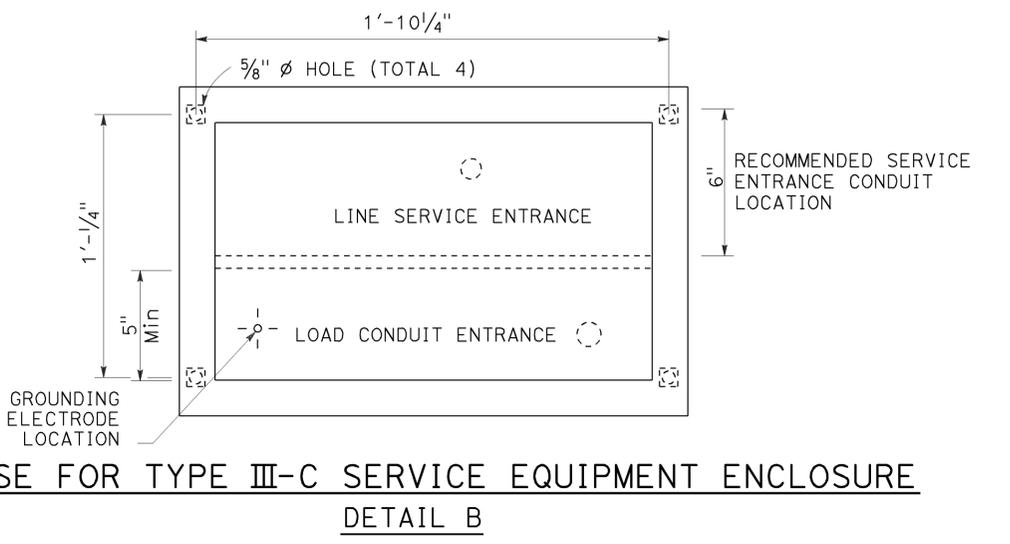
FRONT VIEW  
TYPE III-CF SERVICE EQUIPMENT ENCLOSURE (TYPICAL)  
DETAIL A



120/240 V SERVICE WIRING DIAGRAM (TYPICAL)  
DETAIL C

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 DEMARCATON CABINET
			㉗	15 A, 120 V, 1P, CB	IISNS CONTROL

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



BASE FOR TYPE III-C SERVICE EQUIPMENT ENCLOSURE  
DETAIL B

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

**NOTES:**

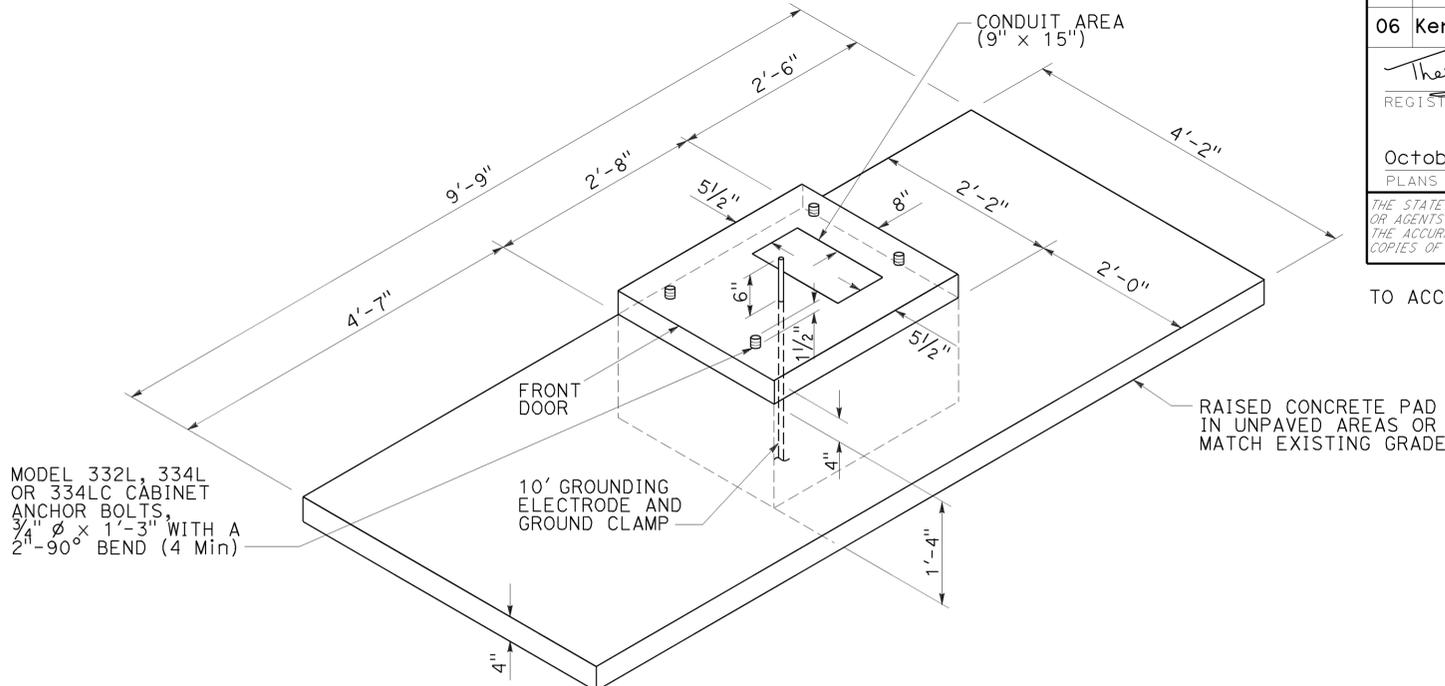
1. Foundation shall be located to provide 2'-0" minimum clearance between face of curb and any portion of cabinet.
2. Controller units, plug-mounted equipment, shelf-mounted equipment and wall-mounted equipment shall be located to permit safe and easy removal or replacement without removing any other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

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

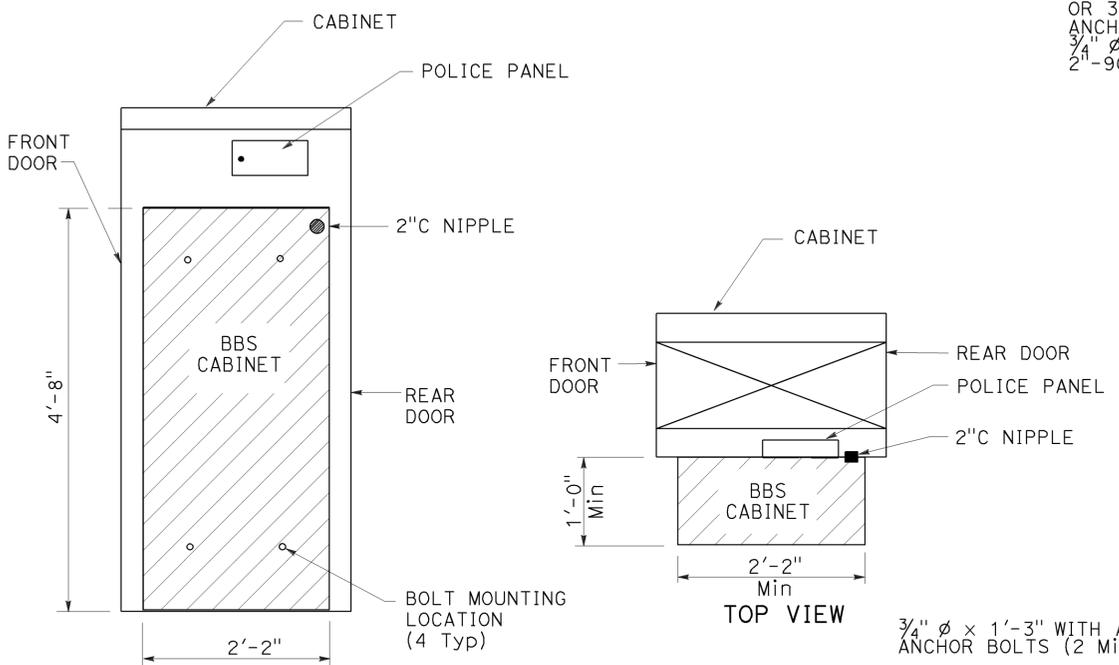
*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 October 30, 2015  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

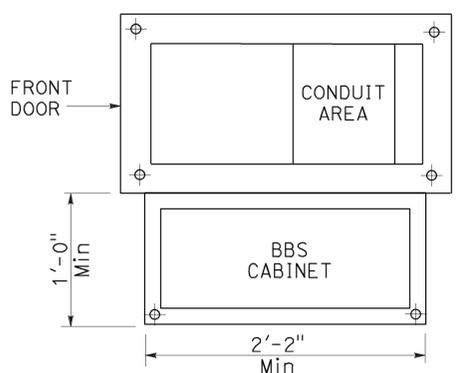
TO ACCOMPANY PLANS DATED 2-1-16



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

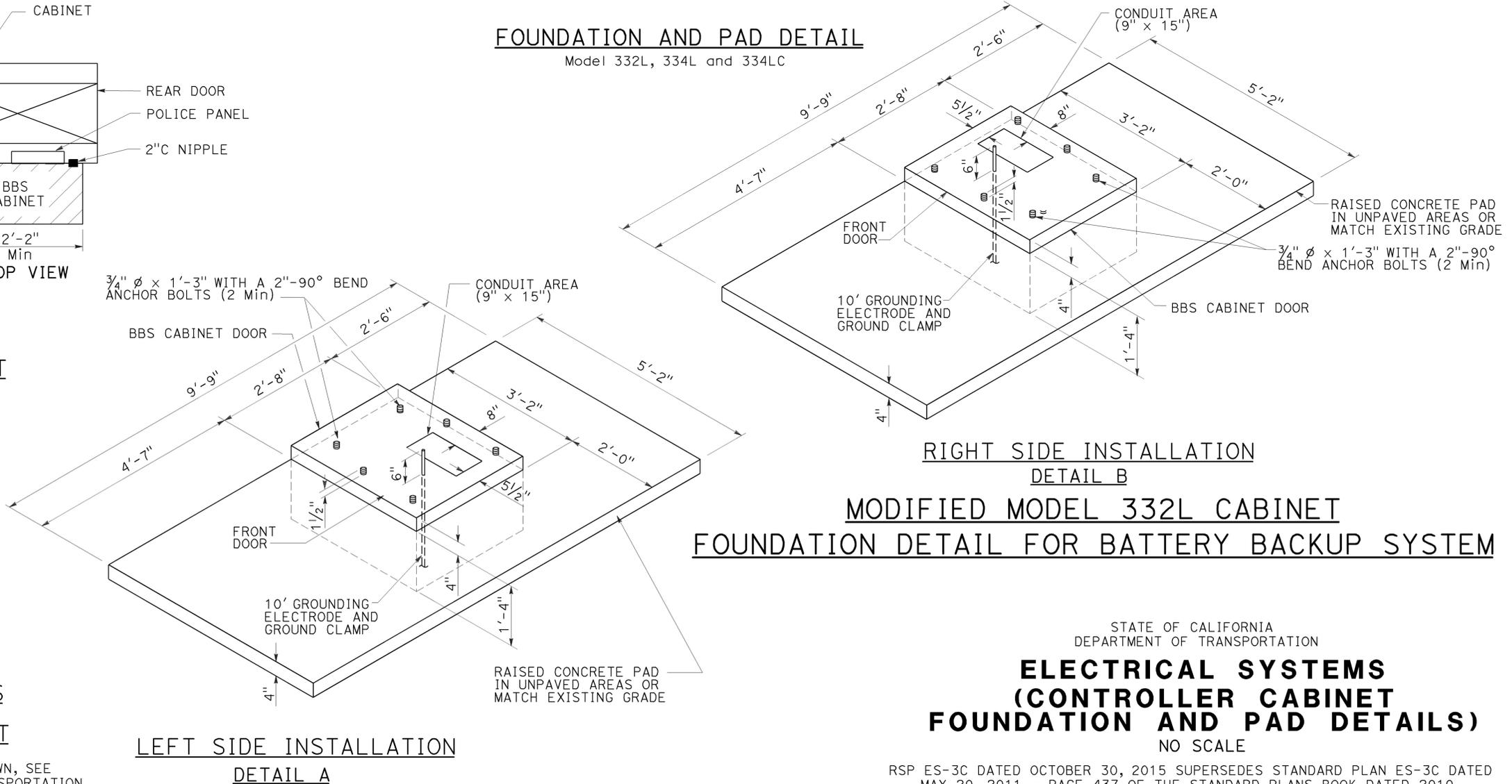


**BBS CABINET MOUNTED TO THE MODEL 332L CABINET**



**BASE PLAN FOR BBS MOUNTED TO THE MODEL 332L CABINET**

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



**LEFT SIDE INSTALLATION DETAIL A**

**RIGHT SIDE INSTALLATION DETAIL B**

**MODIFIED MODEL 332L CABINET FOUNDATION DETAIL FOR BATTERY BACKUP SYSTEM**

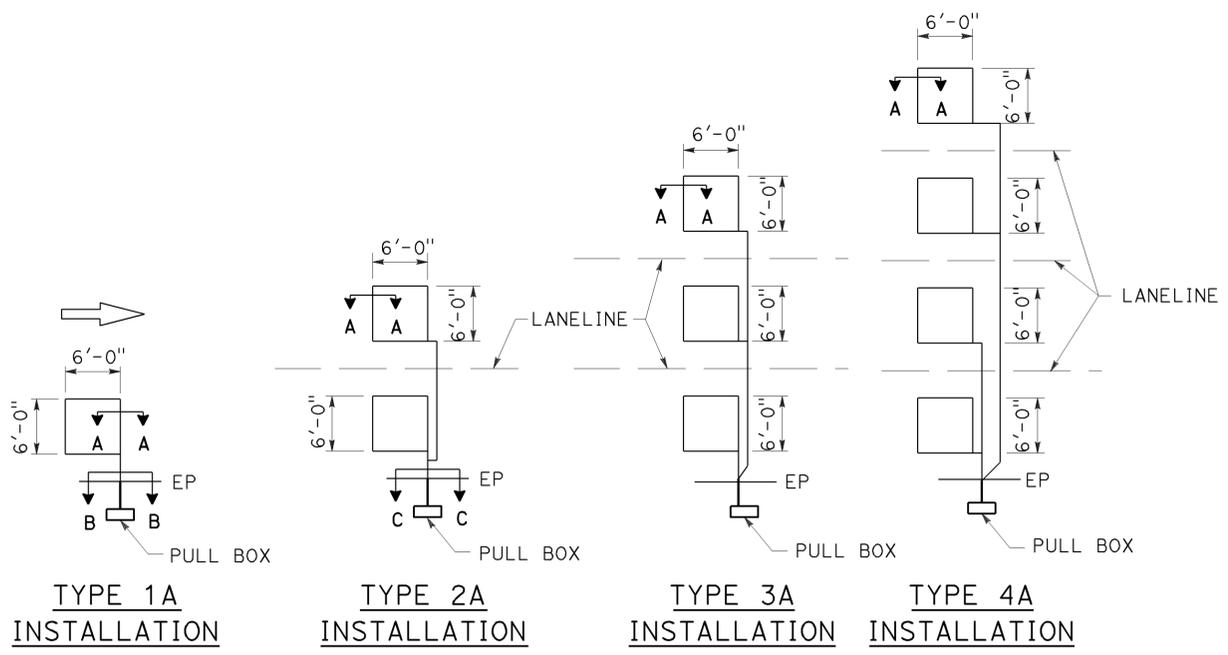
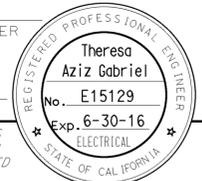
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(CONTROLLER CABINET**  
**FOUNDATION AND PAD DETAILS)**  
 NO SCALE

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

**REVISED STANDARD PLAN RSP ES-3C**

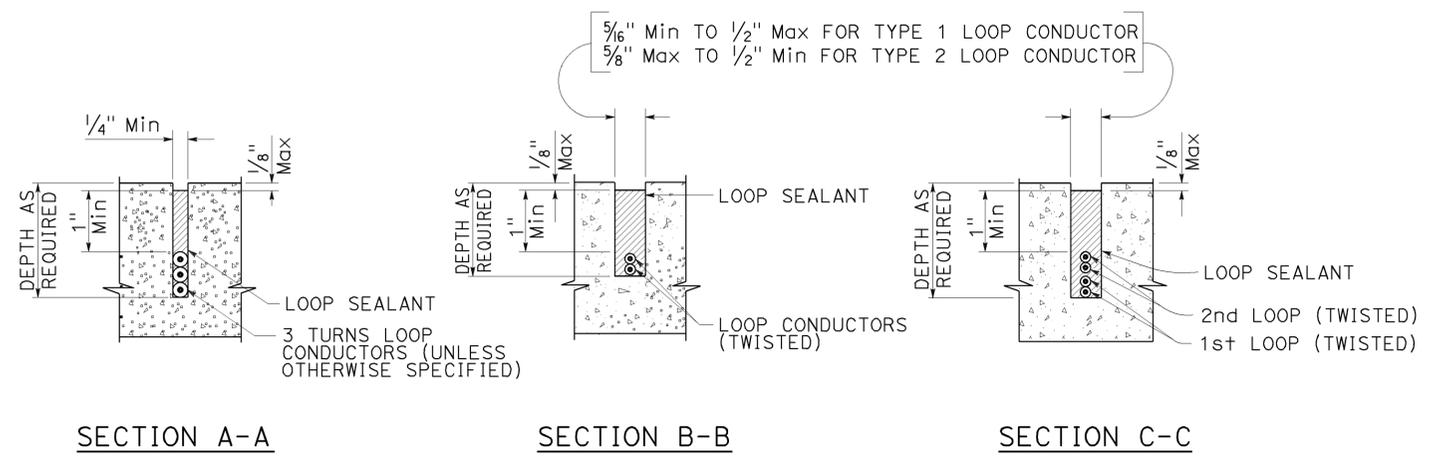
2010 REVISED STANDARD PLAN RSP ES-3C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	33	37
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER October 30, 2015 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
TO ACCOMPANY PLANS DATED <u>2-1-16</u>					

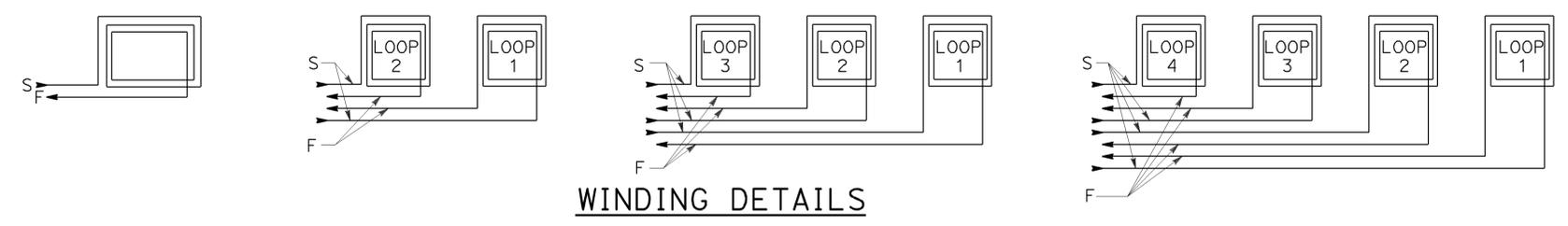


**SAWCUT DETAILS**

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

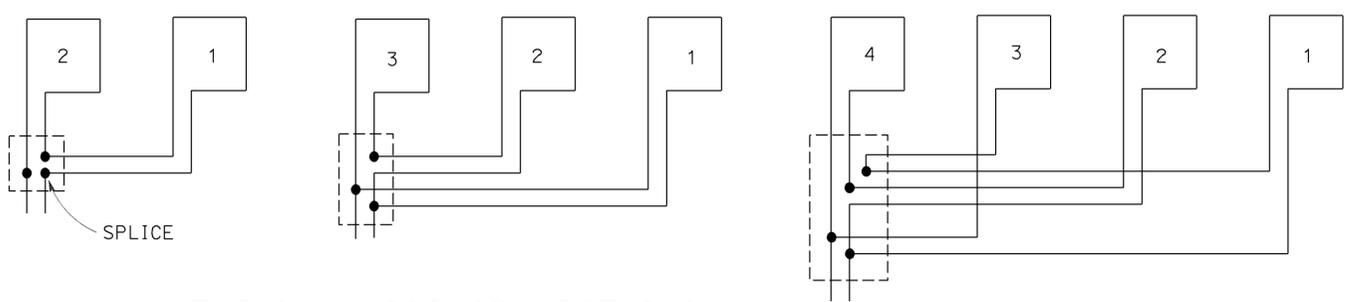


**SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR**



**WINDING DETAILS**

**ABBREVIATIONS:**  
 S - START  
 F - FINISH



**TYPICAL LOOP CONNECTIONS**  
 Dashed lines represent the pull box

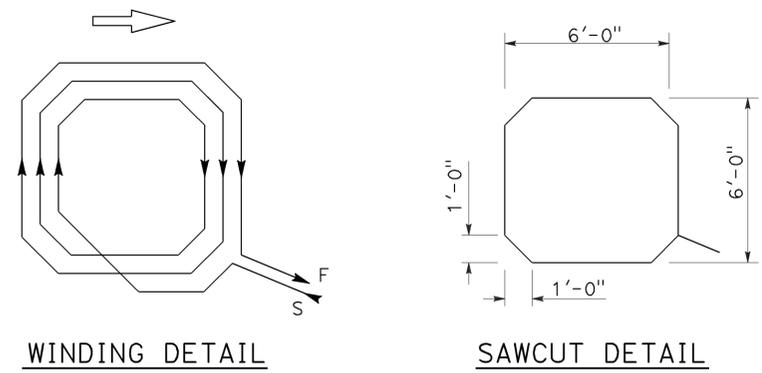
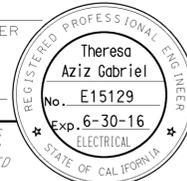
STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS  
 (LOOP DETECTORS)**  
 NO SCALE

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

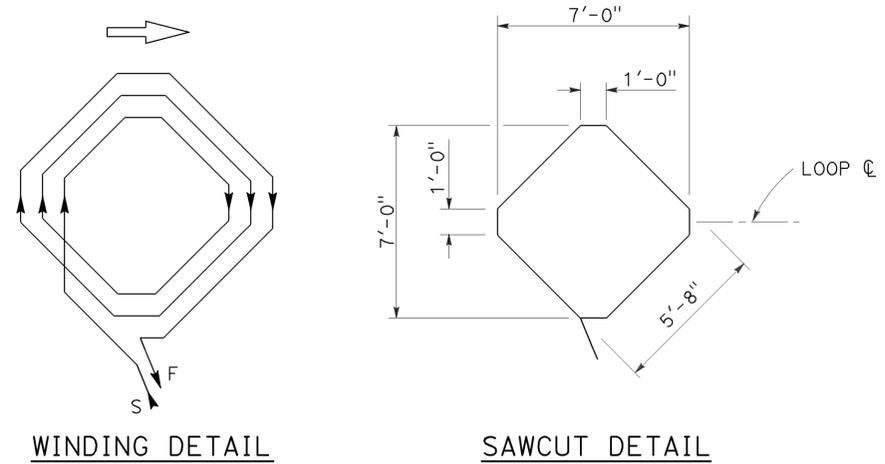
**REVISED STANDARD PLAN RSP ES-5A**

2010 REVISED STANDARD PLAN RSP ES-5A

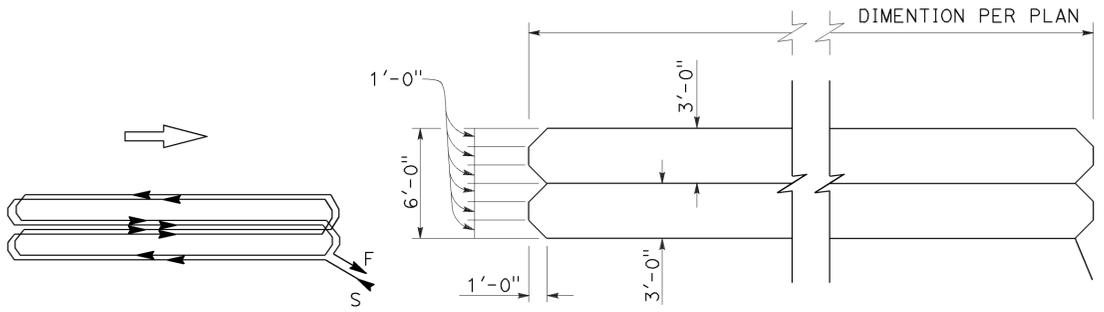
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	34	37
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER October 30, 2015 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
TO ACCOMPANY PLANS DATED <u>2-1-16</u>					



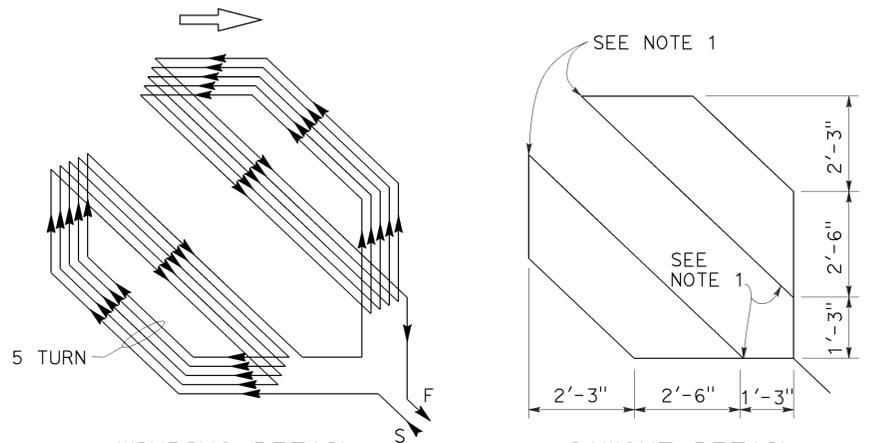
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE A LOOP DETECTOR CONFIGURATION**



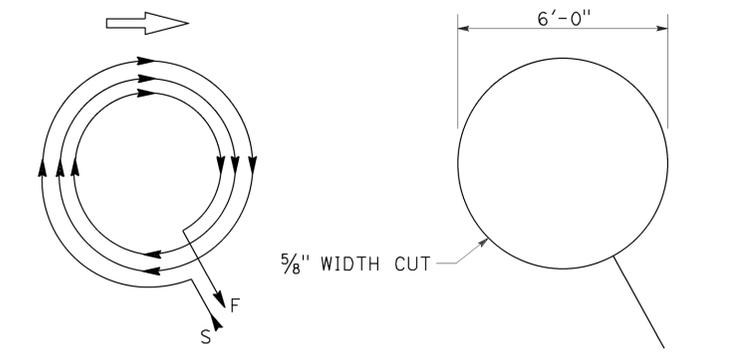
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE B LOOP DETECTOR CONFIGURATION**



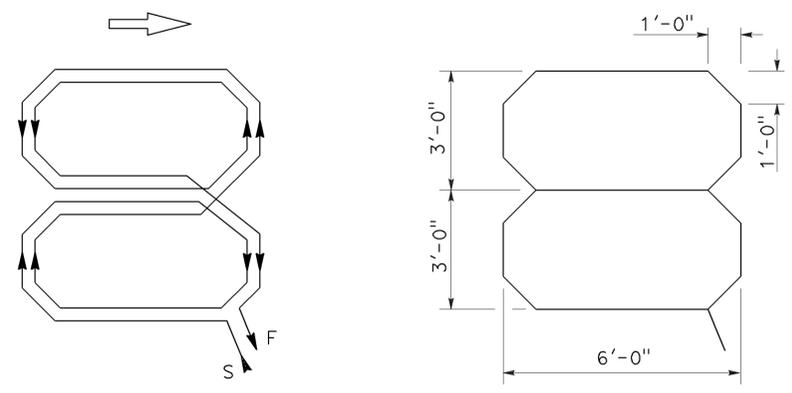
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE C LOOP DETECTOR CONFIGURATION**



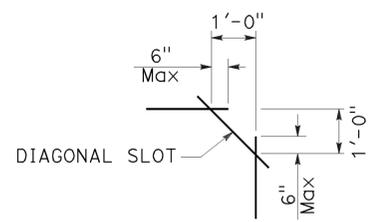
WINDING DETAIL  
SAWCUT DETAIL  
**TYPE D LOOP DETECTOR CONFIGURATION**



WINDING DETAIL  
SAWCUT DETAIL  
**TYPE E LOOP DETECTOR CONFIGURATION**



WINDING DETAIL  
SAWCUT DETAIL  
**TYPE Q LOOP DETECTOR CONFIGURATION**



**PLAN VIEW OF DIAGONAL SLOT AT CORNERS**

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

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

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

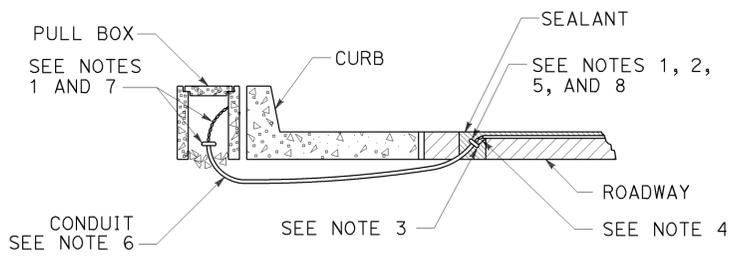
2010 REVISED STANDARD PLAN RSP ES-5B

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

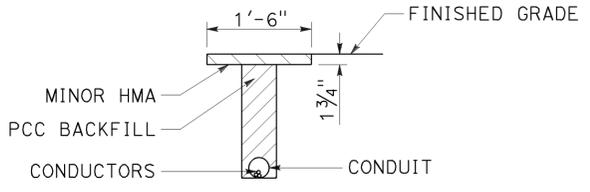
Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 October 30, 2015  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



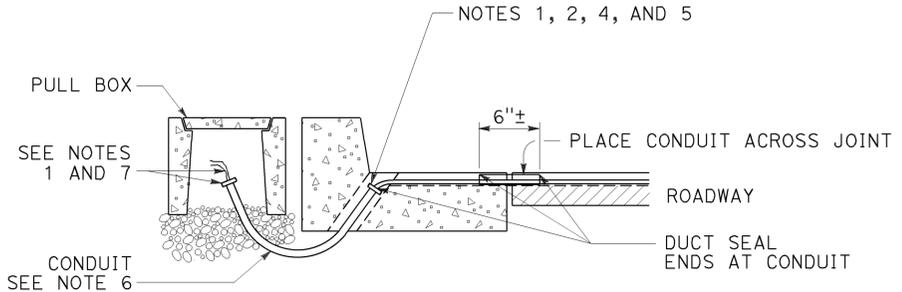
TO ACCOMPANY PLANS DATED 2-1-16



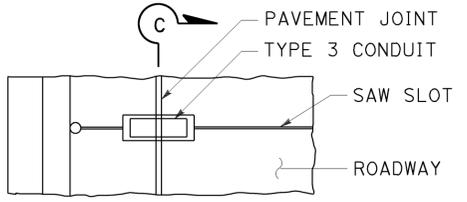
**TYPE A  
CURB TERMINATION DETAIL**



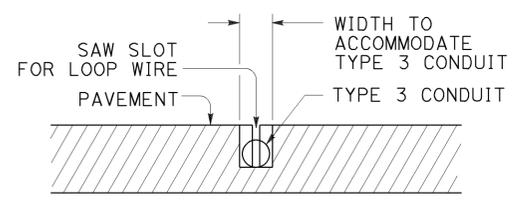
**"T" TRENCH  
DETAIL 1**



**CROSS SECTION**

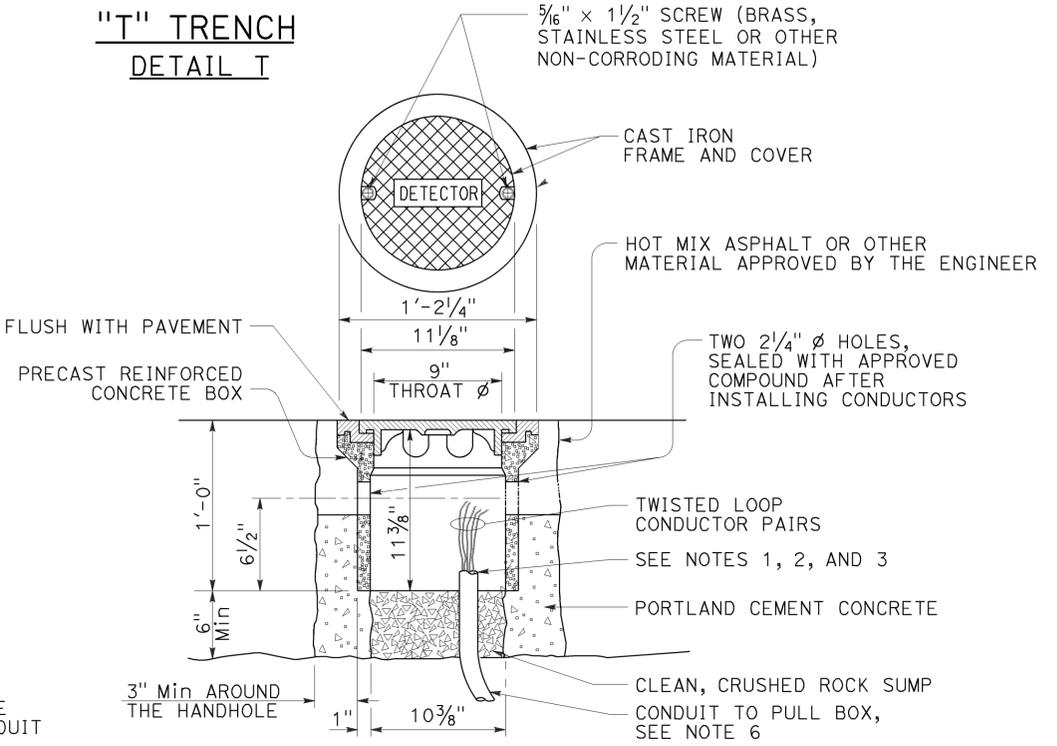


**PLAN VIEW**

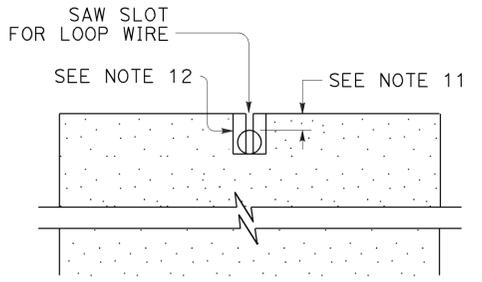


**SECTION C-C**

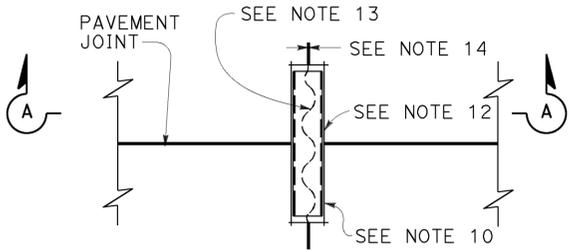
**TYPE B  
CURB TERMINATION DETAIL**



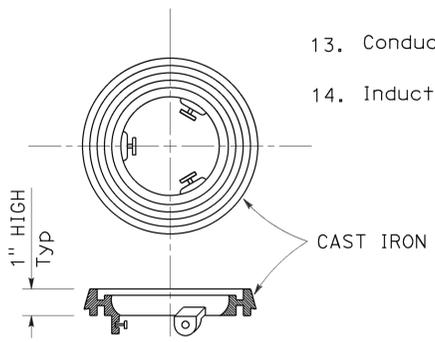
**DETECTOR HANDHOLE DETAIL**



**SECTION A-A**



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



**LOCKING GRADE RING**

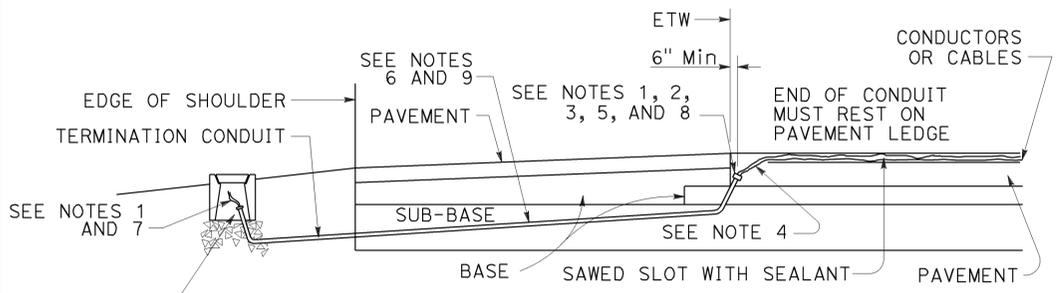
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

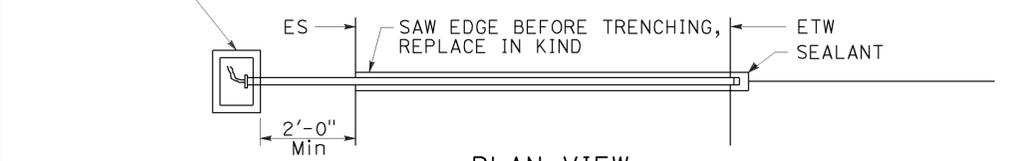
NO SCALE

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

**REVISED STANDARD PLAN RSP ES-5D**



**CROSS SECTION**



**PLAN VIEW  
SHOULDER TERMINATION DETAILS**

2010 REVISED STANDARD PLAN RSP ES-5D

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

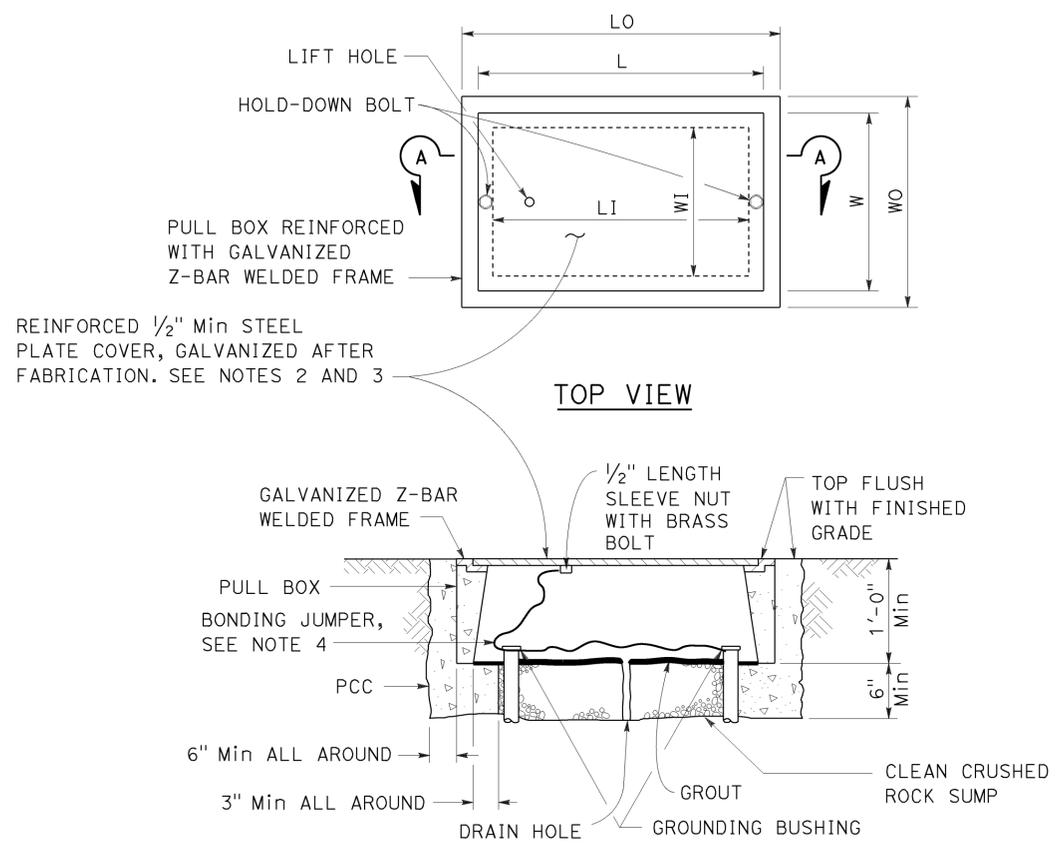
Theresa Gabriel  
REGISTERED ELECTRICAL ENGINEER

October 30, 2015  
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 2-1-16



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

**NOTES:**

- Traffic pull box shall be provided with steel cover and special concrete footing. Steel cover shall have embossed non-skid pattern.
- Steel reinforcing shall be as regularly used in the standard products of the respective manufacturer.
- Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" Sprinkler control circuits, 50 V or less; "CALTRANS" On all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service.
  - No. 3 1/2(T) pull box.
    - "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
    - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
  - No. 5(T) or 6(T) pull box.
    - "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
    - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
    - "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
    - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
    - "RAMP METER" - Ramp meter circuits.
    - "COUNT STATION" - Count or speed monitor circuits.
    - "COMMUNICATION" - Communication circuits.
    - "TOS COMMUNICATIONS" - TOS communications line.
    - "TOS POWER" - TOS power.
    - "TDC POWER" - Telephone demarcation cabinet power.
    - "CCTV" - Closed circuit television circuits.
    - "TMS" - Traffic monitoring station circuits.
    - "CMS" - Changeable message sign circuits.
    - "HAR" - Highway advisory radio circuits.
    - "BOOSTER PUMP" - Booster pump circuit.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8".

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

\* EXCLUDING CONDUIT WEB      \*\* TOP DIMENSION

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

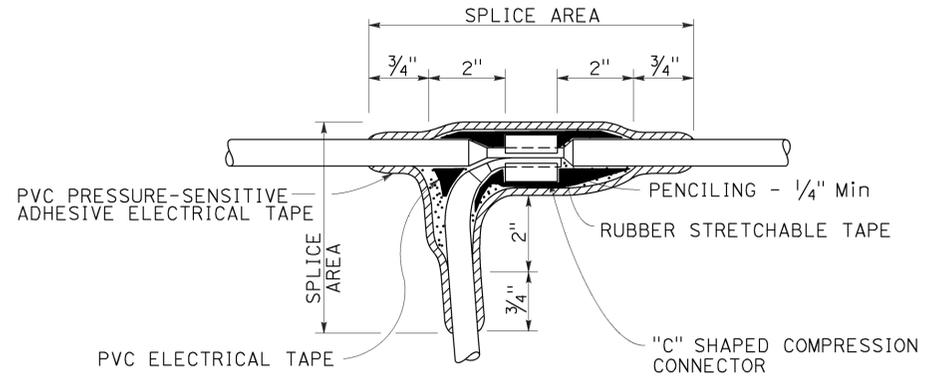
RSP ES-8B DATED OCTOBER 30, 2015 SUPERSEDES RSP ES-8B DATED JULY 19, 2013 AND RSP ES-8B DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

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

2010 REVISED STANDARD PLAN RSP ES-8B

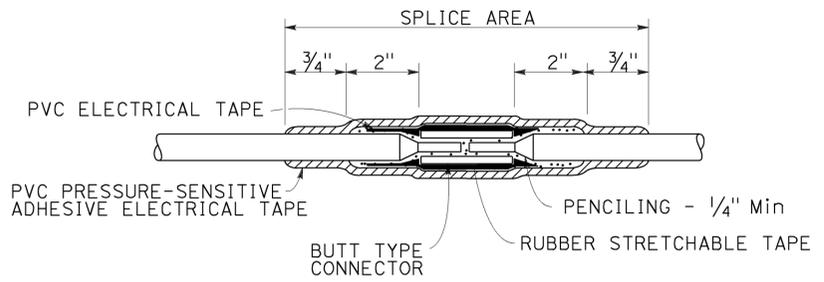
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
06	Ker, Tul	99	Var	37	37
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER					
October 30, 2015 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS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

TO ACCOMPANY PLANS DATED 2-1-16



**TYPE C SPLICE**

See Note 3

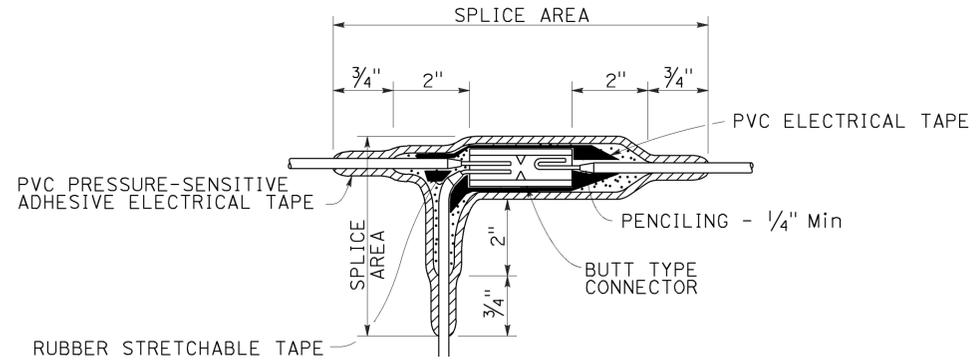


**TYPE S SPLICE**

See Note 4

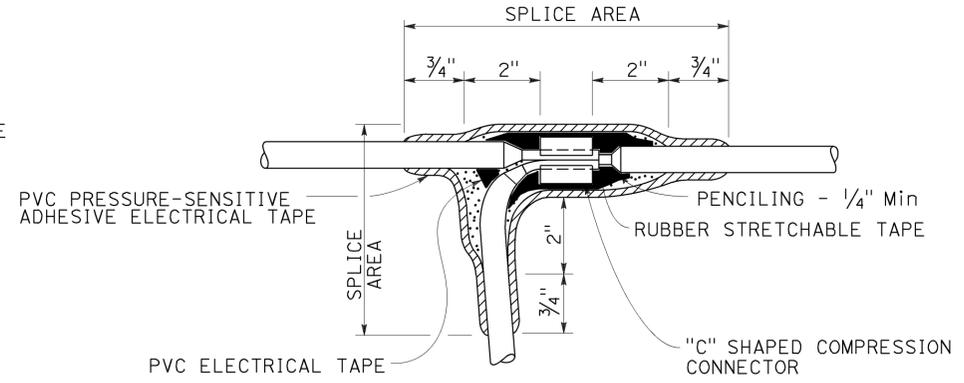
**NOTES:**

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



**TYPE ST SPLICE**

See Note 5



**TYPE T SPLICE**

See Note 5

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

NO SCALE

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

**REVISED STANDARD PLAN RSP ES-13A**

2010 REVISED STANDARD PLAN RSP ES-13A