

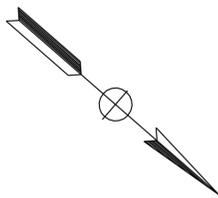
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	101	231

 REGISTERED CIVIL ENGINEER DATE 3-28-12	
PLANS APPROVAL DATE 6-25-12	

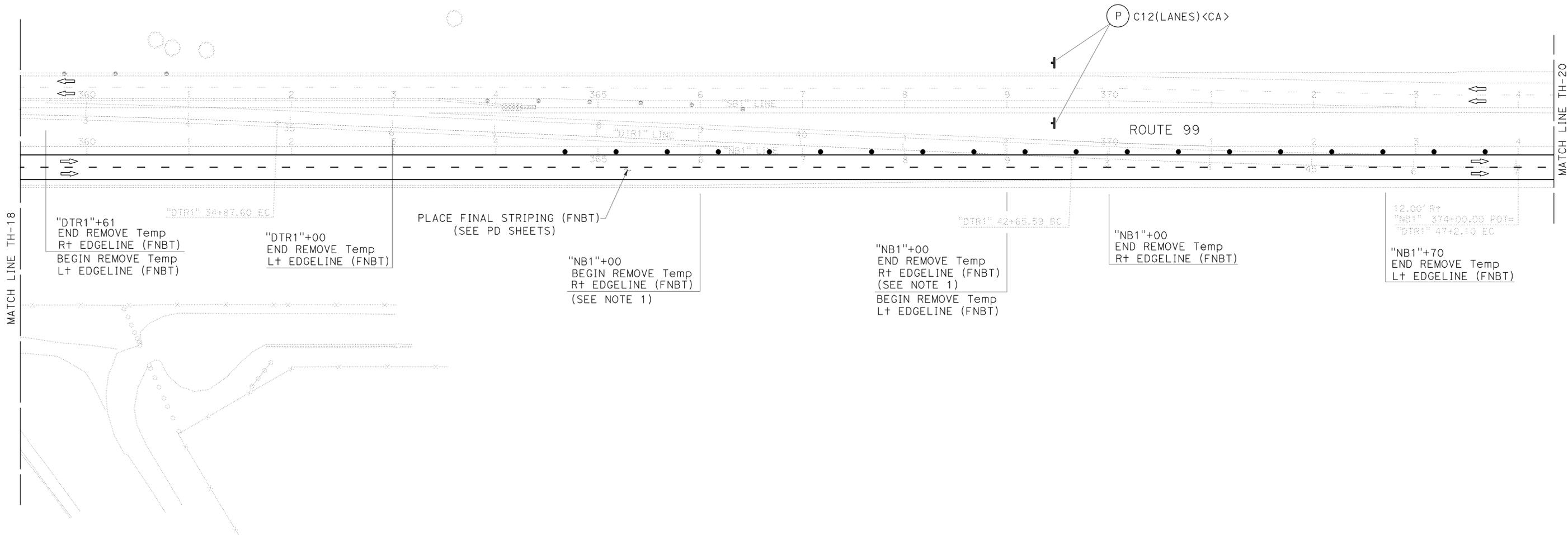
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

1. REMOVE THE TEMPORARY EDGELINE ADJACENT TO THE NUMBER 1 LANE FROM STAGE 3.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	JACK KEMMERLY	REVISOR BY	DATE
	ARSHAD IOBAL	CHECKED BY	JEFF JEWETT	DATE	REVISED
TRAFFIC					



TRAFFIC HANDLING PLAN
STAGE 5
 SCALE: 1" = 50'

TH-19

APPROVED FOR TRAFFIC HANDLING WORK ONLY

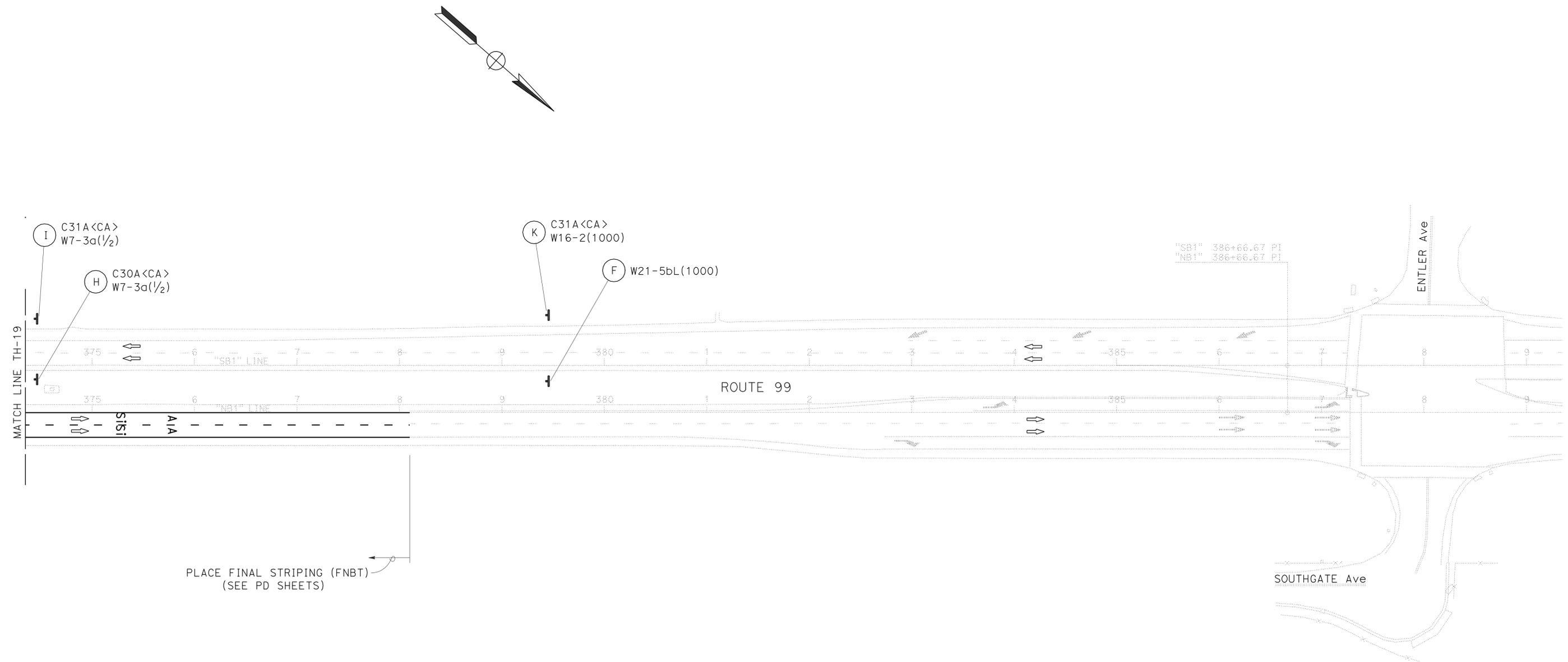
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	102	231

<i>Jeffrey S. Jewett</i> REGISTERED CIVIL ENGINEER	3-28-12 DATE
6-25-12 PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER Jeffrey S. Jewett No. 49233 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	JACK KEMMERLY	REVISED BY	
Caltrans	ARSHAD IOBAL	CHECKED BY	JEFF JEWETT	DATE	
TRAFFIC					



TRAFFIC HANDLING PLAN
STAGE 5
 SCALE: 1" = 50'

TH-20

APPROVED FOR TRAFFIC HANDLING WORK ONLY

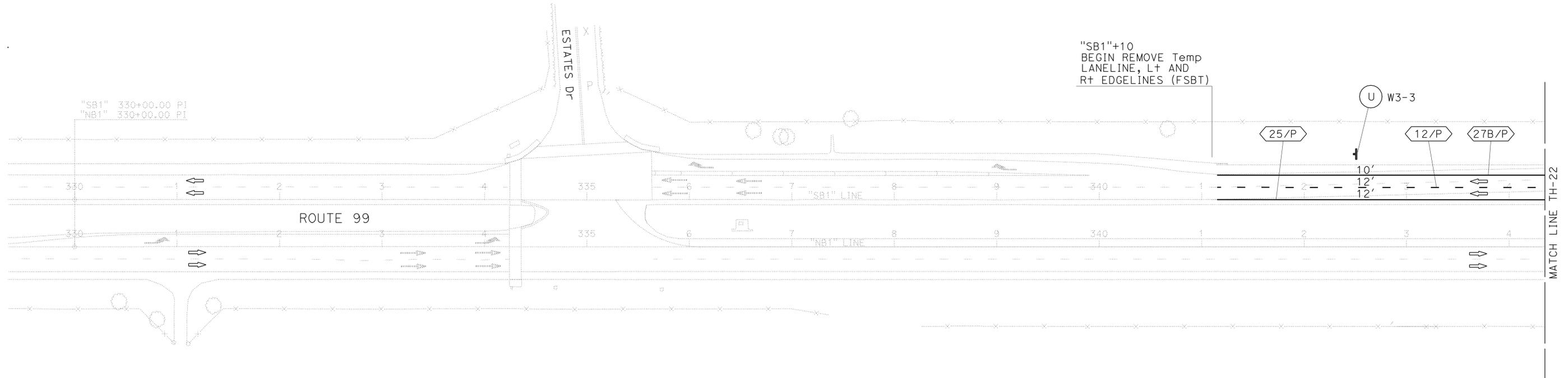
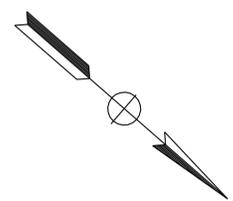
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	103	231

<i>Jeffrey Jewett</i> REGISTERED CIVIL ENGINEER	3-28-12 DATE
6-25-12 PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER	Jeffrey S. Jewett
No. 49233	Exp. 9-30-12
CIVIL	

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	JACK KEMMERLY	REVISED BY	
Caltrans	ARSHAD IOBAL	CHECKED BY	JEFF JEWETT	DATE	
TRAFFIC					



TRAFFIC HANDLING PLAN
STAGE 6
 SCALE: 1" = 50'

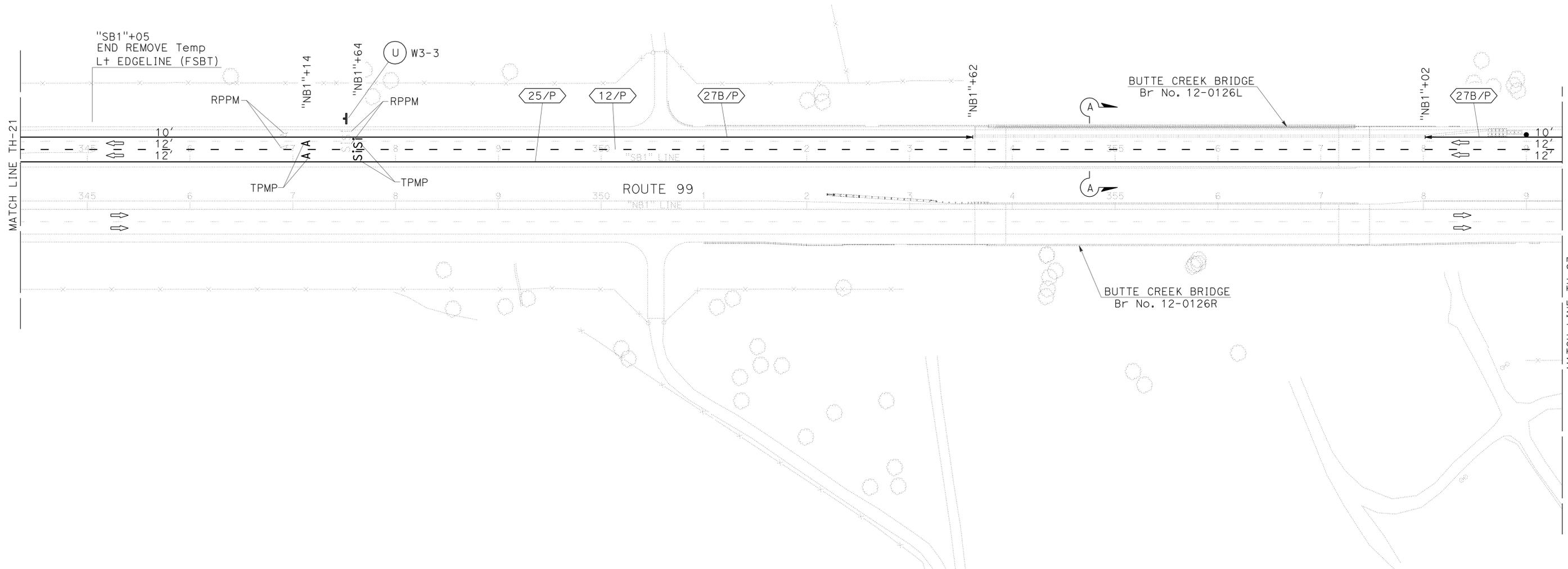
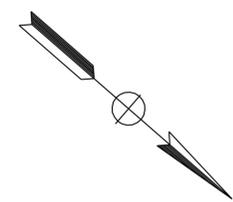
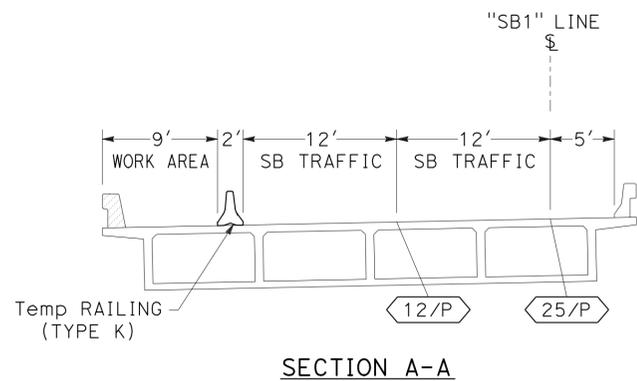
TH-21

APPROVED FOR TRAFFIC HANDLING WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	104	231

 REGISTERED CIVIL ENGINEER DATE 3-28-12	
PLANS APPROVAL DATE 6-25-12	

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans	ARSHAD IOBAL	JEFF JEWETT	JACK KEMMERLY
TRAFFIC		CHECKED BY	DATE REVISOR
			JEFF JEWETT

APPROVED FOR TRAFFIC HANDLING WORK ONLY



TRAFFIC HANDLING PLAN
STAGE 6
 SCALE: 1" = 50'

TH-22

DATE PLOTTED => 24-AUG-2012
 TIME PLOTTED => 10:55

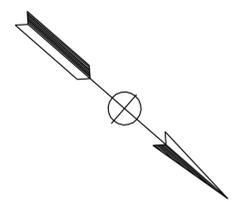
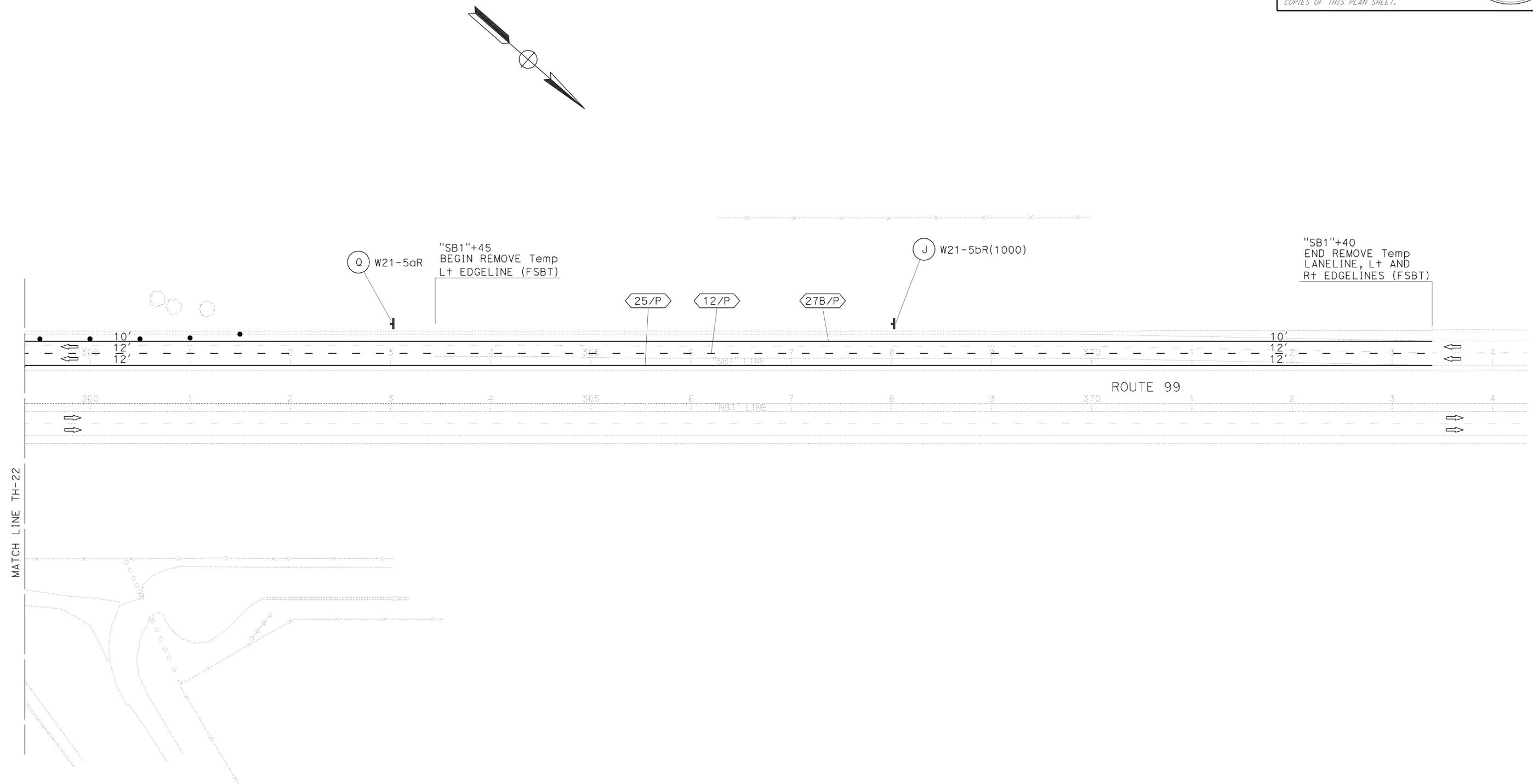
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	105	231

<i>Jeffrey Jewett</i> REGISTERED CIVIL ENGINEER	3-28-12 DATE
6-25-12 PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
Jeffrey S. Jewett
No. 49233
Exp. 9-30-12
CIVIL
STATE OF CALIFORNIA

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC
FUNCTIONAL SUPERVISOR
ARSHAD IOBAL
CALCULATED/DESIGNED BY
CHECKED BY
JACK KEMMERLY
JEFF JEWETT
REVISED BY
DATE REVISED



TRAFFIC HANDLING PLAN
STAGE 6
SCALE: 1" = 50'

TH-23

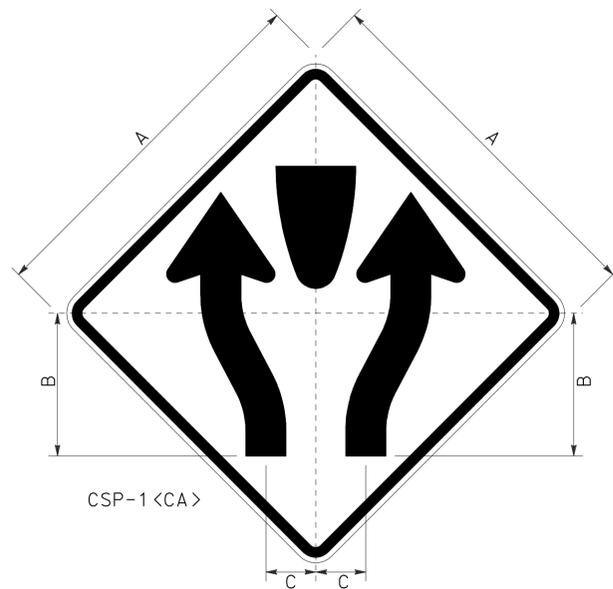
APPROVED FOR TRAFFIC HANDLING WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	107	231

Jeffrey S. Jewett
 REGISTERED CIVIL ENGINEER DATE 3-28-12
 6-25-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Jeffrey S. Jewett
 No. 49233
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

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A	B	C
48"	18.69"	6.56"

FOR LEGND INFORMATION NOT SHOWN,
SEE STANDARD HIGHWAY SIGNS W6-1.

1.25" BORDER WITH .75" INDENT
ORANGE BACKGROUND WITH
BLACK LEGEND AND BORDERS.

CONSTRUCTION AREA SIGN LETTER L

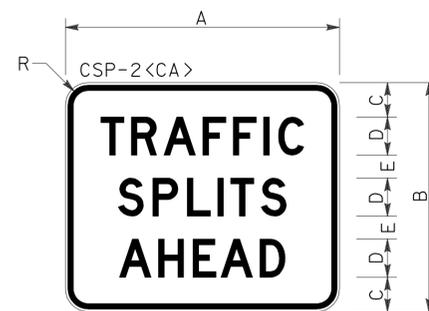


A	B	C	D	E	R
120"	42"	8"	10"D	8"D	6"

1.5" BORDER

ORANGE BACKGROUND WITH
BLACK LEGEND AND BORDERS.

CONSTRUCTION AREA SIGN LETTER M

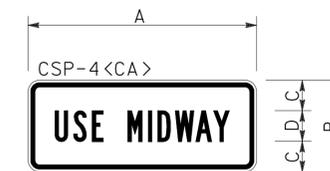


A	B	C	D	E	R
36"	30"	4.5"	5"D	3"	3"

.625" BORDER WITH .375" INDENT

ORANGE BACKGROUND WITH
BLACK LEGEND AND BORDERS.

CONSTRUCTION AREA SIGN LETTER L



A	B	C	D	R
30"	12"	4"	4"B	1.5"

0.5" BORDER WITH .375" INDENT

ORANGE BACKGROUND WITH
BLACK LEGEND AND BORDERS.

CONSTRUCTION AREA SIGN LETTERS R AND T

TRAFFIC HANDLING DETAILS

THD-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans®
 FUNCTIONAL SUPERVISOR ARSHAD IOBAL
 TRAFFIC
 JACK KEMMERLY
 REVISOR JEFF JEWETT
 REVISION DATE
 CALCULATED/DESIGNED BY
 CHECKED BY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	108	231

6-25-12
 PLANS APPROVAL DATE

REGISTERED CIVIL ENGINEER
 No. 49233
 Exp. 9-30-12
 CIVIL

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.

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN LETTER	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POST AND SIZE	NUMBER OF SIGNS
	FEDERAL	CALIFORNIA				
F	W21-5bL(1000)		48" X 48"	LEFT SHOULDER CLOSED 1000 FEET	1-6" X 6"	2
G	W7-3a(3/4)	C30A	48" X 48" 24" X 18"	SHOULDER CLOSED NEXT 3/4 MILE	1-6" X 6"	1
H	W7-3a(1 1/2)	C30A	48" X 48" 24" X 18"	SHOULDER CLOSED NEXT 1 1/2 MILES	1-6" X 6"	1
I	W7-3a(1 1/2)	C31A	48" X 48" 24" X 18"	NO SHOULDER NEXT 1 1/2 MILES	1-6" X 6"	3
J	W21-5bR(1000)		48" X 48"	RIGHT SHOULDER CLOSED 1000 FEET	1-6" X 6"	1
K	W16-2(1000)	C31A	48" X 48" 24" X 18"	NO SHOULDER 1000 FEET	1-6" X 6"	1
L		CSP-1 CSP-2	48" X 48" 36" X 30"	DIVIDED ROAD (Symbol) TRAFFIC SPLITS AHEAD	1-6" X 6" (SEE NOTE 2)	2
M		CSP-3	120" X 42"	TRUCKS - RV'S RIGHT LANE ONLY	2-6" X 6"	1
N	W12-1		48" X 48"	DOUBLE ARROW (Symbol)	1-6" X 6"	1
O	W4-3R		48" X 48"	ADDED LANE (Symbol)	1-6" X 6"	1
P		C12(LANES)	48" X 48"	NARROW LANES	1-6" X 6"	2
Q	W21-5aR		48" X 48"	RIGHT SHOULDER CLOSED	1-6" X 6"	1
R	M4-9aL	CSP-4	30" X 24" 30" X 12"	BICYCLE DETOUR USE MIDWAY	1-4" X 6"	1
S	R5-6 R9-3a		24" X 24" 24" X 24"	NO BICYCLES (Symbol) NO PEDESTRIANS (Symbol)	1-4" X 6"	2
T	M4-9aR	CSP-4	30" X 24" 30" X 12"	BICYCLE DETOUR USE MIDWAY	1-4" X 6"	3
U	W3-3		48" X 48"	SIGNAL AHEAD (Symbol)	1-6" X 6"	2
V	W8-5		48" X 48"	SLIPPERY WHEN WET (Symbol)	1-6" X 6"	1

NOTES:

1. ALL "W" SERIES SIGNS SHALL BE ORANGE BACKGROUND WITH BLACK LEGEND AND BORDER.
2. THE HEIGHT TO THE BOTTOM OF CSP-2<CA> ABOVE THE EDGE OF TRAVELED WAY SHALL BE 4'-6".
3. FOR CSP-1<CA>, CSP-2<CA>, CSP-3<CA> AND CSP-4<CA> PANEL FABRICATION INFORMATION, SEE SHEET THD-2.
4. FOR ADDITIONAL STATIONARY MOUNTED CONSTRUCTION AREA SIGNS, SEE SHEET CS-1.
5. EXACT SIGN LOCATIONS TO BE DETERMINED BY THE ENGINEER.

REMOVE PAINTED TRAFFIC STRIPE

STAGE	DETAIL NUMBER				STAGE TOTAL
	12	25	27B	38	
	LF	LF	LF	LF	LF
3	35	140			175
4	103	145	1,170	1,478	2,896
5		1,508	3,562	1,308	6,378
6	808	1,390			2,198
"FINAL"	36	145	3,230		3,411
TOTAL					15,058

REMOVE THERMOPLASTIC TRAFFIC STRIPE

STAGE	DETAIL NUMBER		STAGE TOTAL
	12	27B	
	LF	LF	LF
2	835	3,195	4,030
TOTAL			4,030

REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)

STAGE	DETAIL NUMBER	STAGE TOTAL
	25	
	LF	LF
2	385	385
3	322	322
TOTAL		707

TRAFFIC HANDLING QUANTITIES

THQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 JACK KEMMERLY
 JEFF JEWETT
 ARSHAD IOBAL
 TRAFFIC

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	109	231

REGISTERED CIVIL ENGINEER
 3-28-12 DATE
 6-25-12 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
 Jeffrey S. Jewett
 No. 49233
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

ROADSIDE SIGN - ADDITIONAL STATIONARY MOUNTED CONSTRUCTION AREA SIGN (CONTINUED)

SIGN NUMBER No.	SIGN CODE		STAGE 1	STAGE 2	STAGE 3
	FEDERAL	CALIFORNIA	ROADSIDE SIGN REMOVE ROADSIDE SIGN (EACH)	ROADSIDE SIGN REMOVE ROADSIDE SIGN (EACH)	ROADSIDE SIGN REMOVE ROADSIDE SIGN (EACH)
101	W3-3		1		
102	W3-3		1		
202		G11-1		1	
203		SR15 SR15A		1	
204		S8		1	
301	W8-5				1
302		G11-1			1
STAGE TOTAL			2	3	2

TRAFFIC HANDLING ROADSIDE SIGN QUANTITIES

STAGE	REMOVE ROADSIDE SIGN EACH
1	2
2	3
3	2
SHEET TOTAL	7

NOTE:
FOR ADDITIONAL ROADSIDE SIGN QUANTITIES, SEE SHEETS SQ-1 AND SQ-2.

REMOVE PAINTED PAVEMENT MARKING

STAGE	"SIGNAL"	"AHEAD"	STAGE TOTAL
	SQFT	SQFT	SQFT
6	64	62	126
TOTAL			126

REMOVE THERMOPLASTIC PAVEMENT MARKING

STAGE	"SIGNAL"	"AHEAD"	STAGE TOTAL
	SQFT	SQFT	SQFT
2	64	62	126
TOTAL			126

TEMPORARY PAVEMENT MARKING (PAINT)

STAGE	"SIGNAL"	"AHEAD"	STAGE TOTAL
	SQFT	SQFT	SQFT
2	128	124	252
3	128	124	252
6	64	62	126
TOTAL			630

TEMPORARY PAVEMENT MARKER

STAGE	DETAIL NUMBER	RETROREFLECTIVE		STAGE TOTAL
		TYPE G	TYPE H	EACH
		EACH	EACH	
2	12,25	152	152	304
3	12, 25, 37B, 38, 38B	207	139	346
4	12, 25, 38, 38B	68	6	74
6	12,25	68	68	136
TOTAL				860

TEMPORARY TRAFFIC STRIPE (PAINT)

STAGE	DETAIL NUMBER						STAGE TOTAL
	12	25	27B	37B	38	38B	LF
	LF	LF	LF	LF	LF	LF	
2	7,228	7,228	2,570				17,026
3	4,118	6,609	9,222	453	1,410	300	22,182
4	58	225	3,050		920	300	4,553
6	3,230	3,230	2,790				9,250
TOTAL							53,011

BARRICADES - CHANNELIZERS

STAGE	TYPE III BARRICADE		CHANNELIZER (SURFACE MOUNTED)
	FURNISH	INSTALL	EACH
	EACH		
1	0	0	0
2	20	20	56
3	0	0	65
4	0	5	16
5	0	5	37
6	0	0	6
TOTAL	20		180

TRAFFIC HANDLING QUANTITIES

THQ-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Jack Kemmerly
 Jeff Jewett
 Arshad Iobal
 TRAFFIC

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	110	231

M.A. Panchesson 4-14-12
 REGISTERED CIVIL ENGINEER DATE
 6-25-12
 PLANS APPROVAL DATE

M.A. PANCHESSON
 No. 44125
 Exp. 06-30-13
 CIVIL

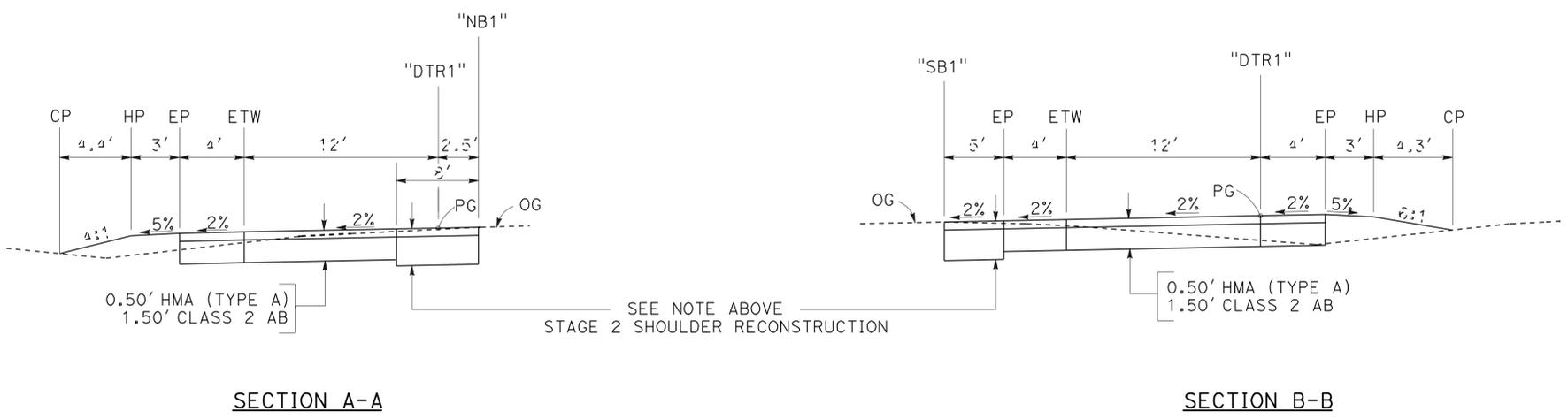
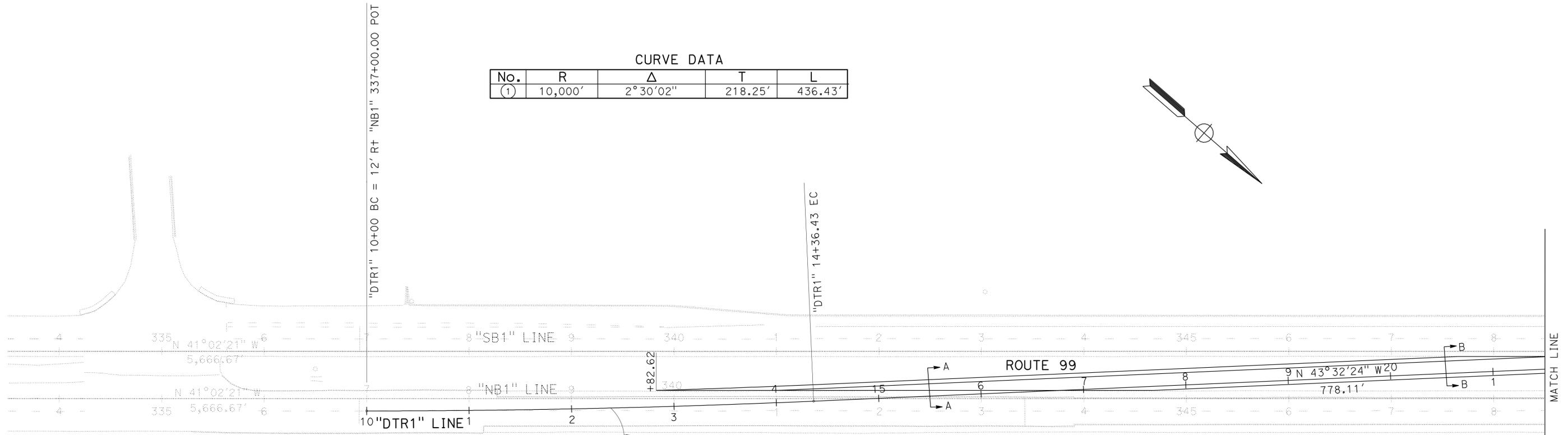
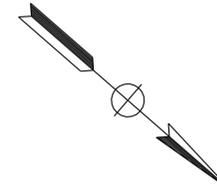
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

SEE "STAGE CONSTRUCTION" AND "STAGE CONSTRUCTION DETAIL" PLANS.

CURVE DATA

No.	R	Δ	T	L
(1)	10,000'	2° 30' 02"	218.25'	436.43'



SECTION A-A

SECTION B-B

SEE NOTE ABOVE
STAGE 2 SHOULDER RECONSTRUCTION

CROSS-OVER MEDIAN
DETOUR PLAN

SCALE: 1" = 50'

APPROVED FOR DETOUR CONSTRUCTION WORK ONLY

DE-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DIVISION OF ENGINEERING
 FUNCTIONAL SUPERVISOR: ALI KIANI
 CALCULATED/DESIGNED BY: [blank]
 CHECKED BY: [blank]
 DAVID HOPPER
 DON WEHRLY
 REVISED BY: [blank]
 DATE REVISED: [blank]

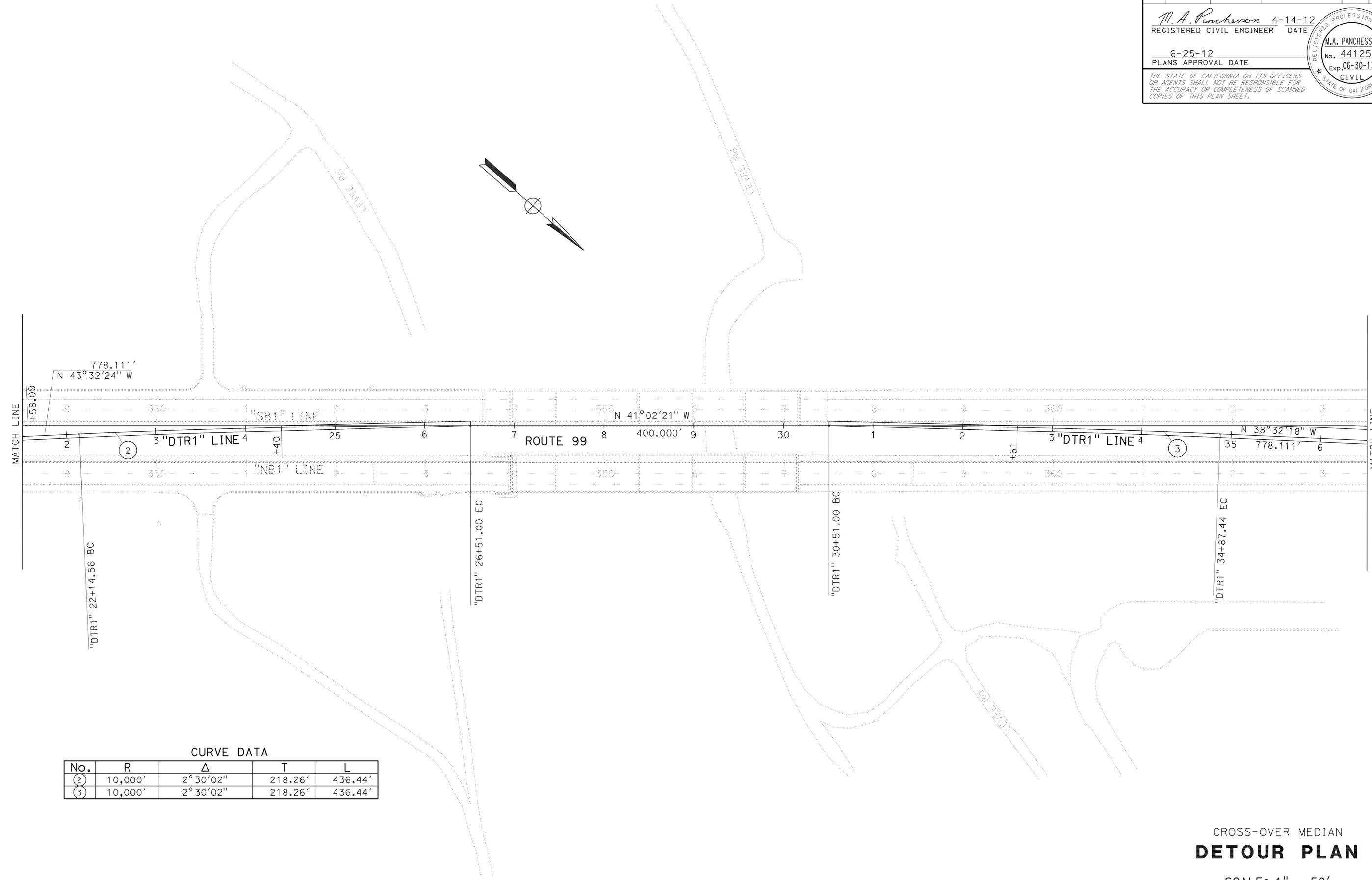
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	111	231

M.A. Panchesson 4-14-12
 REGISTERED CIVIL ENGINEER DATE
 6-25-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 M.A. PANCHESSON
 No. 44125
 Exp. 06-30-13
 CIVIL
 STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DIVISION OF ENGINEERING
 FUNCTIONAL SUPERVISOR: ALI KIANI
 CALCULATED/DESIGNED BY: DAVID HOPPER
 CHECKED BY: DON WEHRLY
 REVISED BY: DATE REVISD



CURVE DATA

No.	R	Δ	T	L
(2)	10,000'	2°30'02"	218.26'	436.44'
(3)	10,000'	2°30'02"	218.26'	436.44'

APPROVED FOR DETOUR CONSTRUCTION WORK ONLY

CROSS-OVER MEDIAN
DETOUR PLAN
 SCALE: 1" = 50'
DE-2

LAST REVISION DATE PLOTTED => 24-AUG-2012
 00-00-00 TIME PLOTTED => 10:56

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	112	231

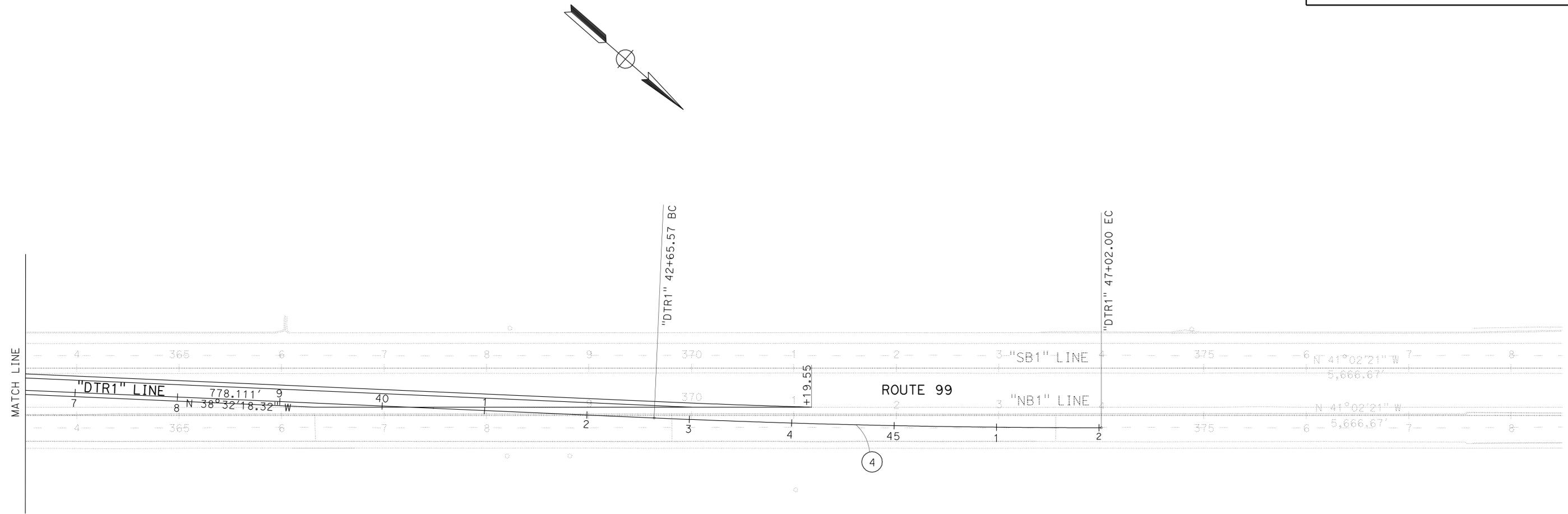
M.A. Panchesson 4-14-12
 REGISTERED CIVIL ENGINEER DATE

6-25-12
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
M.A. PANCHESSON
 No. 44125
 Exp. 06-30-13
 CIVIL
 STATE OF CALIFORNIA

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DIVISION OF ENGINEERING
 FUNCTIONAL SUPERVISOR: ALI KIANI
 CALCULATED/DESIGNED BY: DAVID HOPPER
 CHECKED BY: DON WEHRLY
 REVISED BY: DAVID HOPPER
 DATE REVISED:



CURVE DATA

No.	R	Δ	T	L
(4)	10,000'	2° 30' 02"	218.25'	436.43'

CROSS-OVER MEDIAN
DETOUR PLAN

SCALE: 1" = 50'

DE-3

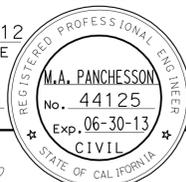
APPROVED FOR DETOUR CONSTRUCTION WORK ONLY

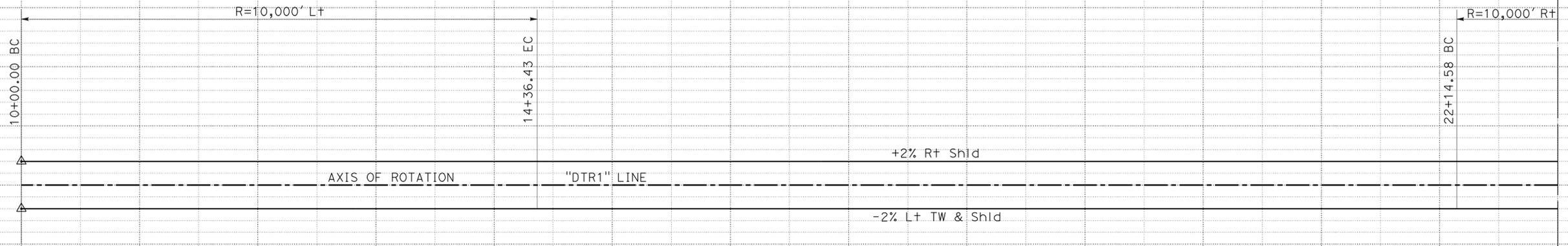
LAST REVISION:
 DATE PLOTTED => 24-AUG-2012
 TIME PLOTTED => 10:56

NOTES:

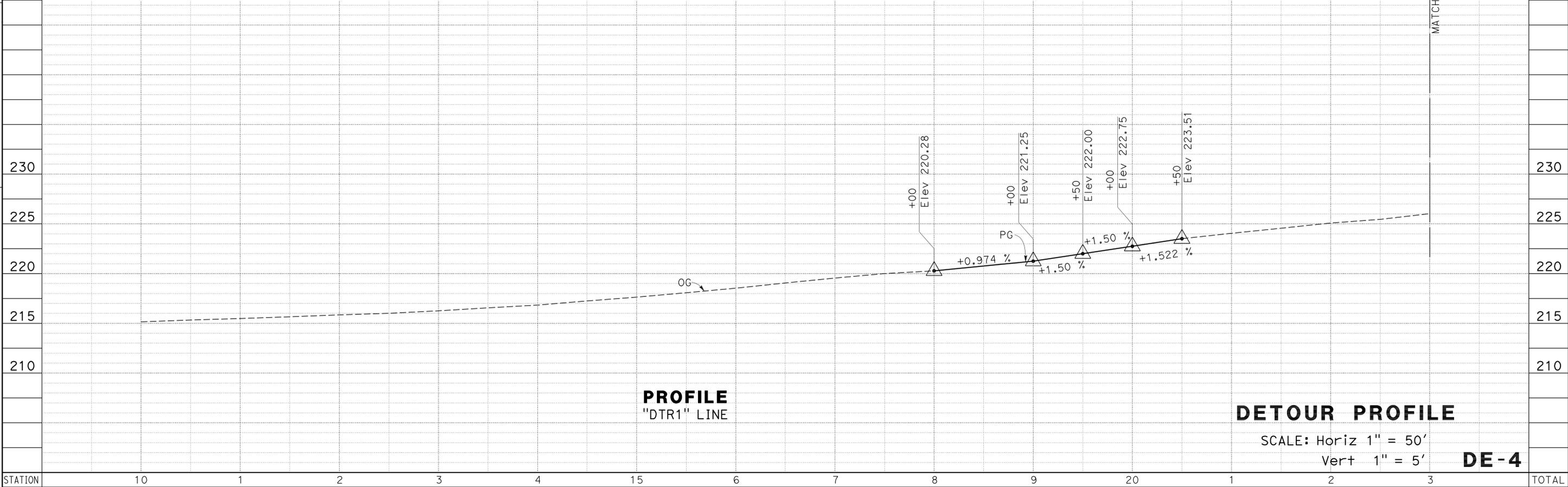
- "DTR1" DETOUR CONSTRUCTION, PORTIONS OF NB AND SB INSIDE SHOULDERS WILL BE RECONSTRUCTED (STAGE 1 WORK).
- SEE "STAGE CONSTRUCTION" AND "STAGE CONSTRUCTION DETAILS" PLANS.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	113	231
 REGISTERED CIVIL ENGINEER			4-14-12	DATE	
6-25-12 PLANS APPROVAL DATE					
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SUPERELEVATION DIAGRAM
"DTR1" LINE



PROFILE
"DTR1" LINE

DETOUR PROFILE

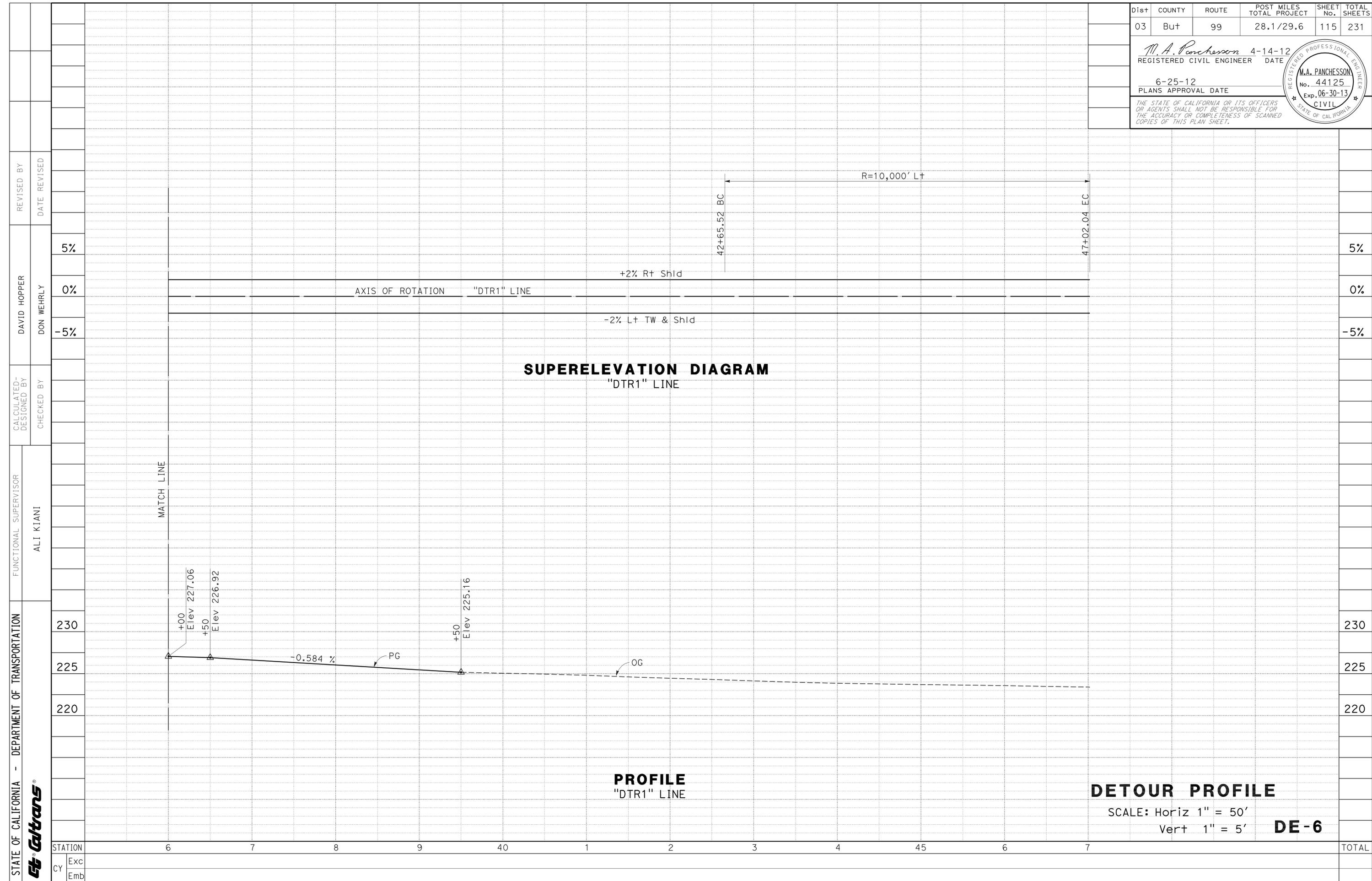
SCALE: Horiz 1" = 50'
Vert 1" = 5'

DE-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	DAVID HOPPER	REVISOR
	ALI KIANI	DON WEHRLY	DATE
	CHECKED BY		DATE
	DESIGNED BY		

STATION	10	1	2	3	4	15	6	7	8	9	20	1	2	3	TOTAL
Exc															
Emb															

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	115	231
<i>M. A. Panchesson</i> REGISTERED CIVIL ENGINEER			4-14-12 DATE		
6-25-12 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>					



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ARSHAD IOBAL
 TRAFFIC
 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

LEGEND

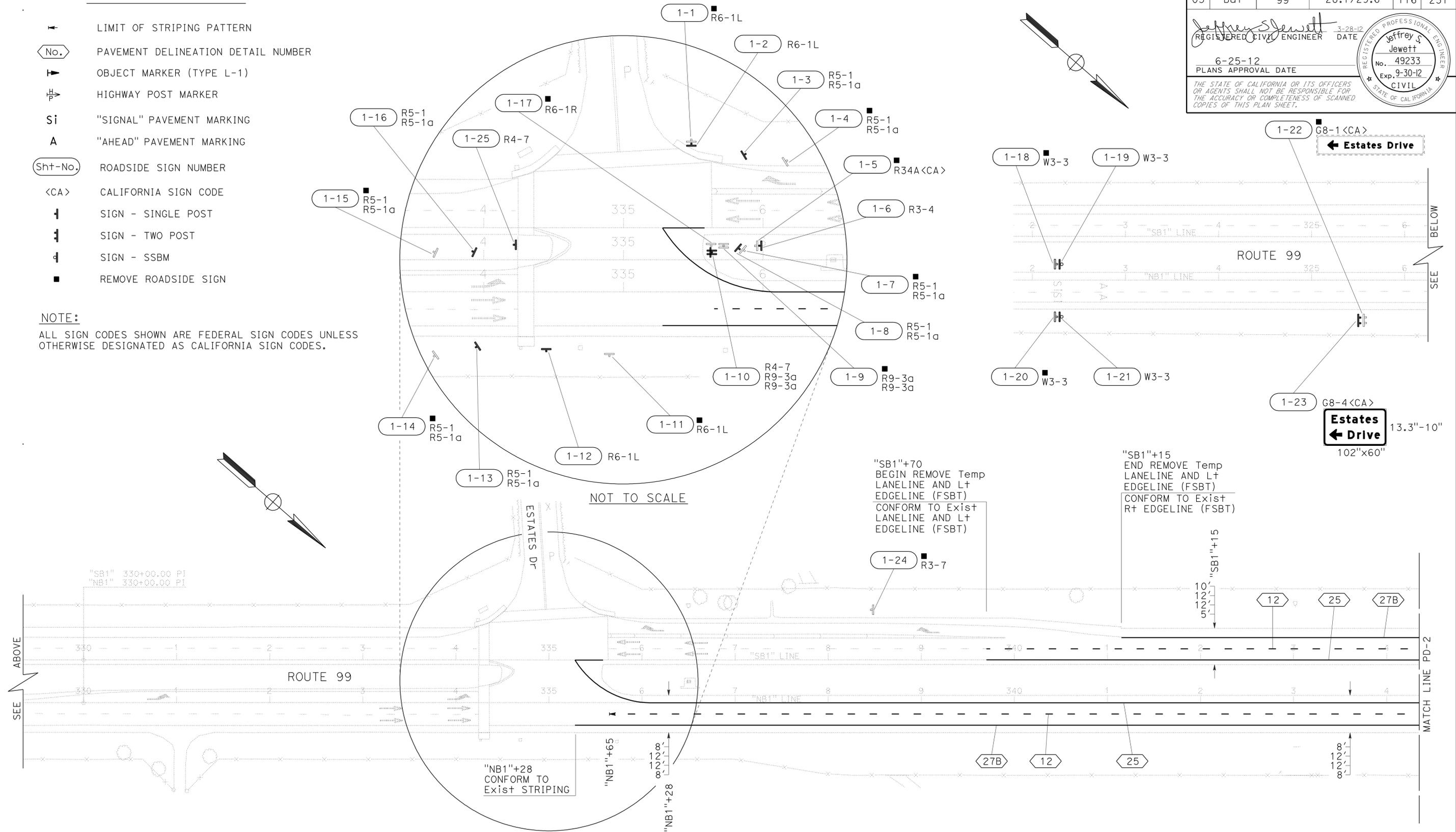
- ⊥ LIMIT OF STRIPING PATTERN
- No. PAVEMENT DELINEATION DETAIL NUMBER
- ▶ OBJECT MARKER (TYPE L-1)
- ⊣ HIGHWAY POST MARKER
- Si "SIGNAL" PAVEMENT MARKING
- A "AHEAD" PAVEMENT MARKING
- Sht-No. ROADSIDE SIGN NUMBER
- <CA> CALIFORNIA SIGN CODE
- ⊥ SIGN - SINGLE POST
- ⊥ SIGN - TWO POST
- ⊥ SIGN - SSBM
- REMOVE ROADSIDE SIGN

NOTE:
 ALL SIGN CODES SHOWN ARE FEDERAL SIGN CODES UNLESS OTHERWISE DESIGNATED AS CALIFORNIA SIGN CODES.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	116	231

REGISTERED CIVIL ENGINEER
 3-28-12 DATE
 6-25-12 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
 Jeffrey S. Jewett
 No. 49233
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA



PAVEMENT DELINEATION AND SIGN PLAN
 SCALE: 1" = 50'

PD-1

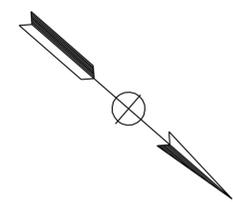
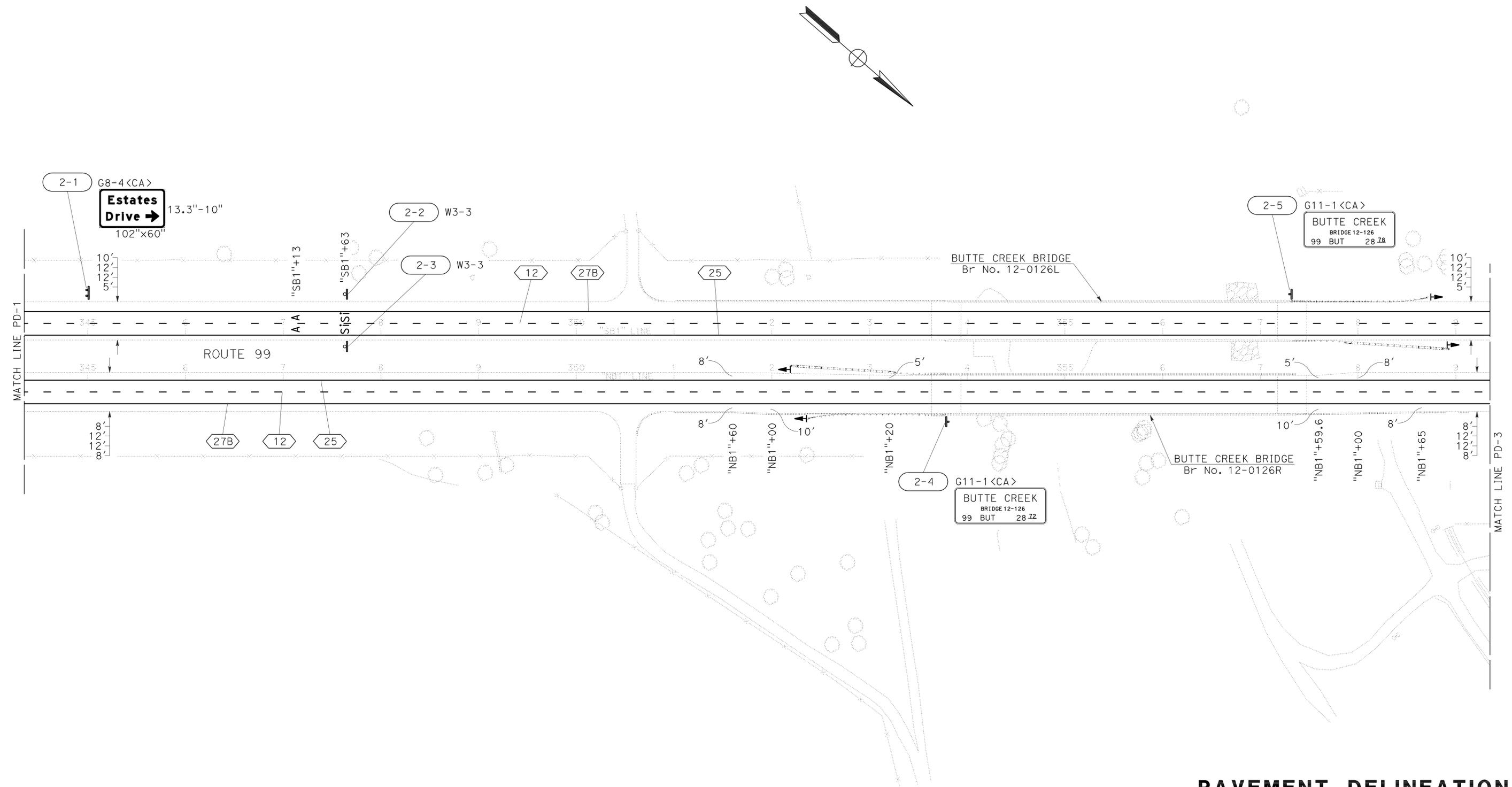
APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	117	231

 REGISTERED CIVIL ENGINEER DATE 3-28-12	
6-25-12 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.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
TRAFFIC	ARSHAD LOBAL	CHECKED BY	DATE
Caltrans		JACK KEMMERLY	JEFF JEWETT



PAVEMENT DELINEATION AND SIGN PLAN
 SCALE: 1" = 50'

PD-2

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

LAST REVISION
1-18-12
DATE PLOTTED => 24-AUG-2012
TIME PLOTTED => 10:56

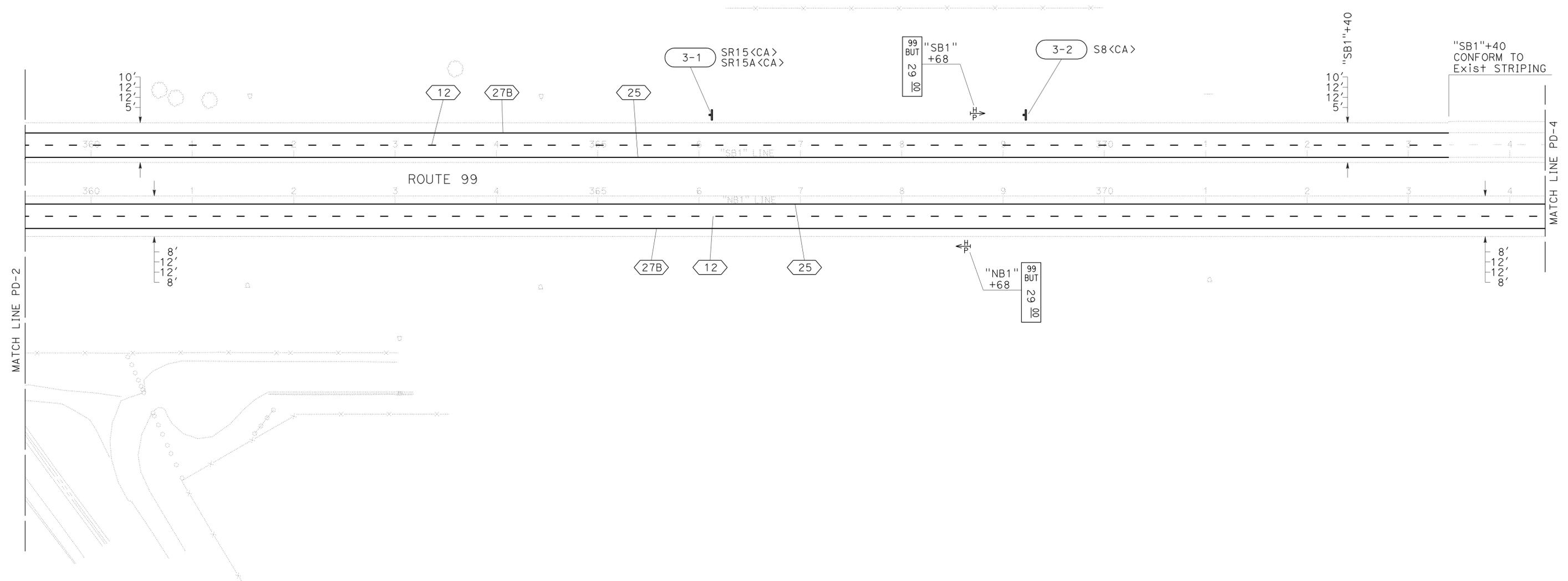
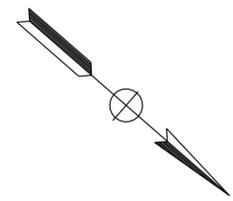
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	118	231

REGISTERED CIVIL ENGINEER	DATE
<i>Jeffrey Jewett</i>	3-28-12
PLANS APPROVAL DATE	
6-25-12	

REGISTERED PROFESSIONAL ENGINEER
Jeffrey S. Jewett
No. 49233
Exp. 9-30-12
CIVIL

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
TRAFFIC	ARSHAD LOBAL	CHECKED BY	DATE
Caltrans		JACK KEMMERLY	JACK KEMMERLY
		JEFF JEWETT	JEFF JEWETT



PAVEMENT DELINEATION AND SIGN PLAN

SCALE: 1" = 50'

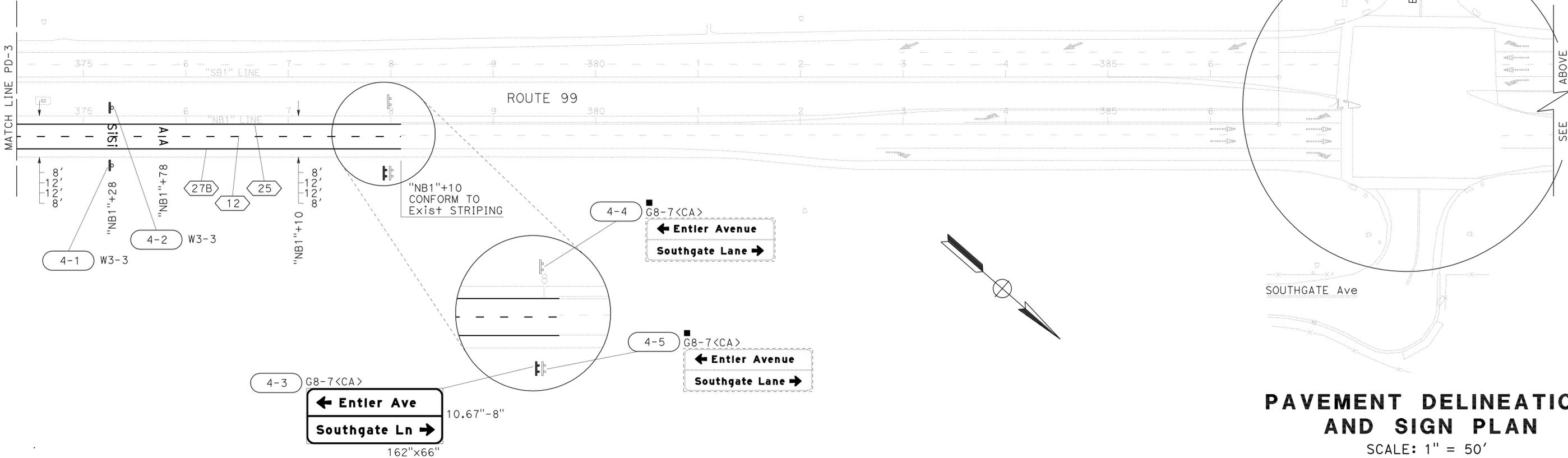
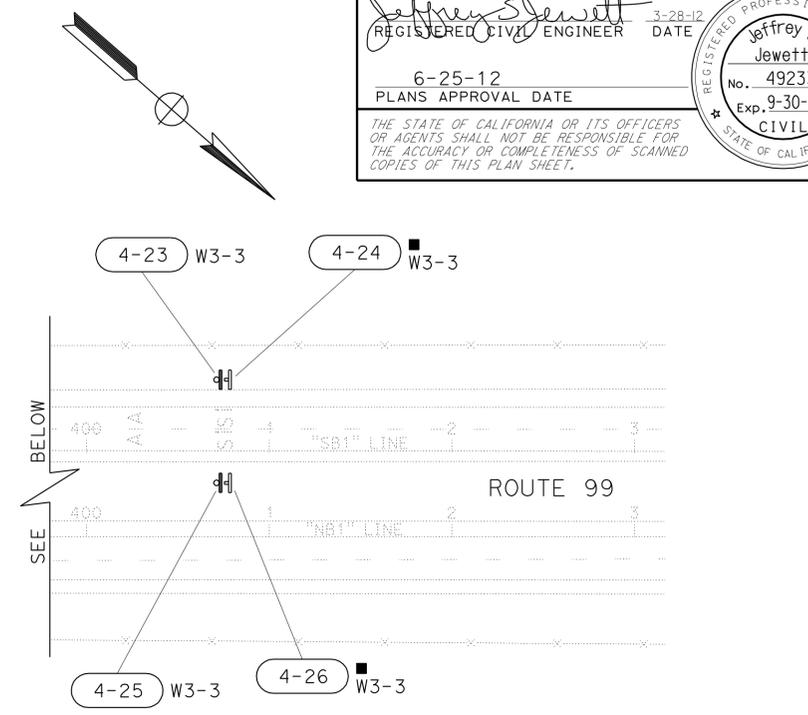
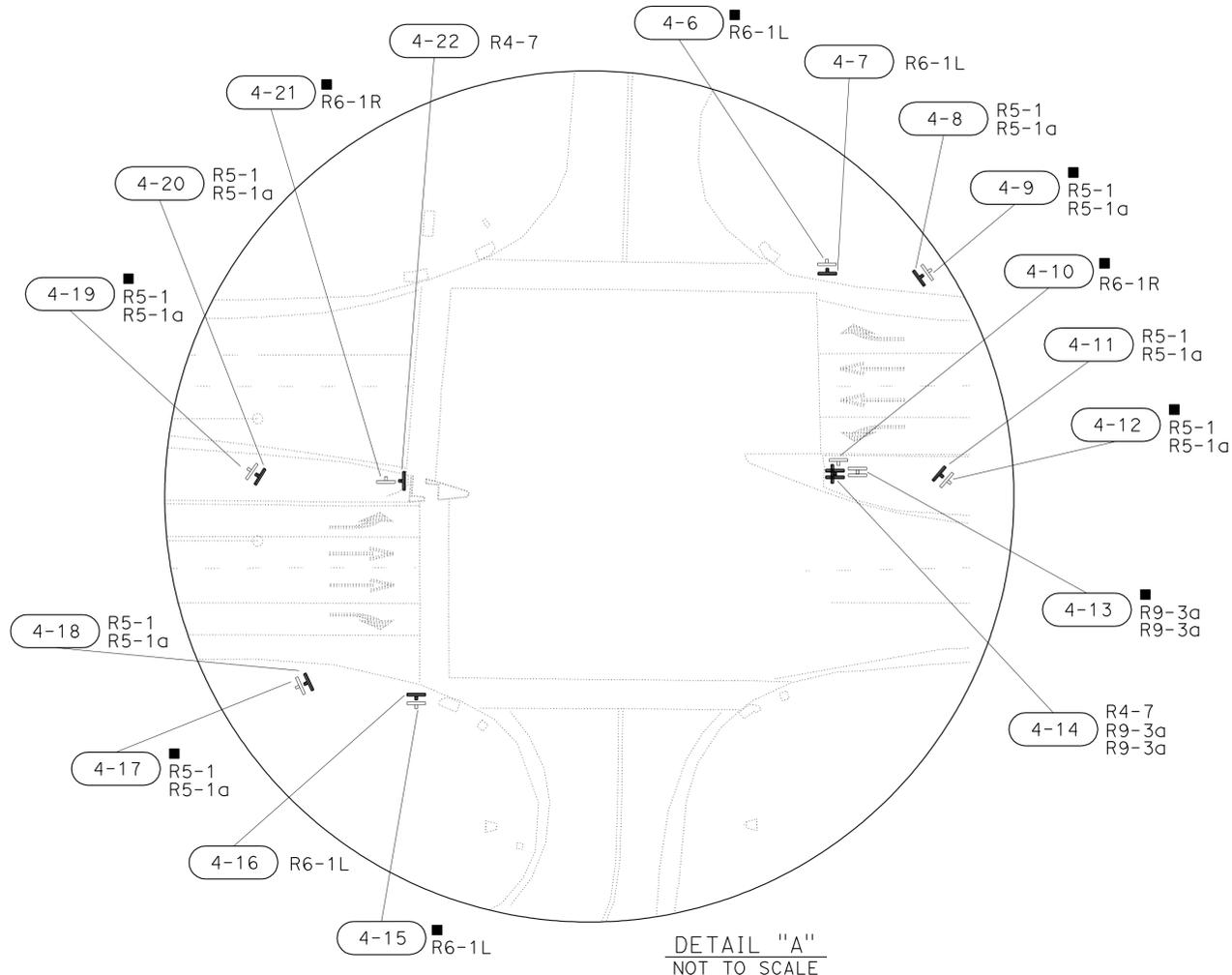
PD-3

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ARSHAD IOBAL
 TRAFFIC
 JACK KEMMERLY
 REVISOR: JEFF JEWETT
 REVISIONS: (Table with columns for REVISION NO., REVISION BY, DATE, and DESCRIPTION)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	119	231

REGISTERED CIVIL ENGINEER: Jeffrey S. Jewett
 No. 49233
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA
 6-25-12
 PLANS APPROVAL DATE
 3-28-12
 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.



PAVEMENT DELINEATION AND SIGN PLAN
 SCALE: 1" = 50'

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

PD-4

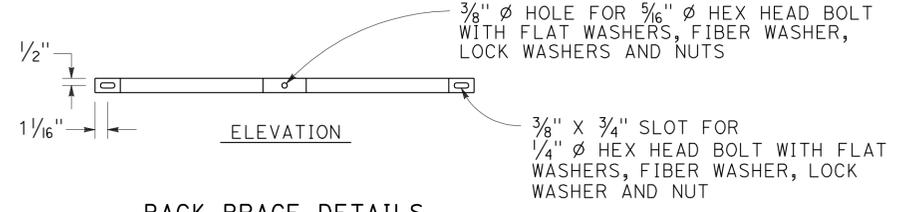
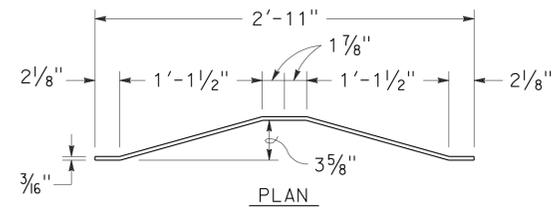
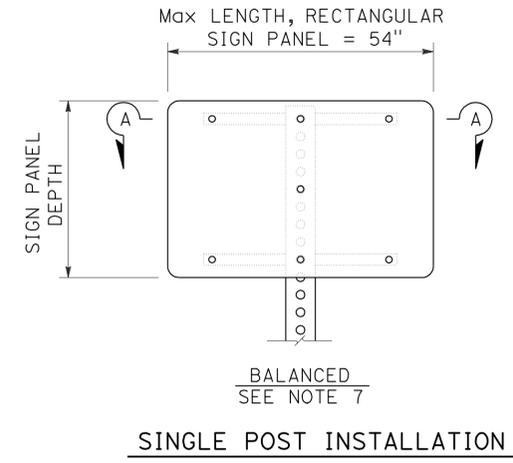
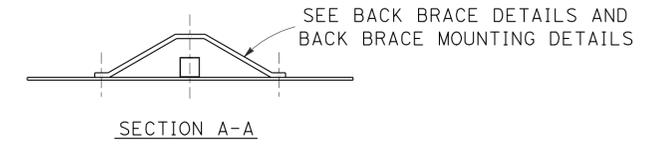
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	121	231

 REGISTERED CIVIL ENGINEER DATE 3-28-12	
6-25-12 PLANS APPROVAL DATE	

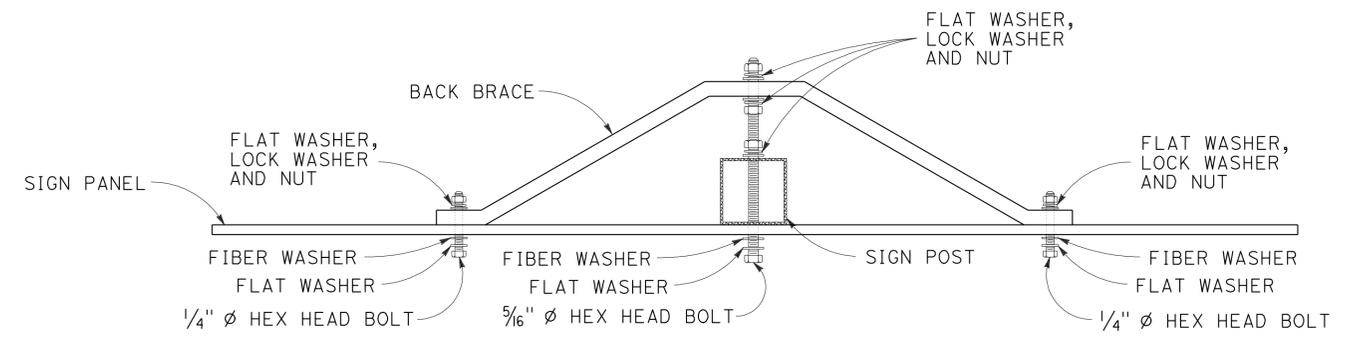
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

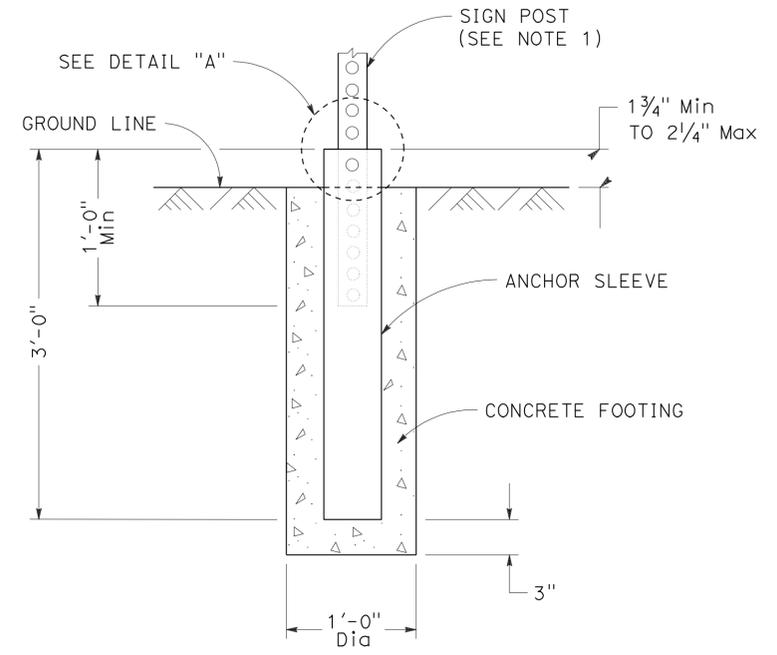
1. THE SIGN POST SHALL HAVE $\frac{7}{16}$ " DIAMETER PERFORATIONS 1" ON CENTER ON ALL FOUR SIDES FOR THE FULL LENGTH.
2. USE TWO DRIVE RIVETS TO FASTEN ASSEMBLED SIGN AND SIGN POST INTO ANCHOR SLEEVE. INSTALL DRIVE RIVETS INTO THE SIDES FACING TRAFFIC.
3. ALL METAL SIGN POSTS AND ANCHOR SLEEVES SHALL BE GALVANIZED.
4. ALL ANCHOR SLEEVES SHALL BE EMBEDDED IN PCC.
5. BALANCED SINGLE POST INSTALLATIONS OF SINGLE SHEET ALUMINUM PANEL SIGNS REQUIRE BACK BRACES WHEN 2'-10" OR MORE IN LENGTH.
6. WOOD BLOCK SPACERS ARE NOT REQUIRED FOR SIGNS MOUNTED ON METAL POSTS.
7. ATTACH RECTANGULAR SIGN PANEL TO SIGN POST WITH BOLTS AT TOP AND BOTTOM. CENTER MAY BE ATTACHED WITH EITHER BOLT OR $\frac{3}{8}$ " DRIVE RIVET.
8. FOR DETAILS NOT SHOWN, SEE STANDARD PLANS RS1 AND RS2.



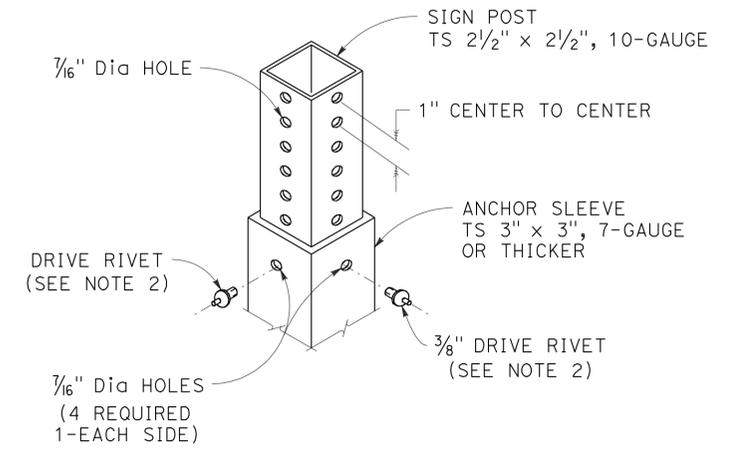
BACK BRACE DETAILS
SEE NOTE 5



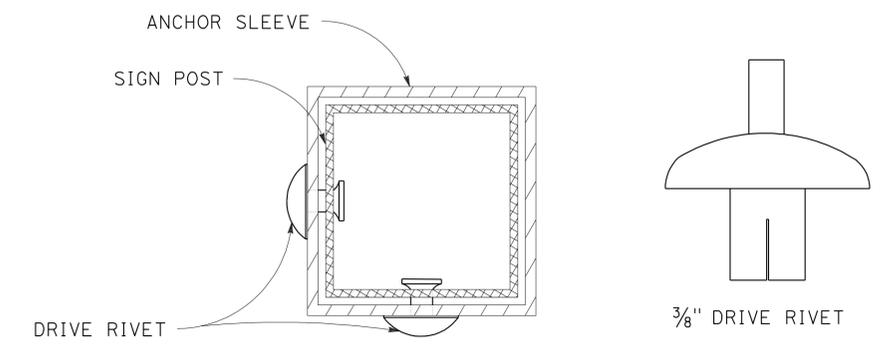
BACK BRACE MOUNTING DETAIL
SEE NOTES 6 AND 7



ANCHOR SLEEVE DETAIL



DETAIL "A"



FASTENER DETAILS

SIGN DETAILS

SD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - TRAFFIC

FUNCTIONAL SUPERVISOR: ARSHAD IOBAL

CALCULATED/DESIGNED BY: JACK KEMMERLY

CHECKED BY: JEFF JEWETT

REVISOR: JACK KEMMERLY

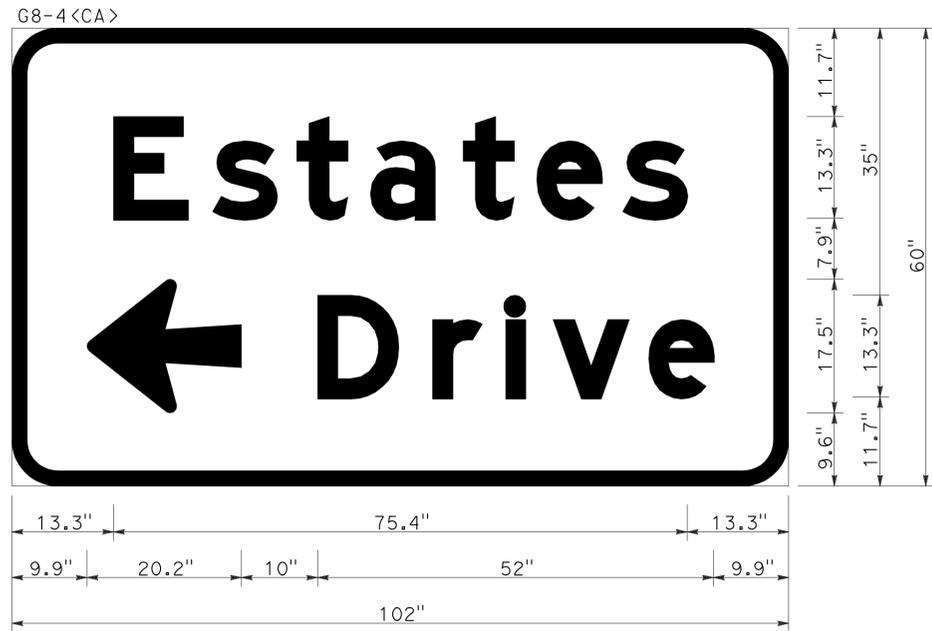
DATE: JEFF JEWETT

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	122	231

<i>Jeffrey S. Jewett</i> REGISTERED CIVIL ENGINEER	3-28-12 DATE
6-25-12 PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER Jeffrey S. Jewett No. 49233 Exp. 9-30-12 CIVIL STATE OF CALIFORNIA

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



2" BORDER WITH 6" RADIUS
 "Estates" E (Mod), "Drive" E (Mod)
 ARROW - 13.33"UC-1L - 20.3" 180°
 ROADSIDE SIGN NUMBER 1-23



2" BORDER WITH 6" RADIUS
 "Estates" E (Mod), "Drive" E (Mod)
 ARROW - 13.33"UC-1L - 20.3" 0°
 ROADSIDE SIGN NUMBER 2-1



1.5" BORDER WITH 9" RADIUS
 ARROW - 10.67UC-1L - 17.3" 180°, "Entler Ave" E (Mod)
 "Southgate Ln" E (Mod), ARROW - 10.67"UC-1L - 17.3" 0°
 ROADSIDE SIGN NUMBER 4-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 TRAFFIC
 FUNCTIONAL SUPERVISOR: ARSHAD IOBAL
 JACK KEMMERLY
 REVISOR: JEFF JEWETT
 REVISIONS: REVISOR, DATE, REVISIONS, DATE

SIGN DETAILS

SD-2



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	123	231

Jeffrey S. Jewett
 REGISTERED CIVIL ENGINEER DATE 3-28-12
 6-25-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Jeffrey S. Jewett
 No. 49233
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

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

ROADSIDE SIGN QUANTITIES

SIGN NUMBER (SHT-NO.)	SIGN CODE		PANEL SIZE INCHES	"C" DIM IN FEET	POST SIZE AND LENGTH			ROADSIDE SIGN		REMOVE ROADSIDE SIGN EACH	REMARKS
	FEDERAL	CALIFORNIA			4"x4"	6"x6"	6"x8"	METAL POST 2 1/2"x2 1/2"	ONE POST EACH		
1-1	R6-1L									1	
1-2	R6-1L		54 x 18	2			6'	1			
1-3	R5-1 R5-1a		36 x 36 36 x 24	4			10'	1			
1-4	R5-1 R5-1a									1	
1-5		R34A								1	
1-6	R3-4		30 x 30	7			12'	1			
1-7	R5-1 R5-1a									1	
1-8	R5-1 R5-1a		36 x 36 36 x 24	4			10'	1			
1-9	R9-3a R9-3a									1	
1-10	R4-7 R9-3a R9-3a		36 x 48 24 x 24 24 x 24	7 5 5			12'	1			SEE NOTE 6
1-11	R6-1L									1	
1-12	R6-1L		54 x 18	2			6'	1			
1-13	R5-1 R5-1a		36 x 36 36 x 24	4			10'	1			
1-14	R5-1 R5-1a									1	
1-15	R5-1 R5-1a									1	
1-16	R5-1 R5-1a		36 x 36 36 x 24	4			10'	1			
1-17	R6-1R									1	
1-18	W3-3									1	
1-19	W3-3		48 x 48	7							SEE NOTES 7 AND 8
1-20	W3-3									1	
1-21	W3-3		48 x 48	7							SEE NOTES 7 AND 8
1-22		G8-1								1	
1-23		G8-4	102 x 60	7		18'			1		SEE NOTE 5
1-24	R3-7									1	
1-25	R4-7		36 x 48	7			12'	1			
2-1		G8-4	102 x 60	7		18'			1		
2-2	W3-3		48 x 48	7							SEE NOTES 7 AND 8
2-3	W3-3		48 x 48	7							SEE NOTES 7 AND 8
2-4		G11-1	36 x 18	3	8'			1			
2-5		G11-1	36 x 18	3	8'			1			
3-1		SR15 SR15A	18 x 24 18 x 18	5			10'	1			
3-2		S8	36 x 22	7			10'	1			
SHEET TOTAL								13	2	13	

NOTES:

1. EXACT LOCATION AND POSITION OF ROADSIDE SIGNS TO BE DETERMINED BY THE ENGINEER.
2. POST LENGTHS GIVEN ARE APPROXIMATE.
3. "C" DIM = VERTICAL CLEARANCE EP TO BOTTOM OF SIGN PANEL.
4. FOR ADDITIONAL METAL POST INSTALLATION INFORMATION, SEE SHEET SD-1.
5. FOR PANEL LEGEND LAYOUT, SEE SHEET SD-2.
6. THE R4-7 SHALL BE INSTALLED FACING NORTHBOUND ROUTE 99 TRAFFIC.
THE R9-3a PANELS SHALL BE INSTALLED BACK TO BACK DIRECTLY BELOW THE R4-7.
7. (N) - NOT A SEPARATE PAY ITEM. FOR INFORMATION ONLY.
8. SIGN PANEL TO BE MOUNTED ON ADVANCE FLASHING BEACON SYSTEM. SEE ELECTRICAL PLANS FOR DETAILS.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ARSHAD IOBAL
 JACK KEMMERLY
 REVISOR: JEFF JEWETT
 REVISIONS: [Blank]

SIGN QUANTITIES

SQ-1

DATE PLOTTED => 24-AUG-2012 TIME PLOTTED => 10:57
 LAST REVISION 3-8-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	124	231

Jeffrey S. Jewett
 REGISTERED CIVIL ENGINEER DATE 3-28-12
 6-25-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Jeffrey S. Jewett
 No. 49233
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

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ROADSIDE SIGN QUANTITIES (CONTINUED)

SIGN NUMBER (SHT-NO.)	SIGN CODE		PANEL SIZE	"C" DIM IN FEET	POST SIZE AND LENGTH			ROADSIDE SIGN		REMOVE ROADSIDE SIGN	REMARKS	
	FEDERAL	CALIFORNIA	INCHES		4"x4"	6"x6"	6"x8"	METAL POST 2 1/2"x2 1/2"	ONE POST EACH			TWO POST EACH
4-1	W3-3		48 x 48	7							SEE NOTES 7 AND 8	
4-2	W3-3		48 x 48	7							SEE NOTES 7 AND 8	
4-3		G8-7	162 x 66	7			20'			1	SEE NOTE 5	
4-4		G8-7								1		
4-5		G8-7								1		
4-6	R6-1L									1		
4-7	R6-1L		54 x 18	2				6'	1			
4-8	R5-1 R5-1a		36 x 36 36 x 24	4				10'	1			
4-9	R5-1 R5-1a									1		
4-10	R6-1R									1		
4-11	R5-1 R5-1a		36 x 36 36 x 24	4				10'	1			
4-12	R5-1 R5-1a									1		
4-13	R9-3a R9-3a									1		
4-14	R4-7 R9-3a R9-3a		36 x 48 24 x 24 24 x 24	7 5 5				12'	1		SEE NOTE 6	
4-15	R6-1L									1		
4-16	R6-1L		54 x 18	2				6'	1			
4-17	R5-1 R5-1a									1		
4-18	R5-1 R5-1a		36 x 36 36 x 24	4				10'	1			
4-19	R5-1 R5-1a									1		
4-20	R5-1 R5-1a		36 x 36 36 x 24	4				10'	1			
4-21	R6-1R									1		
4-22	R4-7		36 x 48	7				12'	1			
4-23	W3-3		48 x 48	7							SEE NOTES 7 AND 8	
4-24	W3-3									1		
4-25	W3-3		48 x 48	7							SEE NOTES 7 AND 8	
4-26	W3-3									1		
SHEET TOTAL									8	1	13	_____
SHEET TOTAL FROM SQ-1									13	2	13	_____
SHEET TOTAL THQ-2									0	0	7	_____
TOTAL									21	3	33	_____

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ARSHAD IOBAL
 JACK KEMMERLY
 REVISOR: JEFF JEWETT
 REVISIONS: REVISOR, DATE, REVISIONS
 REVISIONS: REVISOR, DATE, REVISIONS

SIGN QUANTITIES

SQ-2

DATE PLOTTED => 24-AUG-2012
 TIME PLOTTED => 10:57
 LAST REVISION: 3-8-12

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	125	231

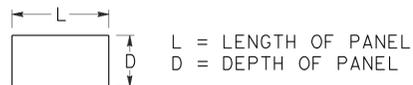
Jeffrey S. Jewett
 REGISTERED CIVIL ENGINEER DATE 3-28-12
 6-25-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Jeffrey S. Jewett
 No. 49233
 Exp. 9-30-12
 CIVIL
 STATE OF CALIFORNIA

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

ROADSIDE SIGN PANEL QUANTITIES

SIGN CODE	SIGN MESSAGE/DESCRIPTION	PANEL SIZE L x D	PANEL AREA	NUMBER OF PANELS	BACKGROUND		LEGEND		PROTECTIVE OVERLAY	FURNISH SINGLE SHEET ALUMINUM SIGN			FURNISH LAMINATED PANEL SIGN (1"-TYPE B)	
					SHEETING COLOR	RETROREFLECTIVE ASTM TYPE	SHEETING COLOR	RETROREFLECTIVE ASTM TYPE		PREMIUM	UNFRAMED			FRAMED
											0.063"	0.080"		0.080"
FEDERAL	CALIFORNIA	INCHES	SQFT						SQFT	SQFT	SQFT	SQFT		
R3-4	NO U TURN (SYMBOL SIGN)	30 x 30	6.25	1	WHITE	IX	RED	IX	X	6.25				
R4-7	KEEP RIGHT (Symbol)	36 x 48	12.00	4	WHITE	III	BLACK		X	48.00				
R5-1	DO NOT ENTER	36 x 36	9.00	8	RED	IX	WHITE	IX	X	72.00				
R5-1a	WRONG WAY	36 x 24	6.00	8	RED	IX	WHITE	IX	X	48.00				
R6-1L	ONE WAY ARROW	54 x 18	6.75	4	WHITE	III	BLACK		X		27.00			
R9-3a	NO PEDESTRIAN CROSSING (SYMBOL SIGN)	24 x 24	4.00	4	WHITE	III	RED	III	X	16.00				
W3-3	SIGNAL AHEAD (SYMBOL SIGN)	48 x 48	16.00	8	YELLOW	IX	RED, GREEN	IX	X		128.00			
	G8-4	←"Estates Drive"	102 x 60	42.50	1	GREEN	III	WHITE	IX	X		42.50		
	G8-4	"Estates Drive" →	102 x 60	42.50	1	GREEN	III	WHITE	IX	X		42.50		
	G8-7	←"Entler Ave" "Southgate Ln" →	162 x 66	74.25	1	GREEN	III	WHITE	IX	X			74.25	
	G11-1	"BUTTE CREEK" (INVENTORY MARKER)	36 x 18	4.50	2	WHITE	II	BLACK			9.00			
	S8	STATE PROPERTY	36 x 22	5.50	1	WHITE	II	BLACK			5.50			
	SR15	SEAT BELT (SYMBOL SIGN)	18 x 24	3.00	1	WHITE	II	BLACK			3.00			
	SR15A	SAFETYT BELT LAW ENFORCED	18 x 18	2.25	1	WHITE	II	BLACK			2.25			
TOTAL										210.00	155.00	85.00	74.25	



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	126	231

M.A. Panchesson 4-14-12
REGISTERED CIVIL ENGINEER DATE

6-25-12
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.

M.A. PANCHESSON
No. 44125
Exp. 06-30-13
CIVIL
STATE OF CALIFORNIA

ROADWAY EXCAVATION

STATION	ALIGNMENT	ROADWAY EXCAVATION	(N) EMBANKMENT
		CY	CY
330+00.00 TO 374+00.00	NB1	6,622	1,239
339+70.00 TO 373+40.00	SB1	4,361	2,442
10+00.00 TO 47+02.00	DTR1	1,337	555
10+00.00 TO 10+97.21	A1	543	16
10+00.00 TO 10+97.21	A2	311	36
0+32.00 TO 1+20.00	PR1	2	29
0+32.00 TO 1+15.00	PR2	2	18
TOTAL		15,827	4,491

REPLACE ASPHALT CONCRETE SURFACING

STATION	LENGTH	WIDTH	REPLACE AC SURFACING
	LF	LF	CY
"NB1" STA 343+93.00 TO 344+75.00 R+	82	12	9.1
"NB1" STA 367+00.00 TO 368+00.00 R+	100	12	11.1
"NB1" STA 376+50.00 TO 377+00.00 R+	50	12	5.6
TOTAL			25.8

TEMPORARY RAILING (TYPE K)

STAGE	LOCATION	LENGTH
		LF
1,2&3	"NB1" STA 352+40.00 TO 353+80.00 L+	140
1&2	"SB1" STA 357+34.00 TO 358+74.00 R+	140
2,3,4&5	"NB1" STA 353+76.00 TO 357+96.00 L+	420
2	"SB1" STA 341+10.00 TO 371+70.00 L+	3,060
3	"NB1" STA 343+75.00 TO 363+75.00 R+	2,000
3,4&5	"SB1" STA 345+04.00 TO 364+04.00 L+	1,900
3&4	"SB1" STA 352+57.00 TO 353+77.00 R+	120
4	"NB1" STA 343+75.00 TO 363+75.00 R+	2,000
6	"SB1" STA 353+60.00 TO 359+60.00 L+	600
2&3	"NB1" STA 353+78.00 TO 357+38.00 L+	360
TOTAL		10,640

TEMPORARY CRASH CUSHION MODULES

STAGE	LOCATION	TOTAL CUSHIONS
		EA
1	"NB1" STA 352+10.00 R+	14
1	"SB1" STA 358+80.00 R+	14
2	"SB1" STA 358+00.00 L+	14
2	"SB1" STA 371+19.00 R+	14
3	"NB1" STA 343+50.00 R+	14
3	"SB1" STA 352+10.00 R+	14
3	"SB1" STA 364+10.00 L+	14
4	"NB1" STA 343+50.00 R+	14
6	"SB1" STA 358+75.00 L+	14
TOTAL		126

FENCE

STATION LIMITS	REMOVE FENCE	FENCE (TYPE WM AND BW)	CHAIN LINK FENCE (TYPE CL-6)
	LF	LF	LF
"NB1" 350+62.10 TO 352+84.00 R+		230.8	
"NB1" 350+62.10 TO 352+93.73 R+	244.5		
"SB1" 350+64.22 TO 353+71.50 L+	320.7		
"SB1" 352+71.27 L+	15.2		
"NB1" 350+64.20 TO 352+66.40 L+			207.7
TOTAL	580.4	230.8	207.7

TEMPORARY TRAFFIC SCREEN

STAGE	LOCATION	LENGTH
		LF
1,2&3	"NB1" STA 352+40.00 TO 353+80.00 L+	140
1&2	"SB1" STA 357+34.00 TO 358+74.00 R+	140
2,3,4&5	"NB1" STA 353+76.00 TO 357+96.00 L+	420
2	"SB1" STA 341+10.00 TO 371+70.00 L+	3,060
3	"NB1" STA 343+75.00 TO 363+75.00 R+	2,000
3,4&5	"SB1" STA 345+04.00 TO 364+04.00 L+	1,900
3&4	"SB1" STA 352+57.00 TO 353+77.00 R+	120
4	"NB1" STA 343+75.00 TO 363+75.00 R+	2,000
6	"SB1" STA 353+60.00 TO 359+60.00 L+	600
2&3	"NB1" STA 353+78.00 TO 357+38.00 L+	360
TOTAL		10,640

TEMPORARY FENCE (TYPE ESA)

LOCATION	LF
"NB1" 352+18.40 R+	62.8
"SB1" 371+29.40 L+	62.8
"SB1" 372+26.20 L+	62.8
"SB1" 387+65.60 L+	62.8
1st CONSTRUCTION SEASON	
"NB1" 354+00 TO 354+34 R+	358.3
"NB1" 354+93 TO 356+98 R+	315.6
2nd CONSTRUCTION SEASON	
"NB1" 354+00 TO 354+34 R+	358.3
"NB1" 354+93 TO 356+98 R+	315.6
TOTAL	1599.0

COLD PLANE ASPHALT CONCRETE PAVEMENT

STATION LIMITS	COLD PLANE AC PAVEMENT
	SQYD
"NB1" 335+28.00 TO 338+00.00	1,379
"NB1" 338+00.00 TO 344+75.00	1,800
"NB1" 344+75.00 TO 353+94.54	1,226
"NB1" 357+15.75 TO 363+55.00	852
"NB1" 363+55.00 TO 378+10.00	3,880
TOTAL	9,137

RUBBERIZED HOT MIX ASPHALT (OPEN GRADED)

LOCATION	TON
"NB1" STA 338+00.00 TO 344+75.00	123.0
"NB1" STA 344+75.00 TO 353+52.00	159.8
"NB1" STA 357+60.00 TO 363+55.00	108.4
"NB1" STA 363+55.00 TO 374+00.00	190.4
"NB1" STA 335+28.00 TO 336+00.00	42.6
"NB1" STA 336+00.00 TO 338+00.00	60.7
TOTAL	684.9

CRACK TREATMENT

STATION LIMITS	DIRECTION	CRACK TREATMENT
		LNMI
335+28.00 TO 344+75.00	NB1	0.36
363+55.00 TO 378+10.00	NB1	0.55
TOTAL		0.91

SUMMARY OF QUANTITIES

Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
CALtrans DIVISION OF ENGINEERING

REVISOR BY: SUDHA M. KODALI
DATE REVISED: CARMEN RODRIGUEZ

CALCULATED/DESIGNED BY: ALI KIANI
CHECKED BY:

FUNCTIONAL SUPERVISOR: ALI KIANI

METAL BEAM GUARD RAILING

STATION	DIRECTION	LOCATION	REMOVE MBGR	METAL BEAM GUARD RAILING	DOUBLE METAL BEAM GUARD RAILING (WOOD POST)	VEGETATION CONTROL (MINOR CONCRETE)	CRASH CUSHION (TYPE CAT)	CRASH CUSHION (TYPE CAT) BACKUP	ALTERNATIVE FLARED TERMINAL SYSTEM END	TRANSITION RAILING (TYPE WB)	END CAP (TYPE TC)	RAIL TENSIONING ASSEMBLY	MINOR CONCRETE (MINOR STRUCTURE) *	(N)	(N)
			LF	LF	LF	SQYD	EA	EA	EA	EA	EA	EA	EA	CY	EA
352+38.08 TO 353+75.98	NB	L+	178.50	25	75.0	160.0	1	1		1	1	1			12E
352+38.08 TO 353+75.98	NB	R+	68.75	75		93.5			1	1	1			1	12B
357+75.98 TO 358+92.67	SB	L+	178.50	25	75.0	160.0	1	1		1	1	1	0.7		12E
357+75.98 TO 358+92.67	SB	R+	68.75	75		93.5			1	1	1			1	12B
SUBTOTAL			495.00	200	150.0	507.0**	2	2	2	4	4	2	0.7**	2	
TOTAL			495.00	200	150.0		2	2	2	4	4	2		2	

* CONC ANCHOR BLOCK (N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY
 ** SEE SHEET Q-3 FOR TOTAL QUANTITY

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	127	231

M.A. Panchesson 4-14-12
 REGISTERED CIVIL ENGINEER DATE

6-25-12
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 M.A. PANCHESSON
 No. 44125
 Exp. 06-30-13
 CIVIL
 STATE OF CALIFORNIA

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

TREATED WOOD WASTE

LOCATION	LBS
FROM REMOVE MBGR (POSTS)	5,714
TOTAL	5,714

MICRO-SURFACING

LOCATION	MICRO-SURFACING
	TON
"SB1" STA 341+10.00 TO 353+63.61	72.55
"SB1" STA 357+47.61 TO 373+40.00	92.15
TOTAL	164.70

HOT MIX ASPHALT DIKES

STATION	DIRECTION	LOCATION	REMOVE AC DIKE	PLACE HMA DIKE			MINOR HMA
				TYPE C	TYPE E	TYPE F	
				LF	LF	LF	
337+36.50 TO 350+51.56	SB	L+	1,358.17				
350+62.38 TO 353+76.50	SB	L+	324.42				
350+65.00 TO 350+89.00	SB	L+		38			0.98
351+02.00 TO 352+57.00	SB	L+		155			4.03
352+70.00 TO 353+76.59	SB	L+		107			2.77
357+33.39 TO 358+12.00	SB	L+	66.40			79	1.04
358+25.00 TO 358+35.00	SB	L+				10	0.07
358+42.82 TO 366+02.10	SB	L+	751.56				
373+40.35 TO 379+17.83	SB	L+	578.43				
381+06.00 TO 381+08.88	SB	L+	24.12				
381+08.88 TO 386+12.26	SB	L+	493.70				
350+33.50 TO 350+44.75	NB	R+	25.48				
350+61.20 TO 350+86.20	NB	R+		40			1.02
350+63.47 TO 350+82.70	NB	R+	38.25				
350+82.70 TO 353+77.23	NB	R+	296.42				
351+00.00 TO 352+13.00	NB	R+			113		2.94
352+13.00 TO 352+85.00	NB	R+		72			0.55
352+98.00 TO 353+77.60	NB	R+			78		1.02
357+17.60 TO 358+90.00	NB	R+			173		4.48
359+03.00 TO 359+13.00	NB	R+			10		0.26
SUBTOTAL			3956.95	72	636	167	19.16*
TOTAL			3956.95	72	636	167	

* SEE MINOR HOT MIX ASPHALT TABLE FOR TOTAL QUANTITY

OVERSIDE DRAINS

STATION	DIRECTION	L+/R+	REMOVE OVERSIDE DRAIN	PLACE HMA (Misc AREA)	MINOR HMA
			EA	SQYD	TON
			EA	SQYD	TON
351+00.00	NB	R+	1	12.02	2.28
352+88.00	NB	R+	1	11.92	2.21
359+00.00	NB	R+	1	6.98	1.29
351+02.00	SB	L+	1	12.90	2.45
352+60.00	SB	L+	1	15.87	3.04
358+22.00	SB	L+	1	8.40	1.57
SUBTOTAL			6	68.09*	12.84**
TOTAL			6		

* SEE PLACE HMA (MISCELLANEOUS AREA) TABLE FOR TOTAL QUANTITY
 ** SEE MINOR HOT MIX ASPHALT TABLE FOR TOTAL QUANTITY

MINOR HOT MIX ASPHALT

LOCATION	TON
FROM DIKES	19.16
FROM OVERSIDE DRAIN	12.84
FROM DQ-1	3.30
TOTAL	35.30

PLACE HOT MIX ASPHALT (MISCELLANEOUS AREA)

LOCATION	SQYD
FROM OVERSIDE DRAINS	68.09
FROM DQ-1	23.72
TOTAL	91.81

SUMMARY OF QUANTITIES

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF ENGINEERING
 FUNCTIONAL SUPERVISOR: ALI KIANI
 CALCULATED/DESIGNED BY: SUDHA M. KODALI
 CHECKED BY: DON WEHLRY
 REVISED BY: DATE REVISIONS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	128	231

M.A. Panchesson 4-14-12
 REGISTERED CIVIL ENGINEER DATE

6-25-12
 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
 M.A. PANCHESSON
 No. 44125
 Exp. 06-30-13
 CIVIL
 STATE OF CALIFORNIA

DOWNDRAIN AND ENTRANCE TAPER

LOCATION	REMOVE DOWNDRAIN	REMOVE ENTRANCE TAPER
	(EA)	(EA)
"SB1" STA 350+95.00 L+	1	1
"NB1" STA 352+98.00 R+	1	1
TOTAL	2	2

HMA (TYPE A) AND TACK COAT

LOCATION	L+/R+	HMA (TYPE A)	TACK COAT
		(TON)	(TON)
"NB1" STA 338+00.00 TO 353+52.00	L+	597.4	0.7
"NB1" STA 357+59.00 TO 374+00.00	L+	632.1	0.7
"NB1" STA 338+00.00 TO 353+52.00	R+	597.8	0.7
"NB1" STA 357+59.00 TO 370+50.00	R+	497.3	0.6
"NB1" STA 344+75.00 TO 353+52.00		1013.4	1.2
"NB1" STA 357+59.00 TO 366+55.00		688.7	0.8
"SB1" STA 341+15.00 TO 353+64.00	L+	601.4	0.7
"SB1" STA 357+47.00 TO 370+50.00	L+	627.4	0.7
"SB1" STA 339+70.00 TO 353+64.00	R+	335.6	0.4
"SB1" STA 357+47.00 TO 373+40.00	R+	383.5	0.4
"SB1" STA 339+70.00 TO 353+64.00	R+ (Temp)	258.1	0.3
"SB1" STA 357+47.00 TO 373+40.00	R+ (Temp)	295.0	0.3
"NB1" STA 338+00.00 TO 353+52.00	L+ (Temp)	459.9	0.5
"NB1" STA 357+59.00 TO 374+00.00	L+ (Temp)	486.2	0.5
"DTR1" 15+38.00 TO 23+06.00	Med CROSS-OVER	568.9	0.6
"DTR1" 33+97.00 TO 41+65.00	Med CROSS-OVER	568.9	0.6
"PR1" 0+00 TO 01+07.00	DRIVEWAY	28.0	0.04
"PR2" 0+00 TO 01+06.00	DRIVEWAY	28.2	0.04
"NB1" 335+28.00 TO 338+00.00	COLDPLANE	93.1	0.23
"NB1" 338+00.00 TO 344+75.00	COLDPLANE	119.1	0.30
"NB1" 344+75.00 TO 353+94.54	COLDPLANE	81.7	0.20
"NB1" 357+15.75 TO 363+55.00	COLDPLANE	56.8	0.14
"NB1" 363+55.00 TO 378+10.00	COLDPLANE	258.7	0.65
"NB1" 338+00.00 TO 344+75.00	RHMA (TYPE O)		0.38
"NB1" 344+75.00 TO 353+52.00	RHMA (TYPE O)		0.49
"NB1" 357+60.00 TO 363+55.00	RHMA (TYPE O)		0.33
"NB1" 363+55.00 TO 374+00.00	RHMA (TYPE O)		0.58
TOTAL		9,277.5	13.08

CLASS 2 AGGREGATE BASE (CY)

LOCATION	L+/R+	VOLUME (CY)
"NB1" STA 338+00.00 TO 353+52.00	L+	1021
"NB1" STA 357+59.00 TO 374+00.00	L+	1079
"NB1" STA 338+00.00 TO 353+52.00	R+	897
"NB1" STA 357+59.00 TO 370+50.00	R+	746
"NB1" STA 344+75.00 TO 353+52.00		1520
"NB1" STA 357+59.00 TO 366+55.00		1033
"SB1" STA 341+15.00 TO 353+64.00	L+	671
"SB1" STA 357+47.00 TO 370+50.00	L+	700
"SB1" STA 339+70.00 TO 353+64.00	R+	568
"SB1" STA 357+47.00 TO 373+40.00	R+	649
"DTR1" 15+38.00 TO 23+06.00	Med CROSS-OVER	853
"DTR1" 33+97.00 TO 41+65.00	Med CROSS-OVER	853
"PR1" 0+00 TO 01+07.00	DRIVEWAY	21.2
"PR2" 0+00 TO 01+06.00	DRIVEWAY	21.3
TOTAL		10,632.5

GRIND EXISTING CONCRETE PAVEMENT

LOCATION	SQYD
"SB1" STA 341+10.00 TO 353+64.00	3750
"SB1" STA 357+47.00 TO 373+40.00	4763
TOTAL	8,513

ASPHALTIC EMULSION (FOG SEAL COAT)

STATION	DIRECTION	L+/R+	FOG SEAL
			(TON)
STA 341+10.00 TO 353+64.00	SB1	R+/L+	0.07
STA 357+48.00 TO 370+50.00	SB1	R+/L+	0.07
TOTAL			0.14

PLASTIC PIPE CAP

LOCATION	3" PLASTIC PIPE CAP (N)	CAP 3" EDGE DRAIN
	EA	
"SB1" STA 341+15	1	
"SB1" STA 370+50	1	
TOTAL	2	

(N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

MARKER (CULVERT)

STATION	L+/R+	TOTAL
		EA
STA 338+40.00	R+ & L+	2
STA 349+09.00	R+ & L+	2
STA 352+35.00	R+ & L+	2
STA 358+27.00	R+ & L+	2
STA 361+55.00	R+ & L+	2
STA 364+44.00	R+ & L+	2
STA 371+04.00	R+ & L+	2
TOTAL		14

FILTER FABRIC

STATION	DIRECTION	L+/R+	(N)
			FILTER FABRIC (SQYD)
STA 341+15.00 TO 353+63.61	SB1	L+	5391
STA 357+47.61 TO 370+50.00	SB1	L+	5036
TOTAL			10,427

(N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY.

ASPHALTIC TREATED PERMEABLE BASE

STATION	DIRECTION	L+/R+	ATPB
			(CY)
STA 341+15.00 TO 353+63.61	SB1	L+	564
STA 357+47.61 TO 370+50.00	SB1	L+	540
TOTAL			1,104

VEGETATION CONTROL (MINOR CONCRETE)

LOCATION	SQYD
FROM Q-2 SHEET	507.0
FROM C-22 SHEET	61.2
TOTAL	568.2

MINOR CONCRETE (MINOR STRUCTURE)

LOCATION	CY
FROM Q-2 SHEET	0.70
FROM DQ-1 SHEET	3.65
PAVEMENT TRANSITION PANELS	32.72
TOTAL	37.07

SUMMARY OF QUANTITIES

Q-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - DIVISION OF ENGINEERING
 SUDHA M. KODALI
 DON WEHLRY
 ALI KIANI
 REVISIONS: 00-00-00 TIME PLOTTED => 24-AUG-2012 10:57

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	129	231

M.A. Panchesson 4-14-12
REGISTERED CIVIL ENGINEER DATE

6-25-12
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.

TEMPORARY DRAINAGE INLET PROTECTION	
STATION	EA
335+28 TO 373+40	2
TOTAL	2

TEMPORARY HYDRAULIC MULCH (BONDED FIBER MATRIX)	
STATION	SQYD
335+28 TO 373+40	9,747
TOTAL	9,747

TEMPORARY SILT FENCE	
STATION	LF
335+28 TO 373+40	500
TOTAL	500

TEMPORARY COVER	
STATION	SQYD
335+28 TO 373+40	2,000
TOTAL	2,000

TEMPORARY LARGE SEDIMENT BARRIER	
STATION	LF
335+28 TO 373+40	4,163
TOTAL	4,163

TEMPORARY EROSION CONTROL BLANKET	
STATION	SQYD
335+28 TO 373+40	2,000
TOTAL	2,000

TEMPORARY CONSTRUCTION ENTRANCE/EXIT	
STATION	EA
335+28 TO 373+40	6
TOTAL	6

ROCK SLOPE PROTECTION				
LOCATION	RSP (No. 1, METHOD B)	RSP (1/4 TON, METHOD B)	RSP FABRIC (CLASS B)	RSP (No. 2 METHOD B)
	CY	CY	SQYD	CY
BRIDGE ABUTMENT No. 1	313	770	848	
BRIDGE ABUTMENT No. 3	135	334	611	
SEE C-13 SHEET			24	4
TOTAL	448	1,104	1,483	4

TEMPORARY FIBER ROLL	
STATION	LF (6")
335+28 TO 373+40	7,708
TOTAL	7,708

TEMPORARY SOIL BINDER	
STATION	SQYD
335+28 TO 373+40	10,000
TOTAL	10,000

TEMPORARY GRAVEL BAG BERM	
STATION	LF
335+28 TO 373+40	211
TOTAL	211

MOVE-IN / MOVE-OUT (TEMPORARY EROSION CONTROL)	
STATION	EA
335+28 TO 373+40	10
TOTAL	10

SUMMARY OF QUANTITIES

Q-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans DIVISION OF ENGINEERING
 FUNCTIONAL SUPERVISOR: ALI KIANI
 CALCULATED/DESIGNED BY: DON WEHLRY
 CHECKED BY: SUDHA M. KODALI
 REVISED BY: DATE REVISION:

LAST REVISION DATE PLOTTED => 24-AUG-2012
 00-00-00 TIME PLOTTED => 10:57

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	130	231

<i>R.P. Gill</i>		3-27-12
REGISTERED ELECTRICAL ENGINEER	DATE	
6-25-12		
PLANS APPROVAL DATE		

RUPINDER PAL GILL		No. 16642
REGISTERED PROFESSIONAL ENGINEER		Exp. 06-30-12
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.

GENERAL NOTES:

- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.
- EXACT LOCATION AND ORIENTATION OF ELECTRICAL EQUIPMENT TO BE APPROVED BY THE ENGINEER IN THE FIELD.
- INSTALL SIGN LIGHTING FIXTURE AT FLASHING BEACONS PER ES-7J.
- FOR TEMPORARY WOOD POLE DETAILS, SEE E-12 AND SES SHEETS. TEMPORARY WOOD POLES WITHOUT LUMINAIRE SHALL BE INSTALLED AT MINIMUM 30' FROM ETW. TEMPORARY WOOD POLES WITH LUMINAIRE SHALL BE INSTALLED AT MINIMUM 15' FROM ETW AND INSTALL CRASH CUSHION AS DIRECTED BY THE ENGINEER.
- AT PAVED AREAS PROVIDE 25 FEET MINIMUM VERTICAL CLEARANCE FOR OVERHEAD CONDUCTOR.
- REMOVE ALL STAGE CONSTRUCTION EQUIPMENT AFTER COMPLETION OF WORK AND AS DIRECTED BY THE ENGINEER.
- FOR EXISTING UTILITY INFORMATION, SEE UTILITY SHEETS. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION AND PROTECT EXISTING UTILITIES DURING CONSTRUCTION.
- LOCATION OF FACILITIES SHOWN ON THE UTILITY PLANS ARE APPROXIMATE AND SHALL BE VERIFIED BY THE UTILITY OWNERS PRIOR TO CONSTRUCTION.
- ALL UTILITIES THAT ARE OUTSIDE STATE R/W ARE NOT SHOWN. INSIDE STATE RIGHT OF WAY ARE SHOWN ON THE UTILITY PLANS.

PROJECT NOTE (THIS SHEET):

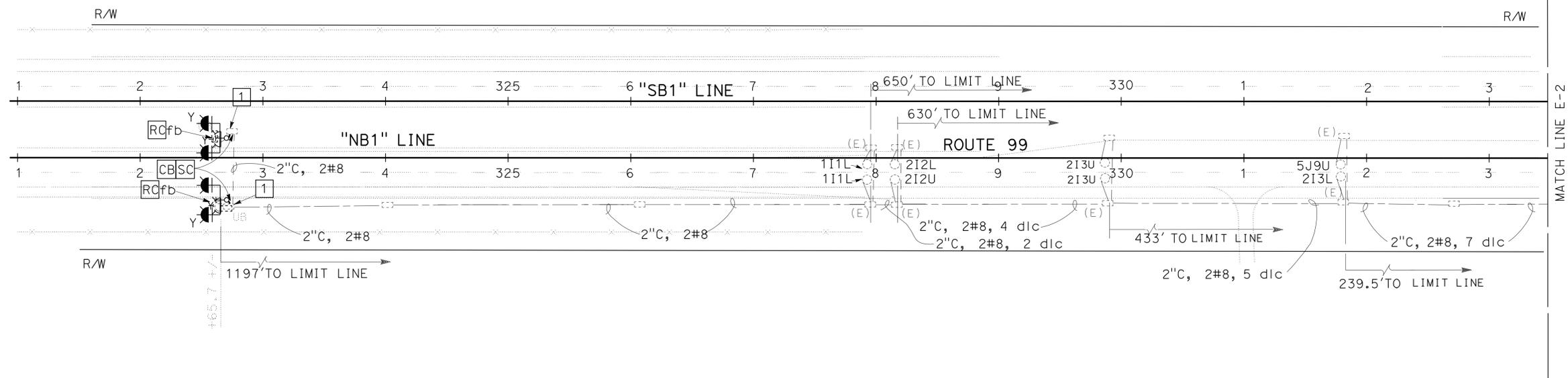
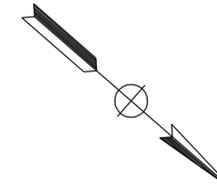
- INSTALL 5 A IN-LINE FUSE INSIDE PB AND KINK CONDUCTORS PER ES-13B.

LEGEND:

- Exist FLASHING BEACON
- TEMPORARY FLASHING BEACON
- 310 W TEMPORARY LUMINAIRE
- DBC DIRECT BURIED CABLE (E-13)
- ESA FENCING

ABBREVIATIONS:

- CTID CALTRANS IDENTIFICATION
- PG&E PACIFIC GAS AND ELECTRIC



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: STEVEN BLOCK
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]
 ALT HASSANI
 RUPINDER PAL GILL
 REVISED BY: [Blank]
 DATE REVISED: [Blank]

MODIFY SIGNAL AND LIGHTING

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 50'

E-1



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	131	231

R.P. Gill		3-27-12
REGISTERED ELECTRICAL ENGINEER		DATE
6-25-12		
PLANS APPROVAL DATE		

RUPINDER PAL GILL		No. 16642
REGISTERED PROFESSIONAL ENGINEER		Exp. 06-30-12
ELECTRICAL		STATE OF CALIFORNIA

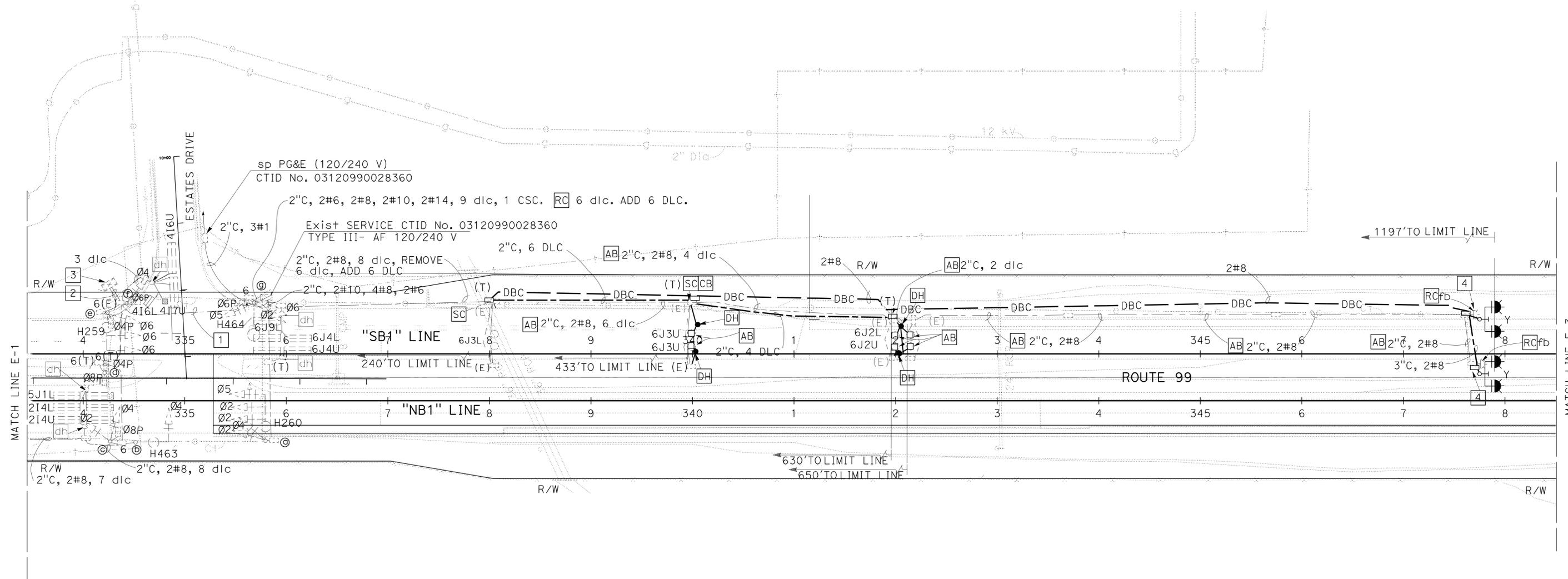
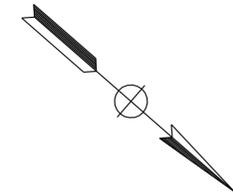
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

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

PROJECT NOTE (THIS SHEET):

- 1 3 1/2"C, 2#6, 2#10, 2#8, 2#14, 3 CSC, 9 dlc. REMOVE 6 dlc. ADD 6 DLC.
- 2 2-3 1/2"C, 2#6, 6#14, 13 CSC, 22 dlc. REMOVE 6 dlc. ADD 6 DLC.
- 3 Exist MODEL 332 CONTROLLER CABINET WITH BBS.
- 4 INSTALL 5 A IN-LINE FUSE INSIDE PB AND KINK CONDUCTORS PER ES-13B.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR STEVEN BLOCK
 CALCULATED/DESIGNED BY ALT HASSANI
 CHECKED BY RUPINDER PAL GILL
 REVISED BY DATE
 REVISIONS: 1, 2, 3, 4

MODIFY SIGNAL AND LIGHTING

SCALE: 1" = 50'

E-2

APPROVED FOR ELECTRICAL WORK ONLY



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	132	231

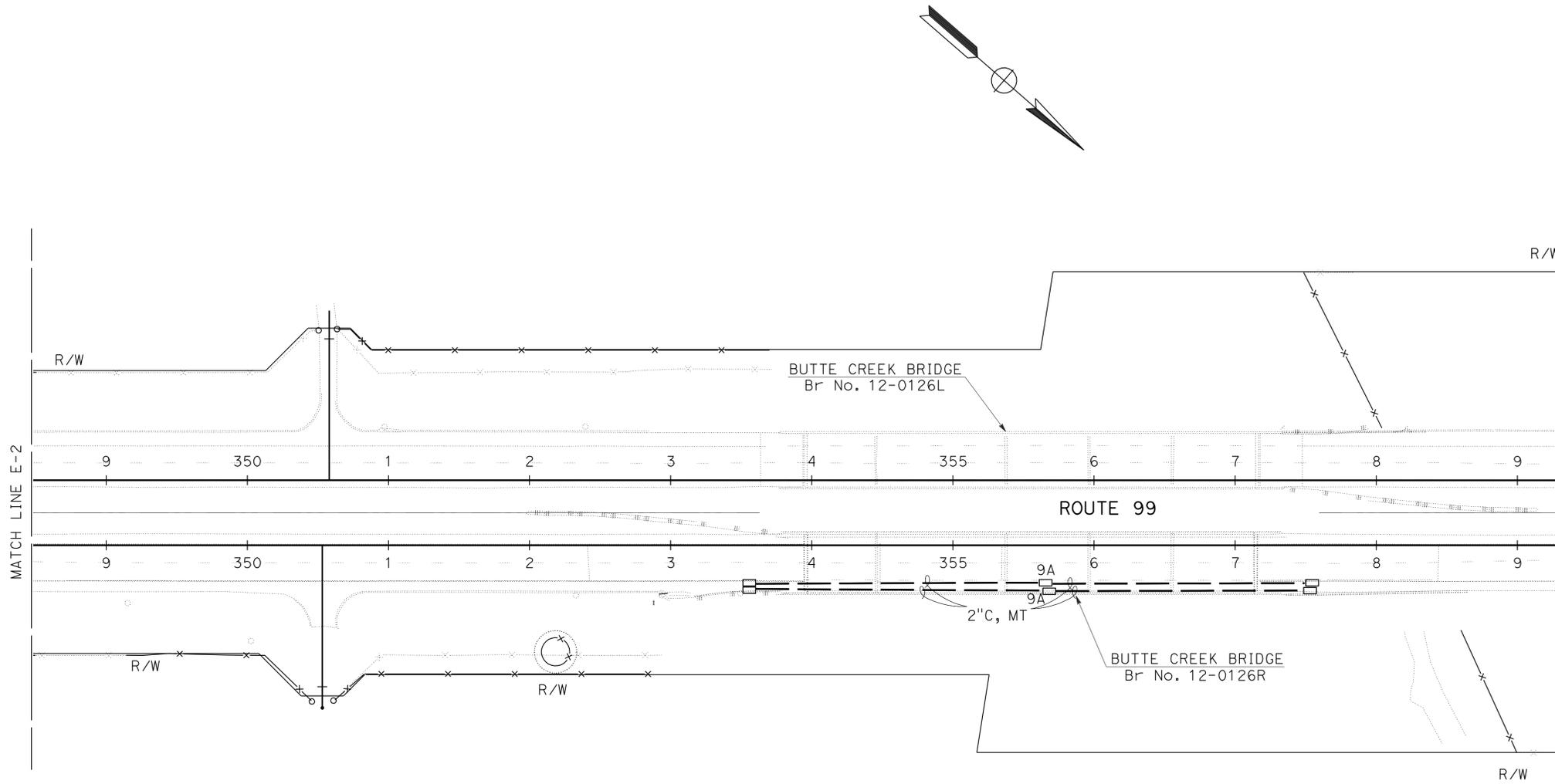
<i>R. P. Gill</i>	3-27-12
REGISTERED ELECTRICAL ENGINEER	DATE
6-25-12	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
RUPINDER PAL GILL
No. 16642
Exp. 06-30-12
ELECTRICAL
STATE OF CALIFORNIA

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NOTE:

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



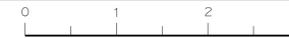
LIGHTING CONDUIT (BRIDGE)

SCALE: 1" = 50'

E-3

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans ELECTRICAL DESIGN	STEVEN BLOCK	ALY HASSANI RUPINDER PAL GILL	DATE REVISED

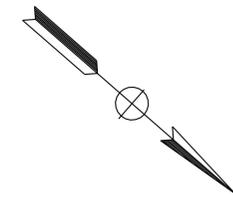


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	133	231

<i>R.P. Gill</i>	3-27-12
REGISTERED ELECTRICAL ENGINEER	DATE
6-25-12	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
RUPINDER PAL GILL
No. 16642
Exp. 06-30-12
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.



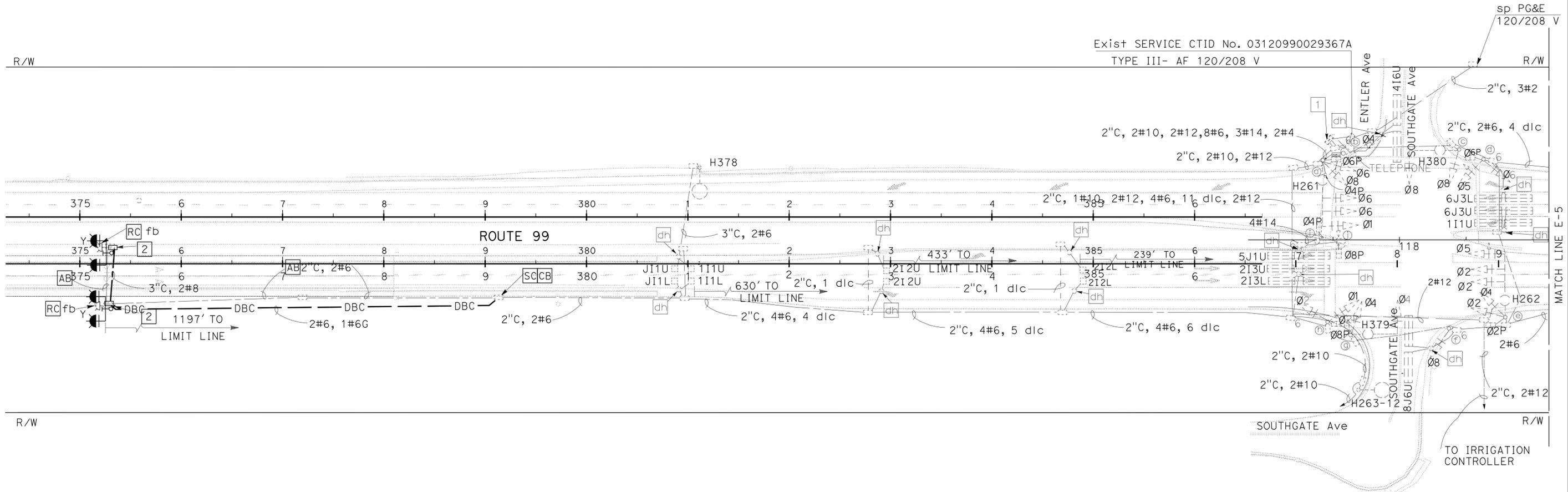
NOTE:

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

PROJECT NOTE (THIS SHEET):

- 1 Exist MODEL 332 CONTROLLER CABINET WITH BBS.
- 2 INSTALL 5 A IN-LINE FUSE INSIDE PB AND KINK CONDUCTORS PER ES-13B.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR
Caltrans	STEVEN BLOCK	ALY HASSANI	ALT HASSANI
ELECTRICAL DESIGN		RUPINDER PAL GILL	RUPINDER PAL GILL



MODIFY SIGNAL AND LIGHTING

SCALE: 1" = 50'

E-4

APPROVED FOR ELECTRICAL WORK ONLY

NOTE:

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

PROJECT NOTES (THIS SHEET):

- 1 Exist 3 1/2" C, 2#6, 2#10, 2#8, 2#14, 3 CSC, 9 dlc.
- 2 Exist 2-3 1/2" C, 2#6, 6#14, 13 CSC, 22 dlc. ADD 1 VIDEO CABLE.
- 3 Exist MODEL 332 CONTROLLER CABINET WITH BBS. MODIFY CABINET AS NEEDED TO INSTALL TEMPORARY WIRING AND INSTALL VIDEO DETECTOR EQUIPMENT.
- 4 INSTALL TEMPORARY TYPE III-AF SERVICE EQUIPMENT ENCLOSURE PROVIDE ITEMS 1 THROUGH 8, 13, 15, 16 20 A, 20, 21, 22, 23, PER RSP ES-2D. **RS** AFTER COMPLETION OF WORK AS DIRECTED BY THE ENGINEER.
- 5 3" C, 2#4, 1#4G, 2#8.
- 6 MESSENGER CABLE. INSTALL 1 VIDEO CABLE, 2#8, 2#4, 1#4G.
- 7 INSTALL VIDEO CAMERA, SEE DETAIL "T8" SHEET E-12. EXACT LOCATION, VIDEO CAMERA MOUNTING HEIGHT AND CAMERA ANGLE WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
- 8 MESSENGER CABLE. INSTALL 2#4, 1#4G, 2#8.
- 9 FOR TEMPORARY FLASHING BEACON DETAIL, SEE SHEET E-11.

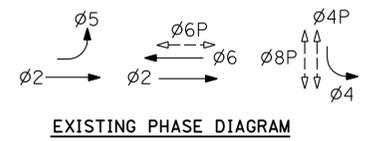
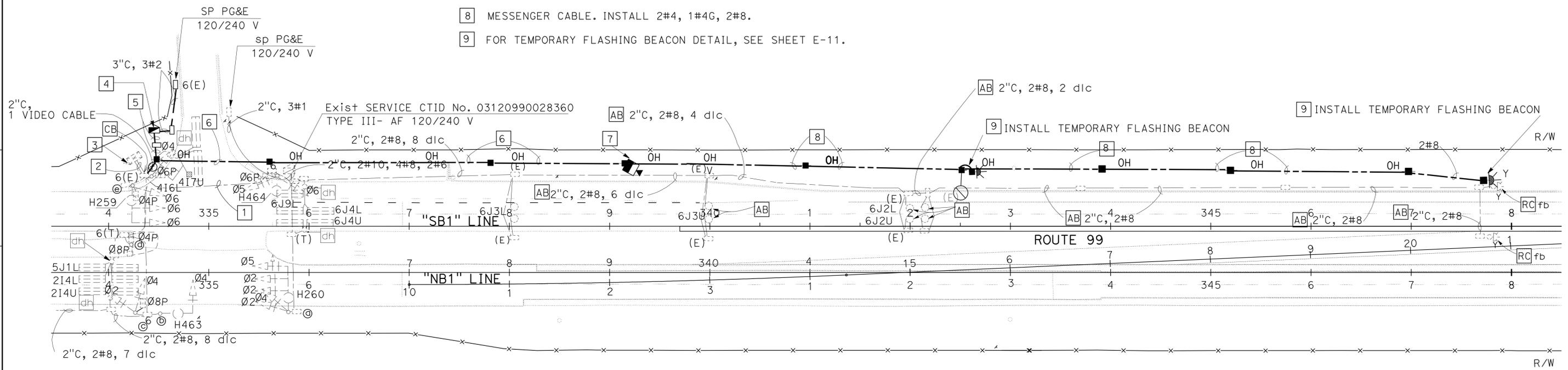
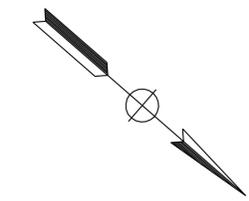
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Bu+	99	28.1/29.6	135	231

R.P. Gill
REGISTERED ELECTRICAL ENGINEER DATE 3-27-12

6-25-12
PLANS APPROVAL DATE

RUPINDER PAL GILL
No. 16642
Exp. 06-30-12
ELECTRICAL

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**MODIFY SIGNAL AND LIGHTING
TEMPORARY VIDEO IMAGE VEHICLE DETECTION SYSTEM
TEMPORARY LIGHTING
(STAGE CONSTRUCTION)
STAGE 1**

SCALE: 1" = 50'

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL DESIGN
ALT HASSANI
RUPINDER PAL GILL
STEVEN BLOCK

LAST REVISION DATE PLOTTED => 24-AUG-2012 00-00-00 TIME PLOTTED => 10:58

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	136	231
<i>R.P. Gill</i> REGISTERED ELECTRICAL ENGINEER DATE			3-27-12		
6-25-12 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

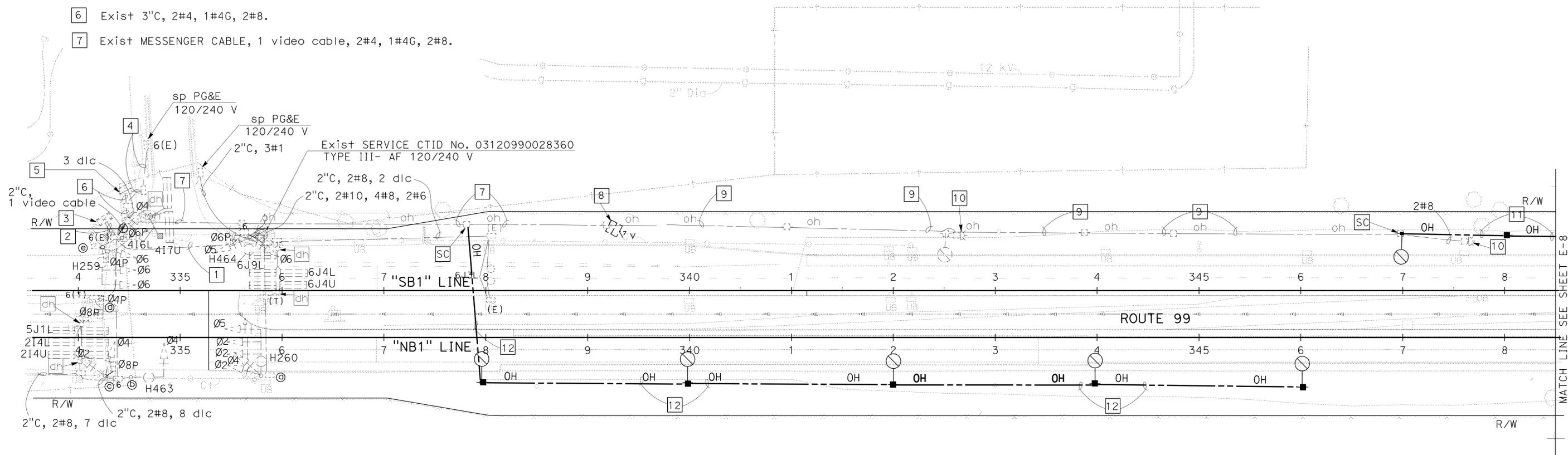
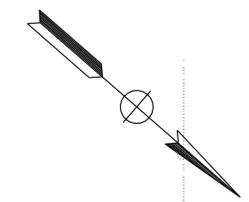
NOTE:

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

PROJECT NOTES (THIS SHEET):

- 1 Exist 3 1/2"C, 2#6, 2#10, 2#8, 2#14, 3 CSC, 9 dlc.
- 2 Exist 2-3 1/2"C, 2#6, 6#14, 13 CSC, 22 dlc, 1 video cable.
- 3 Exist MODEL 332 CONTROLLER CABINET WITH BBS, MODIFY CABINET AS NEEDED TO INSTALL TEMPORARY WIRING AND INSTALL VIDEO DETECTOR EQUIPMENT.
- 4 Exist 3"C, 3#2.
- 5 Exist TEMPORARY TYPE III-AF SERVICE EQUIPMENT ENCLOSURE.
- 6 Exist 3"C, 2#4, 1#4G, 2#8.
- 7 Exist MESSENGER CABLE, 1 video cable, 2#4, 1#4G, 2#8.

- 8 Exist TEMPORARY CAMERA, SEE SHEET E-6.
- 9 Exist MESSENGER CABLE, 2#4, 1#4G, 2#8.
- 10 Exist TEMPORARY FLASHING BEACON, SEE SHEET E-6.
- 11 MESSENGER CABLE. INSTALL 2#4, 1#4G.
- 12 MESSENGER CABLE. INSTALL 2#6, 1#6G.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR STEVEN BLOCK
 CALCULATED/DESIGNED BY RUPINDER PAL GILL
 CHECKED BY
 REVISED BY ALT HASSANI
 DATE REVISED

**TEMPORARY LIGHTING
 (STAGE CONSTRUCTION)
 STAGE 2 AND 3**

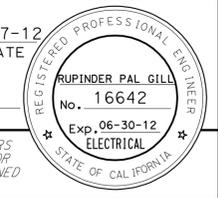
SCALE: 1" = 50'

E-7

APPROVED FOR ELECTRICAL WORK ONLY

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Bu+	99	28.1/29.6	137	231

R. P. Gill 3-27-12
 REGISTERED ELECTRICAL ENGINEER DATE
 6-25-12
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

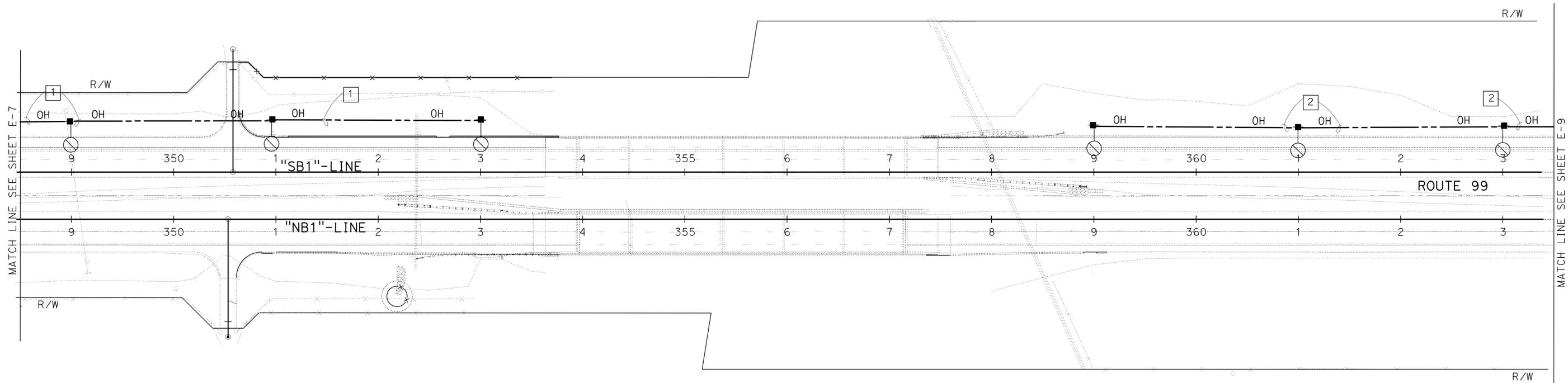
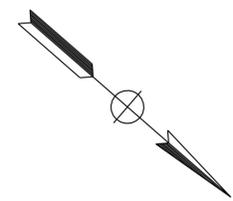


NOTE:

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

PROJECT NOTES (THIS SHEET):

- 1 MESSENGER CABLE. INSTALL 2#4, 1#4G.
- 2 MESSENGER CABLE. INSTALL 2#2, 1#2G.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR STEVEN BLOCK
 CALCULATED/DESIGNED BY
 CHECKED BY
 ALT HASSANI
 RUPINDER PAL GILL
 REVISED BY
 DATE REVISD

**TEMPORARY LIGHTING
 (STAGE CONSTRUCTION)
 STAGE 2 AND 3**

SCALE: 1" = 50'

E-8

APPROVED FOR ELECTRICAL WORK ONLY

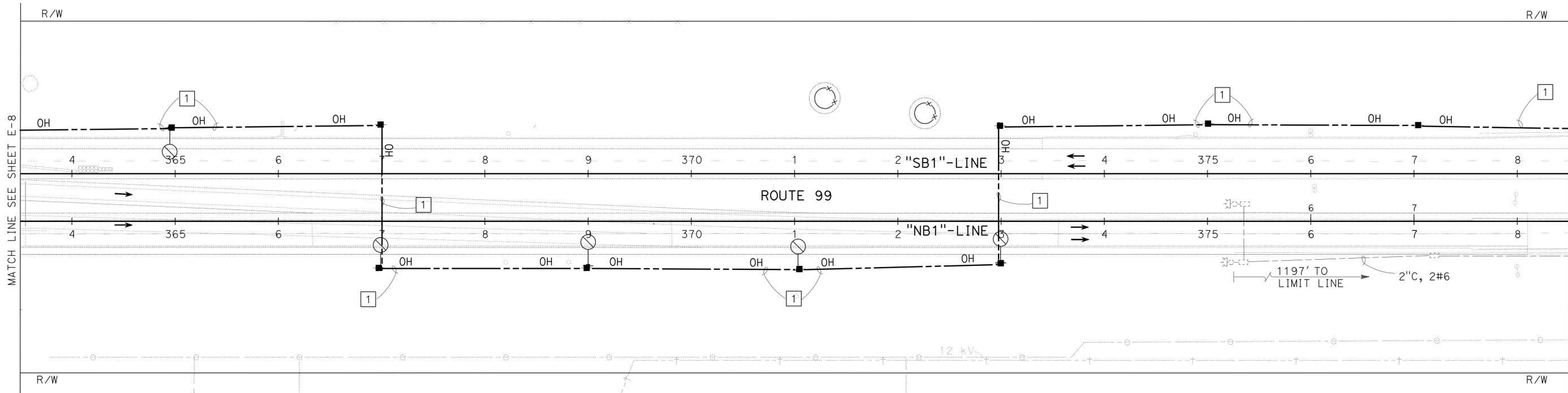
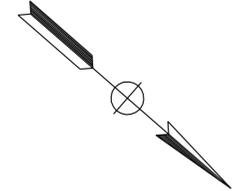
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	Bu+	99	28.1/29.6	138	231
<i>R. P. Gill</i> REGISTERED ELECTRICAL ENGINEER			3-27-12 DATE	PROFESSIONAL ENGINEER RUPINDER PAL GILL No. 16642 Exp. 06-30-12 ELECTRICAL STATE OF CALIFORNIA	
6-25-12 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTE:

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PROJECT NOTE (THIS SHEET):

- 1 MESSENGER CABLE. INSTALL 2#2, 1#2G.



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: STEVEN BLOCK
 CALCULATED/DESIGNED BY: ALT HASSANI
 CHECKED BY: RUPINDER PAL GILL
 REVISED BY: [] DATE: []
 REVISIONS: []

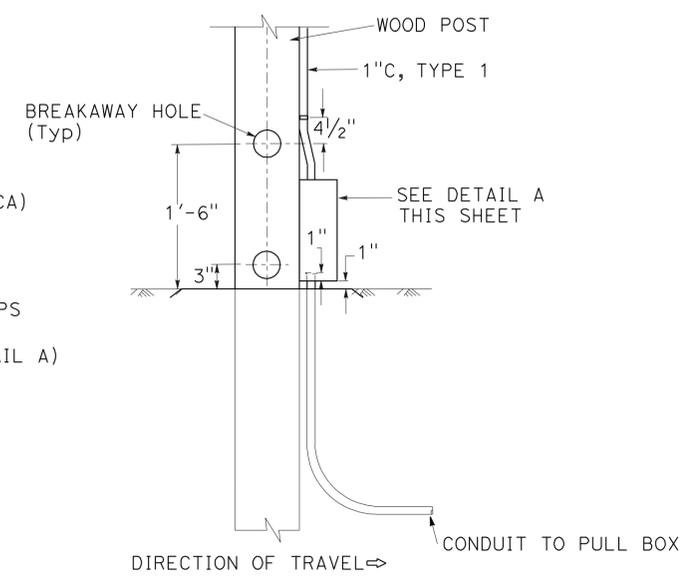
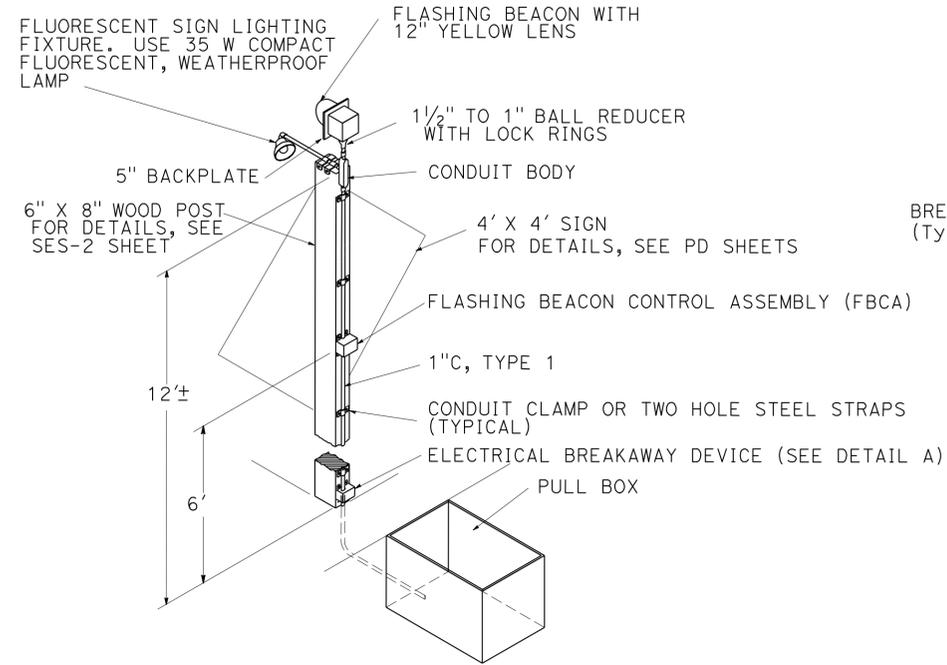
**TEMPORARY LIGHTING
(STAGE CONSTRUCTION)
STAGE 2 AND 3**

APPROVED FOR ELECTRICAL WORK ONLY

SCALE: 1" = 50'

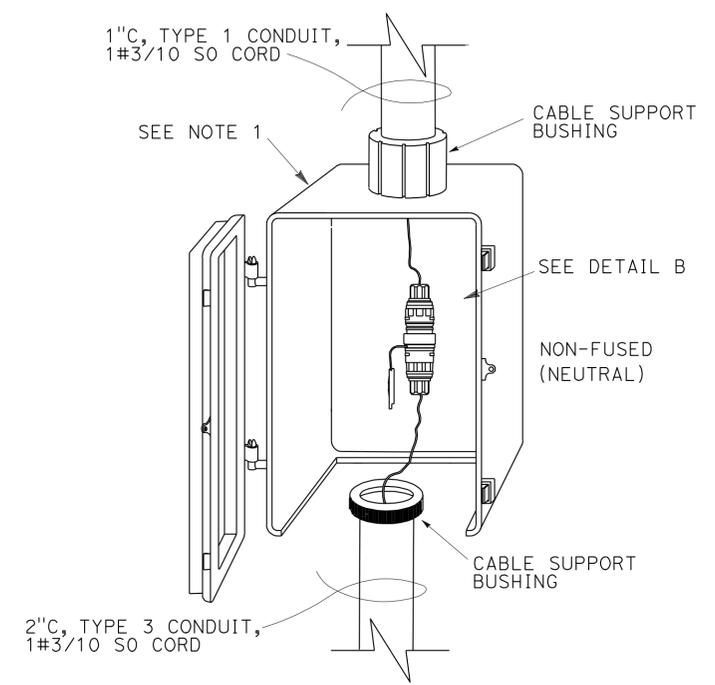
E-9

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	140	231
<i>R. P. Gill</i> REGISTERED ELECTRICAL ENGINEER			3-27-12 DATE		
6-25-12 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>					



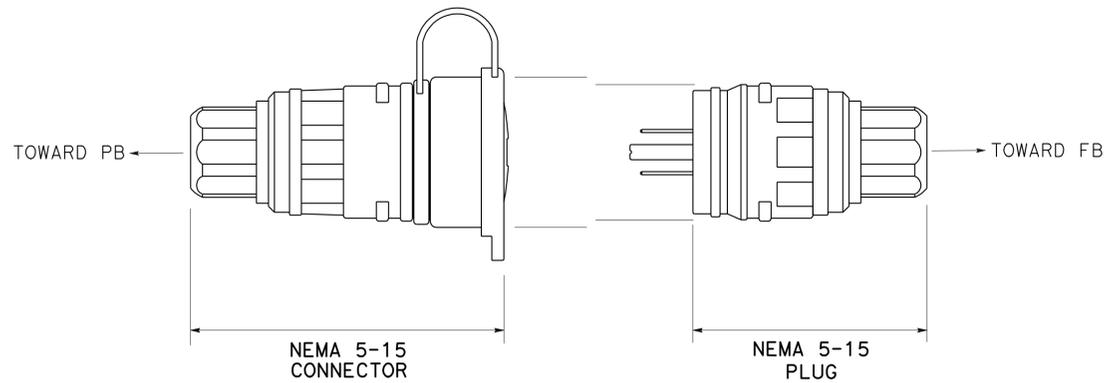
**FLASHING BEACON WOOD POST
INSTALLATION DETAIL**

NOTE (THIS SHEET ONLY):
 1. FOR SIZE OF BREAKAWAY HOLES AND OTHER DETAILS NOT SHOWN, SEE ROADSIDE SIGNS - WOOD POST TYPICAL INSTALLATION DETAILS IN STANDARD PLANS.



**BREAKAWAY BOX
8" (L) X 5" (D) X 1'(H) ENCLOSURE
DETAIL A**

NOTE:
 1. WEATHER RESISTANT BOX
 - HEAVY-DUTY PLASTIC
 - LOCKABLE ATTACHMENT
 - WEATHER STRIP GASKET
 - HINGED LID
 - REMOVE BOTTOM OF ENCLOSURE AS SHOWN
 - ENCLOSURE SHALL NOT BE BOLTED TO THE WOOD POST



**WATERTIGHT PLUG AND CONNECTOR COMBINATION
DETAIL B**

**TEMPORARY SIGNAL SYSTEM
(STAGE CONSTRUCTION)**

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: STEVEN BLOCK
 CALCULATED/DESIGNED BY: ALT HASSANI
 CHECKED BY: RUPINDER PAL GILL
 REVISED BY: DATE REVISION

APPROVED FOR ELECTRICAL WORK ONLY

USERNAME => s121614
 DGN FILE => 0300000509ua011.dgn

RELATIVE BORDER SCALE IS IN INCHES
 0 1 2 3

UNIT 0402

PROJECT NUMBER & PHASE

03000005091

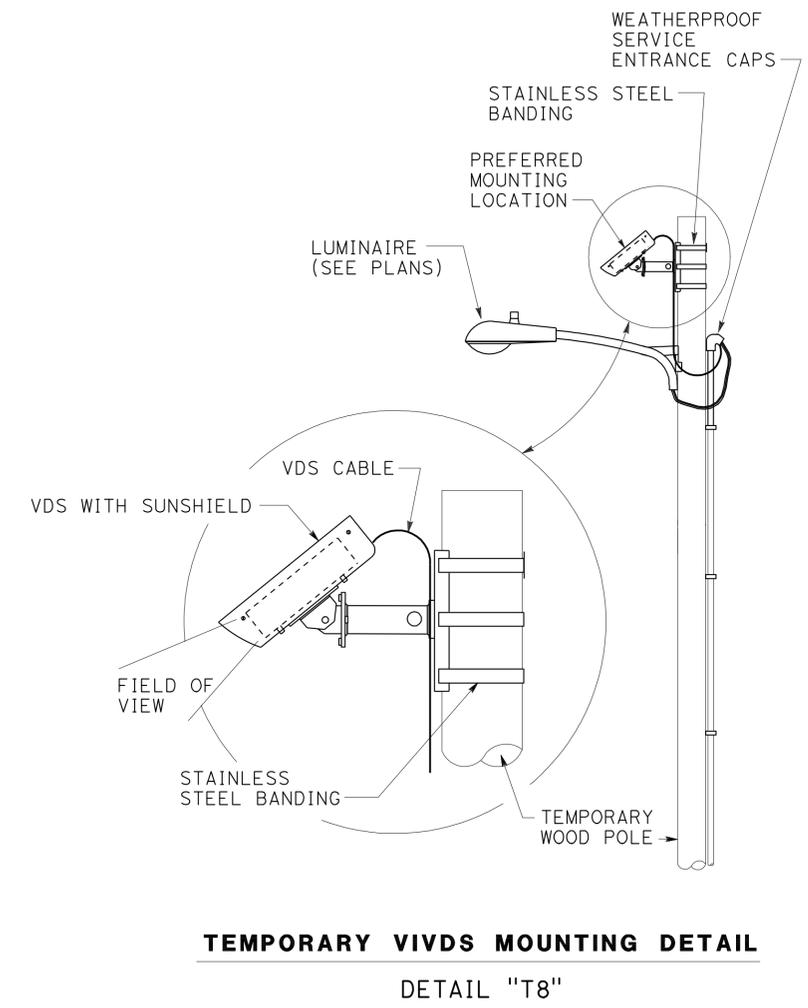
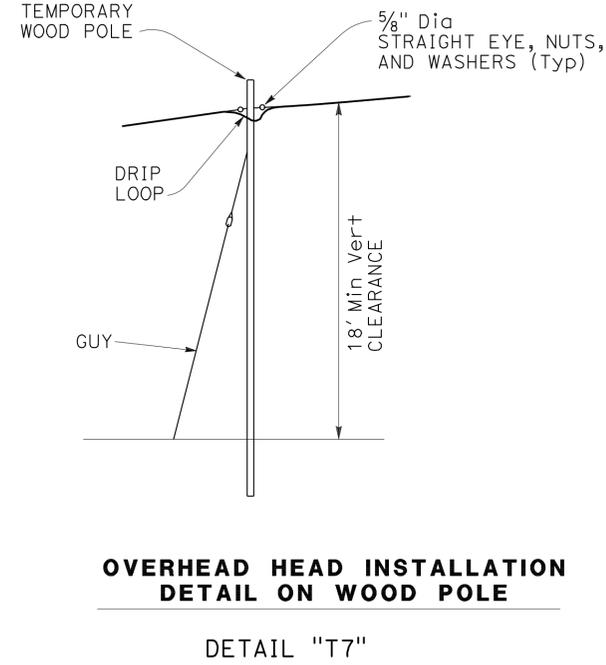
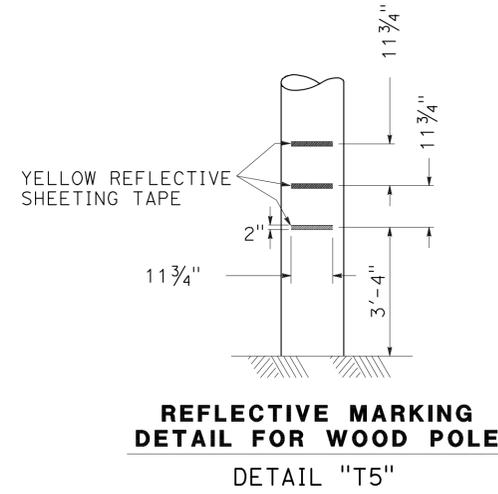
LAST REVISION | DATE PLOTTED => 24-AUG-2012
 00-00-00 | TIME PLOTTED => 10:59

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	141	231
<i>R. P. Gill</i> REGISTERED ELECTRICAL ENGINEER			3-27-12 DATE		
6-25-12 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



NOTE:
 1. ALL METALLIC CONDUITS, BOLTS STRAPS AND Misc HARDWARE SHALL BE GALVANIZED.

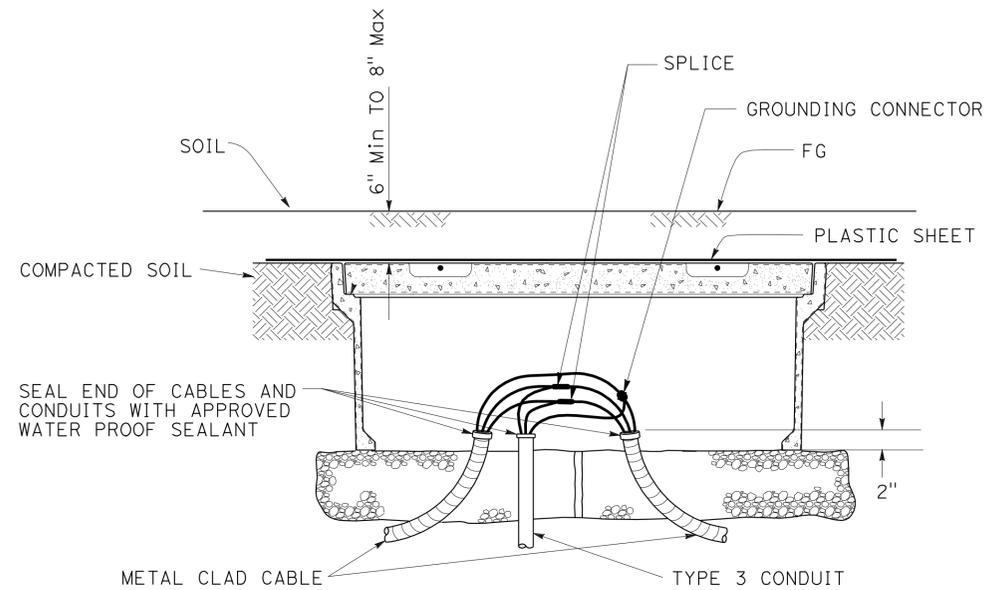
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans ELECTRICAL DESIGN
 FUNCTIONAL SUPERVISOR: STEVEN BLOCK
 CALCULATED/DESIGNED BY: [Blank] CHECKED BY: [Blank]
 ALT HASSANI RUPINDER PAL GILL
 REVISED BY: [Blank] DATE REVISED: [Blank]



**TEMPORARY SIGNAL SYSTEM
 (STAGE CONSTRUCTION)
 DETAILS
 NO SCALE**

APPROVED FOR ELECTRICAL WORK ONLY

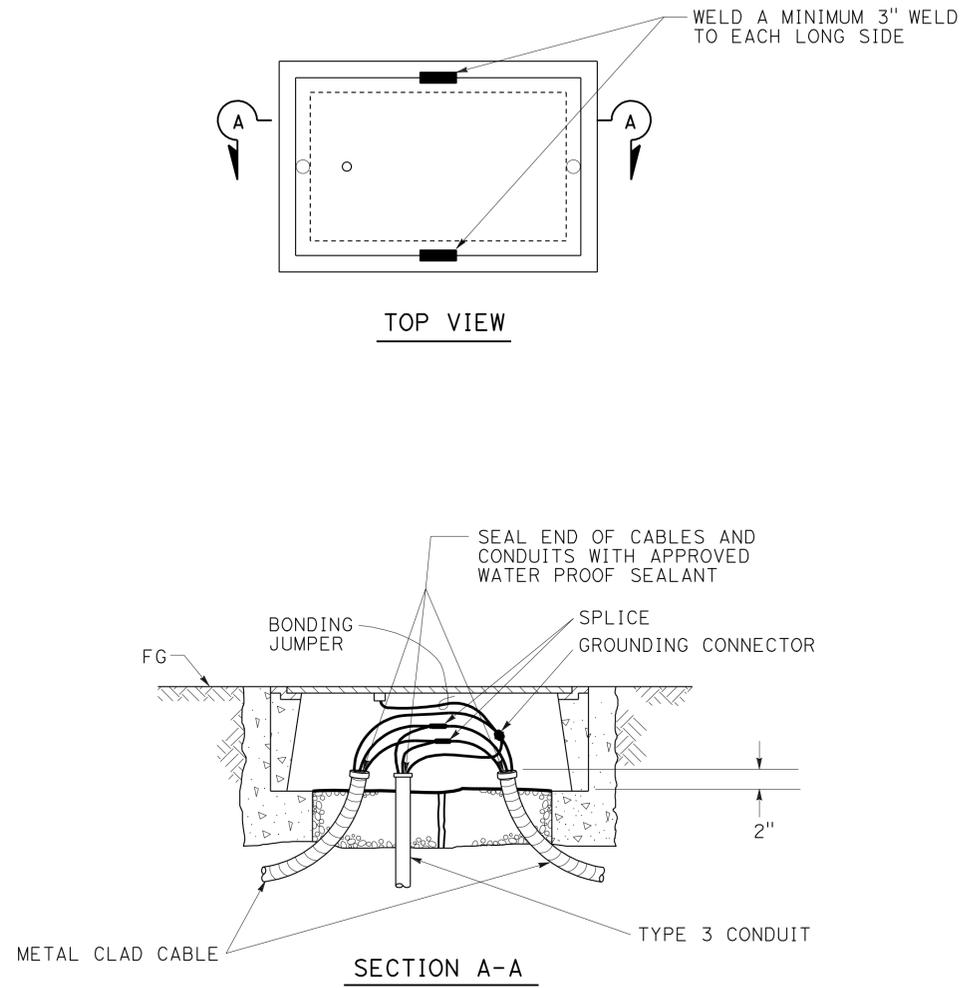
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03	But	99	28.1/29.6	142	231
<i>R. P. Gill</i> REGISTERED ELECTRICAL ENGINEER			3-27-12 DATE		
6-25-12 PLANS APPROVAL DATE					
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TYPICAL BURIED PULL BOX

FOR ADDITIONAL DETAILS SEE STANDARD PLAN NSP ES-8A.

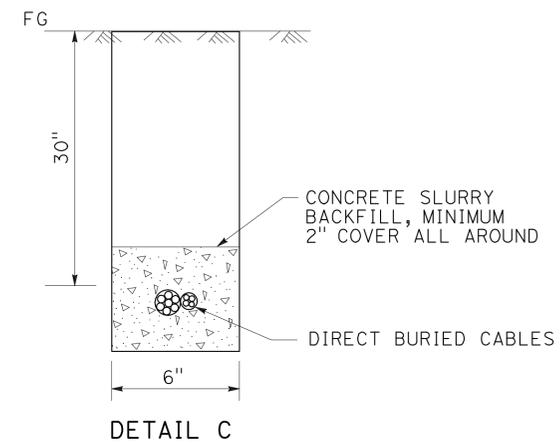
DETAIL A



TYPICAL TRAFFIC PULL BOX

FOR ADDITIONAL DETAILS SEE STANDARD PLAN NSP ES-8B.
NOTE: DO NOT BURY TRAFFIC PULL BOX.

DETAIL B



DETAIL C

**MODIFY SIGNAL AND LIGHTING
(BURIED PULL BOX AND
DIRECT BURIED CABLE DETAILS)**

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE
Caltrans	STEVEN BLOCK	ALT HASSANI	BY	
ELECTRICAL DESIGN		RUPINDER PAL GILL	DATE	

APPROVED FOR ELECTRICAL WORK ONLY



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	143	231

3-26-12 DATE
 REGISTERED CIVIL ENGINEER
 6-25-12 PLANS APPROVAL DATE
 No. C61500
 Exp. 6/30/13
 CIVIL
 STATE OF CALIFORNIA
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POLE TABLES

DEAD-END POLES (SEE NOTE 6)						
Max SPAN	MAXIMUM OH CONDUCTORS CARRIED *	POLE TYPE	CLASS	LUMINAIRE ARM**	POLE EMBEDMENT	ANCHOR CALL OUT
150'	2#8, 3#4 1 DLC	A	45' CLASS 1	12' LMA	10'-0"	G1
		B	45' CLASS H2	12' LMA	11'-0"	-
200'	3#2	A	45' CLASS 1	12' LMA	10'-0"	G1
		B	45' CLASS H2	12' LMA	11'-0"	-

CORNER POLES (SEE NOTE 6)							
Max (SHORT) SPAN	MAXIMUM OH CONDUCTORS CARRIED *	POLE TYPE	CLASS	LUMINAIRE ARM**	POLE EMBEDMENT	ANCHOR CALL OUT	GUY LAYOUT ANGLE
200' (160')	3#2	A B	45' CLASS 1 45' CLASS H2	12' LMA	10'-0" 11'-0"	G2 -	BISECTOR ANGLE

TANGENT POLES (SEE NOTE 6)						
Max SPAN	MAXIMUM OH CONDUCTORS CARRIED *	POLE TYPE	CLASS	LUMINAIRE ARM**	POLE EMBEDMENT	ANCHOR CALL OUT
200'	2#8, 3#4 1 DLC	-	45' CLASS 2	12' LMA	9'-0"	-
250'	3#4	-	45' CLASS 2	12' LMA	9'-0"	-

JUNCTION POLES (SEE NOTE 6)							
Max (SHORT) SPAN	MAXIMUM OH CONDUCTORS CARRIED *	POLE TYPE	CLASS	LUMINAIRE ARM**	POLE EMBEDMENT	ANCHOR CALL OUT	GUY LAYOUT ANGLE
250' (150')	2#8, 3#4 1 DLC	A B	45' CLASS 1 45' CLASS H2	-	9'-0" 11'-0"	G1 -	OPPOSITE NON-TANGENT SPAN
250' (50')	2#8, 3#4 1 DLC	B	45' CLASS H3	-	11'-0"	-	-

* DESIGN VALID IF SIZE OF OH CONDUCTOR(S) CARRIED SHOWN ARE REPLACED WITH SMALLER SIZE (OD & WEIGHT).
 ** POLE CLASS SELECTION APPLICABLE WITHOUT USE OF LUMINAIRE MAST ARM (LMA) PER TABLE.

DESIGN NOTES:

Design: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Fifth Edition (LTS-5).

GROUP LOAD COMBINATIONS:

- I Dead Load
- II Dead Load + Wind Load
- III Dead Load + 0.5 (Wind Load) + Ice Load
- IV Fatigue: Not used

LOADING

Wind Loadings: 85 mph (3-second gust)
 Wind Recurrence interval: 10 years
 Combined height, exposure, and elevated terrain factor = 1.05
 (Exposure C, structure is located on or over the top half of a 30' Maximum tall ridge, hill or escarpment)

BASIC DESIGN VALUES:

Timber Poles: Fb = 1850 psi Roadside Posts: Fb = 975 psi
 Fv = 110 psi Fv = 70 psi
 Fcp = 230 psi E = 1300 x 10³ psi
 Fc = 950 psi E = 1500 x 10³ psi

TREATMENT

To conform with Section 86 Standard Specifications

SPECIFICATIONS

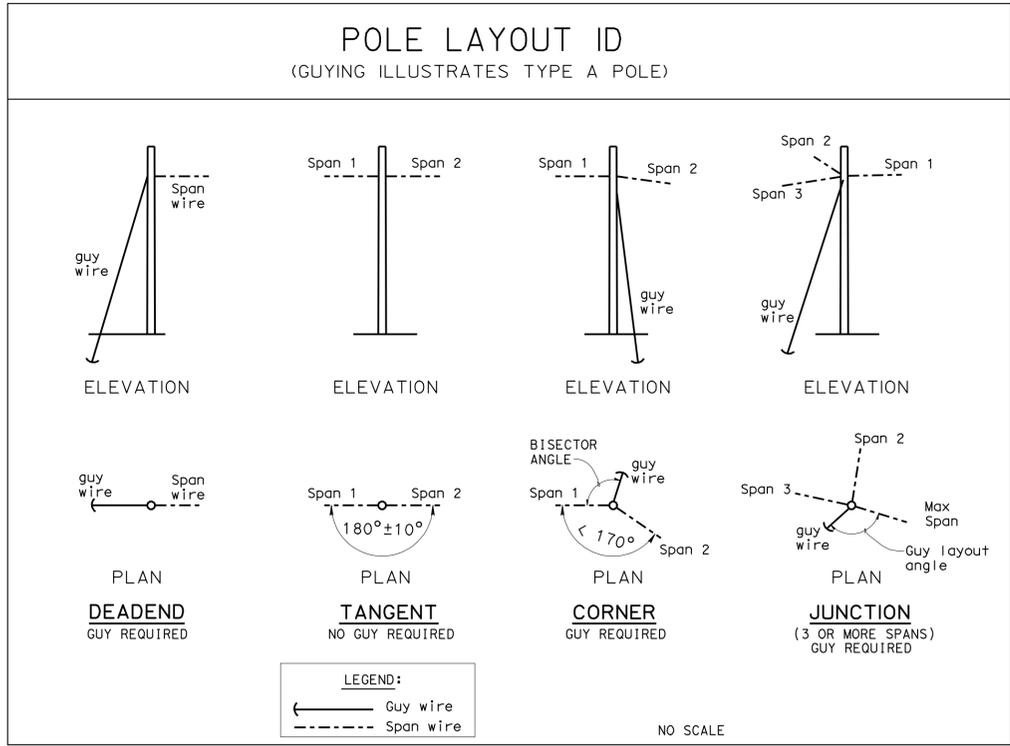
Caltrans Standard Specifications 2006
 ANSI Wood Poles
 ASTM A475, Utility Grade, 7-strand wires
 Termination efficiency factor 0.80

FOUNDATION DESIGN NOTES:

- Pole embedment depth design is based on Broms' approximate procedure as described in Article 13.6 of AASHTO LTS-5.
- Standard embedment depth is calculated based on level ground assumption (slope inclination is flatter than 4H:1V).
- Embedment depth is calculated based on following:
Cohesionless Soil:
 $\theta = 30 \text{ deg}$, $\gamma = 120 \text{ pcf}$.
- An overload factor of 2.0 and an undercapacity factor of 0.7 were used for safety factor of 2.86.
- If pole is located on or near a steep slope (up to 2H:1V) add 2 feet extra embedment.
- Allowable vertical bearing pressure at the end bearing of poles is 3,000 psf at 6 feet or more embedment.
- The Contractor is to field verify the soil conditions indicated on FOUNDATION DESIGN NOTES 3 and 6.

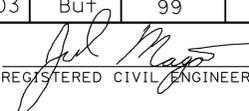
GENERAL NOTES:

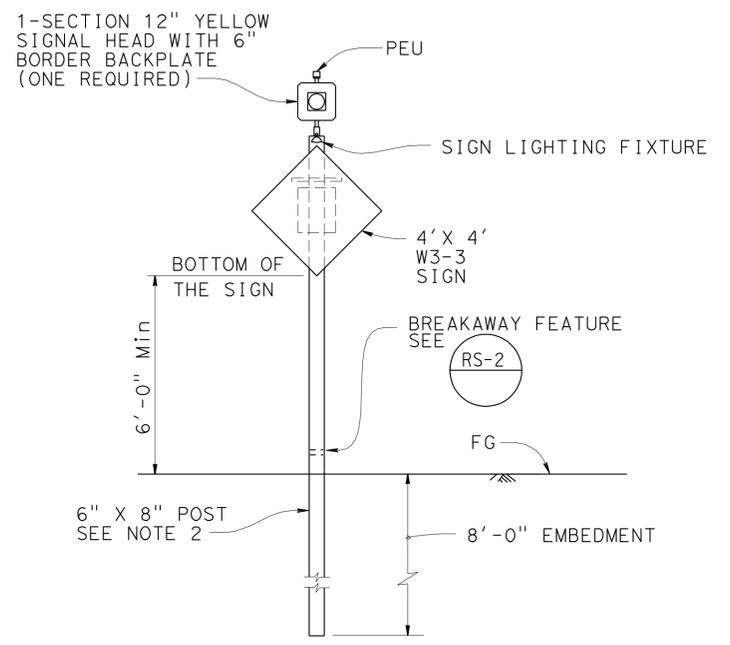
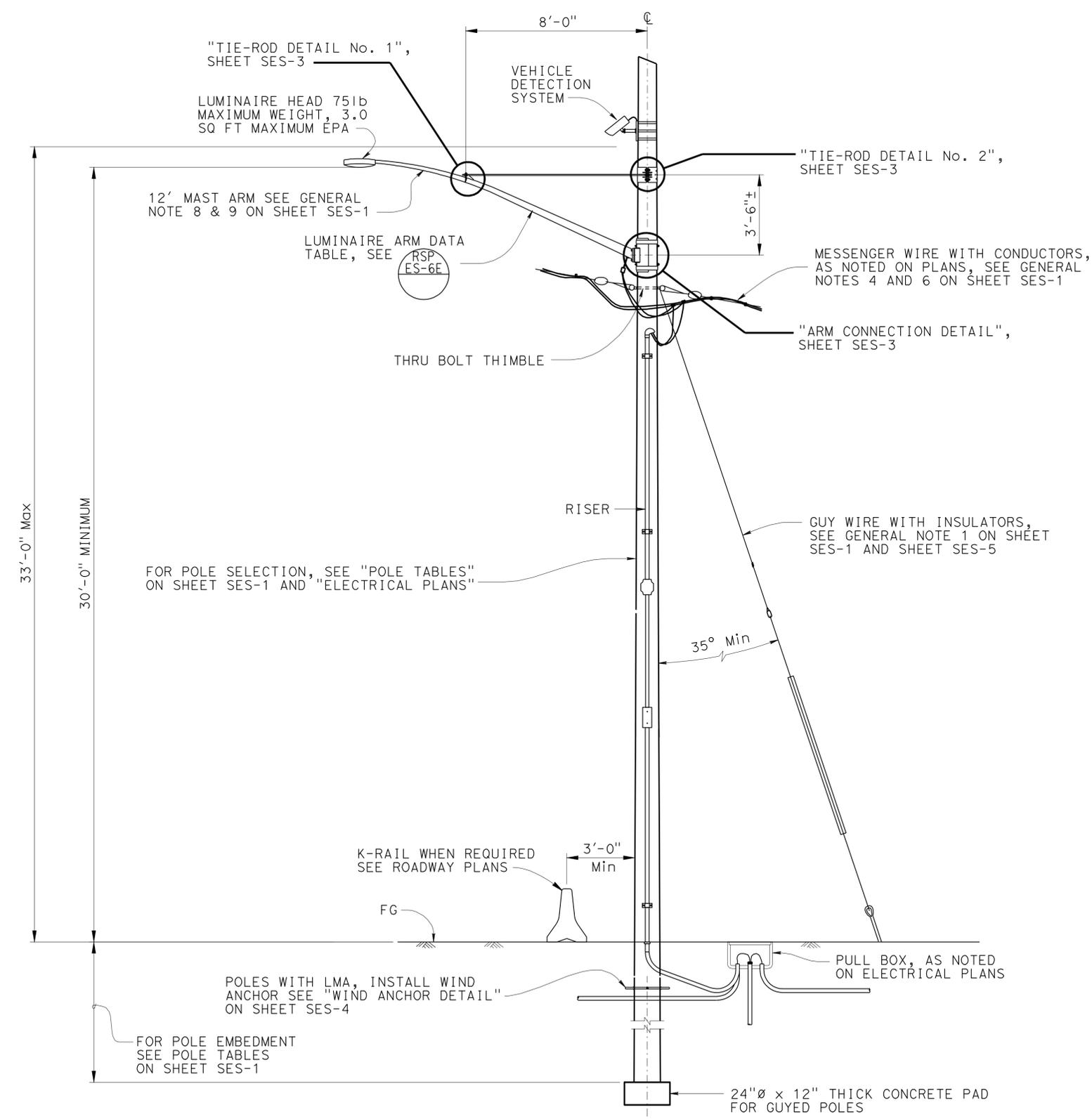
- TYPE A poles shall be stabilized using guy wires, breast blocks or rakes at each dead end, corner, drop or line deviation more than 10° from straight line and shall be attached to pole as nearly as practical to the center of conductors load, 3'-0" maximum. The direction of the guy shall counteract the resultant of unbalanced force applied to pole. See pole layout ID, otherwise see note 2.
- Where space or conflict prevent guy installation, TYPE B poles may be used in place of TYPE A poles with specified embedment depth. (See POLE TABLES this sheet).
- Overhead line construction not specifically covered here shall conform to the provisions of General Order No. 95 Of Public Utilities Commission.
- All overhead cables shall be sagged with 18'+0.5% of span length minimum overhead clearance and sag of 5.5% ± 0.5%, UON.
- For signal spans supported overhead use 1/4" tether wire with 5.5% ± 0.5% sag where required.
- Conductors shall be suspended from 3/8" Ø 7 strand messenger span-wire as follows: Continuous lashing wire, No spare wire conductors allowed except as noted. Bundled vertical dimension shall not exceed 1.5" for spans carrying 1 conductor type(s) per pole tables, or 2" for conductor type combinations. Maximum OH span shall not exceed Max spans on "POLE TABLES".
- Install attachments shown if indicated on the "Electrical Plans". When specific connection detail is not shown, mount attachments per manufacturer recommended methods that do not require loss of pole cross section.
- Attach luminaire arm and combination of attachments as specified at locations where indicated on "Electrical Plans".
- All attachments shall be mounted with stainless steel straps or other manufacturers methods without drilling holes in pole, except as shown on these SES sheets. Any other drilling into pole will require Engineer's approval.
- For additional details, see Sheets SES-2, SES-3, SES-4, SES-5.
- Pole selection shall be based on the larger pole choice of OH conductors carried and Max span per Pole Tables.



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

DESIGN	BY JOEL MAGANA	CHECKED VICTOR LOPEZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO. N/A	TEMPORARY WOOD POLE NOTES AND TABLES	SES-1
DETAILS	BY P C WELLS	CHECKED JOEL MAGANA			POST MILE Varies		
QUANTITIES	BY X	CHECKED X					

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	144	231
 REGISTERED CIVIL ENGINEER			3-26-12	DATE	
6-25-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



ADVANCED FLASHING BEACON WITH SIGN AND SIGN LIGHTING BREAKAWAY POST
NO SCALE

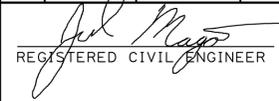
TYPICAL WOOD POLE SUPPORT WITH OPTIONAL ATTACHMENTS
NO SCALE

NOTES:

1. Refer to GENERAL NOTES and FOUNDATION NOTES on SES-1.
2. Flashing Beacon Post installation shall follow the STANDARD SPECIFICATIONS for ROADSIDE SIGNS with exception to embedment as shown here.
3. Place Flashing Beacon Post outside the clear recovery zone or install crash cushion as directed by the Engineer.

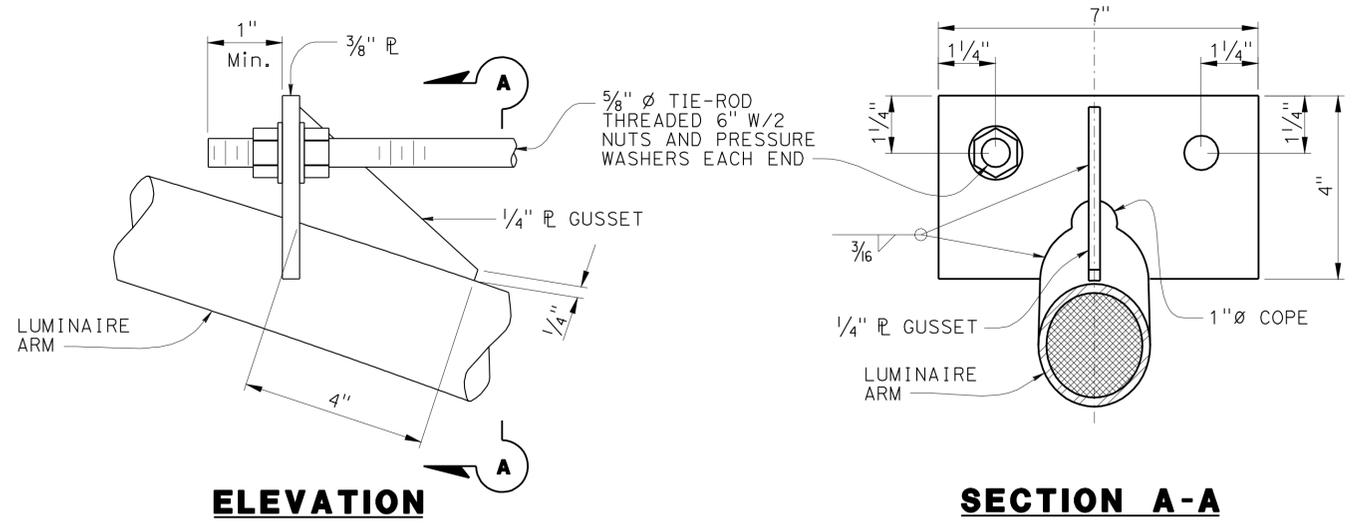
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY JOEL MAGANA	CHECKED VICTOR LOPEZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO. N/A	TEMPORARY WOOD POLE SIGNAL & LIGHTING	SES-2
DETAILS	BY P C WELLS	CHECKED JOEL MAGANA			POST MILE Varies		
QUANTITIES	BY X	CHECKED X					

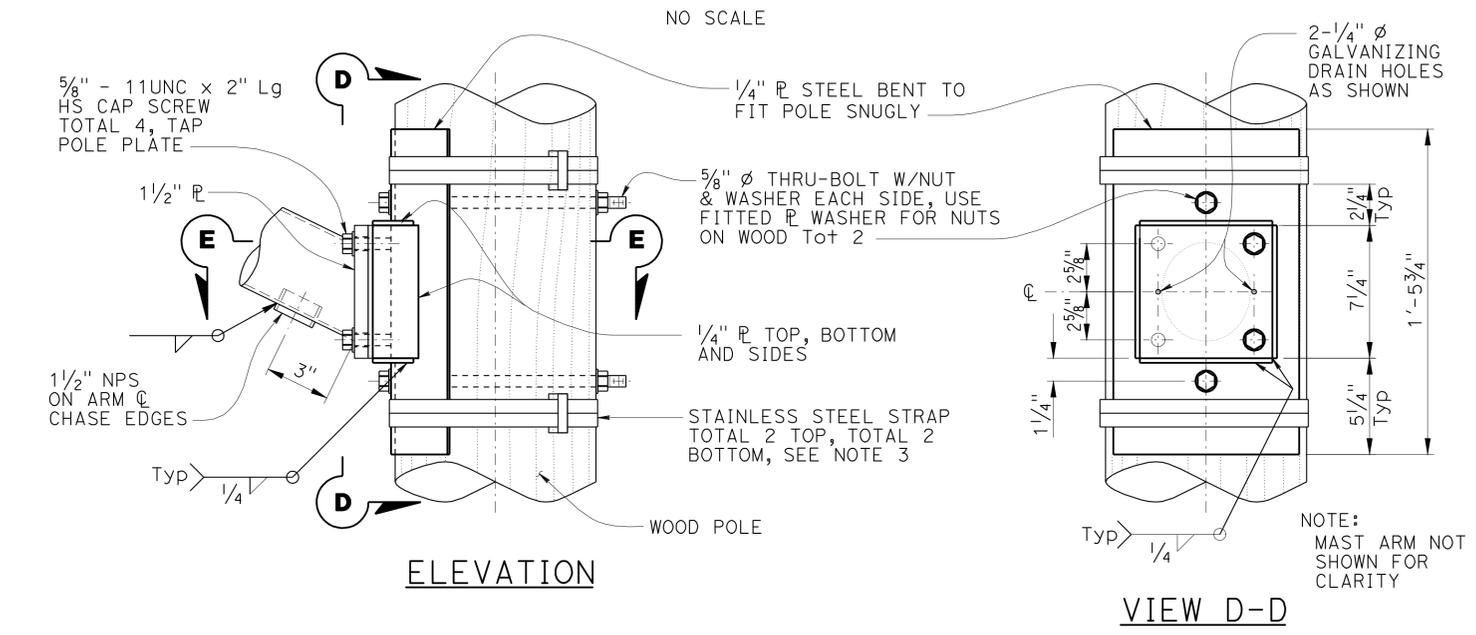
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03	But	99	28.1/29.6	145	231
 REGISTERED CIVIL ENGINEER			3-26-12 DATE		
6-25-12 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

NOTES:

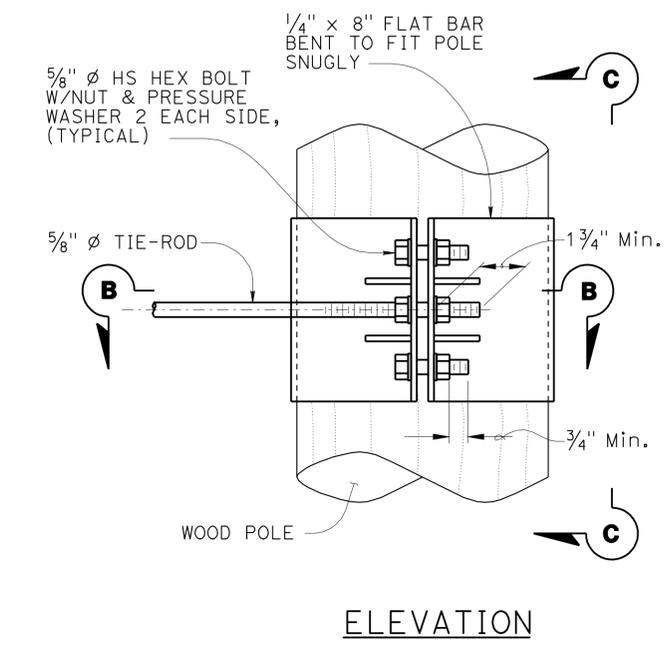
- All hardware and steel shall be galvanized after fabrication.
- Arm Base connection details shall be in compliance with Standard Plans Detail Sheet RSP ES-6E with noted modifications.
- 2000 lb Min capacity strap system shall be used for top and bottom of plate.
- The Contractor to verify pole dimensions at Tie-Rod attachment height. Fabricate 8" flat bar with "L" Dimension to maintain an open gap between encasement in finished installation.



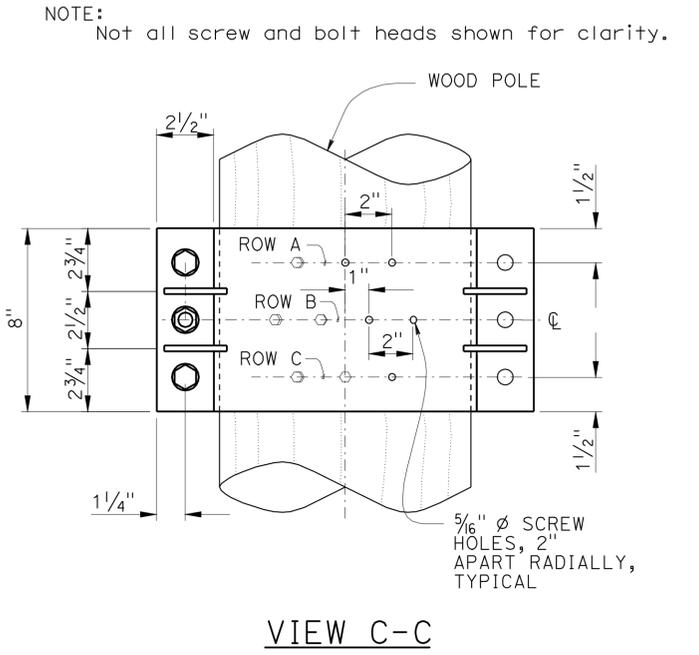
ELEVATION
SECTION A-A
TIE-ROD DETAIL No. 1
NO SCALE



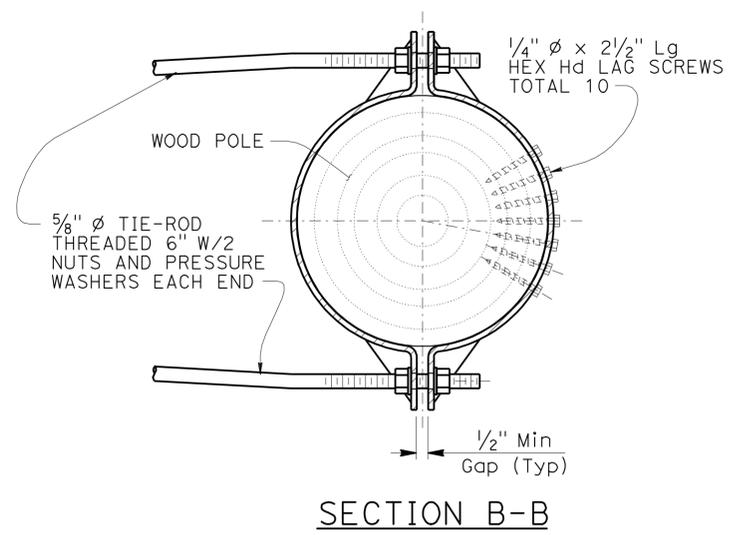
ELEVATION
VIEW D-D
SECTION E-E
ARM CONNECTION DETAILS
NO SCALE



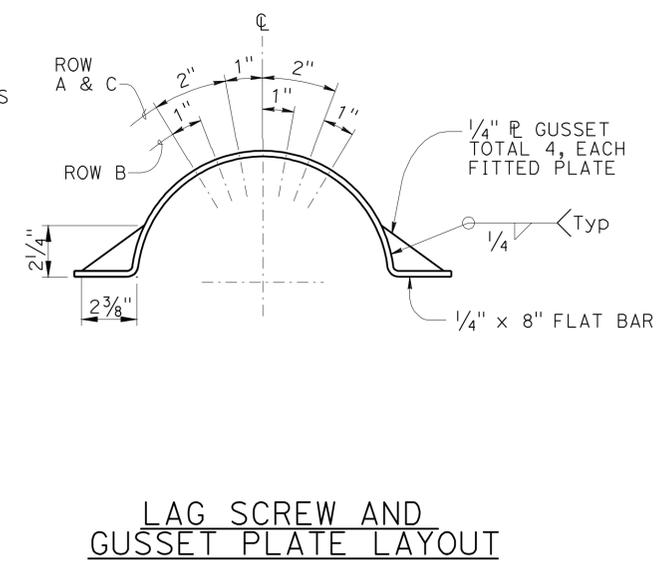
ELEVATION
TIE-ROD DETAILS No. 2
NO SCALE



VIEW C-C
LAG SCREW AND GUSSET PLATE LAYOUT



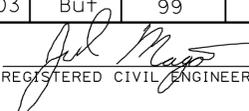
SECTION B-B

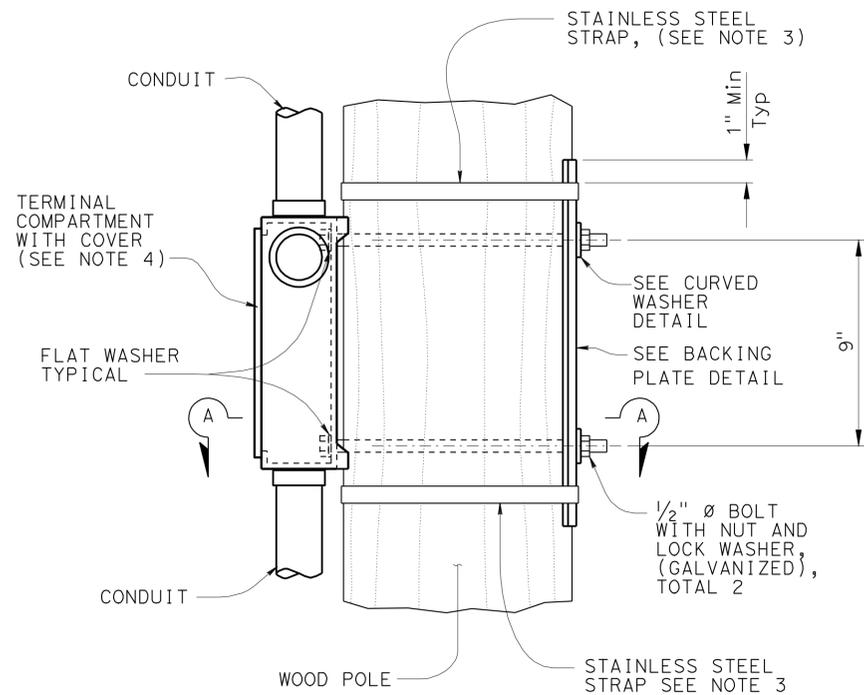


LAG SCREW AND GUSSET PLATE LAYOUT

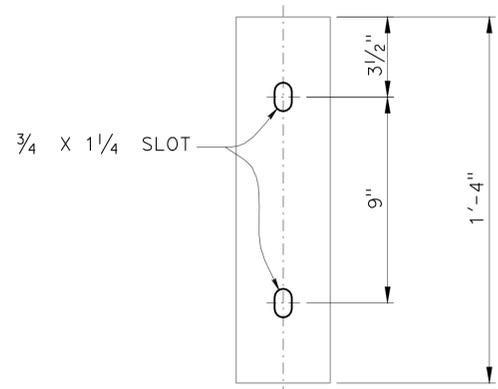
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY JOEL MAGANA	CHECKED VICTOR LOPEZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO.	TEMPORARY WOOD POLE MISCELLANEOUS DETAILS 1	SES-3
DETAILS	BY P C WELLS	CHECKED JOEL MAGANA			N/A		
QUANTITIES	BY X	CHECKED X			Varies		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	146	231
 REGISTERED CIVIL ENGINEER			3-26-12 DATE		
6-25-12 PLANS APPROVAL DATE					
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ELEVATION
3" = 1'-0"

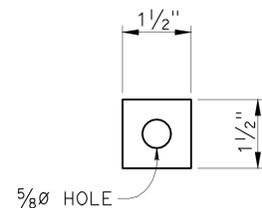


ELEVATION



PLAN

**BACKING PLATE
DETAIL**
3" = 1'-0"



ELEVATION

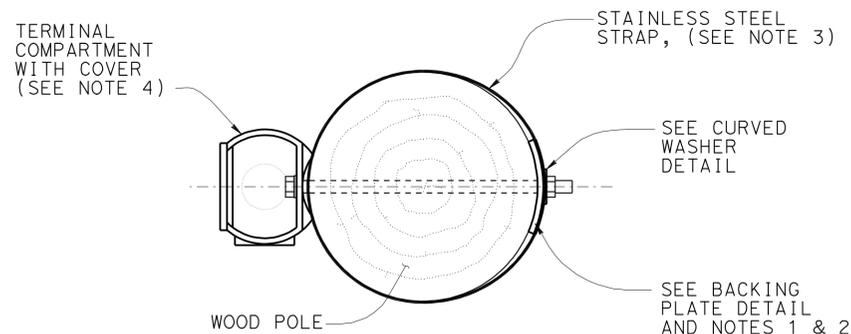


PLAN

**CURVED WASHER
DETAIL**
6" = 1'-0"

NOTES:

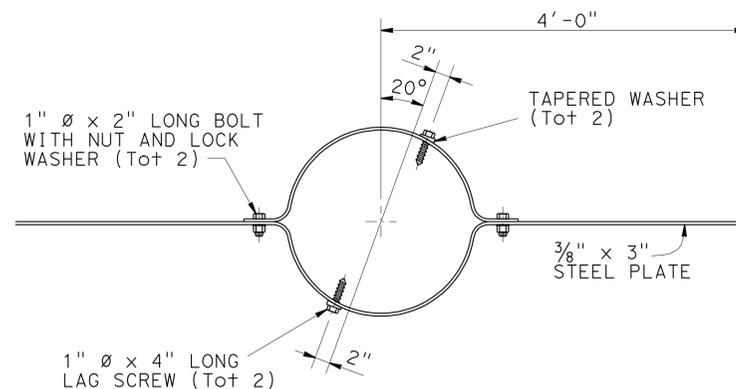
1. The Contractor to verify pole dimensions at terminal compartment for fabrication of backing plate and curved washer.
2. Backing plate to be galvanized after fabrication.
3. 3/4" x 0.044" minimum, rounded edge stainless steel straps, double wrapped with 2" long bend under stainless steel strap buckle.
4. For details not shown see STANDARD PLAN ES-4D.



SECTION A-A
3" = 1'-0"

**SIDE MOUNTING
TERMINAL COMPARTMENT**

For Details Not Shown See RSP-ES-4D Sheet



WIND ANCHOR

To be installed perpendicular to mast arms and 2'-0" Min below grade

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

DESIGN	BY JOEL MAGANA	CHECKED VICTOR LOPEZ
DETAILS	BY P C WELLS	CHECKED JOEL MAGANA
QUANTITIES	BY X	CHECKED X

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

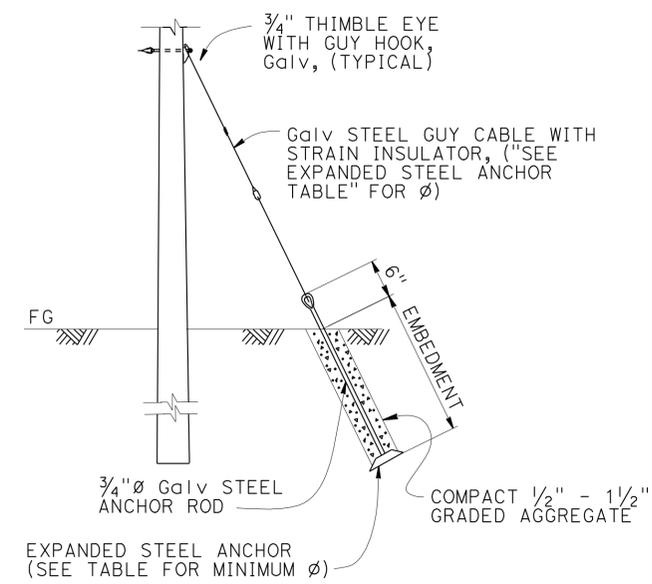
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO.	N/A
POST MILE	Varies

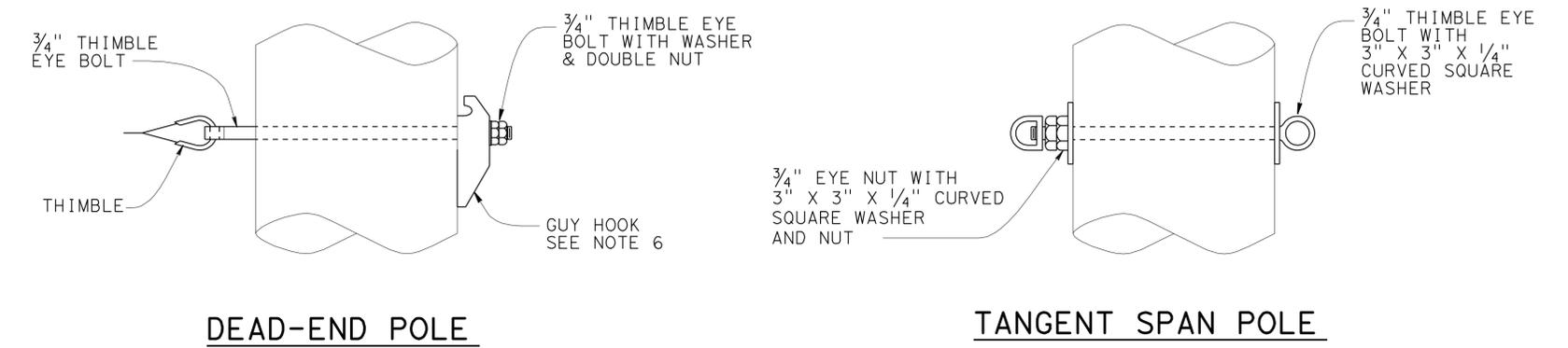
**MOUNTINGS FOR SIGNAL HEADS
MISCELLANEOUS DETAILS 2**

SES-4

EXPANDED STEEL ANCHOR TABLE			
Anchor Call Out	Anchor Diameter	Embedment (Minimum)	Guy wire Diameter
G1	10"	8'-0"	3/8"
G2	12"	8'-0"	3/8"



EXPANSION ANCHOR DETAIL
NO SCALE



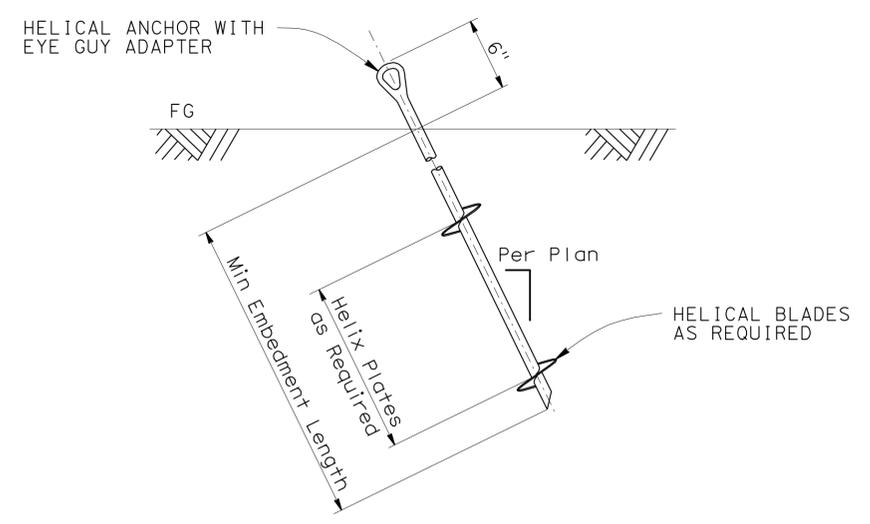
DEAD-END POLE **TANGENT SPAN POLE**
THRU-BOLT DETAIL
NO SCALE

HELICAL ANCHOR SPECIFICATIONS TABLE					
Anchor call out	Type	Helix Plate Diameter*	Allowable Min Tension Cap., "Q _a "	Embedment (Minimum)	Installation Torque (Min)**, "T"
G1	Tension	10"	3300 lb	8'-0"	650 ft-lb
G2	Tension	12"	4300 lb	8'-0"	870 ft-lb

SPECIFICATION NOTES:

- During installation the torque will be continuously monitored and recorded. If a drop in torque is recorded, the anchor must then continue to be inserted past the soft soil layer until Minimum Installation Torque is achieved.
- Anchors and Hardware to be installed per the manufacturers specifications.

* Number of helical plates is not specified; Contractors choice.
 ** Adjust accordingly if required, See Note 3.



ALTERNATIVE HELICAL ANCHOR INSTALLATION DETAIL
(See Helical Anchor Specifications Table)
NO SCALE

- NOTES:**
- Contractor to verify soil condition, slope, and adjust anchoring to satisfy basic design requirements per Note 7 on SES-1 sheet.
 - Use of alternative Guy Wire Installation Detail requires that the soil bearing capacity be verified by the Contractor.
 - The Contractor shall determine the most appropriate value for k_t based on soil conditions and shall adjust the Min Installation Torque based on the revised k_t. A k_t value of 10 was assumed for the Min Installation Torque shown in the table.
- The Helical Installation torque Formula is Q_u = k_t*T where,
- Q_u = Q_a*FS = Ultimate Helical Anchor Capacity (lb)
 FS = Factor of Safety = 2.0
 Q_a = Allowable Helical Anchor Capacity (lb)
 k_t = Empirical Torque Factor (ft⁻¹)
 T = Min Installation Torque (ft-lb)
- Requests made by Helical Anchor Installation Contractor to reduce the minimum embedment length and Helix diameter require the Engineer's approval.
 - The Contractor shall locate and mark all of the substructures and utilities. Installation of anchors underneath utilities or subsurface structures is prohibited. Horizontal clearances of anchors shall be determined by the Engineer during construction.
 - If guy wire is not used per THRU BOLT DETAIL, replace guy hook with a 3" x 3" x 1/4" curved square washer.
 - For corner poles and junction poles requiring more than one thru-bolt, install thru-bolts a minimum of 8" vertically on pole.

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

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	148	231

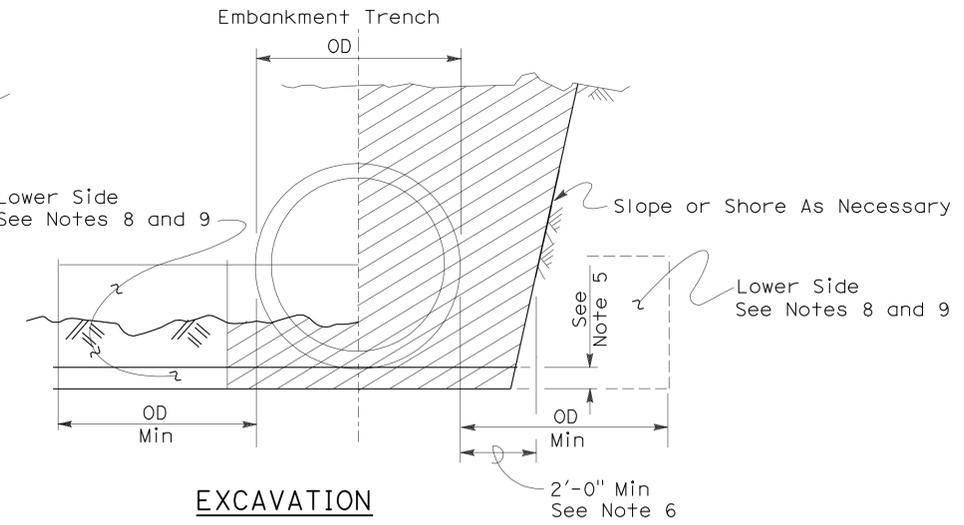
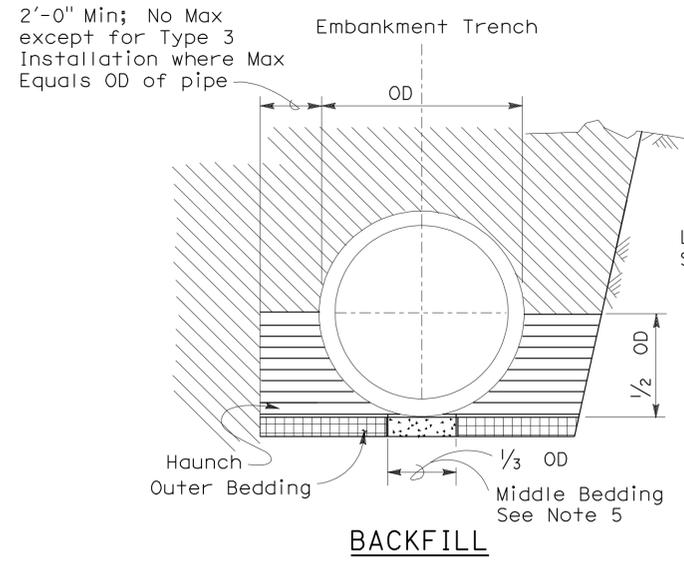
Dallas Forester
REGISTERED CIVIL ENGINEER

November 17, 2006
PLANS APPROVAL DATE

Dallas Forester
REGISTERED PROFESSIONAL ENGINEER
No. C37765
Exp. 12-31-06
CIVIL
STATE OF CALIFORNIA

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To accompany plans dated 6-25-12



- Roadway Embankment
- Structure Backfill (Culvert) See Note 6
- Structure Backfill (Culvert) See Note 6
- Loose Backfill
- Excavation Structure (Culvert)

TYPE 1 INSTALLATION:

The haunch and outer bedding shall be compacted to a minimum 90 percent relative compaction. In addition, the minimum sand equivalent in these areas shall be 30 and the maximum percentage passing the 75 μ m sieve size shall be 12.

TYPE 2 INSTALLATION:

The haunch and outer bedding shall be compacted to a minimum 90 percent relative compaction. In addition, the minimum sand equivalent in these areas shall be 25.

TYPE 3 INSTALLATION:

The haunch and outer bedding shall be compacted to a minimum 85 percent relative compaction. 90 percent relative compaction will be required where the fill over the pipe is less than 4'-0" or 1/2 OD.

NOTES:

- Unless otherwise shown on the plans or specified in the special provision, the Contractor shall have the option of selecting the class of RCP and the type of installation to be used, provided the height of cover does not exceed the value shown for the RCP selected.
Example: 24" RCP culvert with maximum cover of 19'-0" the options are:
a) Class III or stronger with Installation Type 1.
b) Class III Special or stronger with Installation Type 2.
c) Class IV Special or stronger with Installation Type 3.
Cover is defined as the maximum vertical distance from top of the pipe to finished grade within the length of any given culvert.
- The class of RCP and Installation Type selected shall be the same throughout the length of any given culvert.
- The "length of any culvert" is defined as the culvert between:
a) Successive drainage structure (inlets, junction boxes, headwalls, etc.).
b) A drainage structure and the inlet or outlet end of the culvert.
c) The inlet and outlet end of the culvert when there are no intervening drainage structures.
- Oval and arch shaped RCP shall not be used.
- 1/25 OD Min, not less than 3".
- Slurry cement backfill may be substituted for backfill in the outer bedding and haunch areas. If slurry is used the outer and middle beddings shall be omitted. Prior to installation the soil under the middle 1/3 of the outside diameter of the pipe shall be softened by scarifying or other means to a minimum depth of 1/25 OD, but not less than 3". Where slurry cement backfill is used clear distance to trench wall may be reduced as set forth in Section 19-3.062 of the Standard Specifications.
- Backfill shall be placed full width of excavation except where dimensions are shown for backfill width or thickness. Dimensions shown are minimums.
- Lower side shall be suitable material as determined by the Engineer. Otherwise it shall be considered unsuitable as set forth in Section 19-2.02 of the Standard Specifications. See Note 9.
- Where the pipe is placed in a trench, if the trench walls are sloped at 5 vertical to 1 horizontal or steeper for at least 90 percent of the trench height or up to not less than 12" from the grading plane, the firmness of the soil in the lower side need not be considered.
- Non-reinforced precast concrete pipe sizes 3'-0" or smaller may be placed under installation Types 1, 2 or 3.

INSTALLATION TYPE 1

MINIMUM CLASS AND D-LOAD	COVER	
	108" Dia AND SMALLER	OVER 108" Dia
Class II 1000D	14.9'	12.9'
Class III 1350D	15.0' - 20.9'	13.0' - 18.9'
Class III Special 1700D	21.0' - 26.9'	19.0' - 24.9'
Class IV 2000D	27.0' - 31.9'	25.0' - 29.9'
Class IV Special 2500D	32.0' - 40.9'	30.0' - 38.9'
Class V 3000D	41.0' - 49.9'	39.0' - 46.9'
Class V Special 3600D	50.0' - 59.0'	47.0' - 58.0'

INSTALLATION TYPE 2

MINIMUM CLASS AND D-LOAD	COVER
Class II 1000D	9.9'
Class III 1350D	10.0' - 14.9'
Class III Special 1700D	15.0' - 19.9'
Class IV 2000D	20.0' - 24.9'
Class IV Special 2500D	25.0' - 31.9'
Class V 3000D	32.0' - 38.9'
Class V Special 3600D	39.0' - 47.0'

INSTALLATION TYPE 3

MINIMUM CLASS AND D-LOAD	COVER	
	48" Dia AND SMALLER	OVER 48" Dia
Class II 1000D	7.9'	5.9'
Class III 1350D	8.0' - 10.9'	6.0' - 8.9'
Class III Special 1700D	11.0' - 14.9'	9.0' - 12.9'
Class IV 2000D	15.0' - 17.9'	13.0' - 15.9'
Class IV Special 2500D	18.0' - 21.9'	16.0' - 19.9'
Class V 3000D	22.0' - 26.9'	20.0' - 24.9'
Class V Special 3600D	30.0' - 33.0'	25.0' - 31.0'

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**EXCAVATION AND BACKFILL
CONCRETE PIPE CULVERTS**

NO SCALE

RSP A62DA DATED NOVEMBER 17, 2006 SUPERSEDES STANDARD PLAN A62DA
DATED MAY 1, 2006 - PAGE 20 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A62DA

2006 REVISED STANDARD PLAN RSP A62DA

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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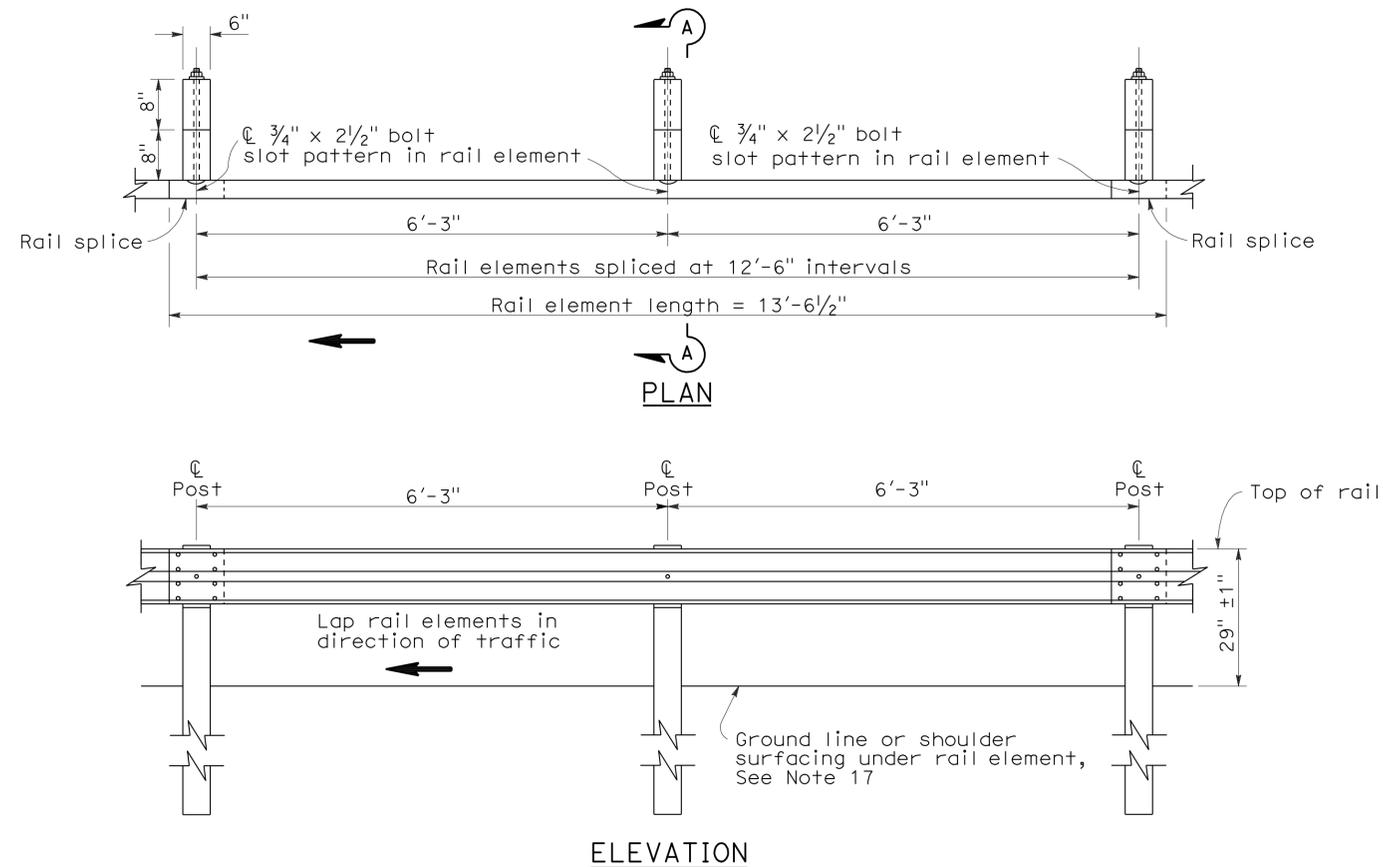
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

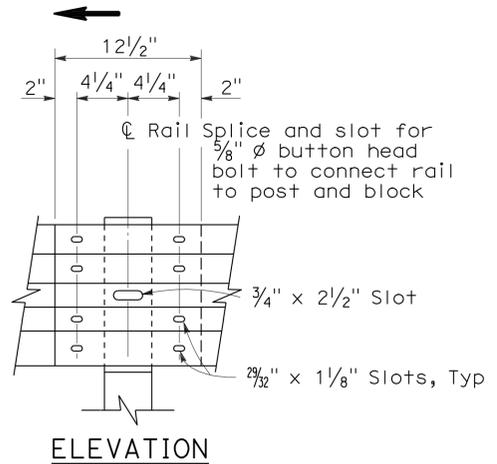
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To accompany plans dated 6-25-12

2006 REVISED STANDARD PLAN RSP A77A1

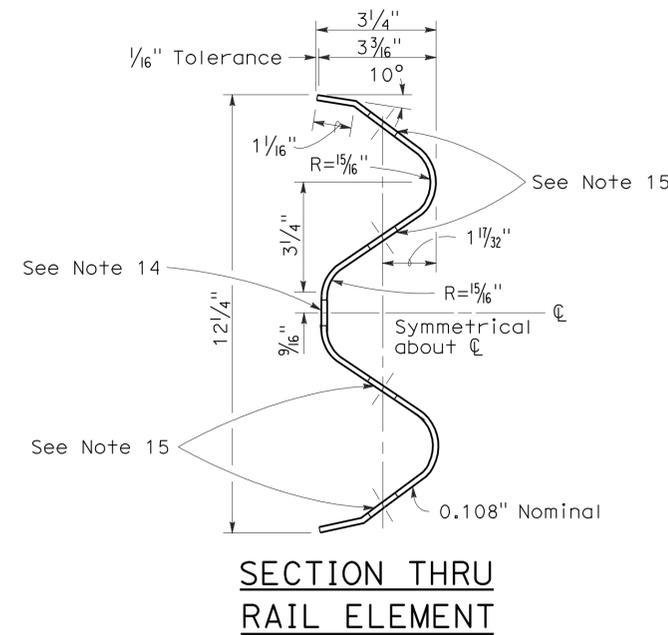


METAL BEAM GUARD RAILING WITH WOOD POST AND BLOCKS

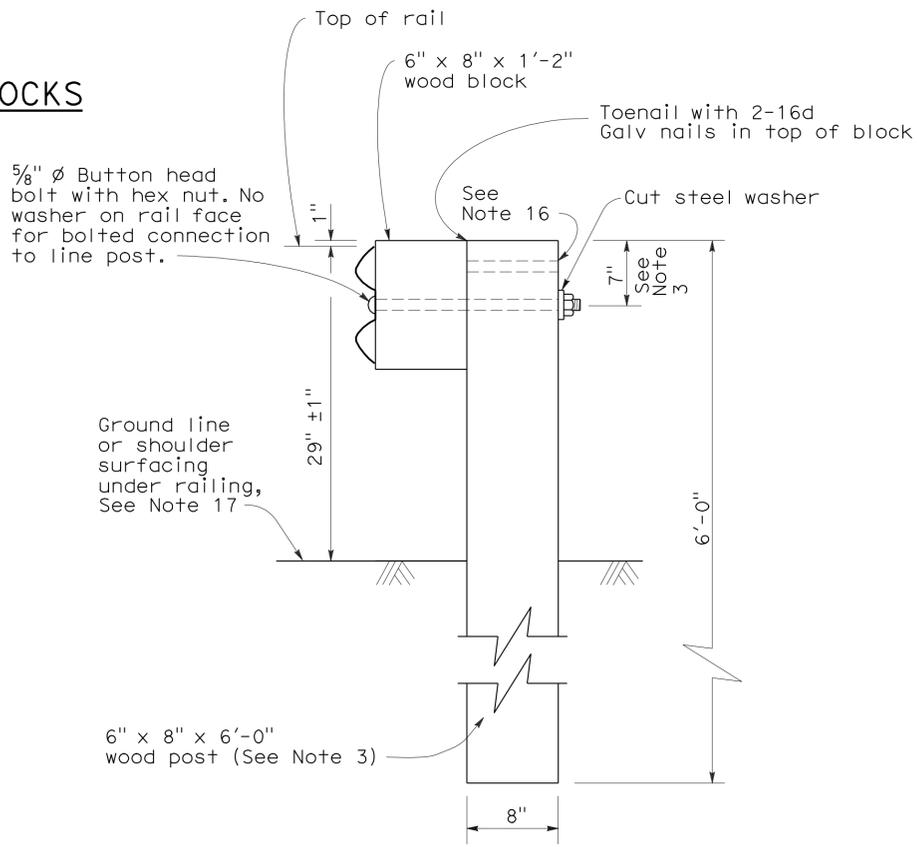


RAIL ELEMENT SPLICE DETAIL

- Connect the over lapped end of the rail elements with 5/8" ϕ x 1 3/8" button head oval shoulder splice bolts inserted into the 2 3/32" x 1 1/8" slots and bolted together with 5/8" ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION THRU RAIL ELEMENT



**SECTION A-A
TYPICAL WOOD LINE
POST INSTALLATION**

See Note 4

NOTES:

- For details of steel post installations, see Standard Plan A77A2.
- For details of standard hardware used to construct guard railing, see Standard Plan A77B1.
- For details of wood posts and wood blocks used to construct guard railing, see Standard Plan A77C1.
- For additional installation details, see Standard Plan A77C3.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- For guard railing typical layouts, see the A77E, A77F and A77G Series of Standard Plans.
- For terminal system end treatment details, see the A77L Series of Standard Plans. To connect railing to terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
- For guard railing end anchor details, see Standard Plans A77H1 and A77I2.
- For details of guard railing transition to bridge railing, see Standard Plan A77J4.
- For additional details of guard railing connection to bridge railings, see Standard Plans A77J1, A77J2 and A77K1.
- For guard railing connection details to abutments and walls, see Standard Plan A77J3.
- Direction of adjacent traffic indicated by \rightarrow .
- For typical guard railing delineation and dike positioning details, see Standard Plan A77C4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Standard Plan A77C1.
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
STANDARD RAILING SECTION
(WOOD POST WITH
WOOD BLOCK)**

NO SCALE

RSP A77A1 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77A1
DATED MAY 1, 2006 - PAGE 41 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77A1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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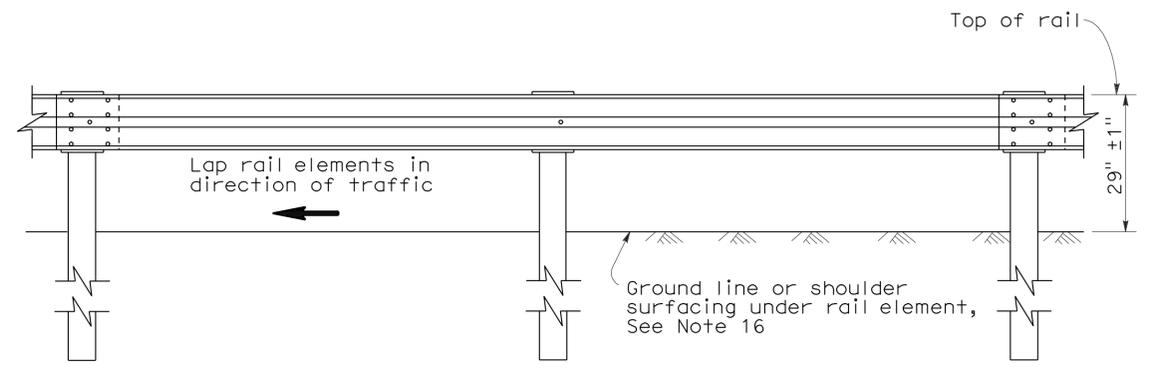
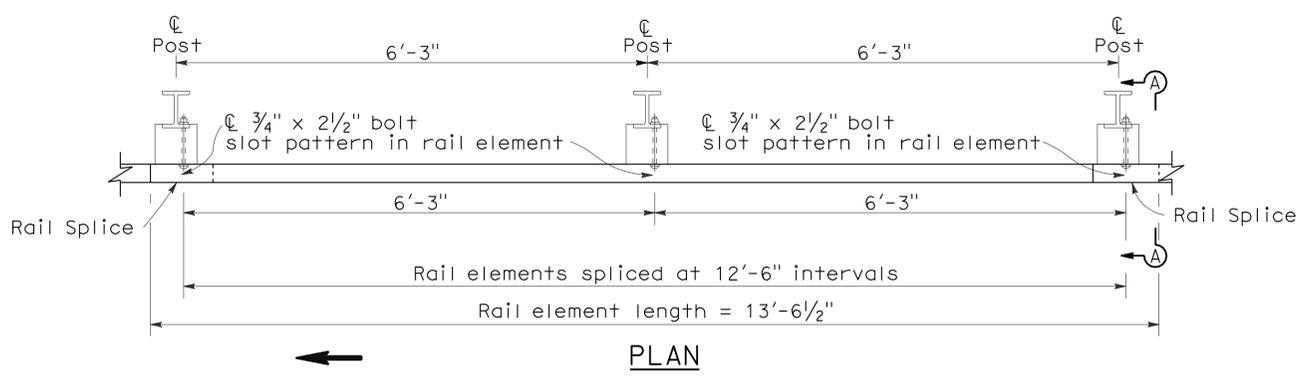
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

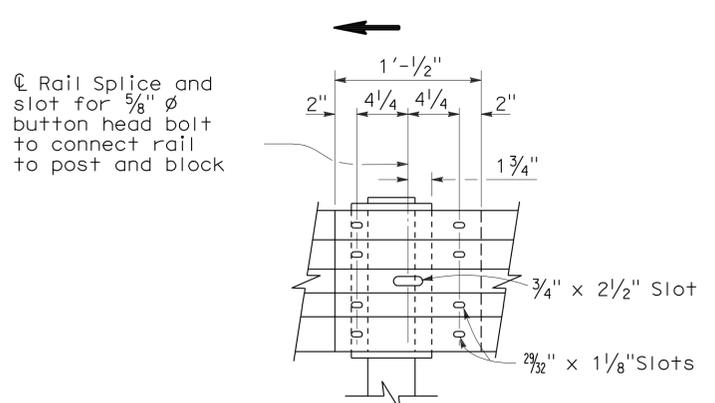
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To accompany plans dated 6-25-12

2006 REVISED STANDARD PLAN RSP A77A2

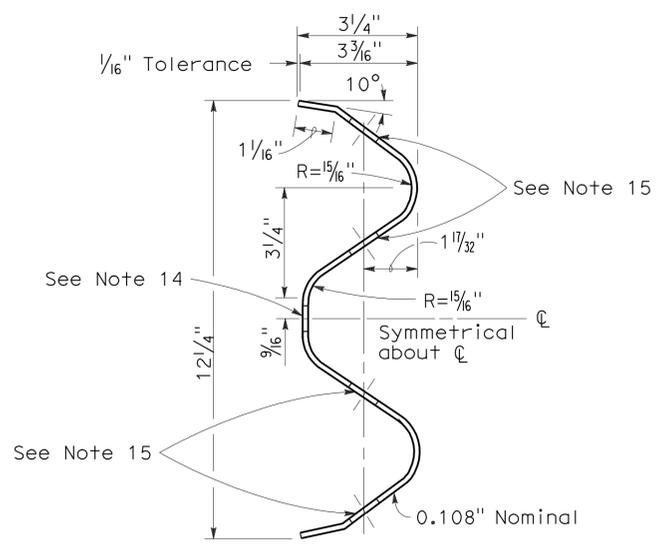


METAL BEAM GUARD RAILING WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS

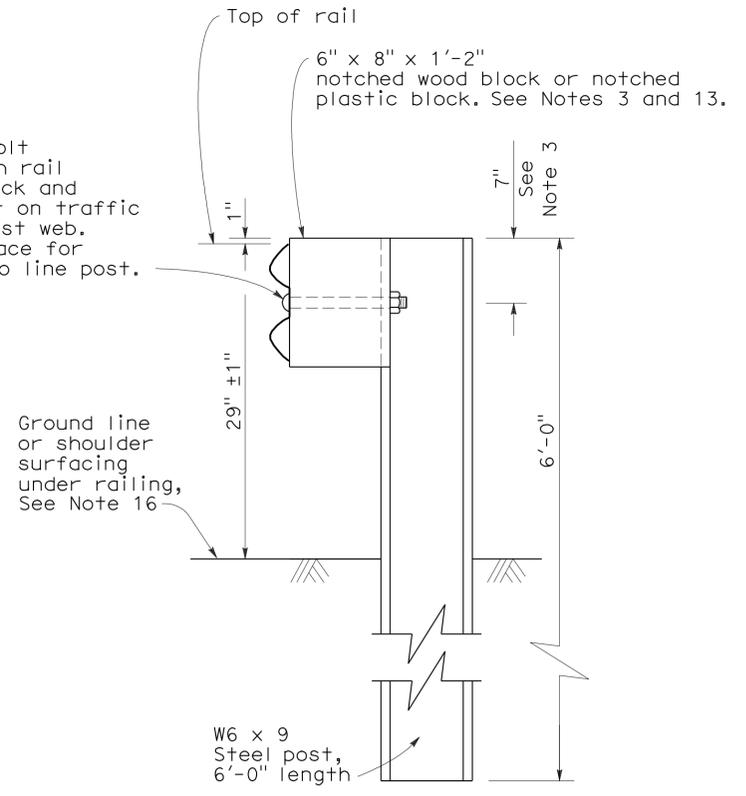


**ELEVATION
RAIL ELEMENT SPLICE DETAIL**

- Connect the overlapped end of the rail elements with 5/8" ϕ x 1 3/8" button head oval shoulder splice bolts inserted into the 29/32" x 1 1/8" slots and bolted together with 5/8" ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



SECTION THRU RAIL ELEMENT



**SECTION A-A
TYPICAL STEEL LINE POST INSTALLATION**

See Note 4

NOTES:

- For details of wood post installations, see Standard Plan A77A1.
- For details of standard hardware used to construct guard railing, see Standard Plan A77B1.
- For details of steel posts and notched wood blocks used to construct guard railing, see Standard Plan A77C2.
- For additional installation details, see Standard Plan A77C3.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- For guard railing typical layouts, see the A77E, A77F and A77G Series of Standard Plans.
- For terminal system end treatment details, see the A77L Series of Standard Plans. To connect railing to terminal system end treatment, transition the top of railing height at a ratio of 120:1 to terminal system end treatment height plus one 12'-6" standard railing section at the transitioned height for a horizontal connection to the end treatment.
- For guard railing end anchor details, see Standard Plans A77H1 and A77I2.
- For details of guard railing transition to bridge railing, see Standard Plan A77J4.
- For additional details of guard railing connection to bridge railings, see Standard Plans A77J1, A77J2 and A77K1.
- For dike positioning and guard railing delineation details, see Standard Plan A77C4.
- Direction of adjacent traffic indicated by \rightarrow .
- Notched face of block faces steel post.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Install posts in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
STANDARD RAILING SECTION
(STEEL POST WITH NOTCHED
WOOD OR NOTCHED
RECYCLED PLASTIC BLOCK)**

NO SCALE

To accompany plans dated 6-25-12

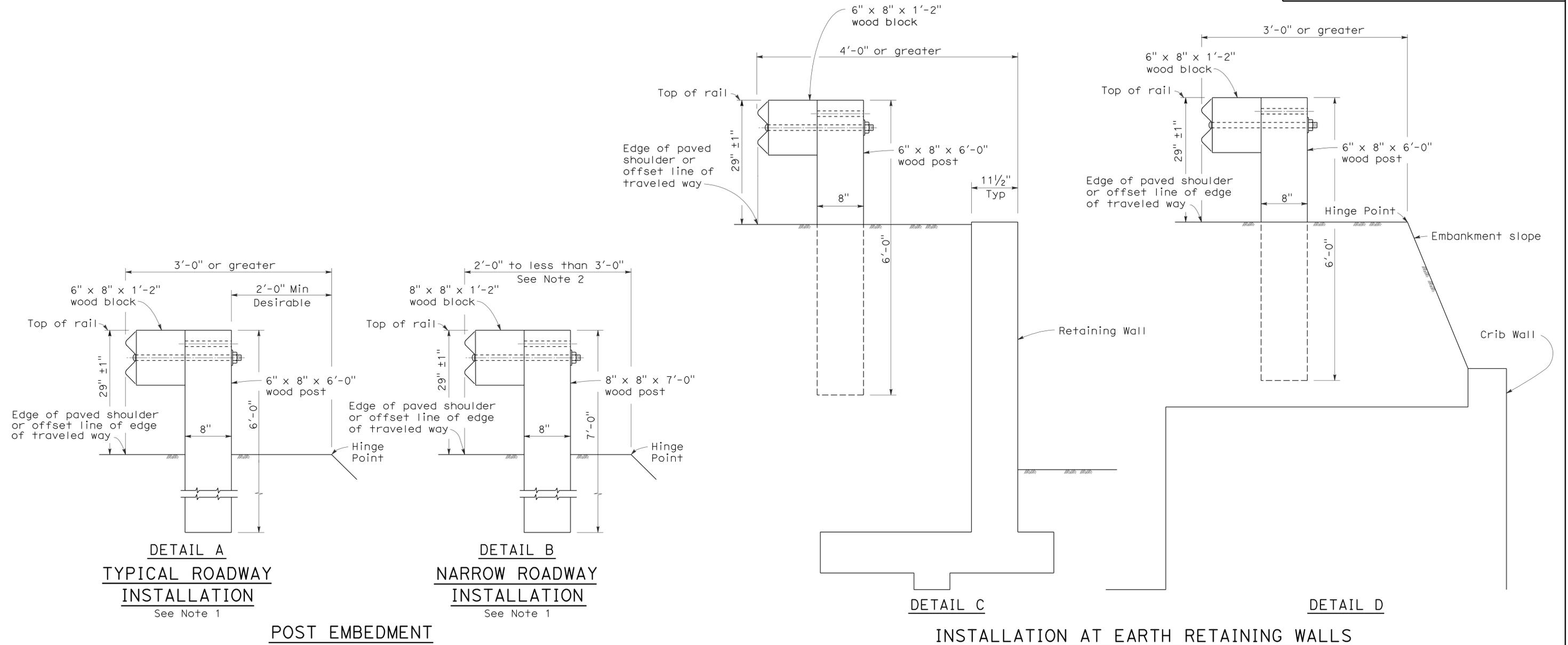
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	151	231

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

Randell D. Hiatt
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

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NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 9 steel post, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 9 steel post, 7'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Standard Plans A77A1 and A77A2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-0", see the Project Plans for special details.
3. For dike positioning with guard railing installations, see Standard Plan A77C4.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS**

NO SCALE

RSP A77C3 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77C3
DATED MAY 1, 2006 - PAGE 46 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C3

2006 REVISED STANDARD PLAN RSP A77C3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	152	231

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

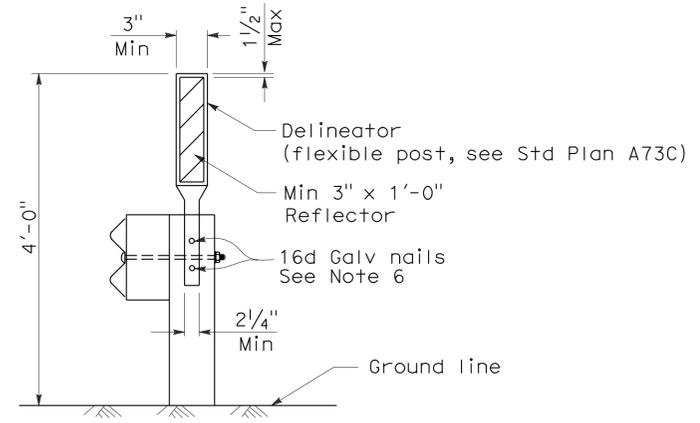
May 20, 2011
PLANS APPROVAL DATE

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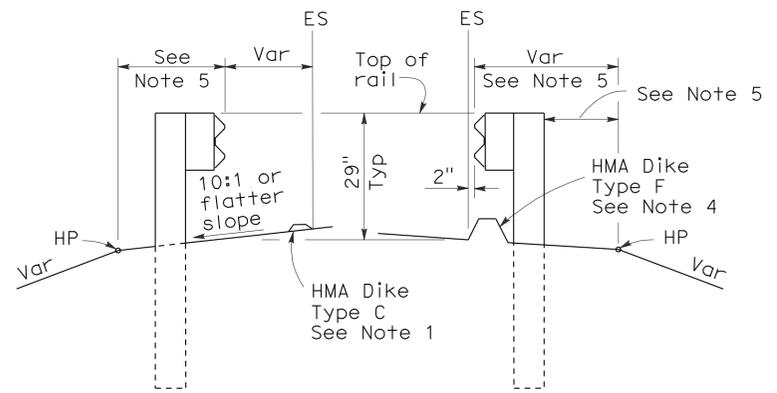
To accompany plans dated 6-25-12

NOTES:

1. When necessary to place dike in front of face of guard railing, only Type C dike may be used. For dike details, see Standard Plan A87B.
2. For standard railing post embedment, see Standard Plans A77C3.
3. Guard railing delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under guard railing, the maximum height of the dike or curb shall be 4". Mountable dike should not be used. For dike and curb details, see Standard Plans A87A and A87B.
5. For details of typical distance between the face of rail and hinge point, see Standard Plan A77C3.
6. For steel line posts, use 1/4" - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 3/32" diameter holes.



GUARD RAILING DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**

NO SCALE

RSP A77C4 DATED MAY 20, 2011 SUPERSEDES RSP A77C4 DATED JUNE 6, 2008 AND STANDARD PLAN A77C4 DATED MAY 1, 2006 - PAGE 47 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77C4

2006 REVISED STANDARD PLAN RSP A77C4

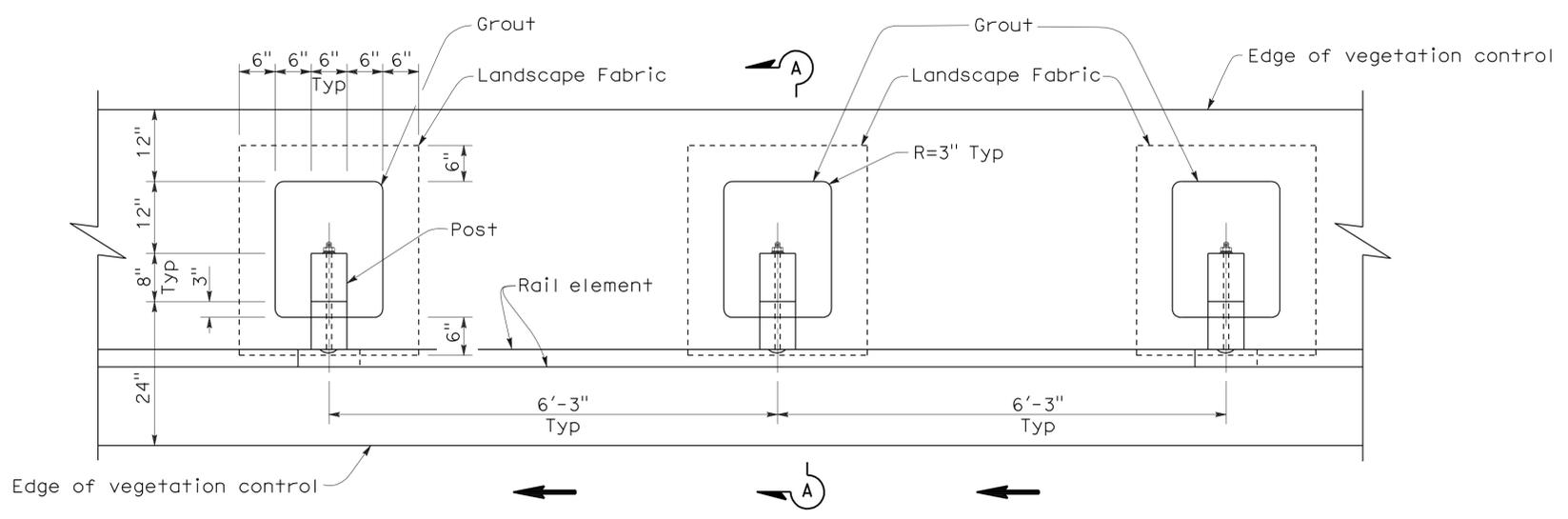
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	153	231

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

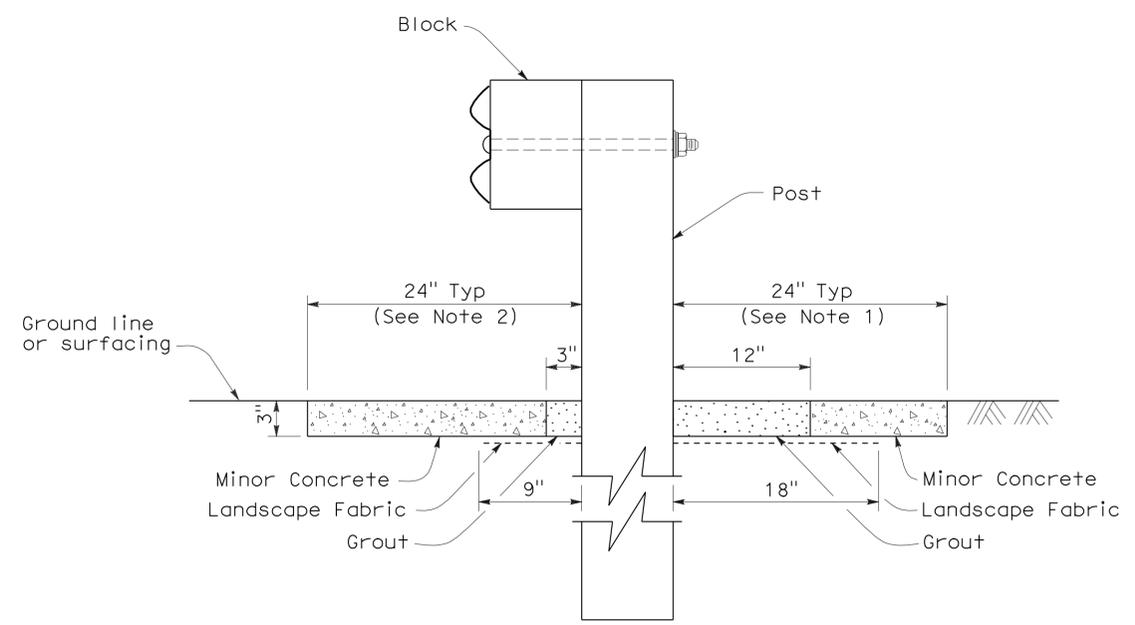
October 20, 2006
PLANS APPROVAL DATE

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To accompany plans dated 6-25-12



PLAN



SECTION A-A

NOTES:

1. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
2. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
3. Direction of adjacent traffic indicated by ←.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
STANDARD RAILING SECTION**

NO SCALE
NSP A77C5 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP A77C5

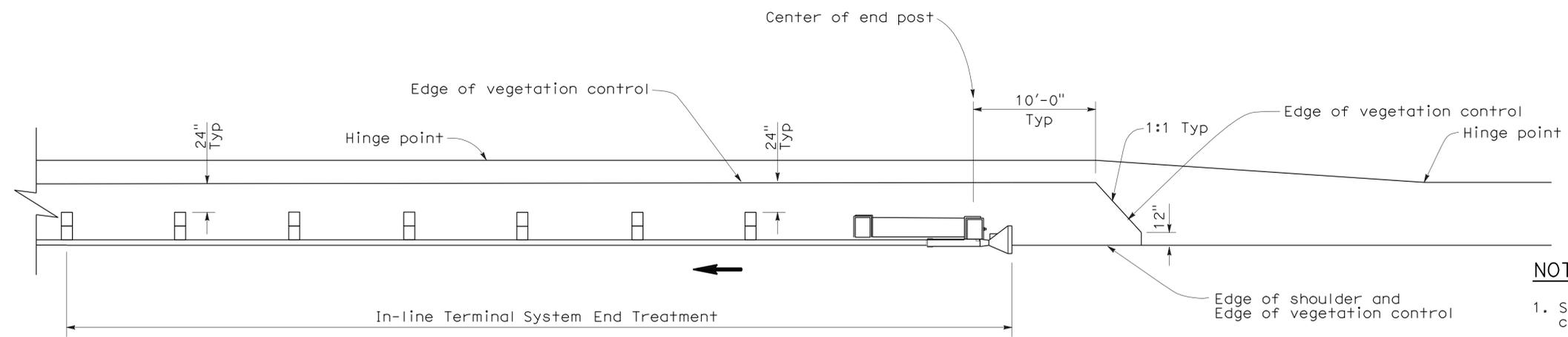
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	154	231

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REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

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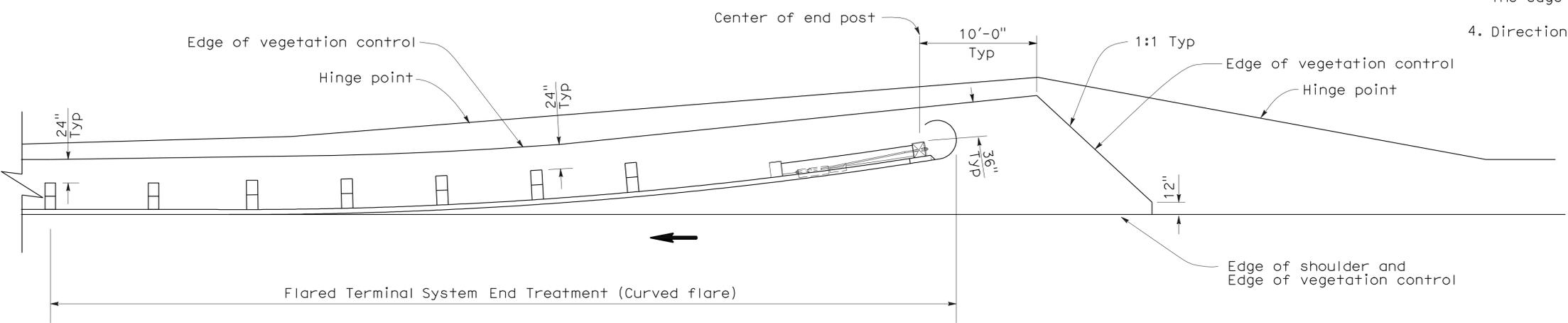
To accompany plans dated 6-25-12



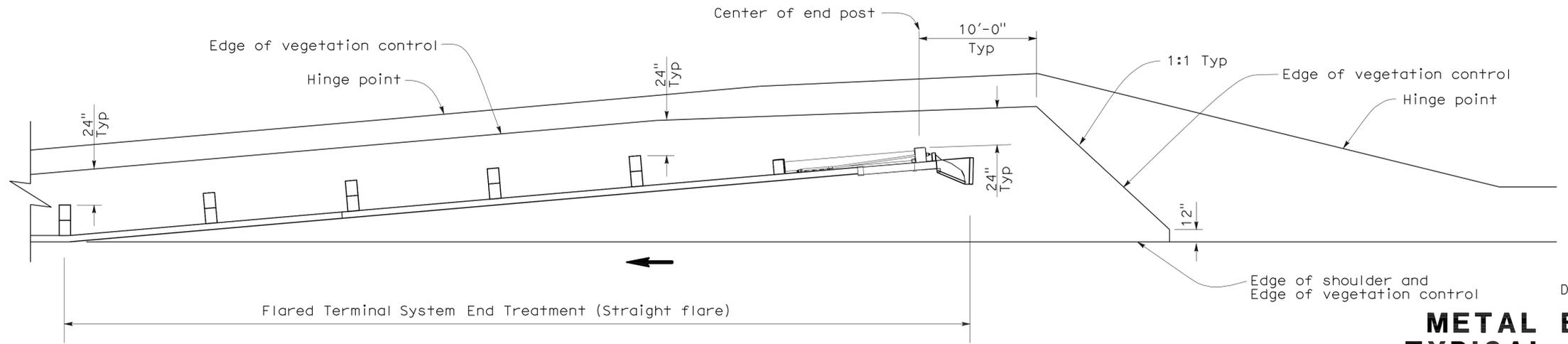
PLAN

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. Direction of adjacent traffic indicated by ←.



PLAN



PLAN

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
FOR TERMINAL SYSTEM END TREATMENTS**

NO SCALE
NSP A77C6 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A77C6

2006 NEW STANDARD PLAN NSP A77C6

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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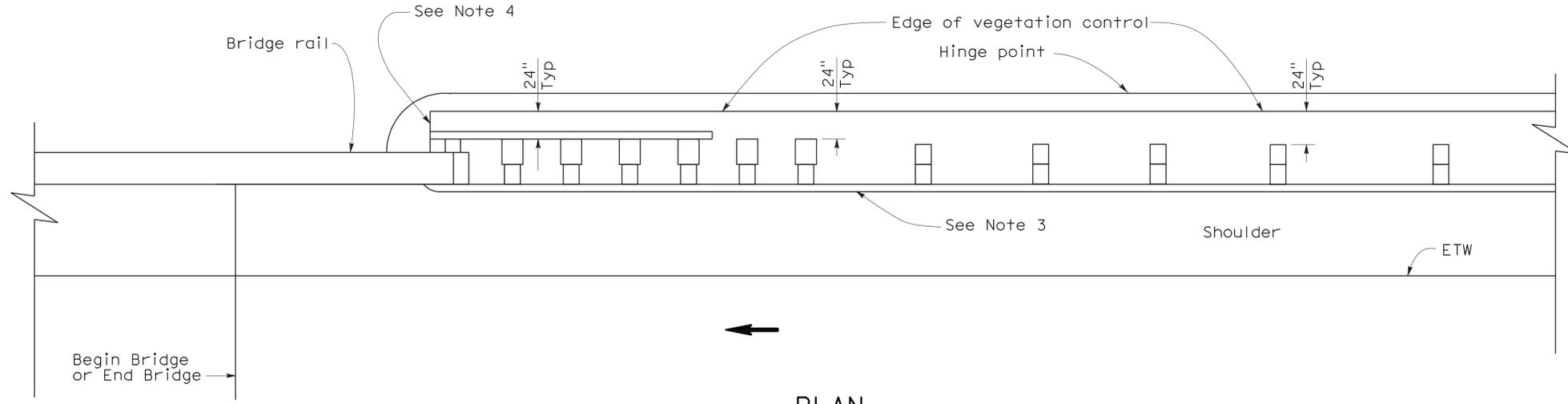
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

October 20, 2006
PLANS APPROVAL DATE

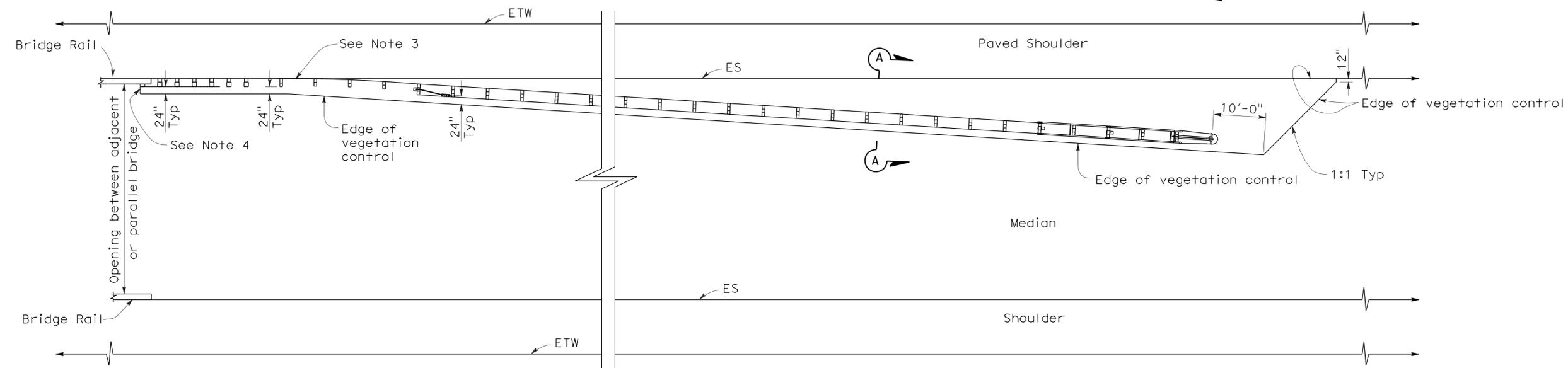
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To accompany plans dated 6-25-12

2006 NEW STANDARD PLAN NSP A77C7



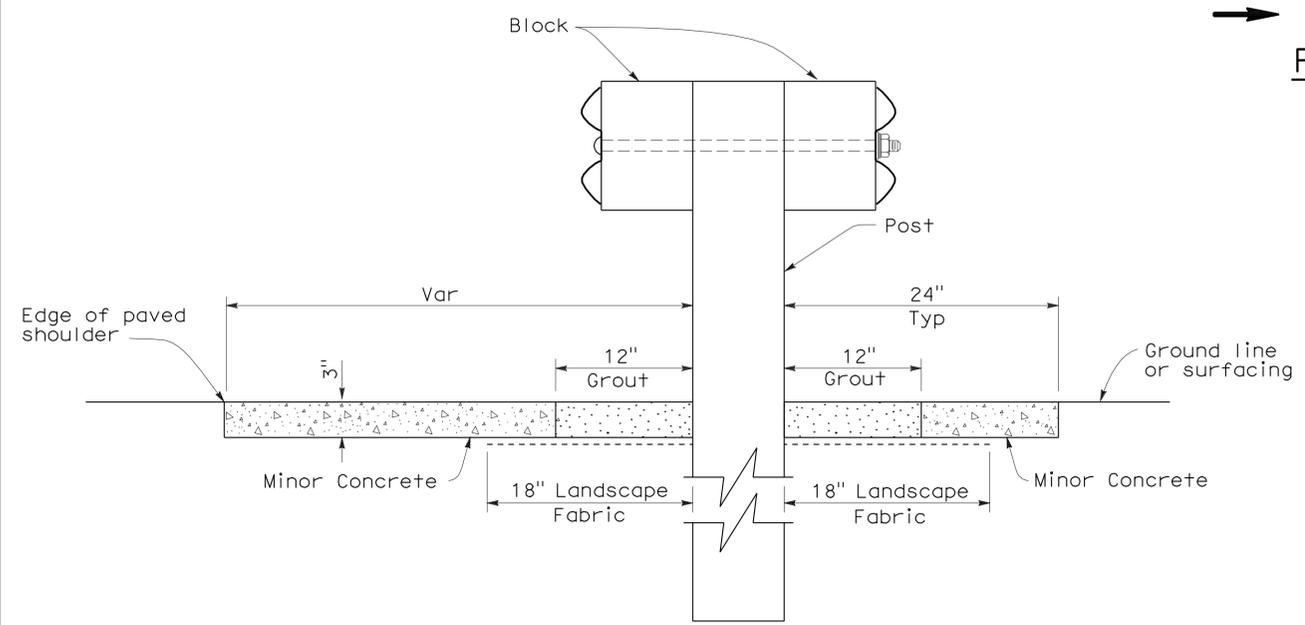
PLAN



PLAN

NOTES:

1. See New Standard Plan NSP A77C5 for additional vegetation control details.
2. Where the distance between back of post and hinge point is less than 24", vegetation control to be constructed flush with the back edge of the post.
3. Where dike is constructed under railing, construct vegetation control to back edge of dike. Where paved shoulder is constructed within 24" in front of the post, construct vegetation control to the edge of paved shoulder.
4. End vegetation control at end of backside rail element.
5. Direction of adjacent traffic indicated by ←.



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL VEGETATION CONTROL
AT STRUCTURE APPROACH
AND DEPARTURE**

NO SCALE
NSP A77C7 DATED OCTOBER 20, 2006 SUPPLEMENTS THE STANDARD
PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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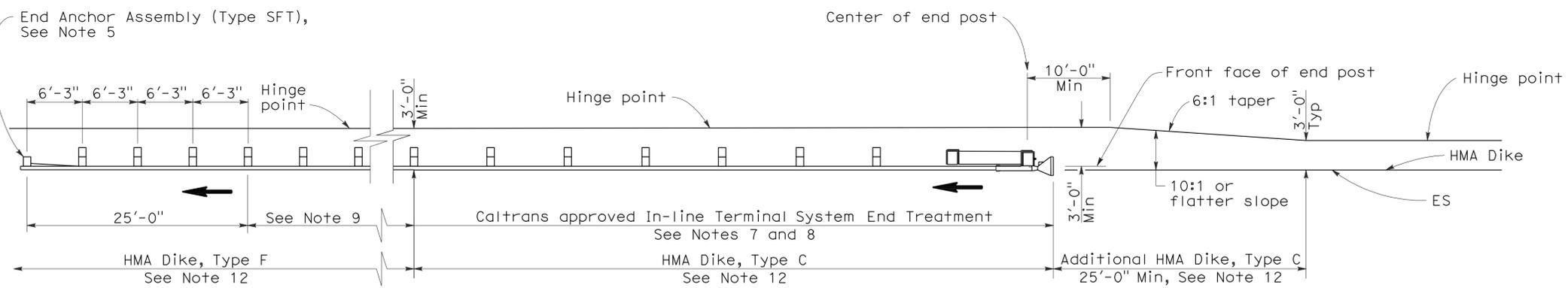
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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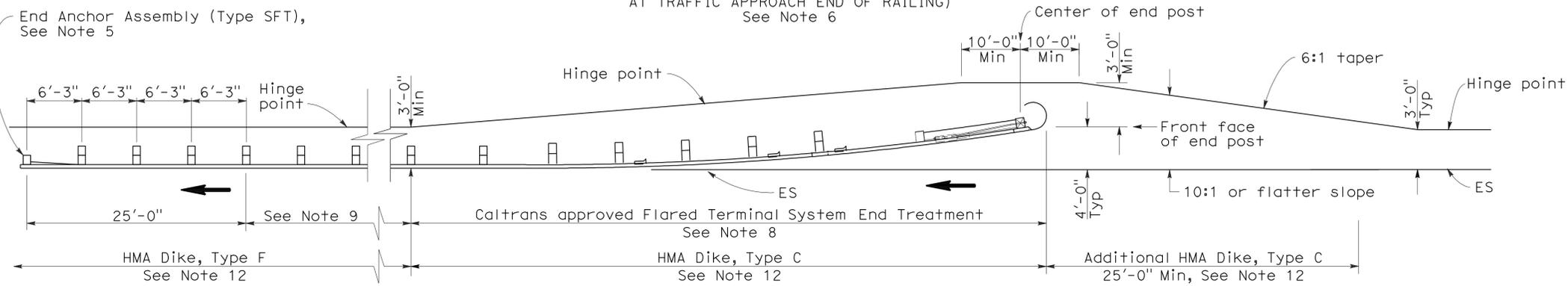
To accompany plans dated 6-25-12

2006 REVISED STANDARD PLAN RSP A77E1



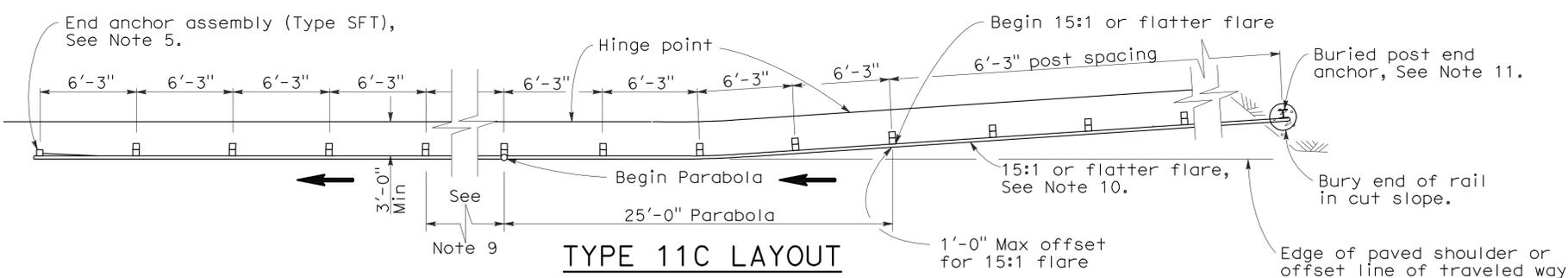
TYPE 11A LAYOUT

(EMBANKMENT GUARD INSTALLATION WITH IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING) See Note 6



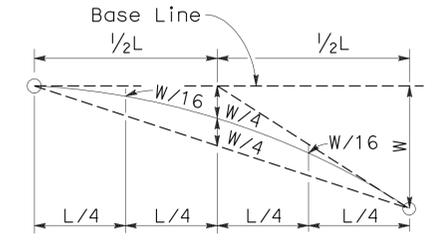
TYPE 11B LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING) See Note 6

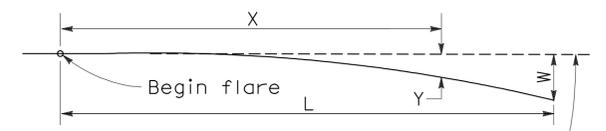


TYPE 11C LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH BURIED END ANCHOR TREATMENT AT TRAFFIC APPROACH END OF RAILING) See Notes 6 and 12



TYPICAL PARABOLIC LAYOUT

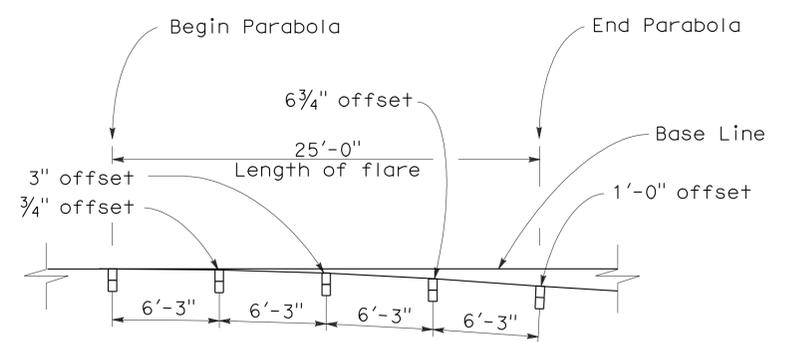


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

$Y = \frac{WX^2}{L^2}$

Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPICAL FLARE OFFSETS FOR 1 FOOT MAX END OFFSET

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1, and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or recycled plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- Layout Types 11A, 11B or 11C are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for only one direction of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- The 15:1 or flatter flare used with buried end anchors is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of guard railing within the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 11C Layout, see Standard Plan A77I2.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE

RSP A77E1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E1
DATED MAY 1, 2006 - PAGE 48 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77E1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	157	231

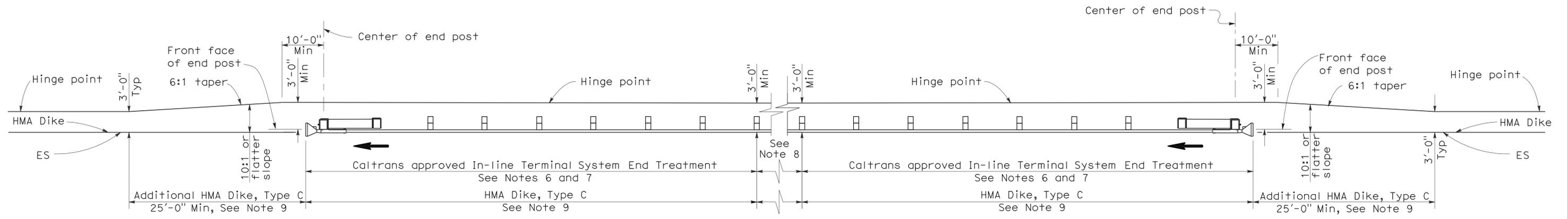
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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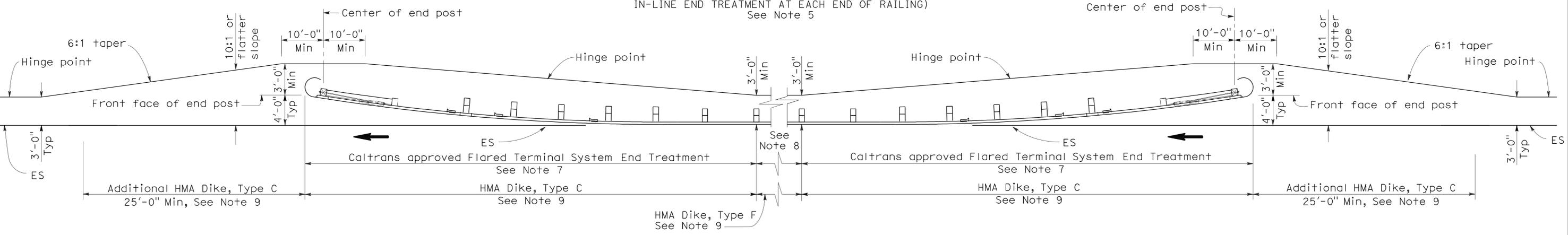
REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 6-25-12



TYPE 11D LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH IN-LINE END TREATMENT AT EACH END OF RAILING)
See Note 5



TYPE 11E LAYOUT

(EMBANKMENT GUARD RAILING INSTALLATION WITH FLARED END TREATMENT AT EACH END OF RAILING)
See Note 5

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood post with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- Layout Types 11D through 11L, shown on the A77E Series of Revised Standard Plans, are typically used where guard railing is recommended to shield embankment slopes and a crashworthy end treatment is required for both directions of traffic.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height and side slope), construction of additional guard railing (length equal to multiples of 12'-6" with 6'-3" post spacing) may be advisable.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
EMBANKMENTS**

NO SCALE
RSP A77E2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77E2
DATED MAY 1, 2006 - PAGE 49 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77E2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	158	231

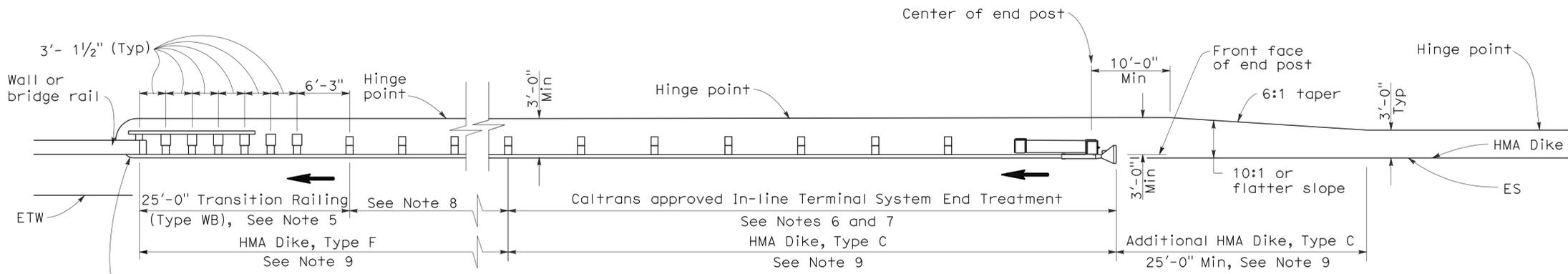
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

Randell D. Hiatt
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

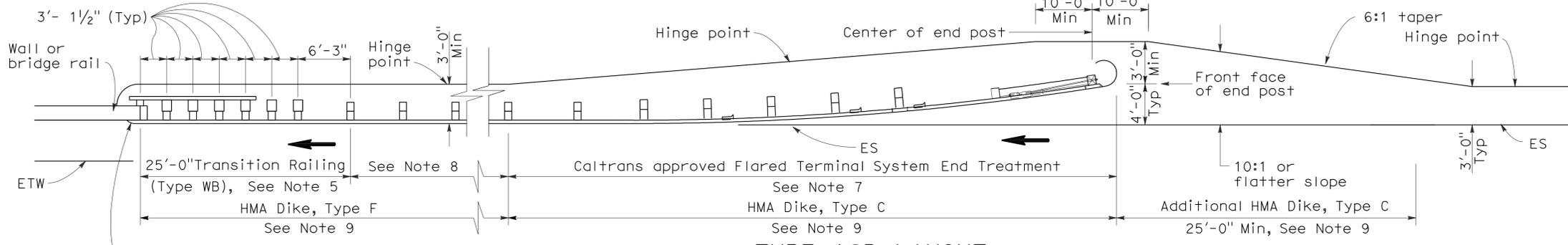
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To accompany plans dated 6-25-12



TYPE 12A LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH AN IN-LINE END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10



TYPE 12B LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE APPROACH WITH A FLARED END TREATMENT AT TRAFFIC APPROACH END OF RAILING)
See Notes 10

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by \rightarrow .
- For Transition Railing (Type WB) details for Types 12A and 12B Layouts, see Standard Plan A77J4.
- In-line Terminal System End Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of terminal system end treatment to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, or other fixed objects), it may be advisable to construct additional guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatment.

- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 for dike positioning details.
- Type 12A or Type 12B Layouts are typically used:
 - To the right of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the left of approaching traffic, at the end of a structure, on two-lane conventional highway where the roadbed width across the structure is less than 40 feet.
 - To the right of approaching traffic at the end of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.
 - To the right of approaching traffic at the end of the structure on multilane freeways or expressways with decked median on the bridge.
- See Revised Standard Plan RSP A77F3 for typical layout used left of approaching traffic at the ends of each structure on multilane freeways or expressways with separate adjacent or parallel bridges.

- For additional details of typical connections to bridge rail, see Connection Detail AA on Revised Standard Plans RSP A77J1 and RSP A77J2 and Connection Detail FF on Standard Plans A77K1 and A77K2.
- For additional details of a typical connection to walls or abutments, see Standard Plan A77J3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH**

NO SCALE

RSP A77F1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F1
DATED MAY 1, 2006 - PAGE 54 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77F1

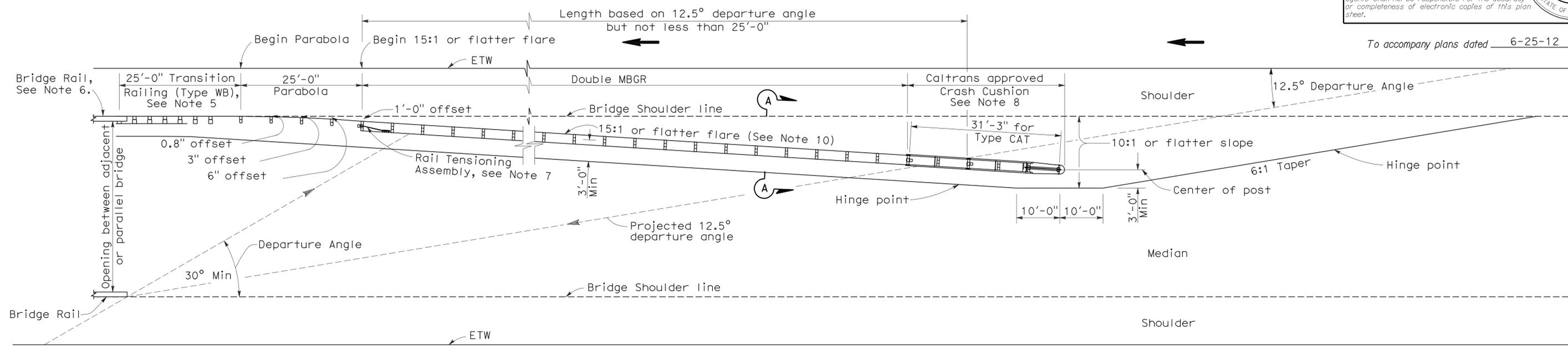
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	159	231

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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Randell D. Hiatt
No. C50200
Exp. 6-30-11
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STATE OF CALIFORNIA

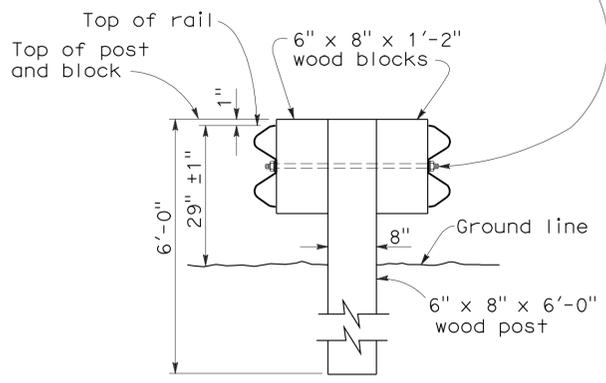


To accompany plans dated 6-25-12

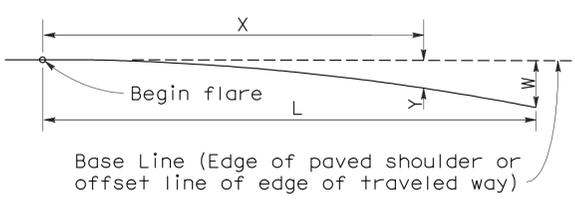
TYPE 12E LAYOUT

See Note 10

5/8" Ø Button head bolt with hex nut or 5/8" Ø Rod, threaded both ends, with hex nuts. 1/2" Max exposed threads after hex nut(s) tightened. No washer on rail faces for bolted connection to line post.



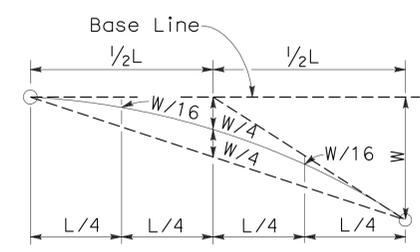
SECTION A-A
TYPICAL DOUBLE METAL BEAM GUARD RAILING



$Y = \frac{WX^2}{L^2}$

Y = Offset from base line
W = Maximum offset
X = Distance along base line
L = Length of flare

PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details, see Standard Plan A77J4.
- For additional details of a typical connection to bridge rail, see Connection Detail AA on Revised Standard Plan RSP A77J1.
- For Rail Tensioning Assembly details, see Standard Plan A77H2.
- The type of Crash Cushion to be used will be shown on the Project Plans.
- Type 12E Layout is typically used left of approaching traffic at the end of each structure on multilane freeways or expressways where a median type barrier is not constructed between separated roadbeds.
- The 15:1 or flatter flare is measured off of the edge of traveled way.

STATE OF CALIFORNIA
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METAL BEAM GUARD RAILING
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH

NO SCALE

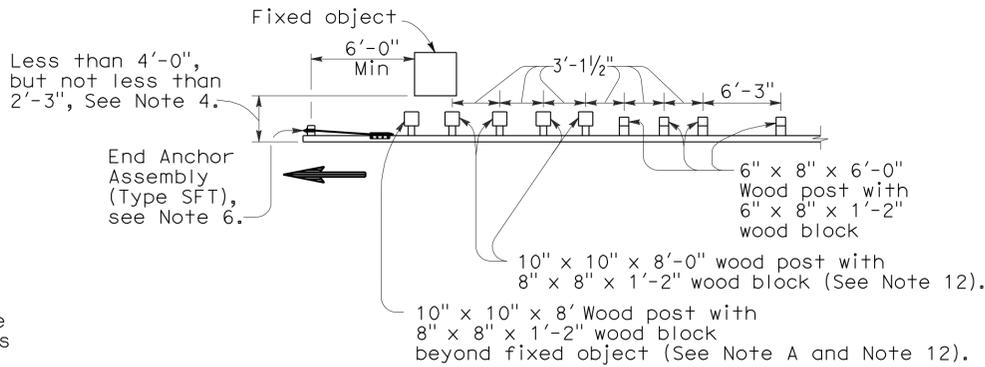
RSP A77F3 DATED MAY 20, 2011 SUPERSEDES RSP A77F3 DATED JUNE 6, 2008 AND STANDARD PLAN A77F3 DATED MAY 1, 2006 - PAGE 56 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F3

2006 REVISED STANDARD PLAN RSP A77F3

NOTES:

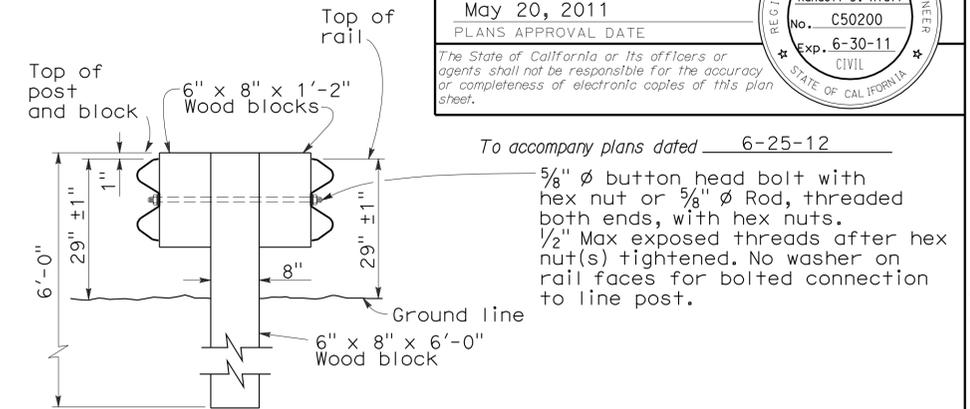
- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard railing post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood line posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- A 4'-0" minimum clearance is required between the face of the railing and the face of a fixed object located directly behind standard guard railing sections with post spacing of 6'-3". Construct guard railing as shown in the detail "Strengthened Railing Sections for Fixed Objects" on this plan, where the clearance between the face of the railing and the face of a fixed object is less than 4'-0", but not less than 2'-3". Where the clearance is less than 2'-3", a concrete wall or barrier should be constructed to shield the fixed object(s).
- Direction of adjacent traffic indicated by \rightarrow .
- For End Anchor Assembly (Type SFT) details, see Standard Plan A77H1.
- For details of Rail Tensioning Assembly, see Standard Plan A77H2.
- The type of crash cushion to be used will be shown on the Project Plans.
- Type 14A layout is typically used on multilane freeways or expressways to shield fixed objects where a median type barrier is not constructed between the separated roadbeds.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77E1.
- The 15:1 or flatter flare is measured off of the edge of traveled way.
- W6 x 15 steel post, 8'-0" in length, with 8" x 8" x 1'-2" notched wood block or notched recycled plastic block may be used in place of the 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood block shown in the "Strengthened Railing Sections Detail".



NOTE A: For a series of fixed objects (bridge columns, overhead sign supports, etc.) additional 10" x 10" x 8'-0" wood post with 8" x 8" x 1'-2" wood blocks at 3'-1/2" center to center spacing are to be used between fixed objects.

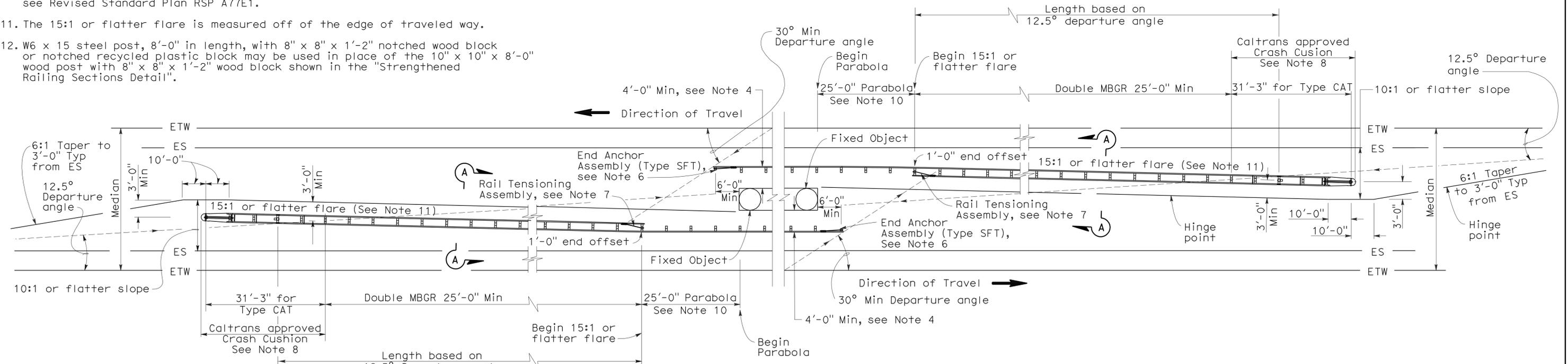
STRENGTHENED RAILING SECTIONS FOR FIXED OBJECT

Use strengthened railing sections with Type 14A layout where minimum clearance between the face of the guard railing and fixed object(s) is less than 4'-0", but not less than 2'-3", See Note 4.



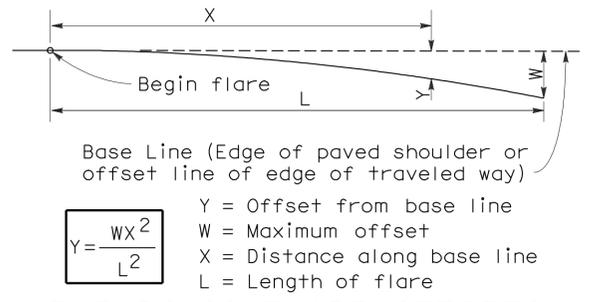
**SECTION A-A
TYPICAL DOUBLE METAL BEAM GUARD RAILING**

To accompany plans dated 6-25-12
 5/8" ϕ button head bolt with hex nut or 5/8" ϕ Rod, threaded both ends, with hex nuts.
 1/2" Max exposed threads after nut(s) tightened. No washer on rail faces for bolted connection to line post.

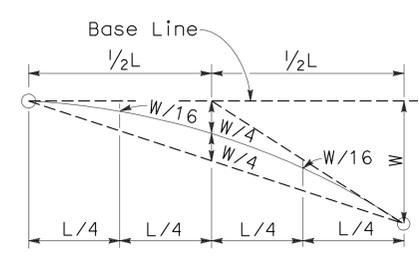


TYPE 14A LAYOUT

See Note 9



PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
 TYPICAL LAYOUTS FOR
 FIXED OBJECTS
 BETWEEN SEPARATE ROADBEDS
 (TWO-WAY TRAFFIC)**
 NO SCALE

RSP A77G1 DATED MAY 20, 2011 SUPERSEDES RSP A77G1
 DATED JUNE 6, 2008 AND STANDARD PLAN A77G1
 DATED MAY 1, 2006 - PAGE 59 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77G1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	160	231

Randell D. Hiatt
 REGISTERED CIVIL ENGINEER

May 20, 2011
 PLANS APPROVAL DATE

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 No. C50200
 Exp. 6-30-11
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2006 REVISED STANDARD PLAN RSP A77G1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	161	231

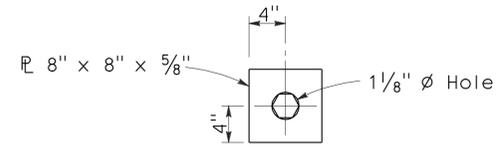
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

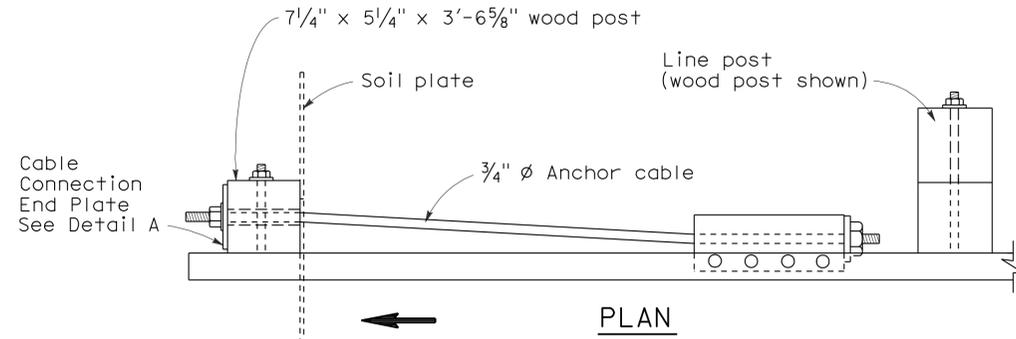
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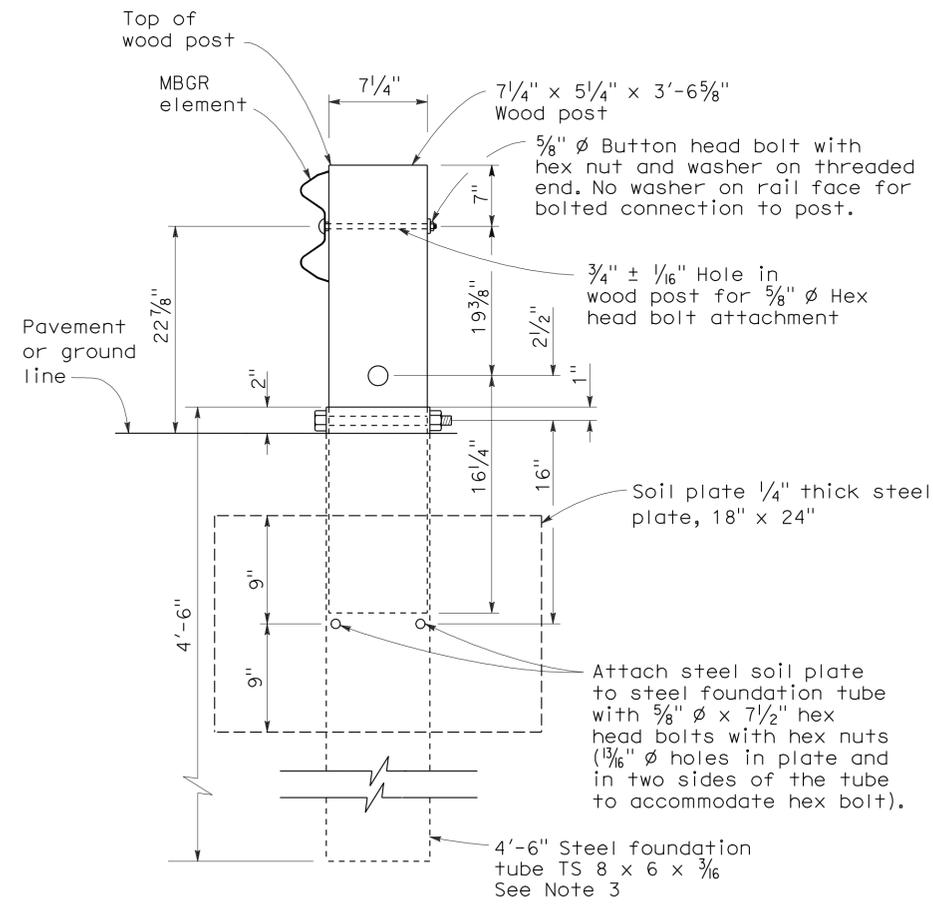
To accompany plans dated 6-25-12



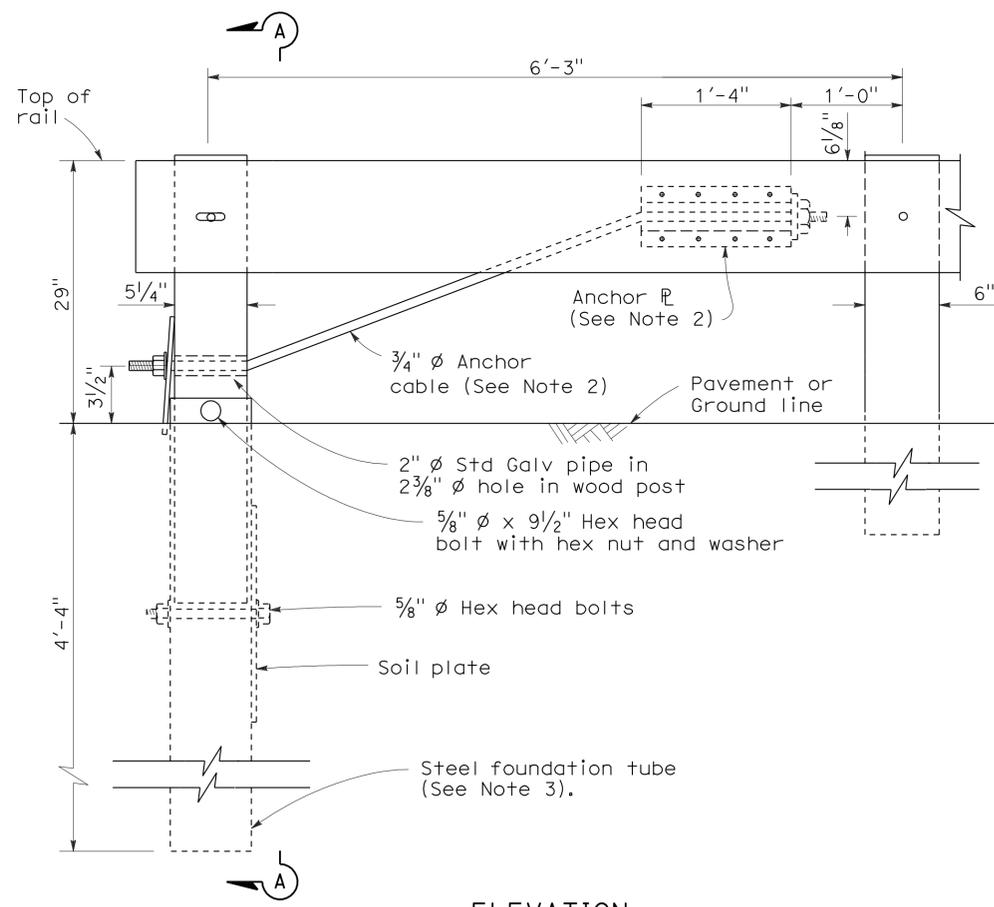
DETAIL A
CABLE CONNECTION
END PLATE



PLAN



SECTION A-A



ELEVATION
END ANCHOR
ASSEMBLY (TYPE SFT)
See Note 1

NOTES:

1. See the A77E, A77F and A77G series of Standard Plans for typical use of End Anchor Assembly (Type SFT).
2. For details of the anchor plate and 3/4" cable, see Standard Plan A77H3.
3. A 6'-0" length steel foundation tube, TS 8 x 6 x 3/16, without a soil plate, may be furnished and installed in place of the 4'-6" length steel foundation tube and soil plate shown. Minimum embedment of the 6'-0" length tube shall be 5'-9". A 5/8" diameter hex head bolt and nut shall be installed in the hole in the 6'-0" length tube to keep the wood post from dropping into the tube.
4. Direction of traffic indicated by →.
5. Install line post, steel foundation tube and soil plate in soil.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL RAILING
END ANCHOR ASSEMBLY
(TYPE SFT)

NO SCALE

RSP A77H1 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77H1
DATED MAY 1, 2006 - PAGE 67 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77H1

2006 REVISED STANDARD PLAN RSP A77H1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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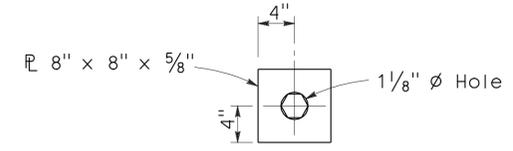
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May 20, 2011
PLANS APPROVAL DATE

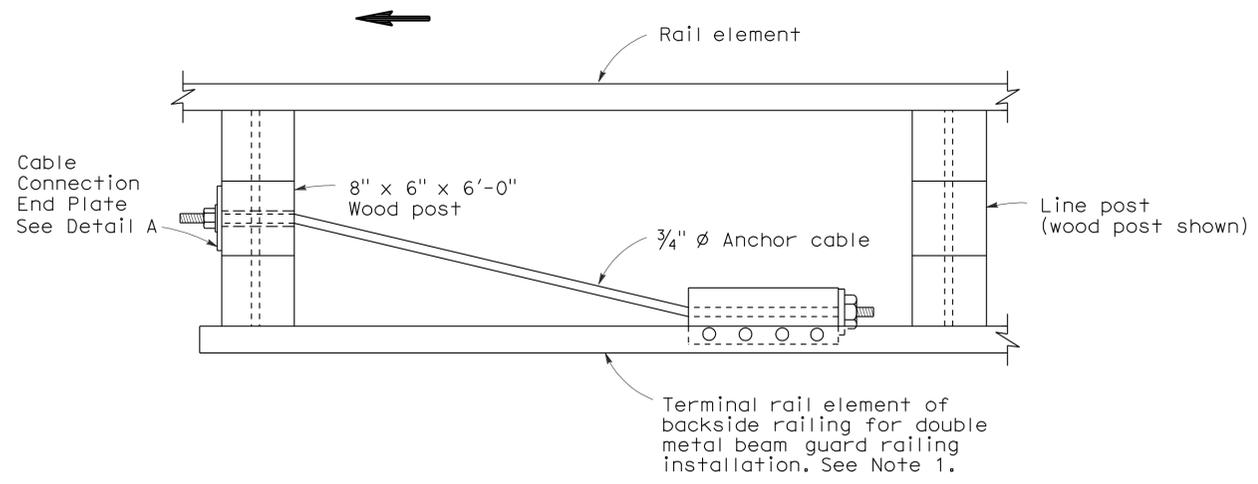
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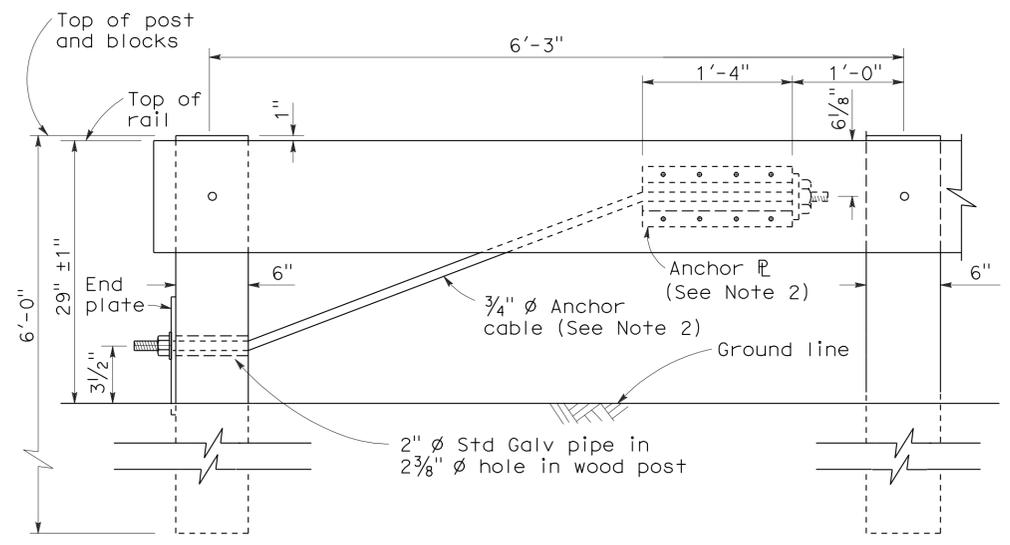
To accompany plans dated 6-25-12



DETAIL A
CABLE CONNECTION
END PLATE



PLAN



ELEVATION
RAIL TENSIONING
ASSEMBLY
See Note 1

NOTES:

1. See Standard Plan A77F3 and Standard Plan A77G1 for typical use of rail tensioning assembly.
2. For details of the anchor plate and 3/4 inch cable, see Standard Plan A77H3.
3. Direction of traffic indicated by →.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL RAILING
RAIL TENSIONING ASSEMBLY

NO SCALE

RSP A77H2 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77H2
DATED MAY 1, 2006 - PAGE 68 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77H2

2006 REVISED STANDARD PLAN RSP A77H2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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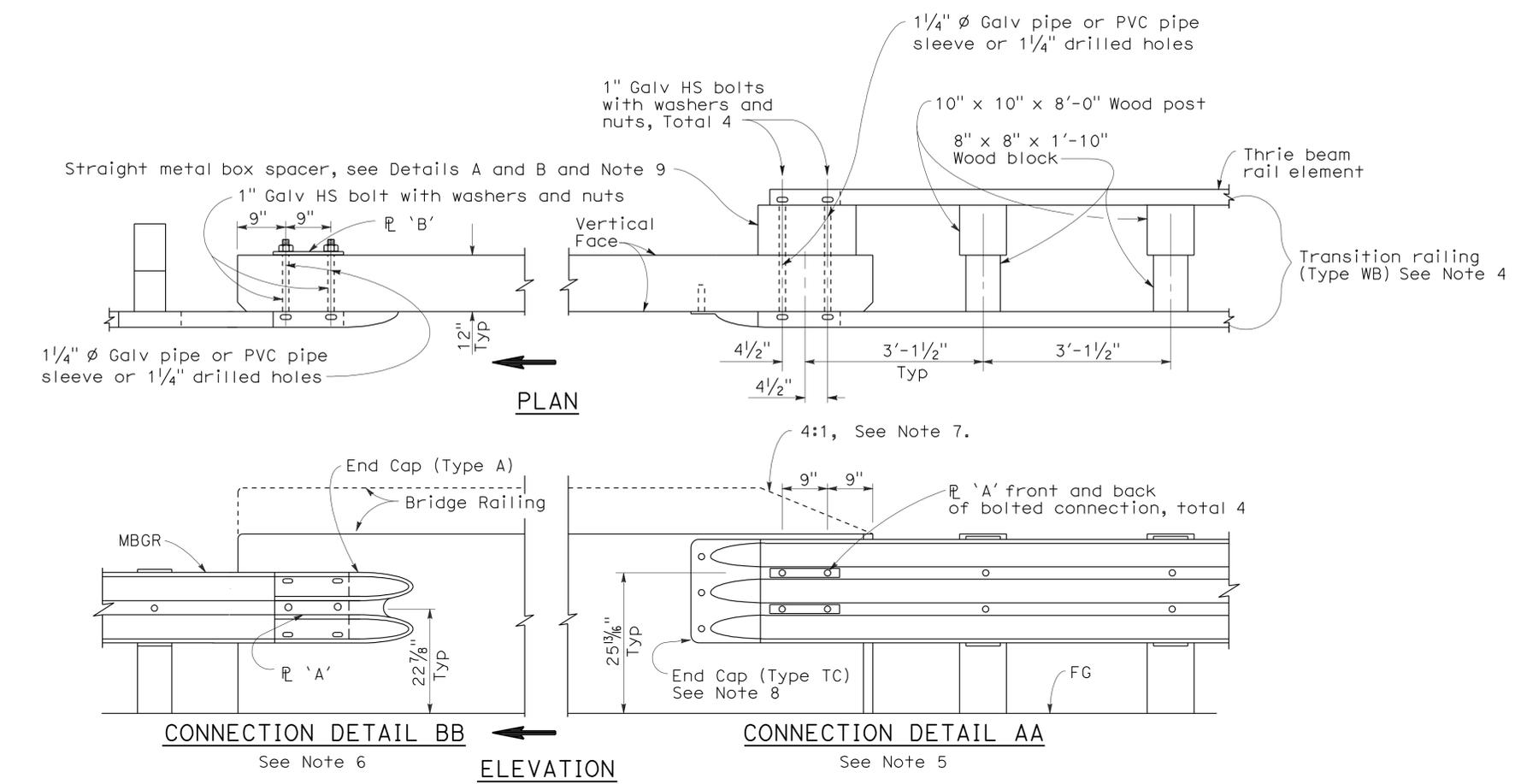
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REGISTERED CIVIL ENGINEER

May 20, 2011
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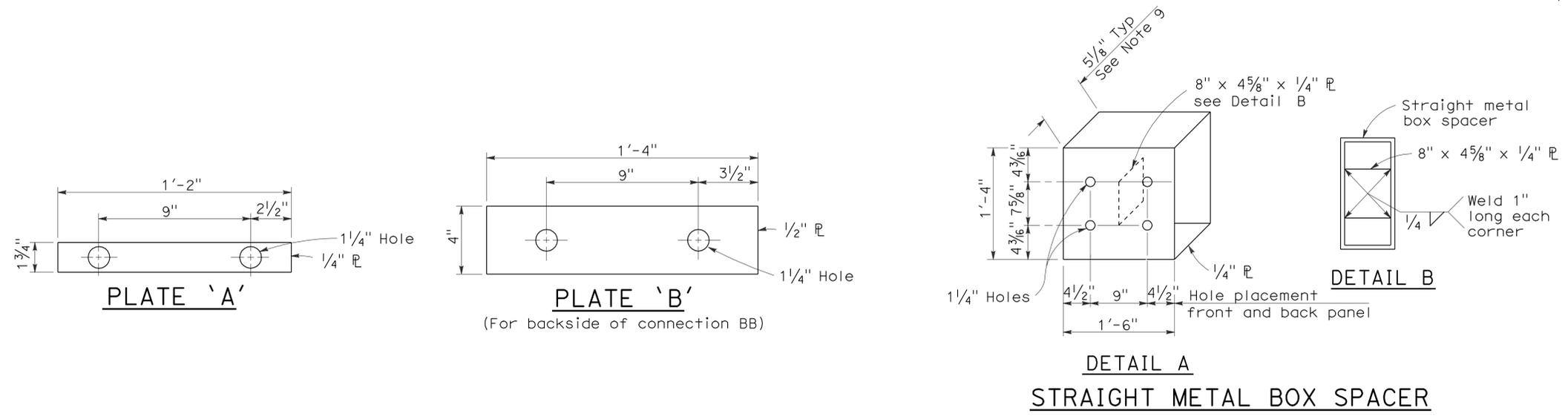
To accompany plans dated 6-25-12



NOTES:

1. See Revised Standard Plan RSP A77J2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by \rightarrow .
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Standard Plan A77F2 and Layout Type 12DD on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail.
8. For details of End Cap (Type TC), see Standard Plan A77J4.
9. See Standard Plan A77J4 for additional details regarding depth dimension for straight metal box spacer.

GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.1

NO SCALE

RSP A77J1 DATED MAY 20, 2011 SUPERSEDES RSP A77J1 DATED JUNE 6, 2008 AND STANDARD PLAN A77J1 DATED MAY 1, 2006 - PAGE 72 OF THE STANDARD PLANS BOOK DATED MAY 2006.

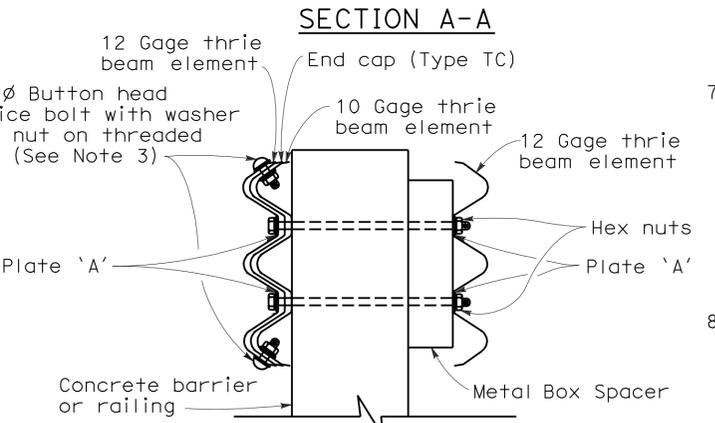
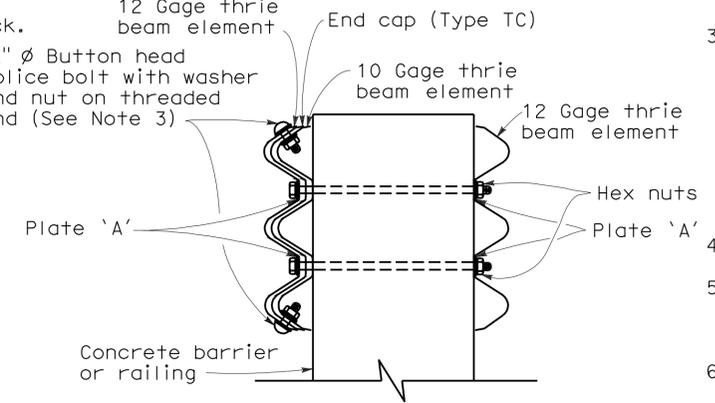
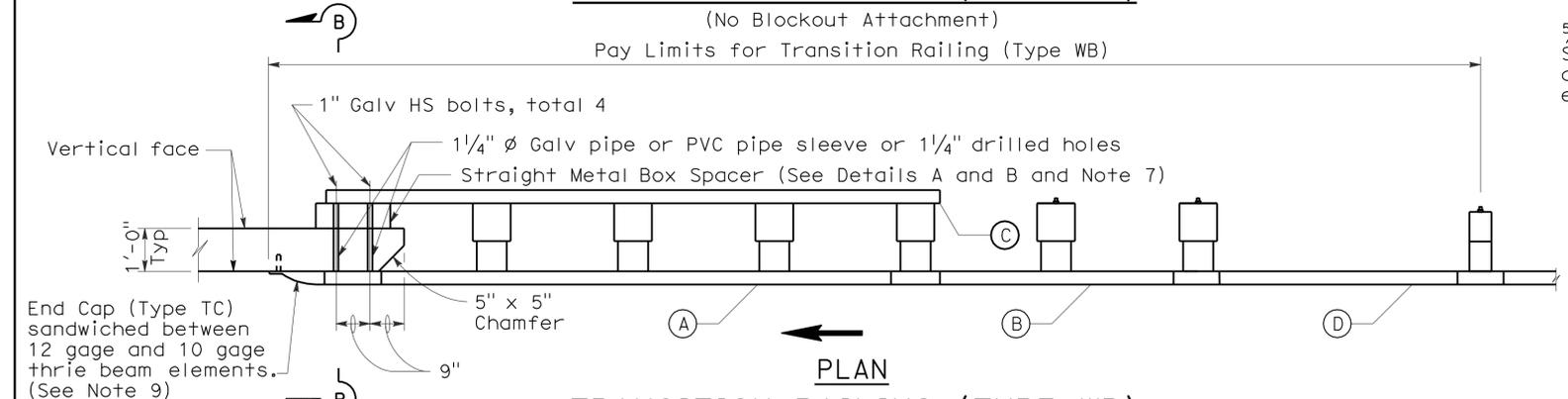
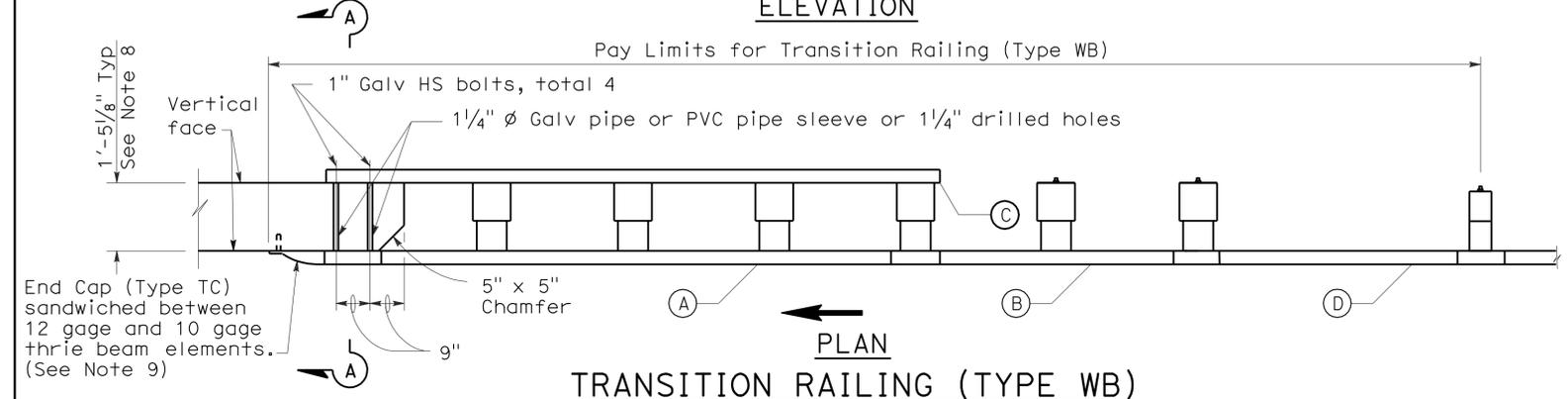
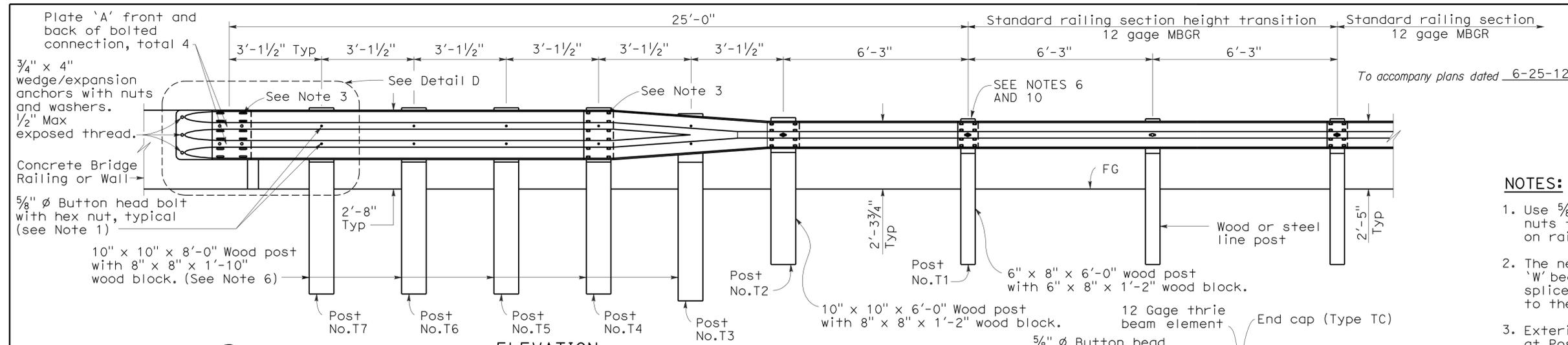
REVISED STANDARD PLAN RSP A77J1

2006 REVISED STANDARD PLAN RSP A77J1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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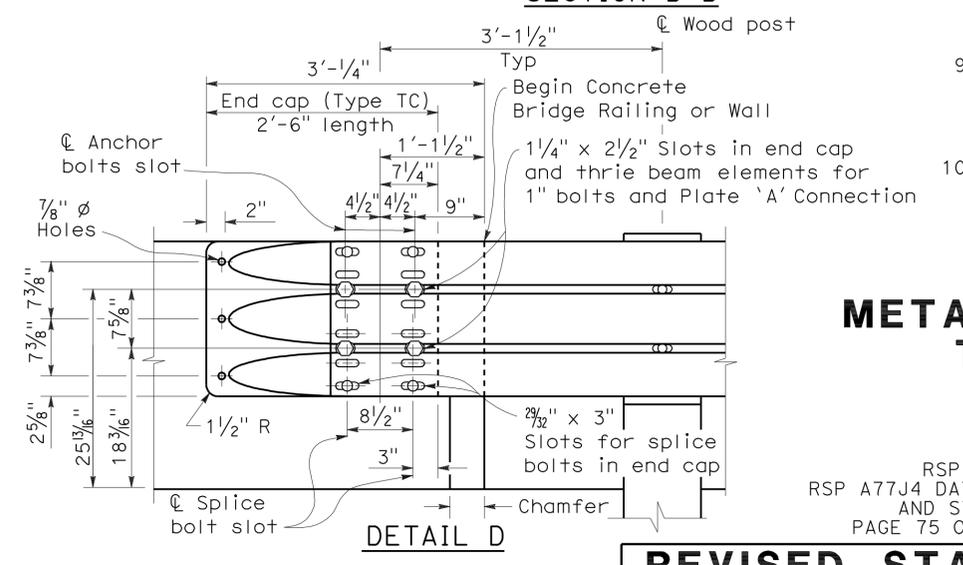
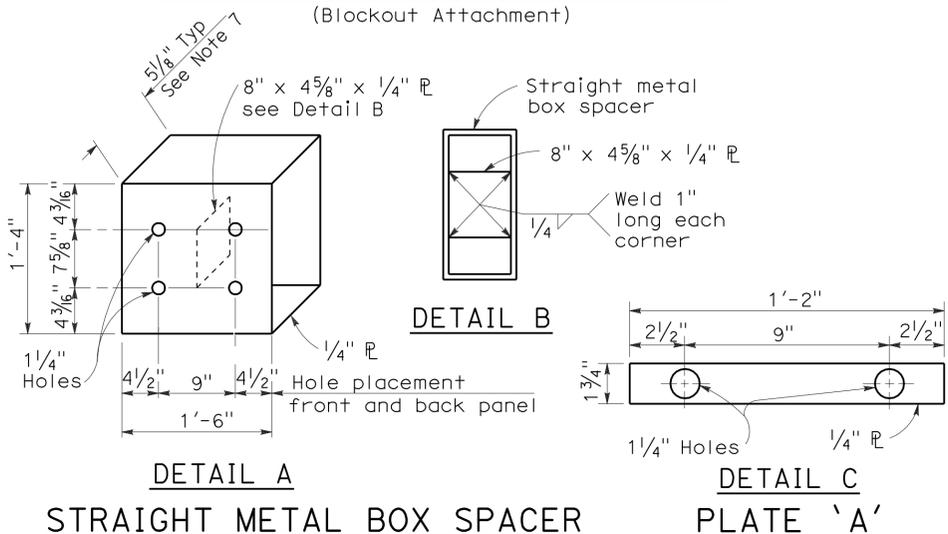
Randell D. Hiatt
 REGISTERED CIVIL ENGINEER
 No. C50200
 Exp. 6-30-11
 STATE OF CALIFORNIA

May 20, 2011
 PLANS APPROVAL DATE
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- NOTES:**
- Use 5/8" ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 - The nested rail elements, end cap, and "W" beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 - Exterior splice bolt holes for rail element splices at Post No. T4 and the connection to the concrete barrier or railing shall be the standard 7/32" x 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1/4" ϕ . Only the top 2 and the bottom 2 splice bolts with washers and nuts are required for rail splices at Post No. T4 and the connection to the concrete barrier or railing.
 - Direction of adjacent traffic indicated by \rightarrow .
 - The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
 - Typically, the railing connected to Transition Railing (Type WB) will be either standard railing section of metal beam guard railing with height transition ratio of 120:1 or an approved Caltrans end treatment attached to Post No. T1.
 - The depth of the metal box spacer varies from the 5/8" to 1/2" and is dependent on the width of the concrete railing or wall. The combined dimension for the depth of the metal box spacer plus the width of railing or wall is typically 17/8". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1/2", metal plates similar to Plate 'A' are to be used as spacers.
 - Where the width of the concrete railing or wall is greater than 17/8", wood blocks are to be used to fill the space created between the backside of Posts No. T4 through No. T7 and the rear thrie beam element. These wood blocks shall be 8" in width and 1'-2" in length. The dimension between the front thrie beam element and the rear thrie beam element is to match the width of the concrete railing or wall.
 - End cap may be installed over 12 gage and 10 gage thrie beam elements where transition railing is installed on the departure end of bridge railing.
 - Conform standard railing section height to 2'-3 3/4" at Post No. T1 using height transition ratio of 120:1.

- LEGEND**
- (A) Nested thrie beam elements (one 12 gage element nested over one 10 gage element).
 - (B) One 10 gage "W" beam to thrie beam element.
 - (C) One 12 gage thrie beam element.
 - (D) One 10 gage "W" beam rail element (7'-3 1/2" length)
- 10 gage = 0.135" thick
 12 gage = 0.108" thick



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**METAL BEAM GUARD RAILING
 TRANSITION RAILING
 (TYPE WB)**
 NO SCALE
 RSP A77J4 DATED MAY 20, 2011 SUPERSEDES
 RSP A77J4 DATED JUNE 5, 2009, RSP A77J4 DATED JUNE 6, 2008
 AND STANDARD PLAN A77J4 DATED MAY 1, 2006 -
 PAGE 75 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A77J4

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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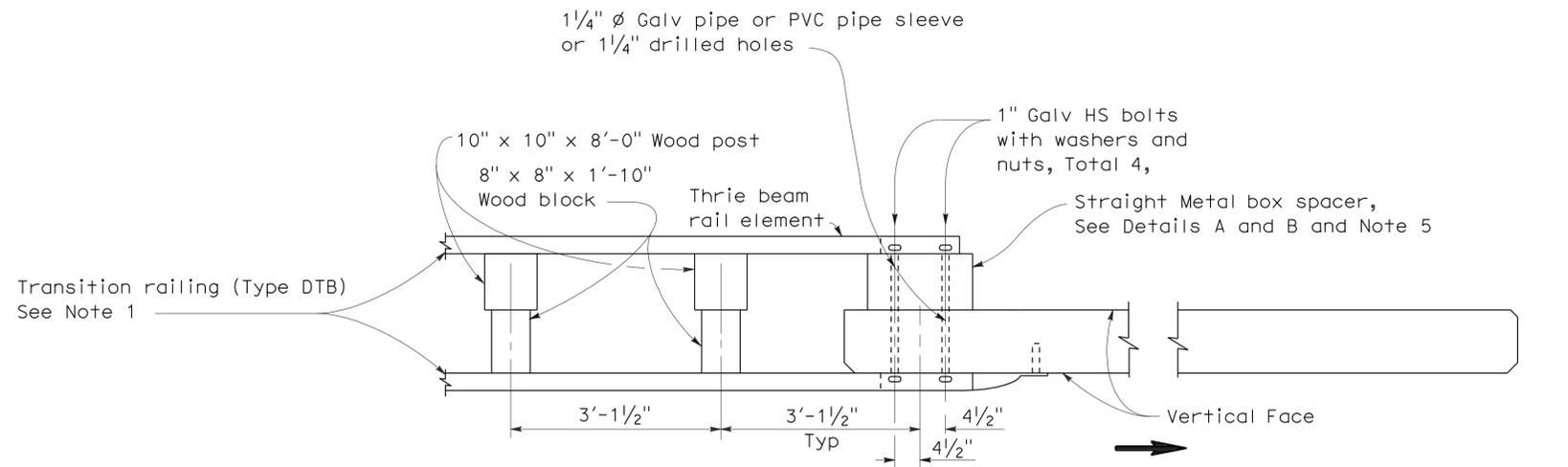
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

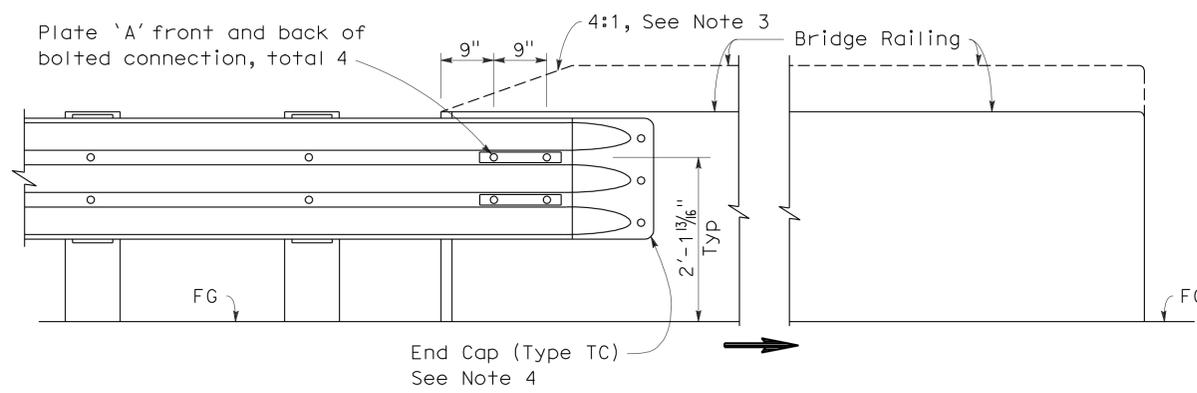
Randell D. Hiatt
No. C50200
Exp. 6-30-09
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To accompany plans dated 6-25-12



PLAN



ELEVATION

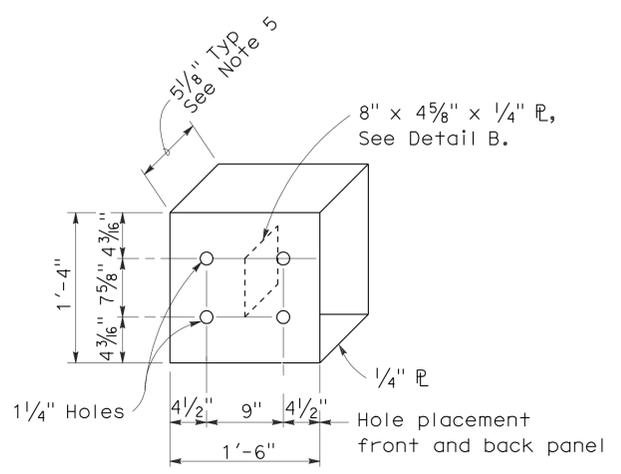
CONNECTION DETAIL 1A

See Note 2

NOTES:

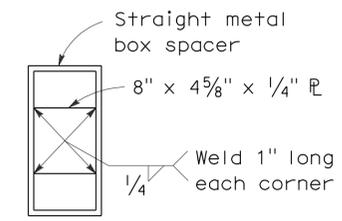
- For additional details of Transition Railing (Type DTB), see Standard Plans A78K. Transition Railing (Type DTB) transitions the standard 12 gage double thrie beam barrier to a heavier gage double thrie beam railing section then to a heavier gage nested double thrie beam barrier section which then is connected to the concrete bridge railing.
- For typical use of Connection Detail 1A, see Type 25A Connection Layout on Revised Standard Plan RSP A78H.
- Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail 1A, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
- For details of End Cap (Type TC), see Standard Plan A78C1.
- See Standard Plan A78K for additional details regarding depth dimension for straight metal box spacer.
- Direction of adjacent traffic indicated by →.

DOUBLE THRIE BEAM BARRIER CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

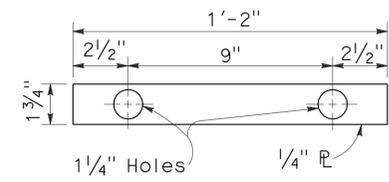


DETAIL A

STRAIGHT METAL BOX SPACER



DETAIL B



DETAIL C

PLATE 'A'

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DOUBLE THRIE BEAM BARRIER
CONNECTION TO
BRIDGE RAILINGS
WITHOUT SIDEWALKS

NO SCALE

RSP A78F1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A78F1
DATED MAY 1, 2006 - PAGE 92 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A78F1

2006 REVISED STANDARD PLAN RSP A78F1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	166	231

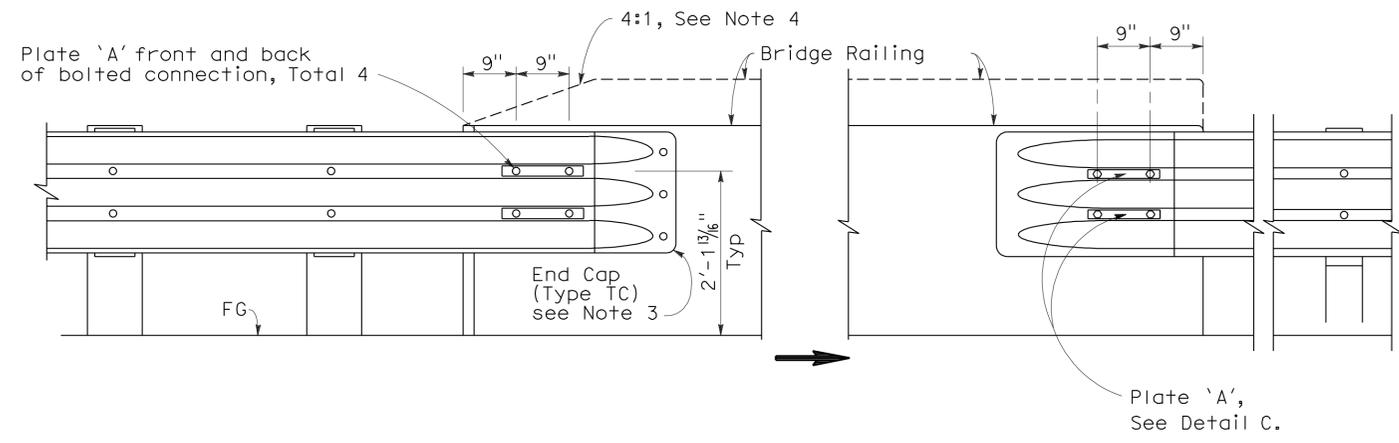
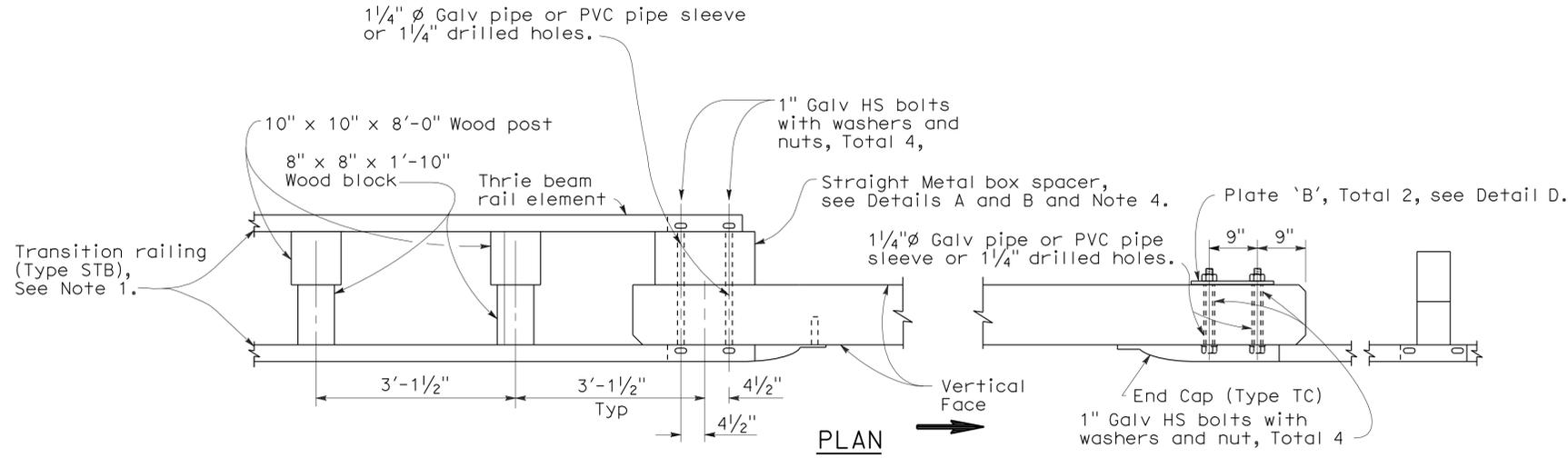
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

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To accompany plans dated 6-25-12



CONNECTION DETAIL 2A

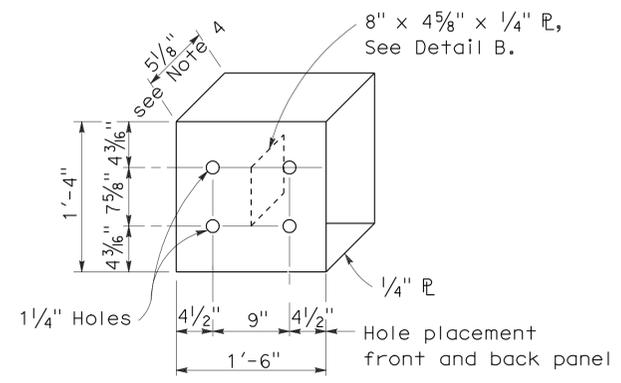
CONNECTION DETAIL 3A

ELEVATION

SINGLE THRIE BEAM BARRIER CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

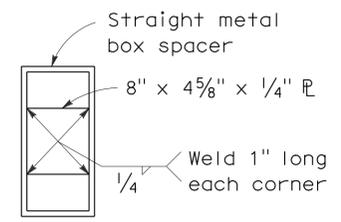
NOTES:

1. For additional details of Transition Railing (Type STB), see Standard Plans A78J. Transition Railing (Type STB) transitions the standard 12 gage single thrie beam barrier to a heavier gage single thrie beam railing section then to a heavier gage nested double thrie beam barrier section which then is connected to the concrete bridge railing.
2. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail 2A, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
3. For details of End Cap (Type TC), see Standard Plan A78C1.
4. See Standard Plan A78J for additional details regarding depth dimension for straight metal box spacer.
5. Direction of adjacent traffic indicated by \Rightarrow .

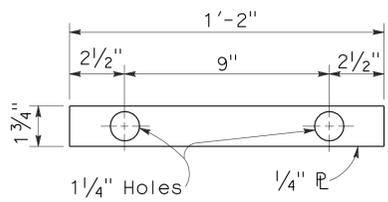


DETAIL A

STRAIGHT METAL BOX SPACER

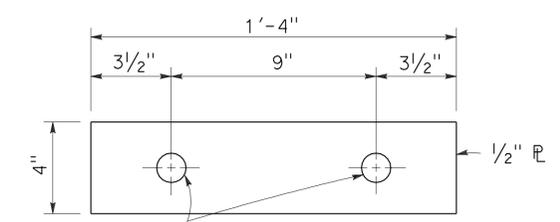


DETAIL B



DETAIL C

PLATE 'A'



DETAIL D

PLATE 'B'

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SINGLE THRIE BEAM BARRIER CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS

NO SCALE

RSP A78F2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A78F2 DATED MAY 1, 2006 - PAGE 93 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A78F2

2006 REVISED STANDARD PLAN RSP A78F2

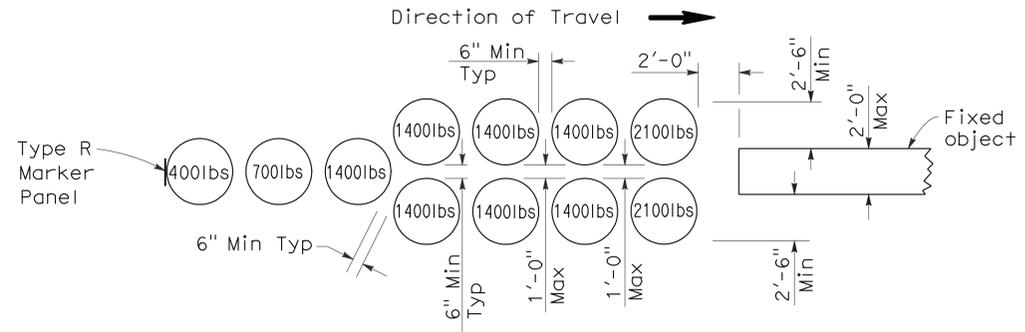
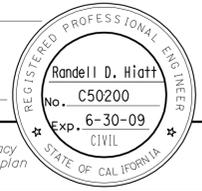
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	167	231

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

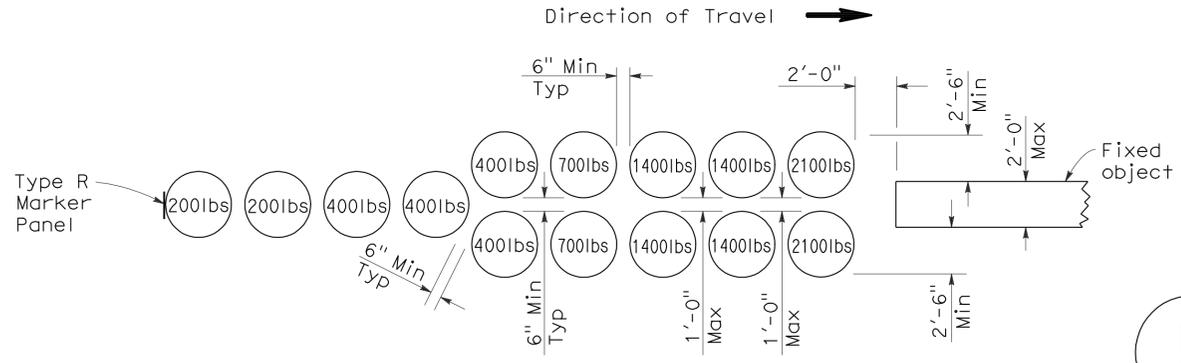
June 6, 2008
PLANS APPROVAL DATE

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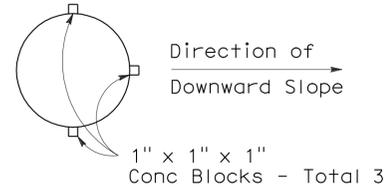
To accompany plans dated 6-25-12



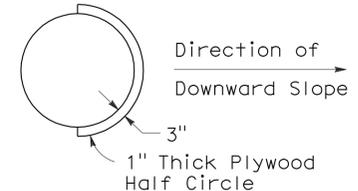
Direction of Travel →
ARRAY 'U11'
Approach speed less than 45 mph



Direction of Travel →
ARRAY 'U14'
Approach speed 45 mph or more

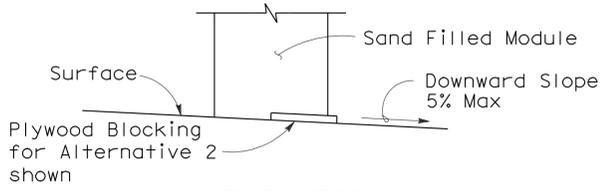


ALTERNATIVE 1



ALTERNATIVE 2

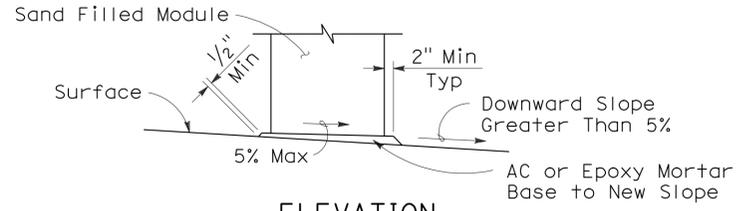
PLAN



ELEVATION

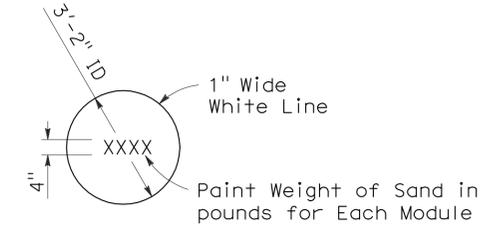
BRIDGE DECK MODULE BLOCKING DETAILS

(See Note 6)



ELEVATION
SLOPED SEAT DETAIL

(See Note 4)



PAINTING DETAIL

(See Note 5)

NOTES:

1. (xxx) Indicates module location and mass of sand in pounds for each module. Module spacing is based on the greater diameter of the modules.
2. All sand weights are nominal.
3. Each module is to contain amount of sand indicated, supported according to the manufacturer's instructions.
4. Modules shall be placed on asphalt concrete, epoxy mortar or concrete surface. Modules to be placed on surfacing with greater than 5% downward slope shall be seated as shown.
5. Mass of sand and outline of each module shall be painted on the surface at each module location.
6. Module blocking, epoxied to the deck surface, is required for all modules placed on bridge decks. Two acceptable alternatives are shown. Other alternatives recommended by the manufacturer and approved by the Engineer will be accepted.
7. Place the top of the Type R marker panel 1" below the module lid.
8. Approach speeds indicated conform to NCHRP Report criteria.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**

NO SCALE

RSP A81A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A81A
DATED MAY 1, 2006 - PAGE 99 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A81A

2006 REVISED STANDARD PLAN RSP A81A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	168	231

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

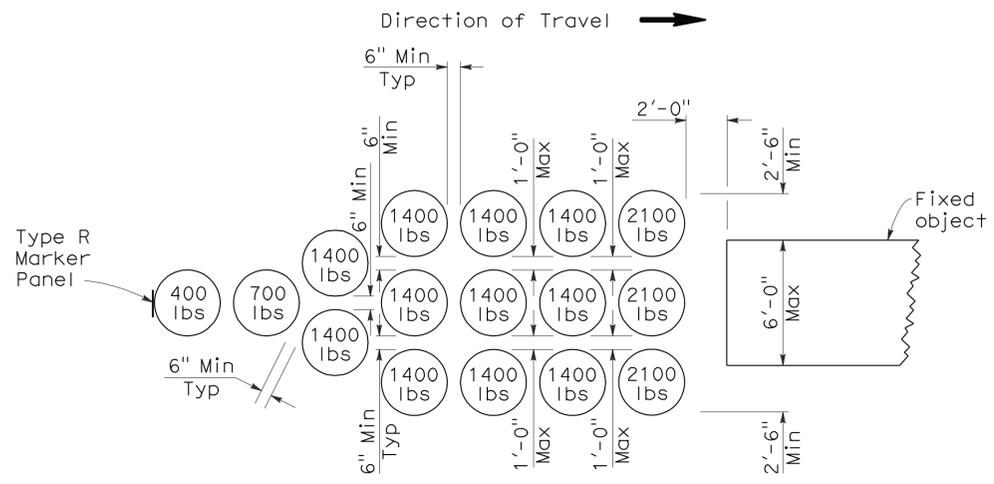
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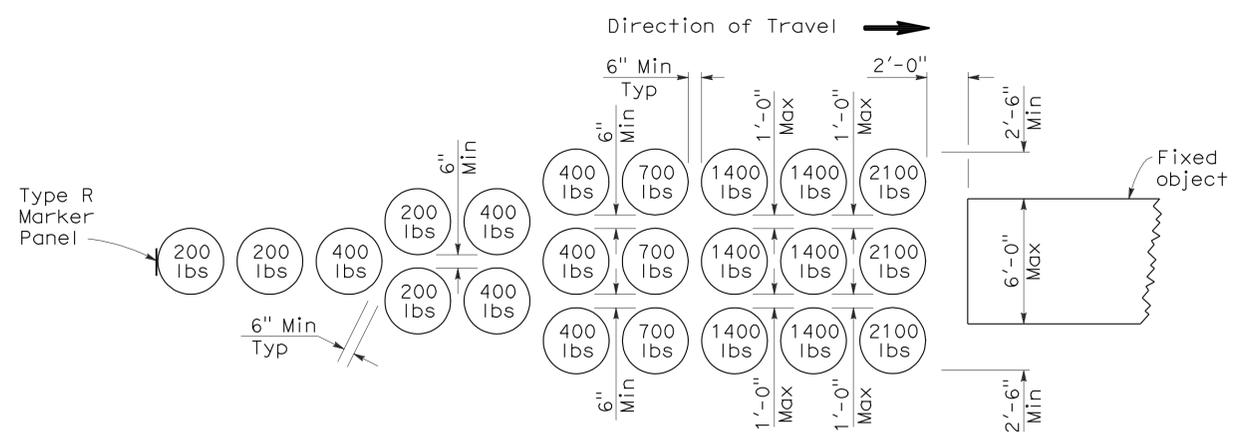
To accompany plans dated 6-25-12

NOTES:

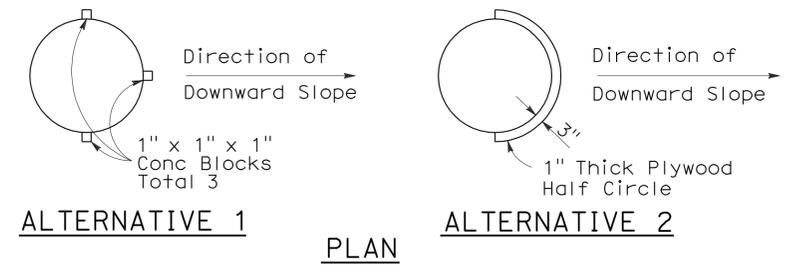
1. (XXX) Indicates module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the modules.
2. All sand weights are nominal.
3. Each module is to contain amount of sand indicated, supported according to the manufacturer's instructions.
4. Modules shall be placed on asphalt concrete, epoxy mortar or concrete surface. Modules to be placed on surfacing with greater than 5% downward slope shall be seated as shown.
5. Mass of sand and outline of each module shall be painted on the surface at each module location.
6. Module blocking, epoxied to the deck surface, is required for all modules placed on bridge decks. Two acceptable alternatives are shown. Other alternatives recommended by the manufacturer and approved by the Engineer will be accepted.
7. Place the top of the Type R marker panel 1" below the module lid.
8. Approach speeds indicated conform to NCHRP Report criteria.



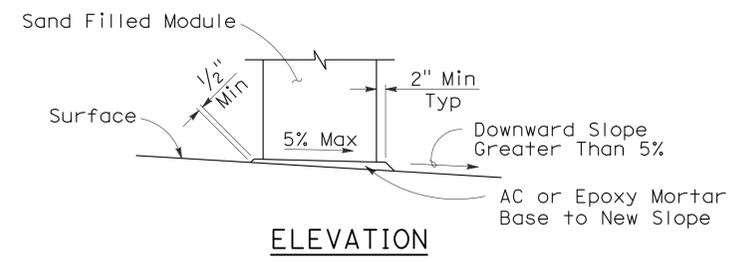
ARRAY 'U16'
Approach speed less than 45 mph



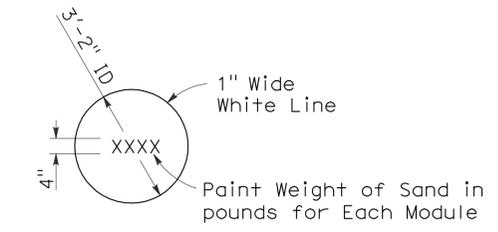
ARRAY 'U21'
Approach speed 45 mph or more



BRIDGE DECK MODULE BLOCKING DETAILS
(See Note 6)



SLOPED SEAT DETAIL
(See Note 4)



PAINTING DETAIL
(See Note 5)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**
NO SCALE

RSP A81B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A81B
DATED MAY 1, 2006 - PAGE 100 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP A81B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	169	231

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

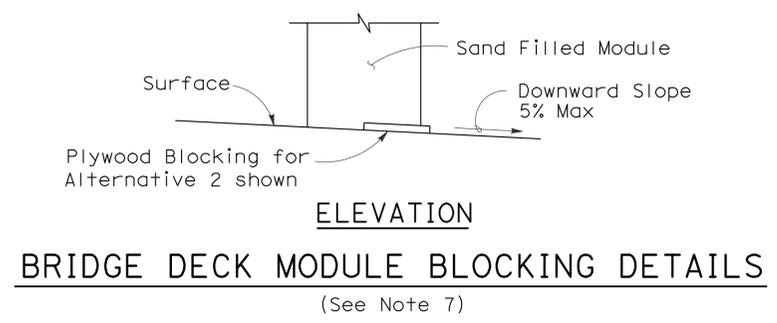
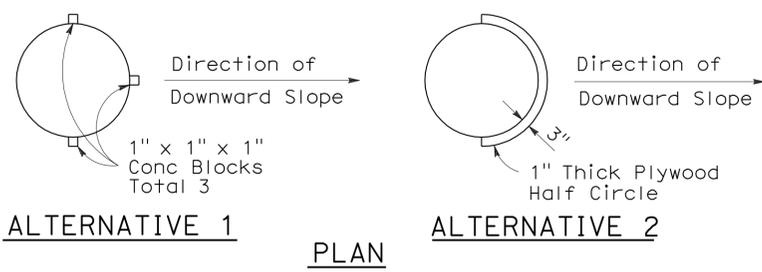
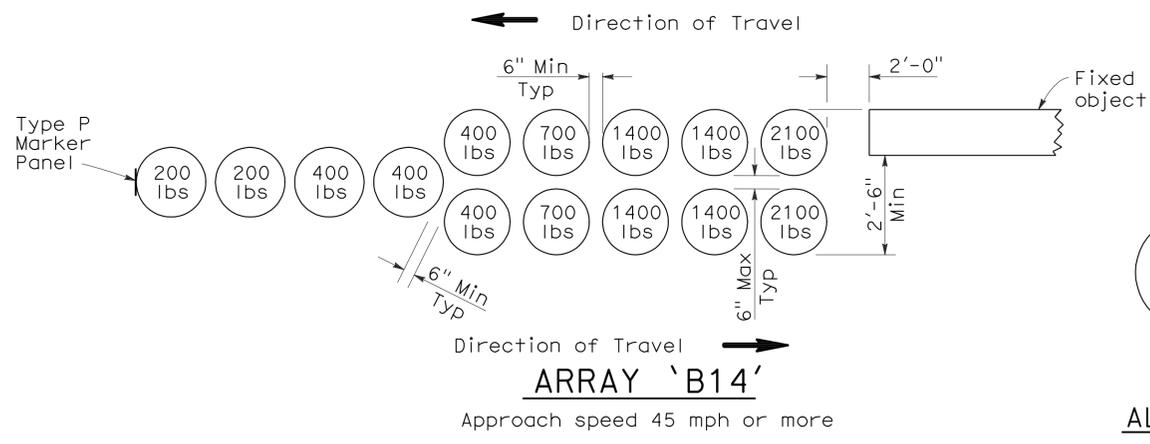
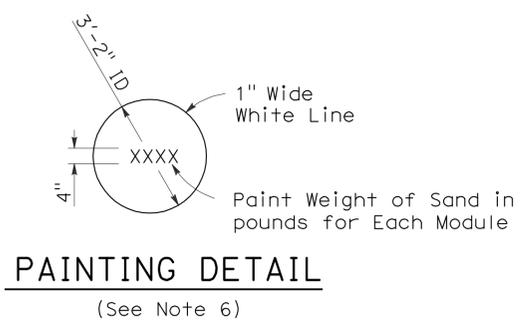
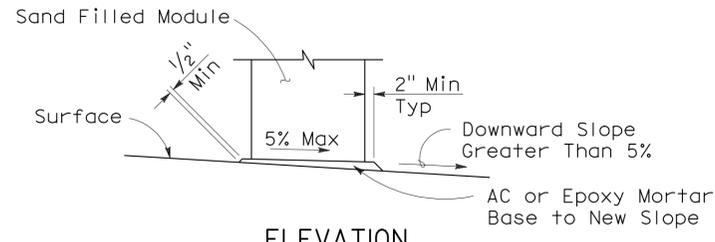
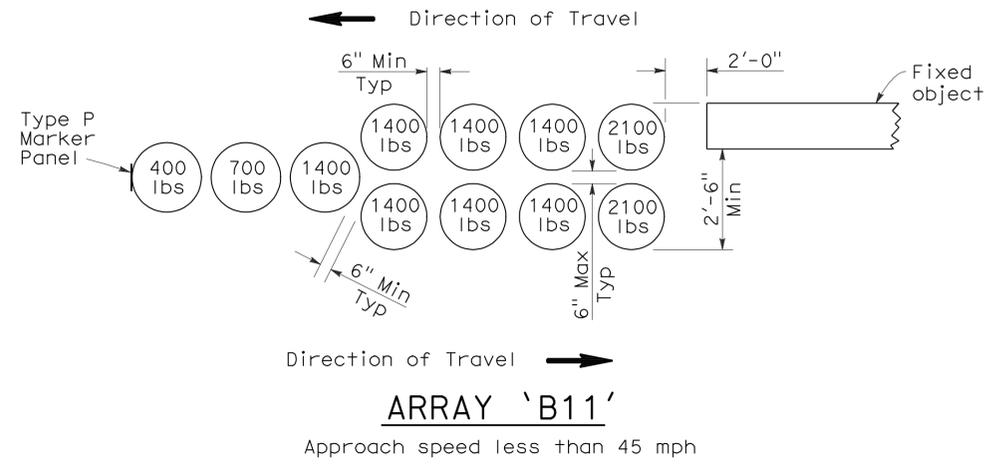
June 6, 2008
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 6-25-12

2006 REVISED STANDARD PLAN RSP A81C



NOTES:

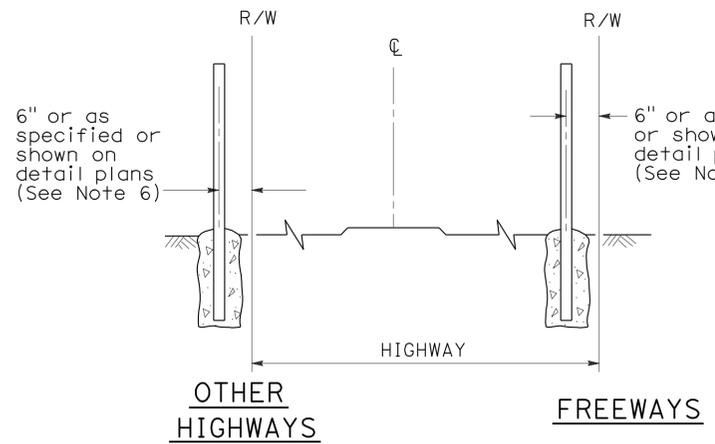
- (XXX) Indicates module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
- All sand weights are nominal.
- Each module is to contain amount of sand indicated, supported according to the manufacturer's instructions.
- Bidirectional crash cushion arrays may be angled toward approaching traffic. Amount of angle not to exceed 10 degrees.
- Modules shall be placed on asphalt concrete, epoxy mortar or concrete surface. Modules to be placed on surfacing with greater than 5% downward slope shall be seated as shown.
- Mass of sand and outline of each module shall be painted on the surface at each module location.
- Module blocking, epoxied to the deck surface, is required for all modules placed on bridge decks. Two acceptable alternatives are shown. Other alternatives recommended by the manufacturer and approved by the Engineer will be accepted.
- Place the Type P marker panel so that the bottom of the panel is at the bottom of the module.
- Approach speeds indicated conform to NCHRP Report criteria.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CRASH CUSHION,
SAND FILLED
(BIDIRECTIONAL)**
NO SCALE

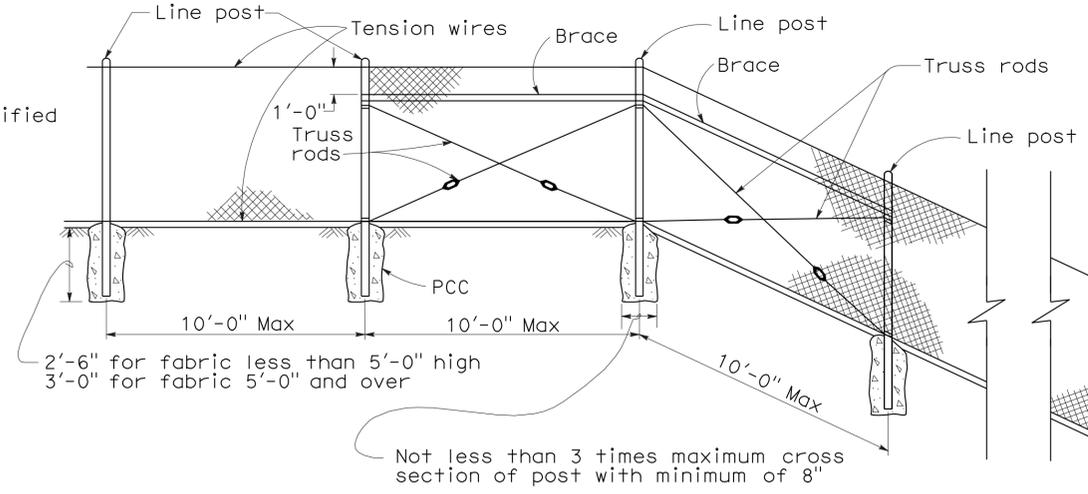
RSP A81C DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A81C
DATED MAY 1, 2006 - PAGE 101 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A81C

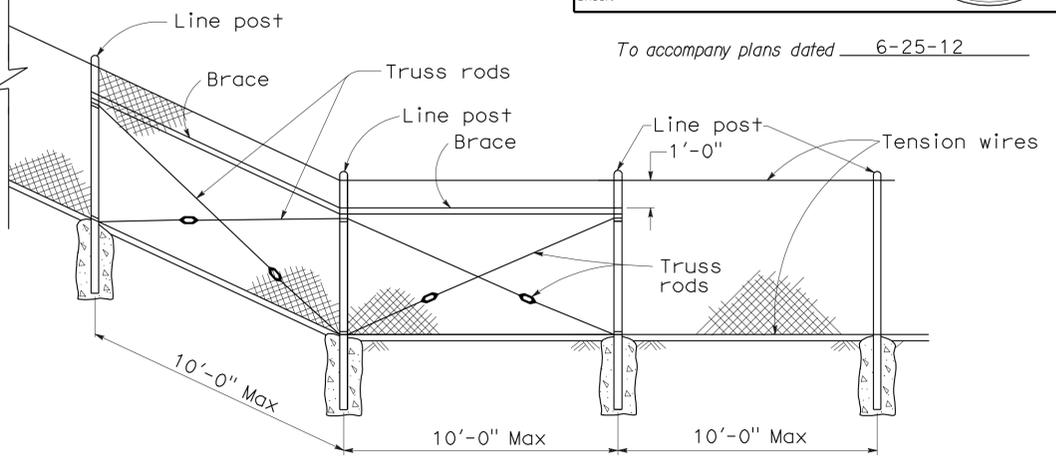
101



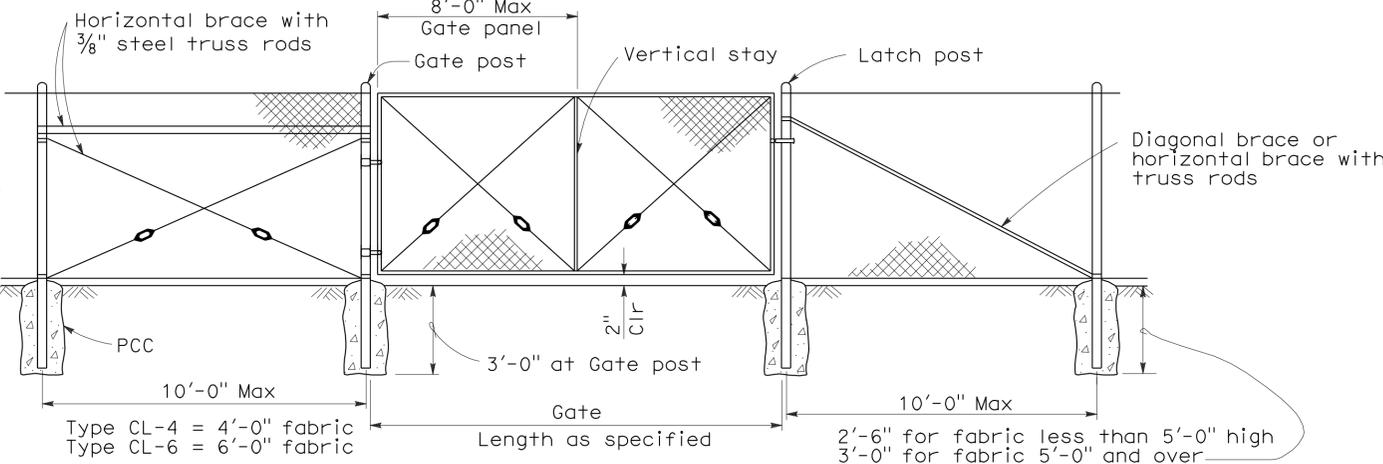
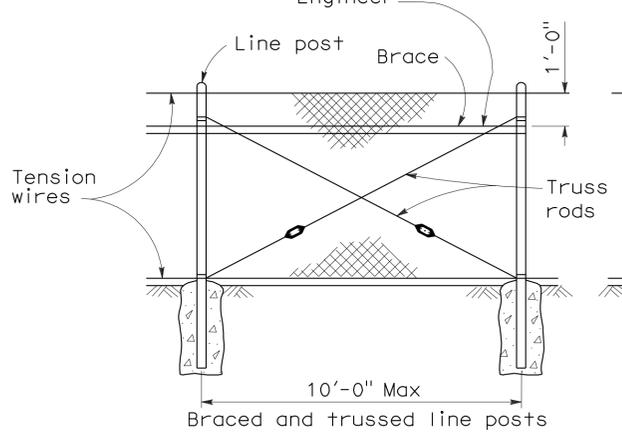
FENCE LOCATION



CHAIN LINK FENCE ON SHARP BREAK IN GRADE



Brace to be removed after all other fence construction is completed unless otherwise directed by the Engineer



CHAIN LINK GATE INSTALLATION

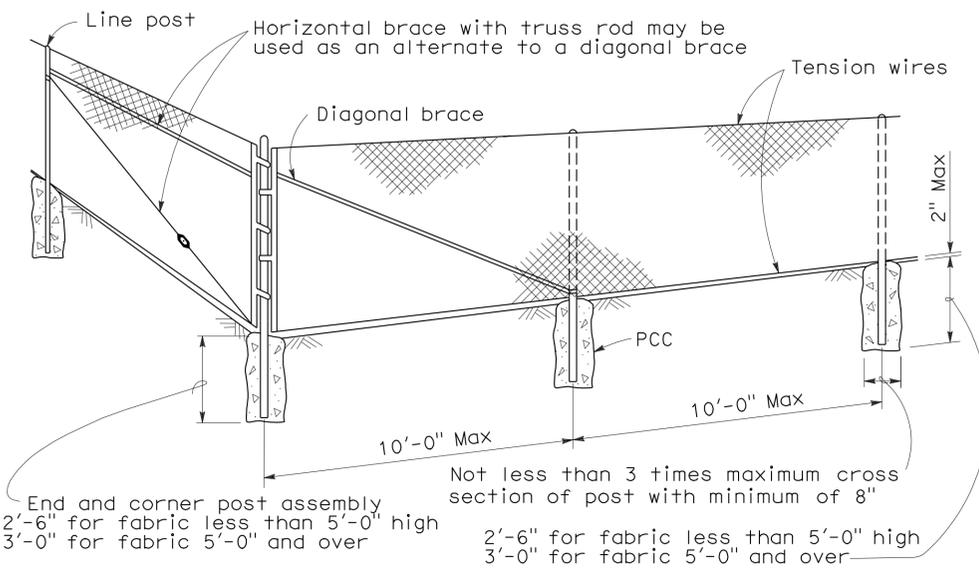
GATE POST			
FENCE HEIGHT	GATE WIDTHS	NOMINAL ID	WEIGHT PER FOOT
6'-0" and Less	Up thru 6'-0"	2 1/2"	4.95 LB
	Over 6'-0" thru 12'-0"	4"	10.79 LB
	Over 12'-0" thru 18'-0"	5"	14.62 LB
	Over 18'-0" to 24'-0" Max	6"	18.97 LB
Over 6'-0"	Up thru 6'-0"	3"	7.58 LB
	Over 6'-0" thru 12'-0"	5"	14.62 LB
	Over 12'-0" thru 18'-0"	6"	18.97 LB
	Over 18'-0" to 24'-0" Max	8"	28.55 LB

Above post dimensions and weights are minimums. Larger sizes may be used on approval of the Engineer.

NOTES:

- The below table shows examples of post and brace sections which may comply with the Specifications.
- Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
- Other sections which comply with the strength requirements and other provisions of the Specifications may be used on approval of the Engineer.
- Options exercised shall be uniform on any one project.
- Dimensions shown are nominal.
- Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.

FENCE HEIGHT	TYPICAL MEMBER DIMENSIONS (See Notes)									
	LINE POSTS			END, LATCH & CORNER POSTS			BRACES			
	ROUND ID	H	ROLL FORMED	ROUND ID	ROLL FORMED		ROUND ID	H	ROLL FORMED	
6' & less	1 1/2"	1 7/8" x 1 5/8"	1 7/8" x 1 5/8"	2"	3 1/2" x 3 1/2"	2" x 1 3/4"	1 1/4"	1 1/2" x 1 5/16"	1 5/8" x 1 1/4"	1 3/4" x 1 1/4"
Over 6'	2"	2 1/4" x 2"	2" x 1 3/4"	2 1/2"	3 1/2" x 3 1/2"	2 1/2" x 2 1/2"	1 1/4"	1 1/2" x 1 5/16"	1 5/8" x 1 1/4"	1 3/4" x 1 1/4"



CORNER POST

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CHAIN LINK FENCE
NO SCALE

RSP A85 DATED JUNE 5, 2009 SUPERSEDES STANDARD PLAN A85
DATED MAY 1, 2006 - PAGE 111 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A85

2006 REVISED STANDARD PLAN RSP A85

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	171	231

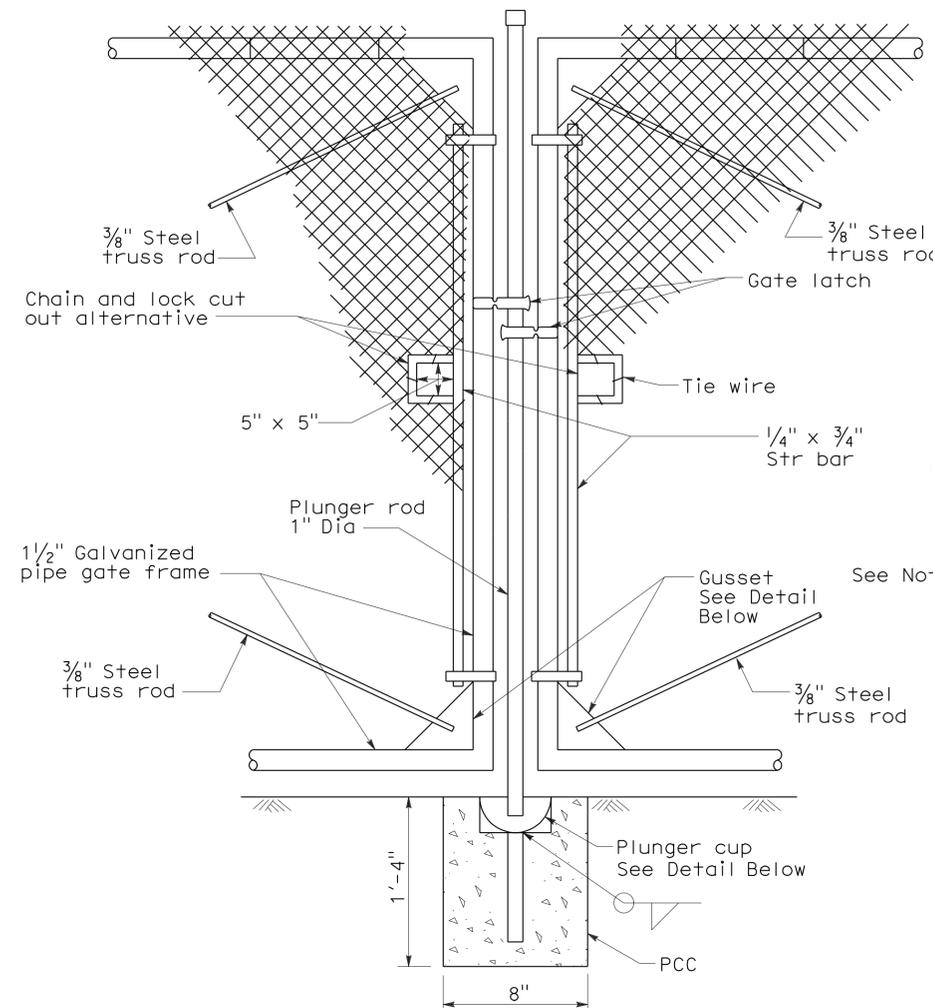
Glenn DeCou
 REGISTERED CIVIL ENGINEER
 No. C34547
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

June 5, 2009
 PLANS APPROVAL DATE

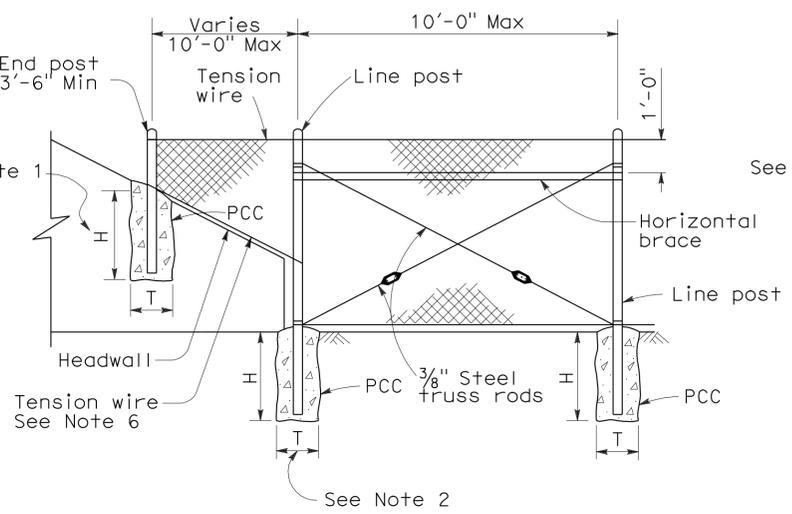
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 6-25-12

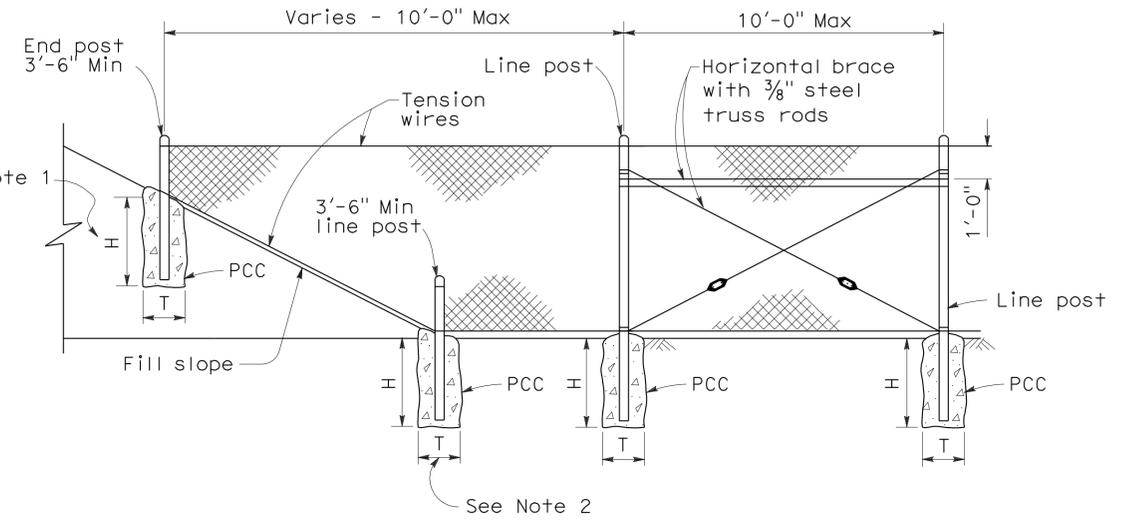
- NOTES:**
- H is 2'-6" for fabric less than 5'-0" high.
H is 3'-0" for fabric 5'-0" and over.
 - T is not less than 3 times maximum cross section of post with minimum of 8".
 - Arms with barbed wire to be used where shown on plans.
 - See Revised Standard Plan RSP A85 for Chain Link Fencing dimensions.
 - Reinforcing must comply with ASTM A 706.
 - See Detail A on New Standard Plan NSP A86B for connection at headwall.



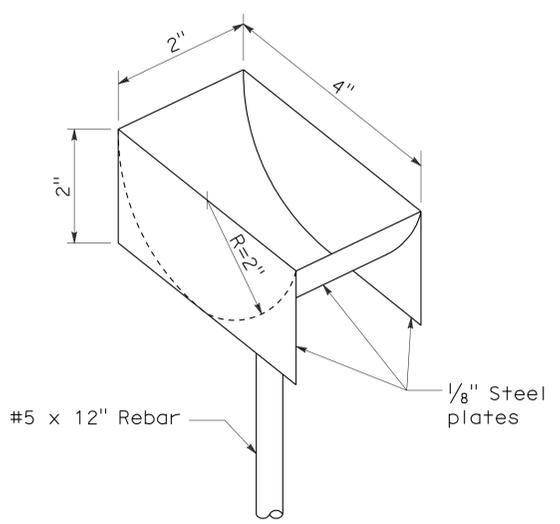
TYPICAL DOUBLE GATE REMOVABLE CENTER POST



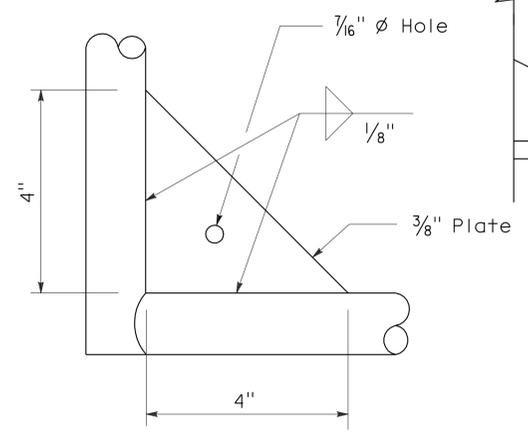
METHOD OF TYING FENCE TO HEADWALL



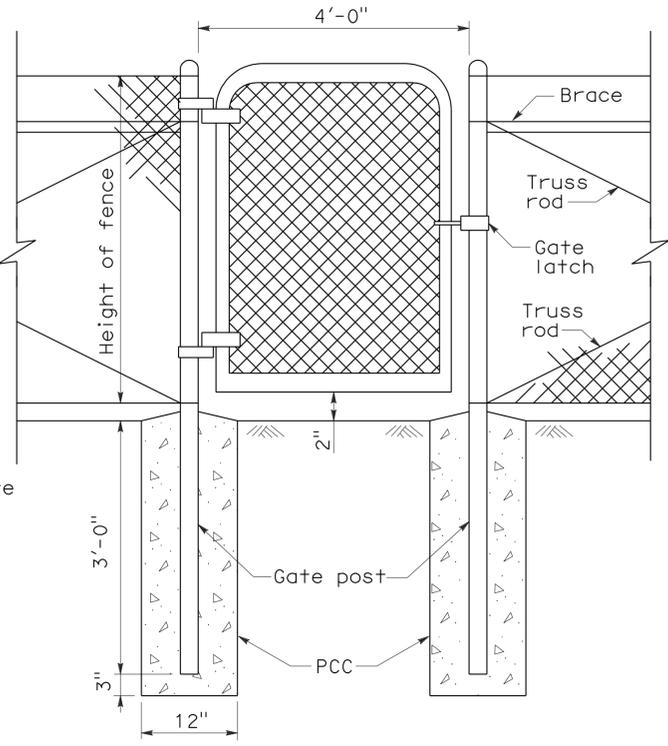
METHOD OF ERECTING FENCE FOR FILL SLOPE



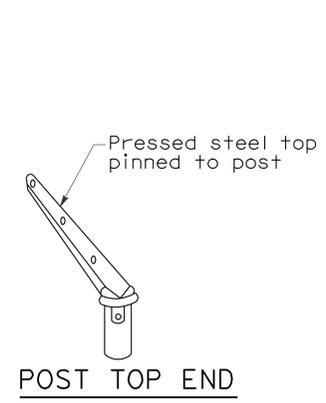
PLUNGER CUP DETAIL



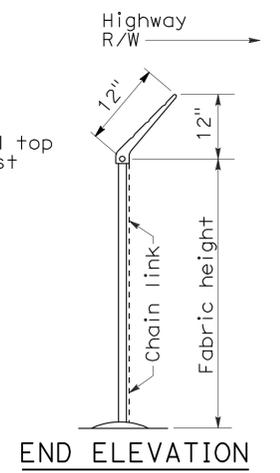
GUSSET DETAIL



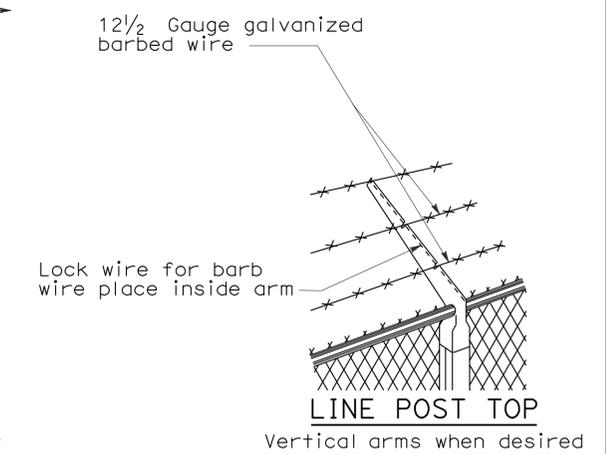
WALK GATE



POST TOP END



BARBED WIRE POST TOP
See Note 3



LINE POST TOP
Vertical arms when desired

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CHAIN LINK FENCE DETAILS
NO SCALE

NSP A85A DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A85A

2006 NEW STANDARD PLAN NSP A85A

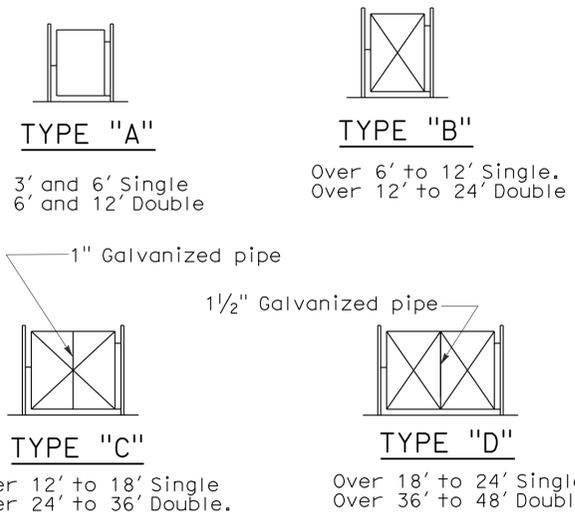
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	172	231

Glenn DeCou
 REGISTERED CIVIL ENGINEER
 No. C34547
 Exp. 9-30-09
 STATE OF CALIFORNIA

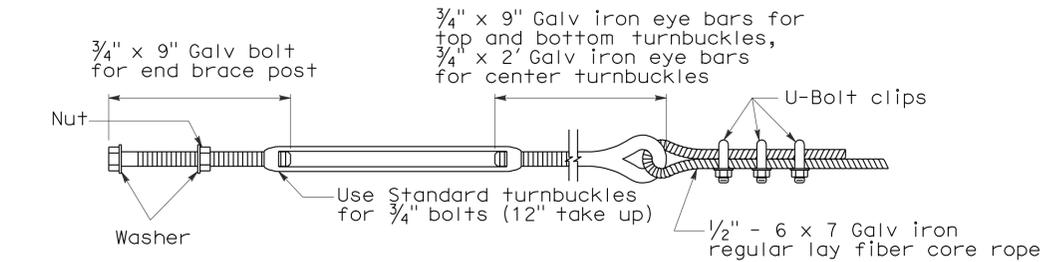
June 5, 2009
 PLANS APPROVAL DATE

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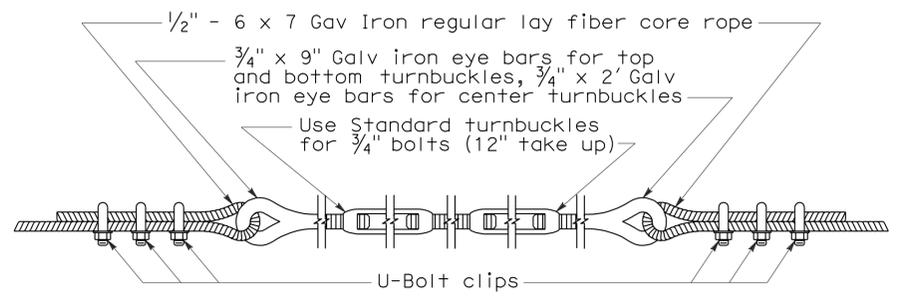
To accompany plans dated 6-25-12



TYPICAL FRAMEWORK SHOWING NUMBER OF BAYS IN GATE



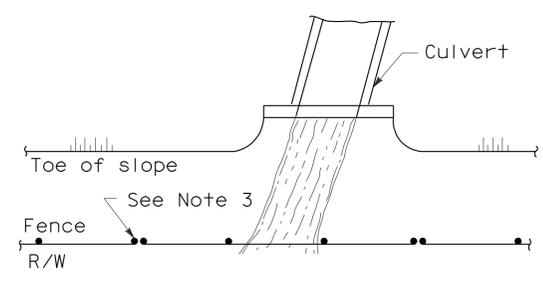
TURNBUCKLE A



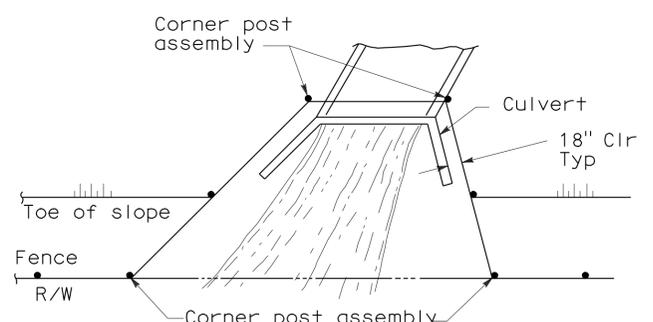
TURNBUCKLE B

NOTES:

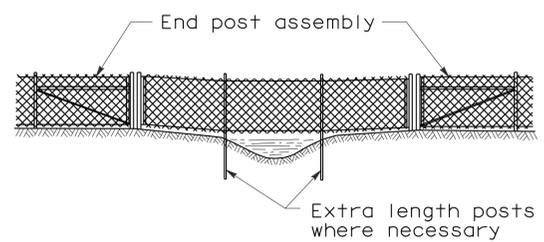
1. All material for abutment connection to be galvanized.
2. The chain link fabric shall be replaced by barbed wire strands at 12" maximum centers between the double posts.
3. When the width of the culvert makes it necessary to anchor a post to the top of the culvert, a cast iron shoe or other device approved by the Engineer shall be used.
4. Fencing over stream and around headwall may also use Barbed Wire or Wire Mesh fencing with either wood post or steel post installation.
5. See Revised Standard Plan RSP A85 for Chain Link fence dimensions. See Standard Plan A86 for Barbed Wire and Wire Mesh fence dimensions and for wood post and steel post installation.



PLAN

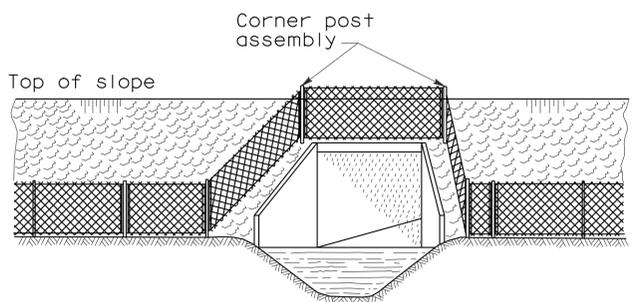


PLAN



ELEVATION

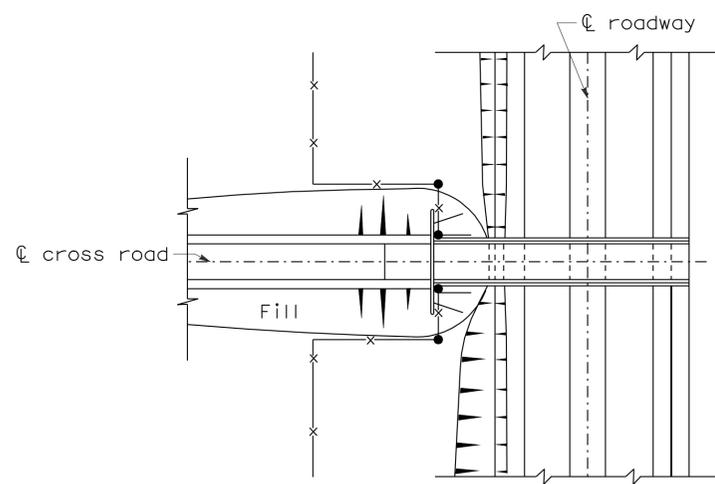
INSTALLATION OVER STREAM



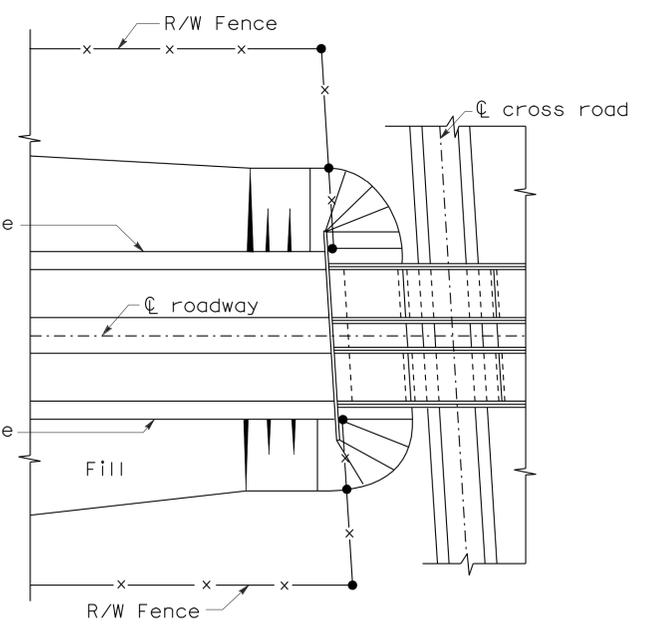
ELEVATION

INSTALLATION AROUND HEADWALL

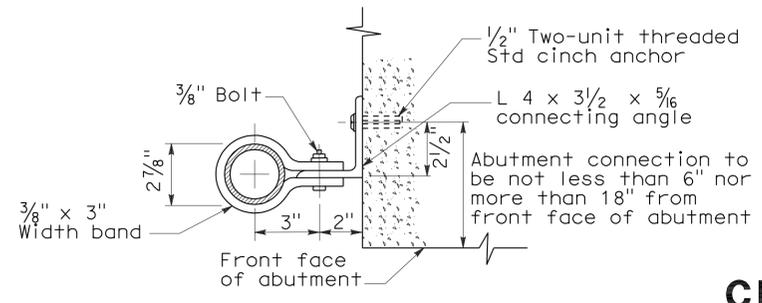
See Note 4



PLAN OF ROADWAY - UNDERPASS



PLAN OF ROADWAY - OVERPASS



ABUTMENT CONNECTION

TYPICAL INSTALLATION AT BRIDGES

CHAIN LINK FENCE DETAILS

NO SCALE

NSP A85B DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A85B

2006 NEW STANDARD PLAN NSP A85B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	173	231

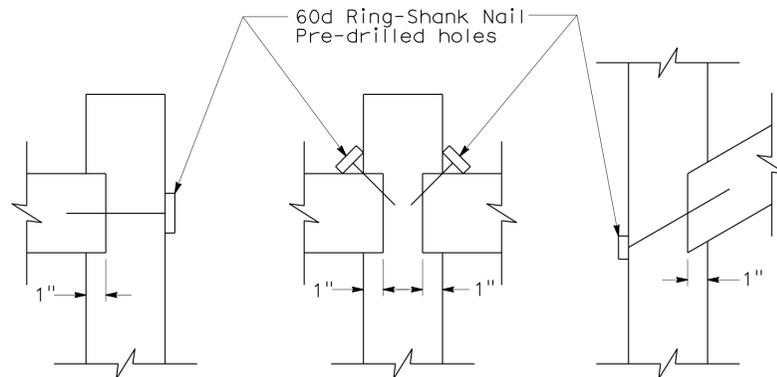
Glenn DeCou
 REGISTERED CIVIL ENGINEER
 June 5, 2009
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
 Glenn DeCou
 No. C34547
 Exp. 9-30-09
 CIVIL
 STATE OF CALIFORNIA

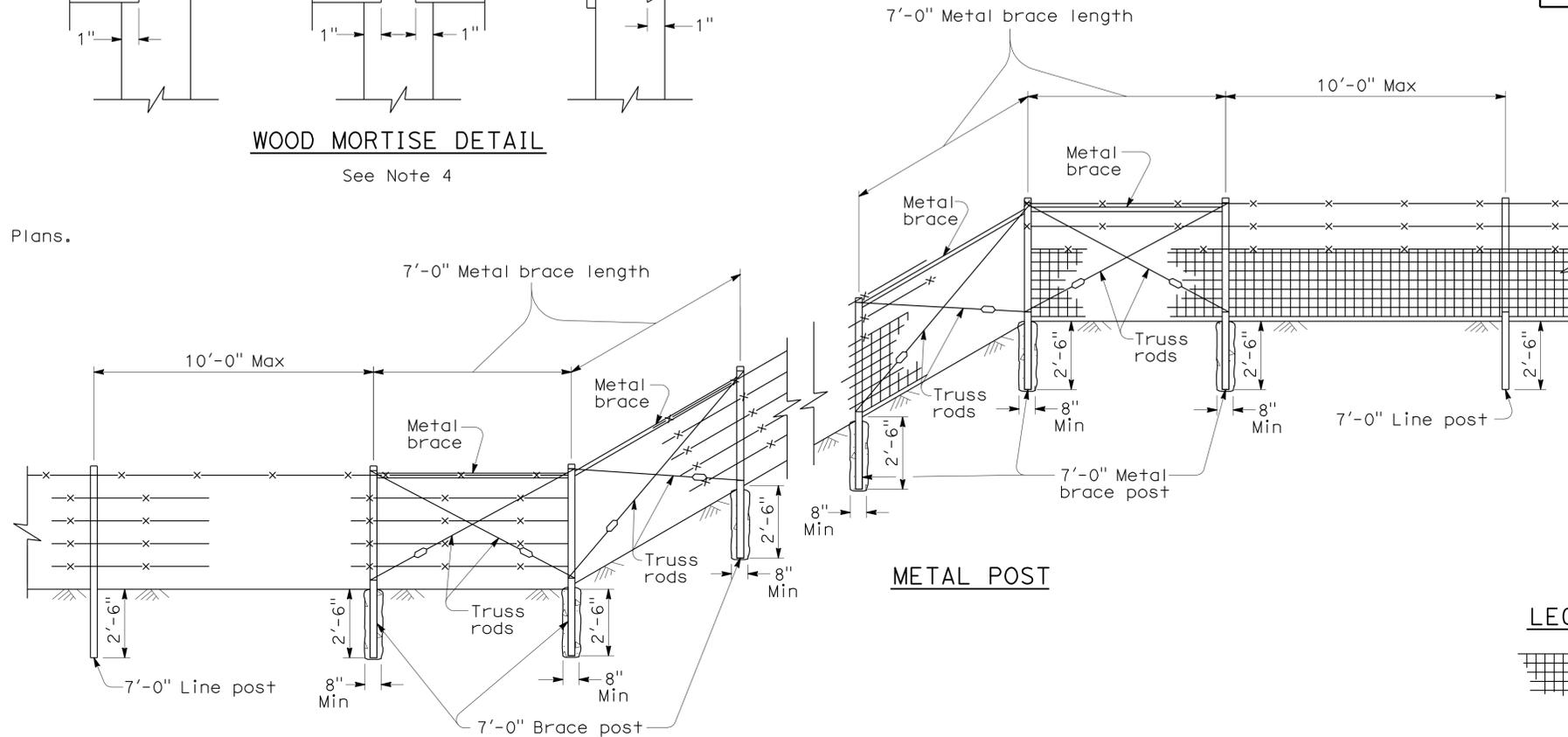
NOTES:

1. Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.
2. Line post spacing for wood post equals 12'-0" maximum. Line post spacing for metal post equals 10'-0" maximum.
3. See Standard Plan A86 for Barbed Wire and Wire Mesh dimensions and for steel post and wood post dimensions and weight.
4. Use wood posts when specified in the Special Provisions or shown on the Project Plans.

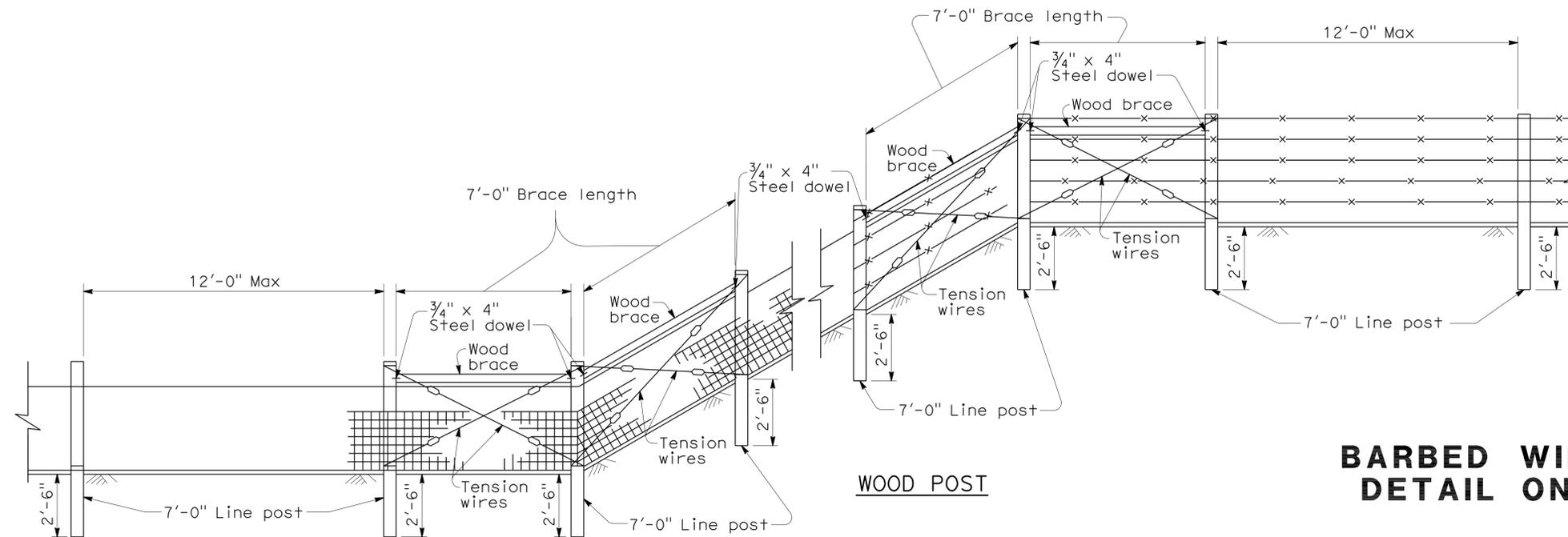


WOOD MORTISE DETAIL

See Note 4



METAL POST



WOOD POST

FENCE ON SHARP BREAK IN GRADE

LEGEND

-  Wire Mesh fencing
-  Barbed Wire fencing

To accompany plans dated 6-25-12

**BARBED WIRE AND WIRE MESH FENCE
DETAIL ON SHARP BREAK IN GRADE**

NO SCALE

NSP A86A DATED JUNE 5, 2009 SUPPLEMENTS THE
STANDARD PLANS BOOK DATED MAY 2006.

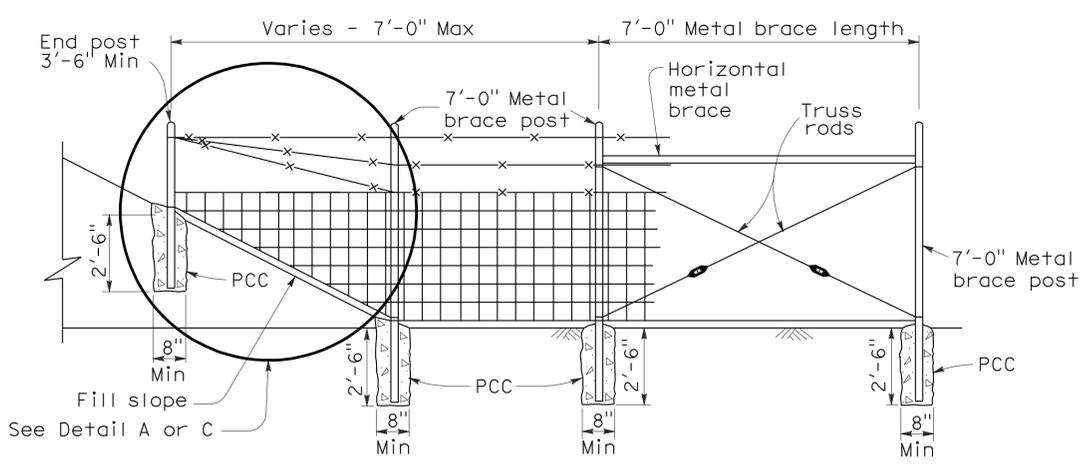
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	174	231

REGISTERED CIVIL ENGINEER
 Glenn DeCou
 No. C34547
 Exp. 9-30-09
 STATE OF CALIFORNIA

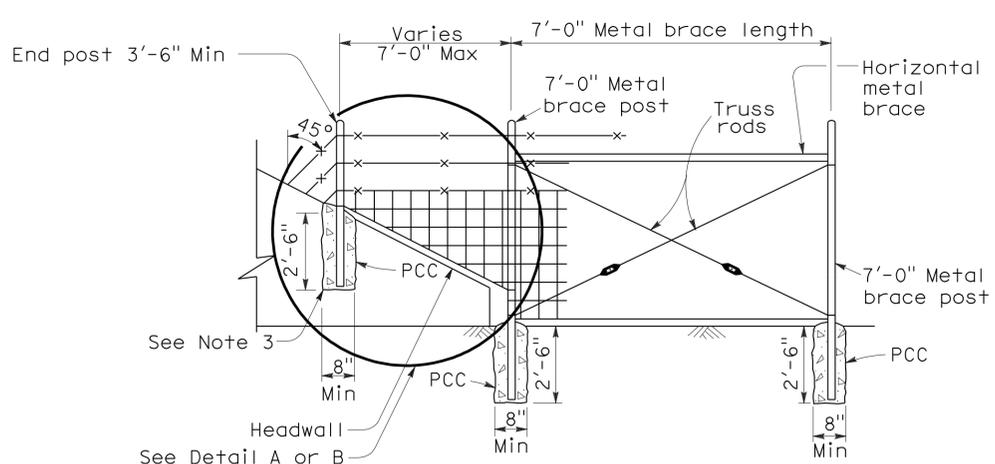
June 5, 2009
 PLANS APPROVAL DATE

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

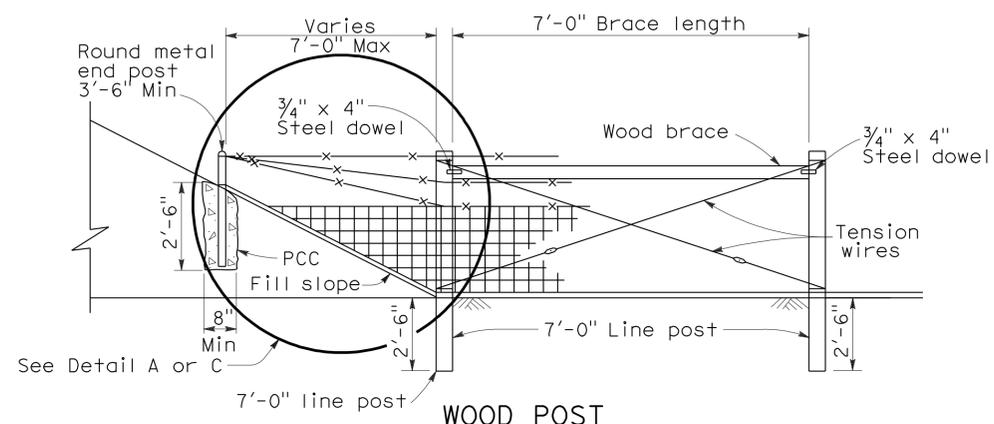
To accompany plans dated 6-25-12



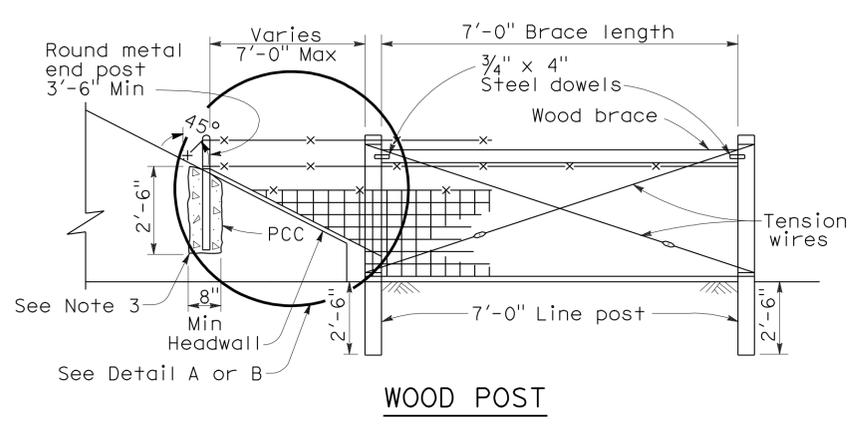
METAL POST



METAL POST



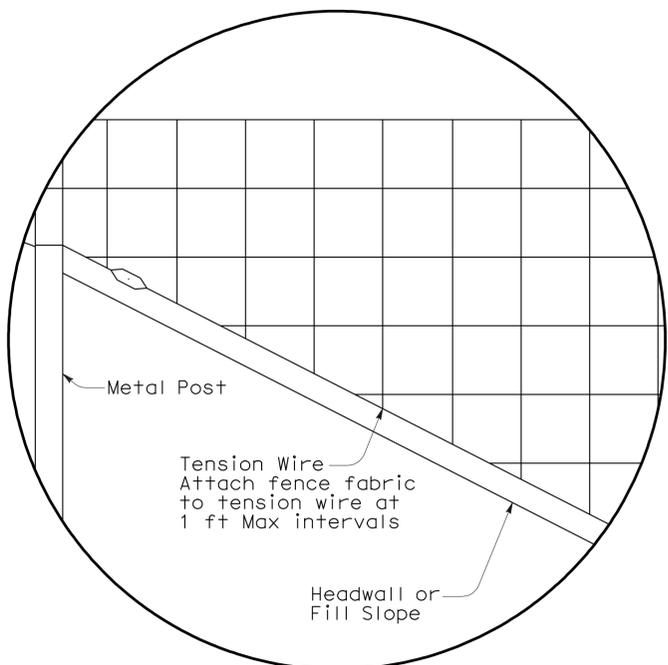
WOOD POST



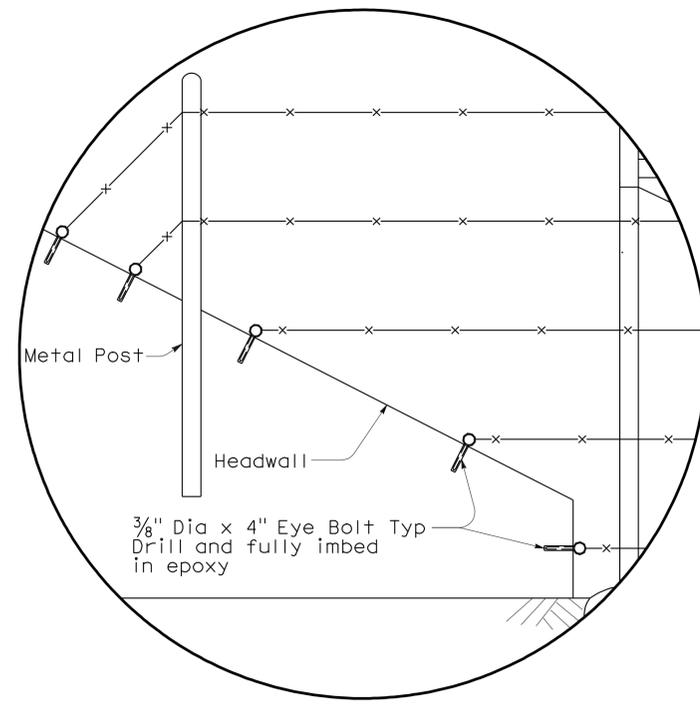
WOOD POST

METHOD OF ERECTING FENCE FOR FILL SLOPE

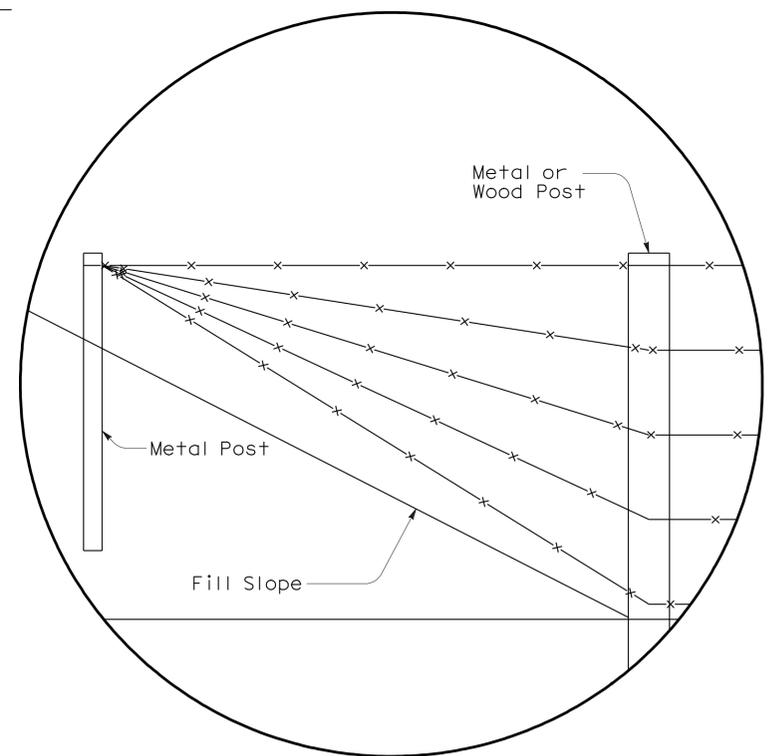
METHOD OF TYING FENCE TO HEADWALL



DETAIL A



DETAIL B



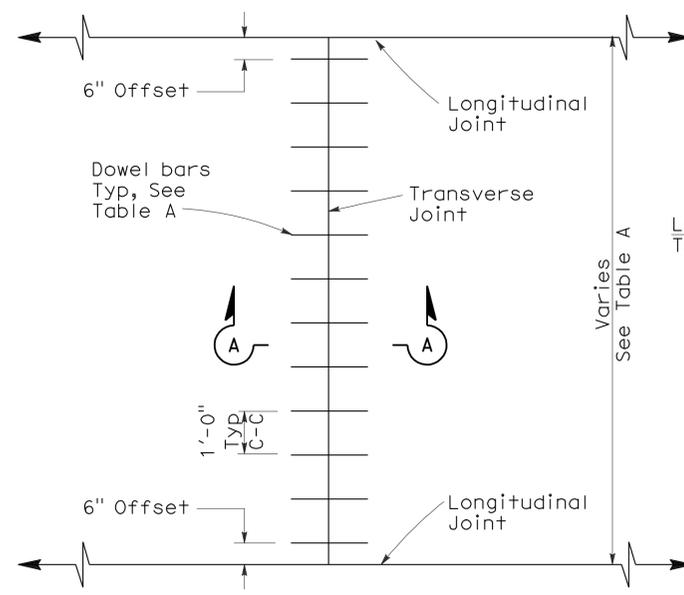
DETAIL C

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**BARBED WIRE AND WIRE MESH
 FENCE DETAILS**

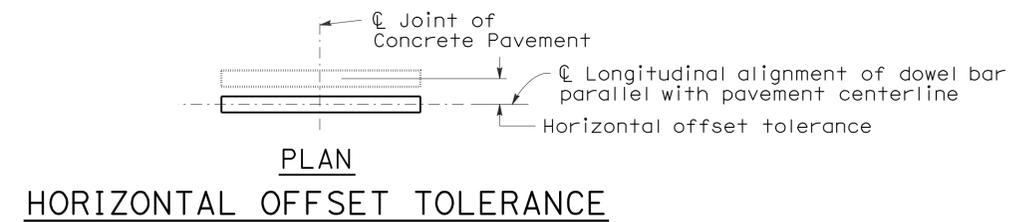
NSP A86B DATED JUNE 5, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP A86B

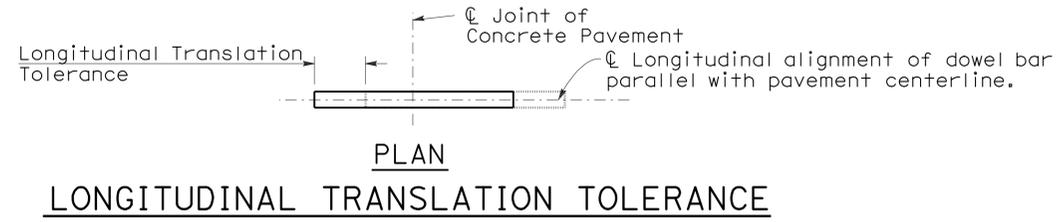
2006 NEW STANDARD PLAN NSP A86B



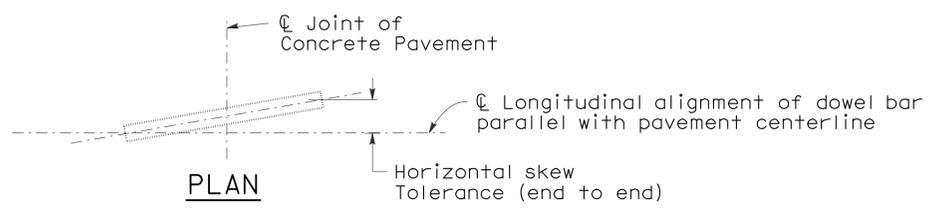
TRANSVERSE JOINT DOWEL BAR LAYOUT



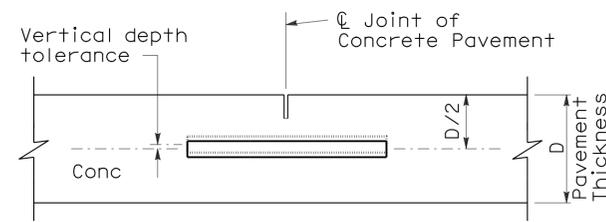
HORIZONTAL OFFSET TOLERANCE



LONGITUDINAL TRANSLATION TOLERANCE

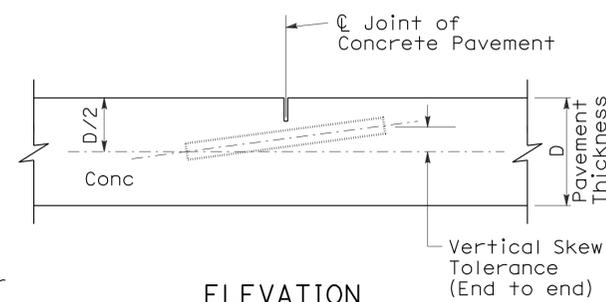


HORIZONTAL SKEW TOLERANCE



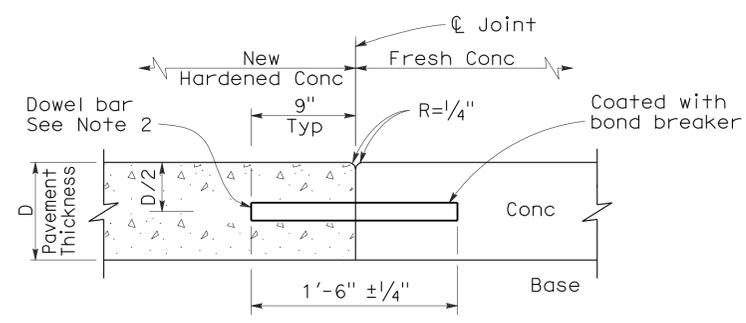
ELEVATION

VERTICAL DEPTH TOLERANCE

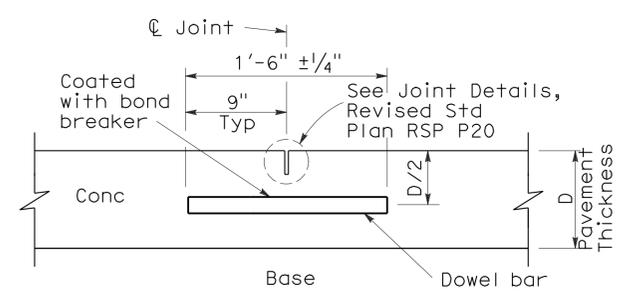


ELEVATION

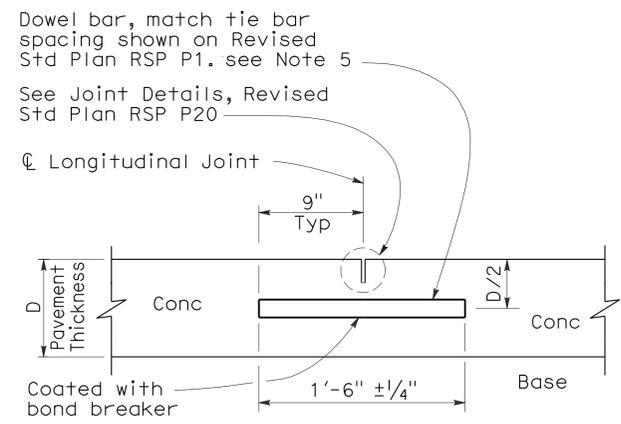
VERTICAL SKEW TOLERANCE



SECTION A-A TRANSVERSE CONSTRUCTION JOINT DETAIL

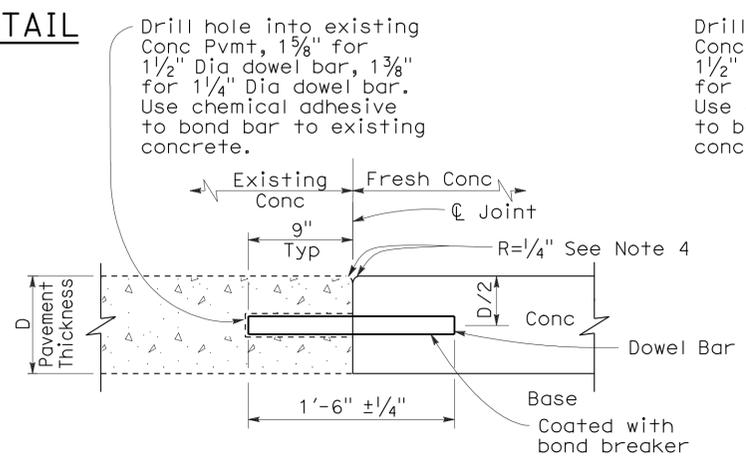


TRANSVERSE CONTRACTION JOINT



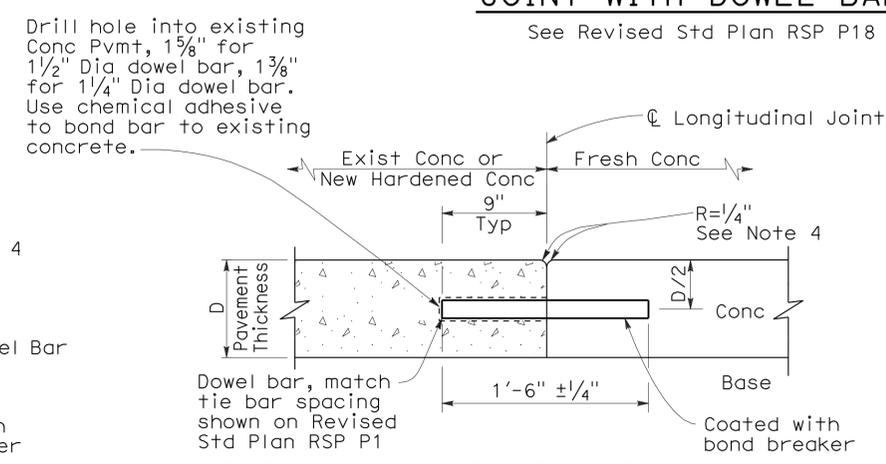
LONGITUDINAL CONTRACTION JOINT WITH DOWEL BARS

See Revised Std Plan RSP P18



TRANSVERSE CONSTRUCTION JOINT FOR EXISTING CONCRETE PAVEMENT

Drill and bond locations



LONGITUDINAL CONSTRUCTION JOINT WITH DOWEL BARS

See Revised Std Plan RSP P18

To accompany plans dated 6-25-12

NOTES:

1. See Revised Standard Plan RSP P1 for typical dowel bar placement and locations.
2. 1/2" Dia dowel bars are to be used with a pavement thickness, D, equal to or greater than 0.70 feet. For pavement thickness, D, less than 0.70 feet, use 1/4" Dia dowel bars.
3. For widths not shown, see Project Plans.
4. If fresh concrete pavement is placed adjacent to existing concrete pavement, the top corner of the existing concrete pavement does not need to be rounded to the 1/4" radius, as shown.
5. May also use 3/4" Dia dowel bars 2'-4" ± 1/4" in length. Center the length of dowel bars at the centerline of longitudinal joint.

TABLE A (See Note 3)

Dowel Bar Transverse Spacing Table	
Width between Longitudinal Joints	Number of Dowels between Longitudinal Joints
14'-0"	14
13'-0"	13
12'-0"	12
11'-0"	11
10'-0"	10
8'-0"	8
5'-0"	5
4'-0"	4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

CONCRETE PAVEMENT-DOWEL BAR DETAILS

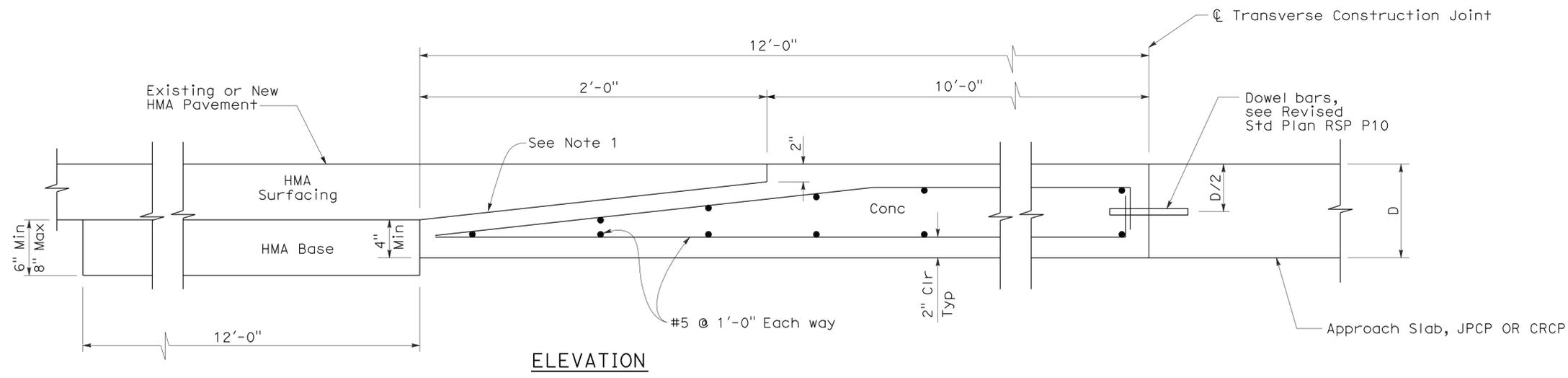
NO SCALE

RSP P10 DATED APRIL 20, 2012 SUPERSEDES RSP P10 DATED MAY 15, 2009 AND STANDARD PLAN P10 DATED MAY 1, 2006 - PAGE 124 OF THE STANDARD PLANS BOOK DATED MAY 2006.

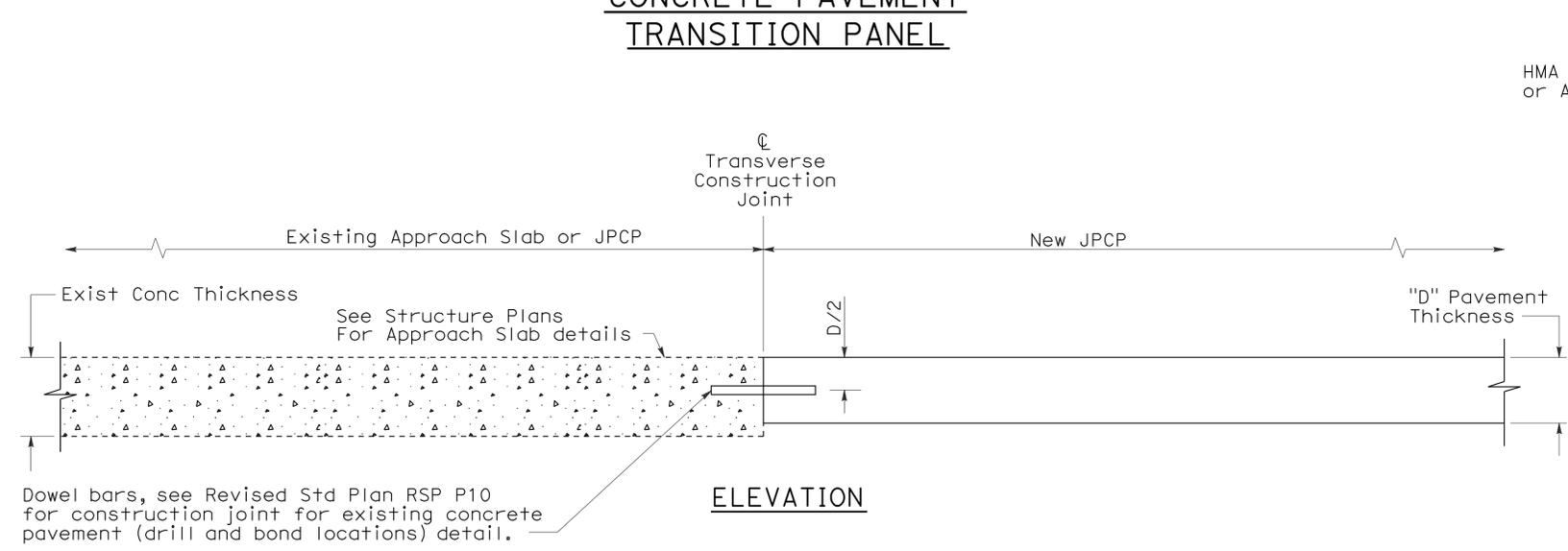
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	176	231

William K. Farnbach
 REGISTERED CIVIL ENGINEER
 April 20, 2012
 PLANS APPROVAL DATE
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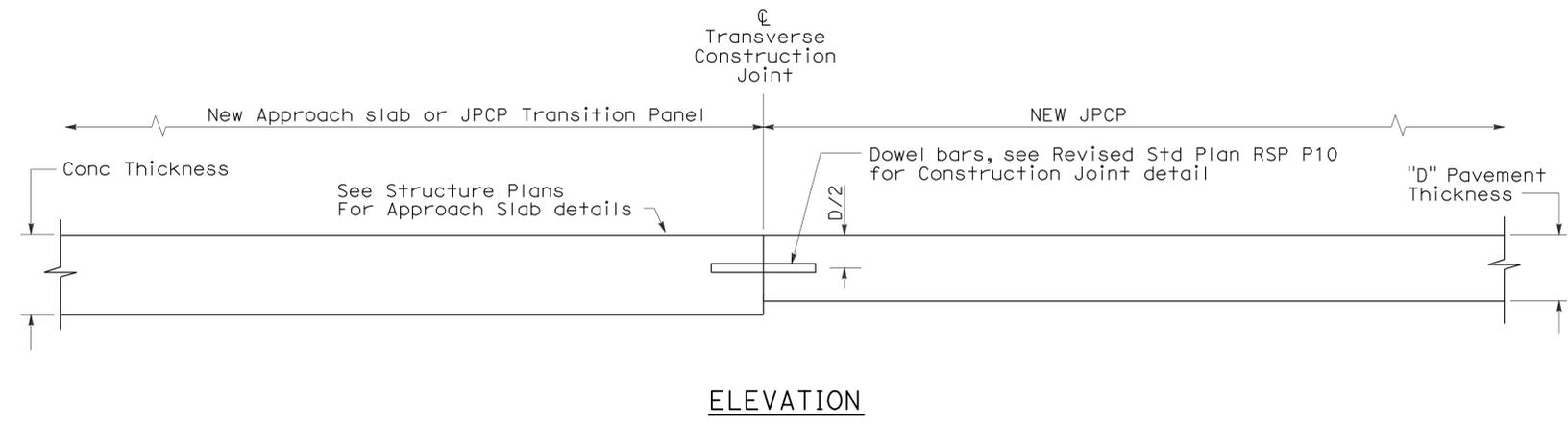
To accompany plans dated 6-25-12



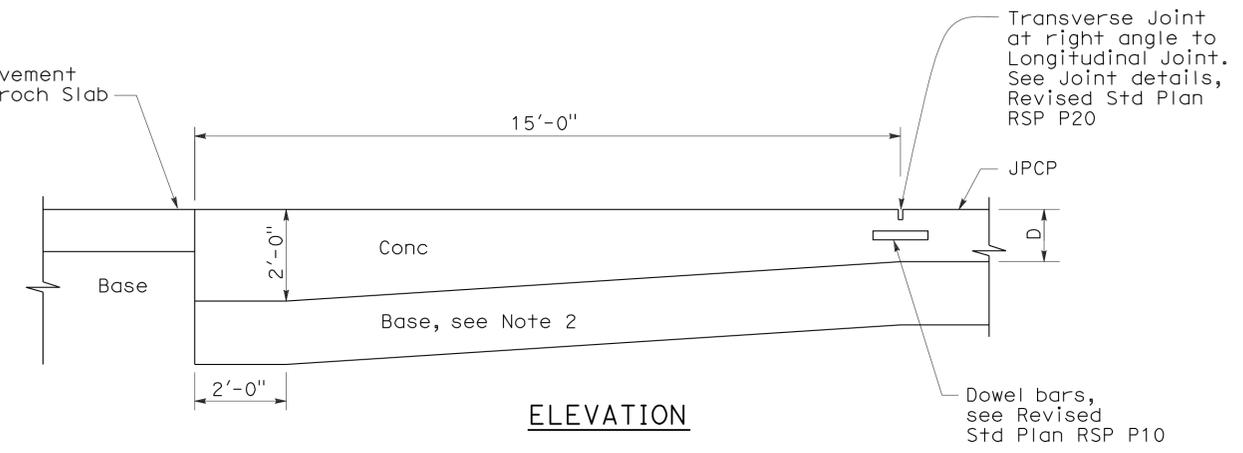
ELEVATION
CONCRETE PAVEMENT TRANSITION PANEL



ELEVATION
TERMINAL JOINT TYPE 1
For Exist JPCP or Structure Approach Slab



ELEVATION
TERMINAL JOINT TYPE 2
For JPCP Transition Panel or Structure Approach Slab



ELEVATION
PAVEMENT END ANCHOR
For HMA Pvmnt or Structure Approach Slab

- NOTES:**
1. Heavy broom finish.
 2. Maintain same base thickness as JPCP.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE PAVEMENT-
END PANEL
PAVEMENT TRANSITIONS**

NO SCALE

RSP P30 DATED APRIL 20, 2012 SUPERSEDES RSP P30 DATED MAY 15, 2009 AND STANDARD PLAN P30 DATED MAY 1, 2006 - PAGE 129 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP P30

2006 REVISED STANDARD PLAN RSP P30

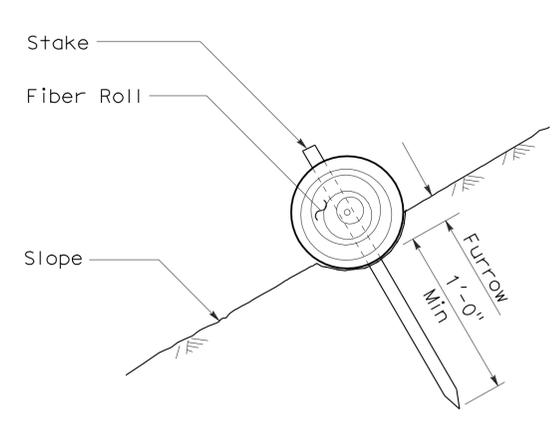
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	178	231

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
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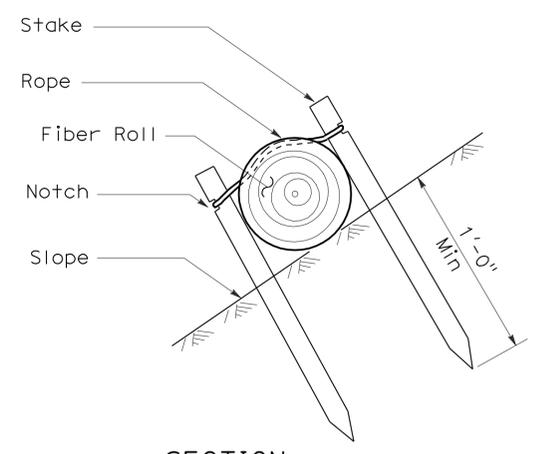
To accompany plans dated 6-25-12

NOTES:

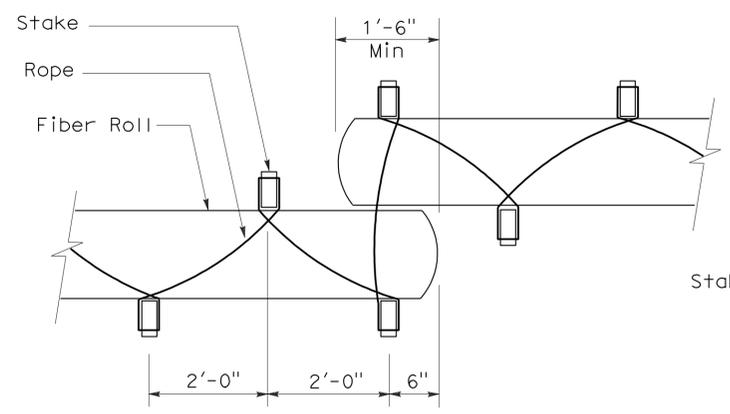
1. Fiber roll spacing varies depending upon slope inclination.
2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



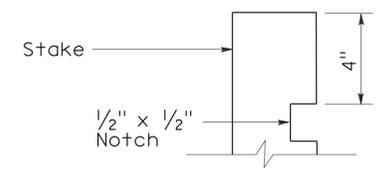
SECTION
FIBER ROLL
(TYPE 1)



SECTION

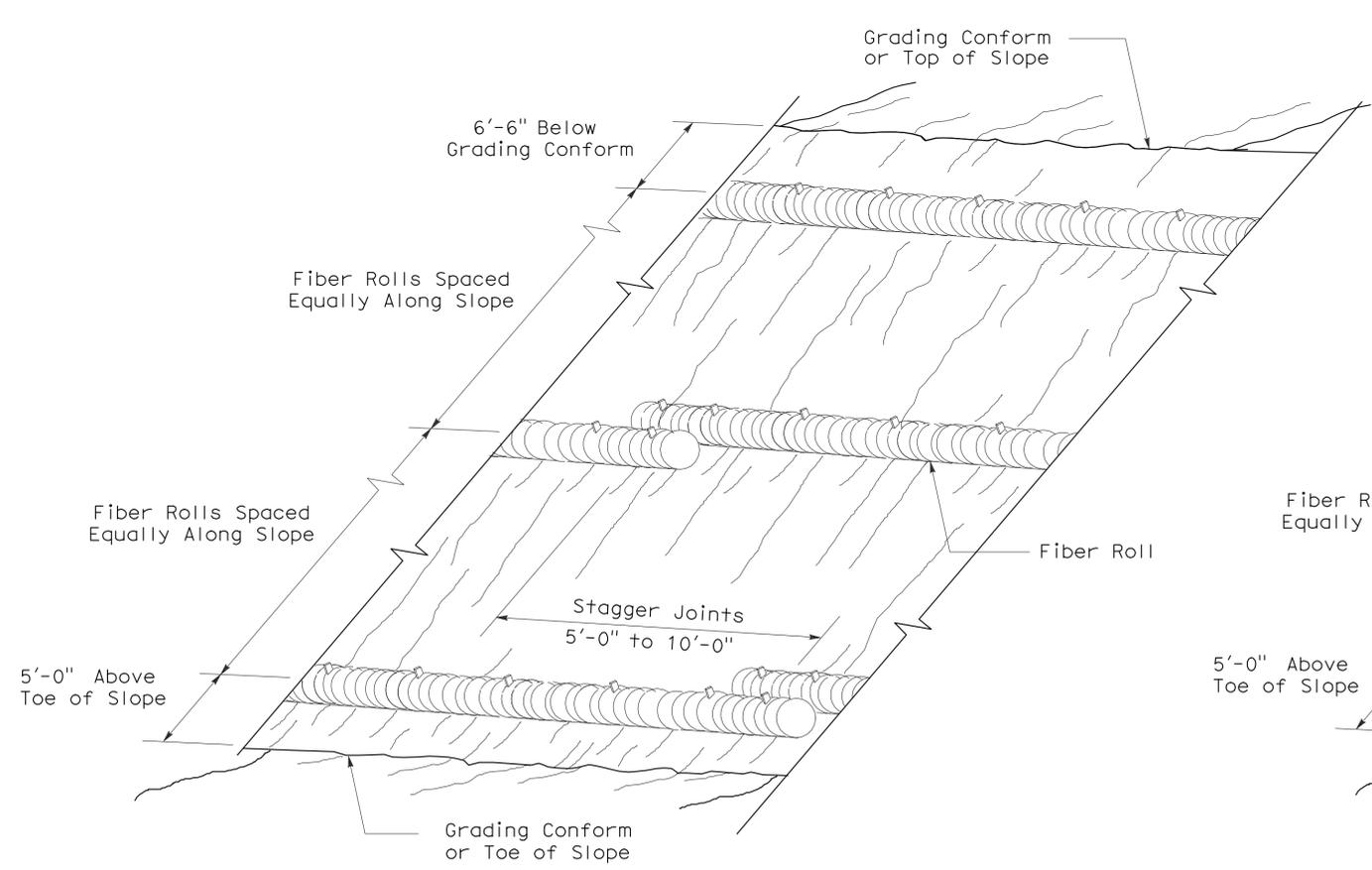


PLAN

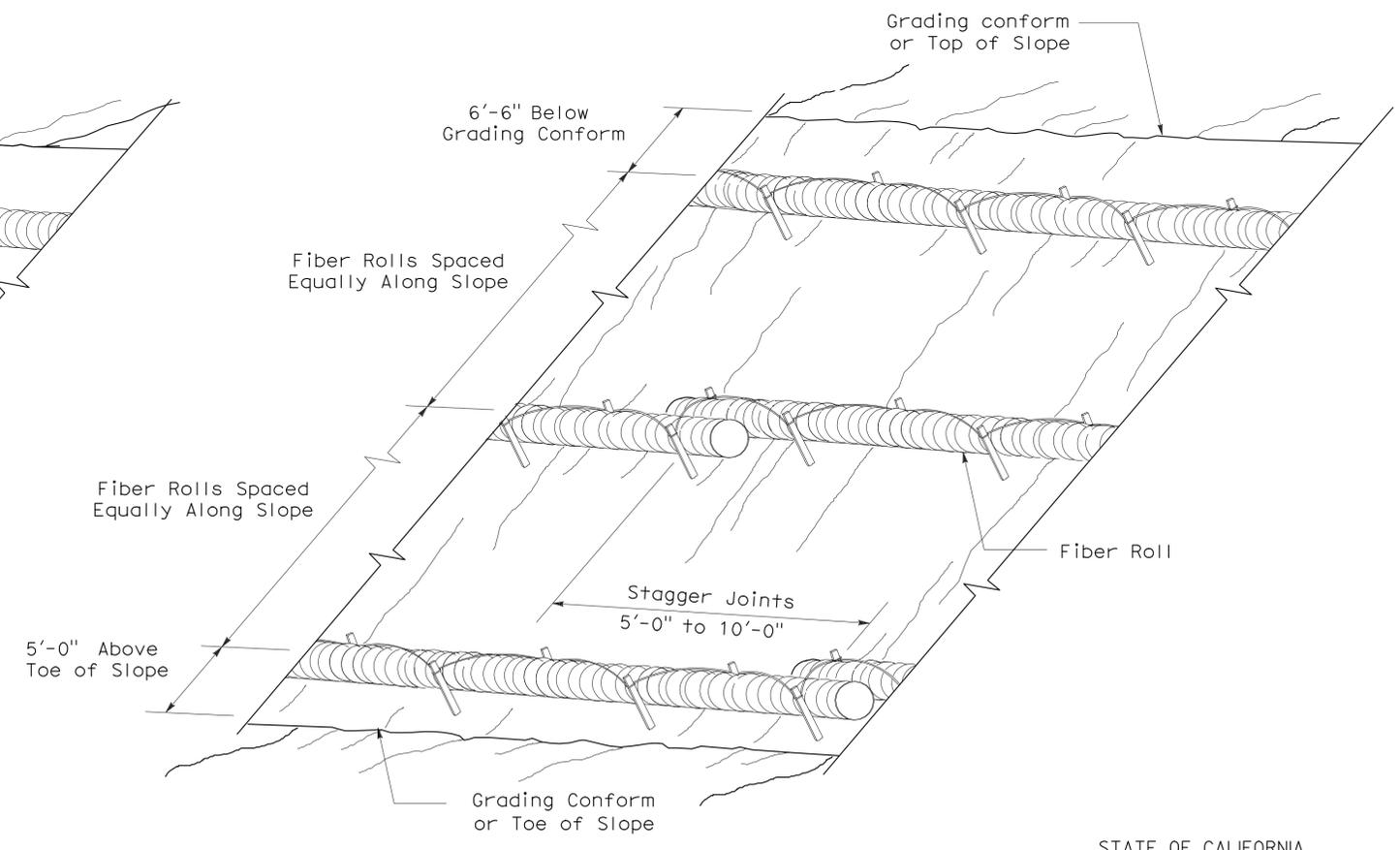


ELEVATION
STAKE NOTCH DETAIL

FIBER ROLL
(TYPE 2)



PERSPECTIVE
FIBER ROLL (TYPE 1)



PERSPECTIVE
FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
EROSION CONTROL DETAILS
(FIBER ROLL)

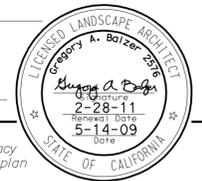
NO SCALE

RNSP H51 DATED APRIL 3, 2009 SUPERSEDES NSP H51 DATED DECEMBER 1, 2006 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED NEW STANDARD PLAN RNSP H51

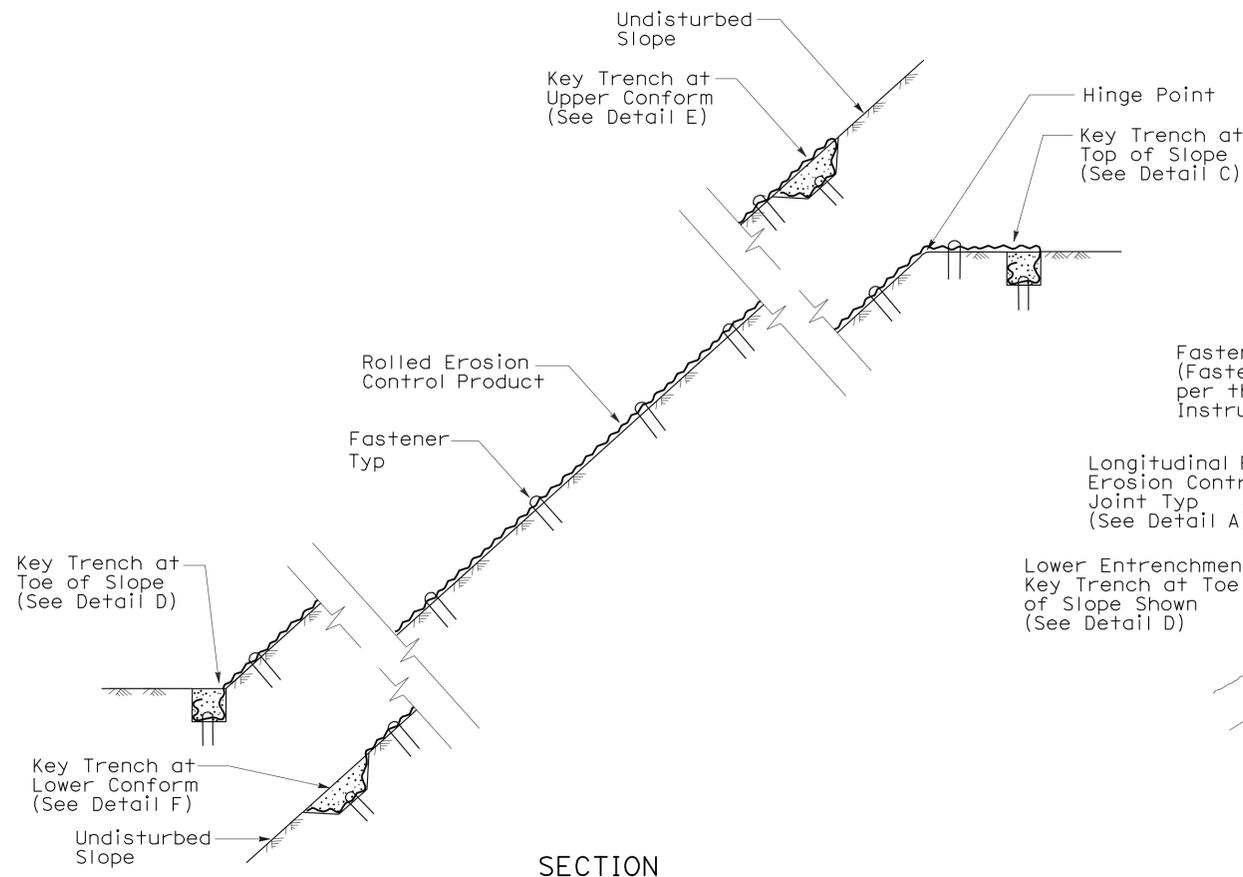
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	179	231

Gregory A. Balzer
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
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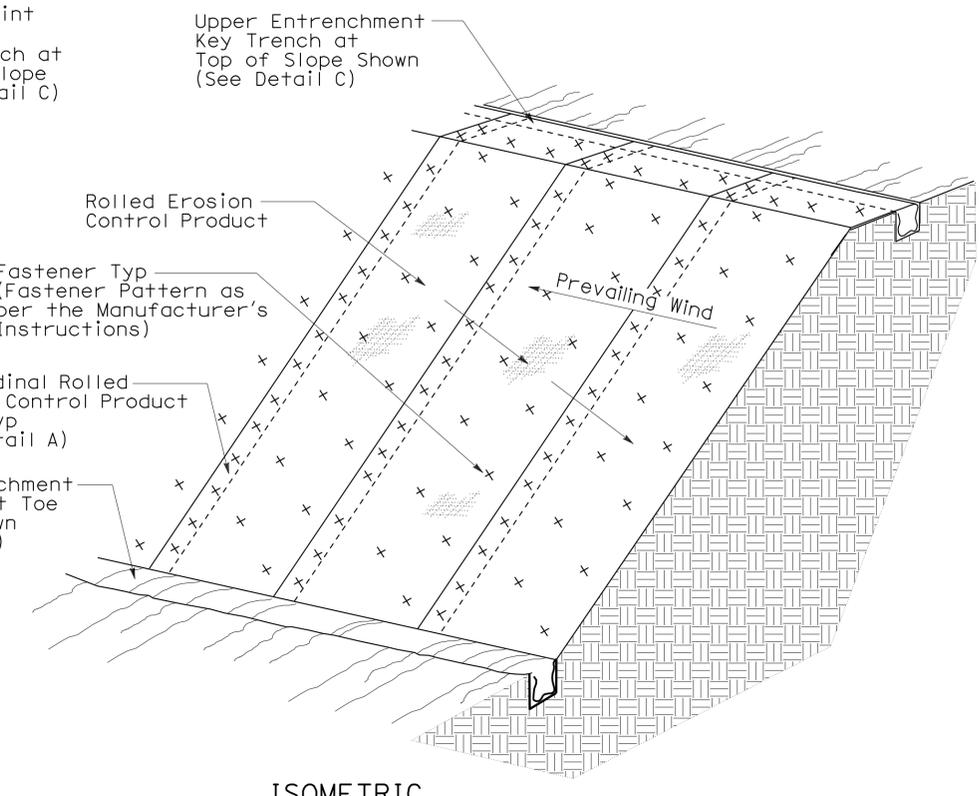


To accompany plans dated 6-25-12

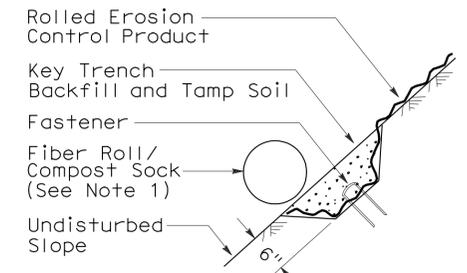
- NOTE:**
1. Fiber Roll/Compost Sock shown for reference purposes only.
 2. If transverse rolled erosion control product joints are required on slopes, see Detail B.



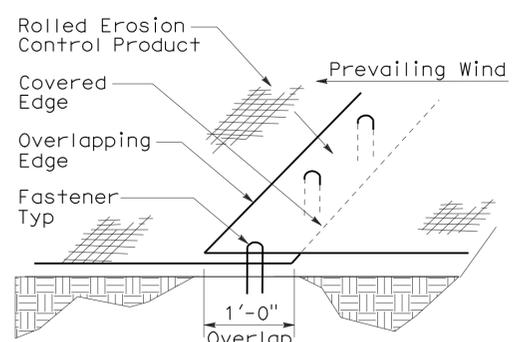
SECTION
ROLLED EROSION CONTROL PRODUCT
ON SLOPE WITH VARIOUS KEY ENTRENCHMENTS



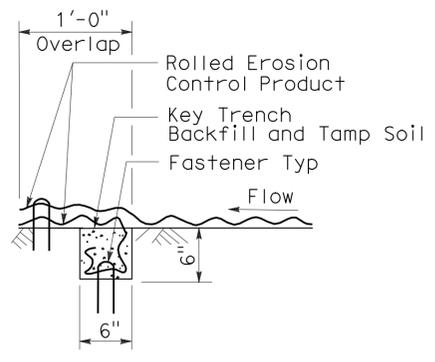
ISOMETRIC
ROLLED EROSION CONTROL PRODUCT
ON SLOPE



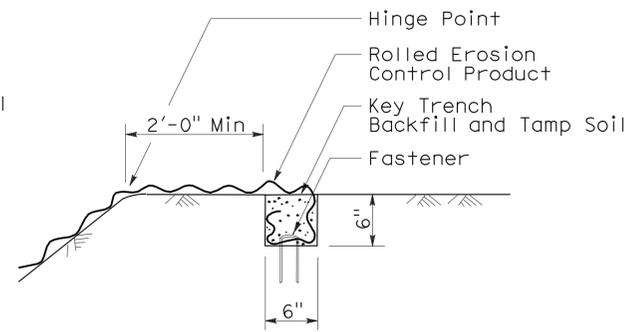
SECTION
DETAIL F
KEY TRENCH AT
LOWER CONFORM



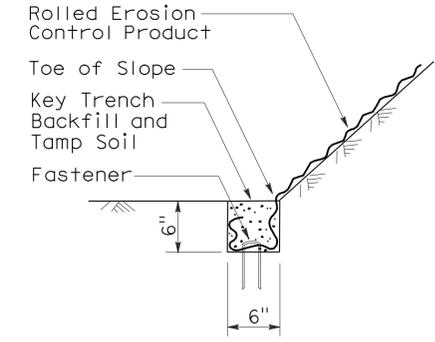
PERSPECTIVE
DETAIL A
LONGITUDINAL ROLLED EROSION
CONTROL PRODUCT JOINT



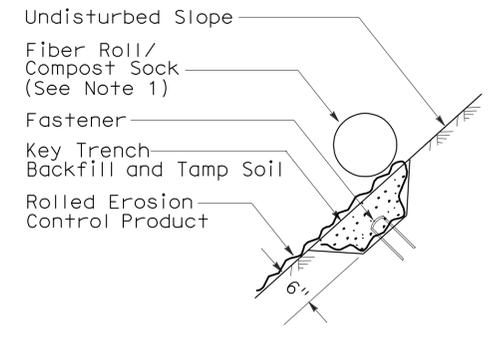
SECTION
DETAIL B
TRANSVERSE ROLLED EROSION
CONTROL PRODUCT JOINT



SECTION
DETAIL C
KEY TRENCH AT
TOP OF SLOPE



SECTION
DETAIL D
KEY TRENCH AT
TOE OF SLOPE



SECTION
DETAIL E
KEY TRENCH AT
UPPER CONFORM

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

ROLLED EROSION CONTROL PRODUCT

NO SCALE

NSP H53 DATED JUNE 5, 2009 SUPPLEMENTS
 THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP H53

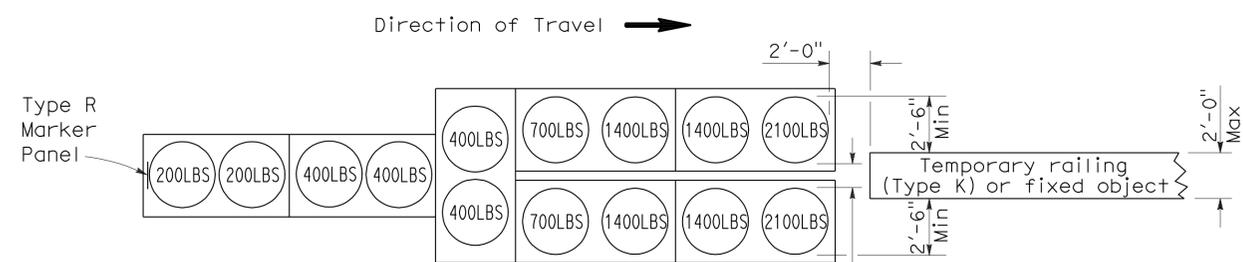
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	180	231

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

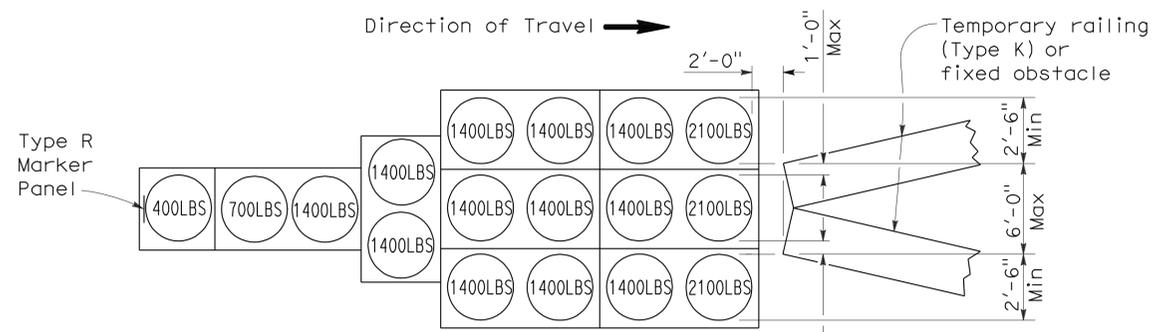
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 6-25-12



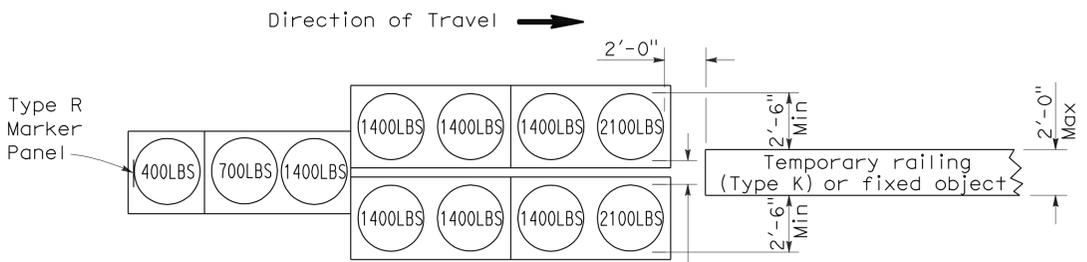
ARRAY 'TU14'

Approach speed 45 mph or more



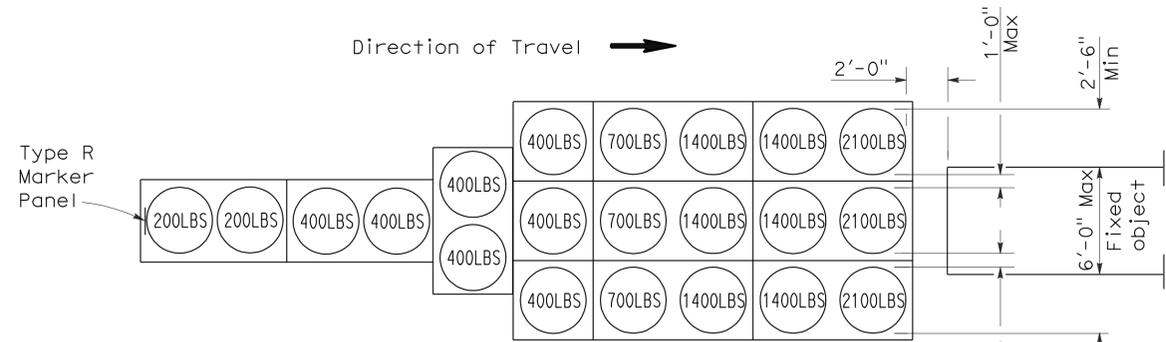
ARRAY 'TU17'

Approach speed less than 45 mph



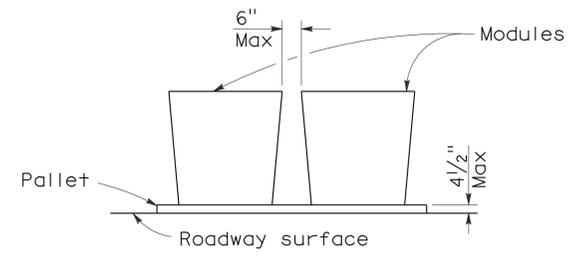
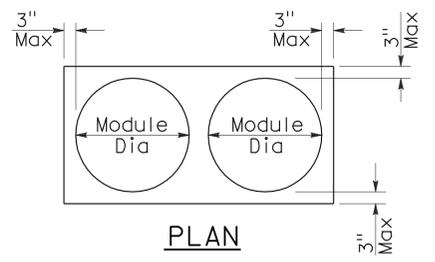
ARRAY 'TU11'

Approach speed less than 45 mph



ARRAY 'TU21'

Approach speed 45 mph or more



CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the top of Type R marker panel 1" below the module lid.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(UNIDIRECTIONAL)**

NO SCALE

RSP T1A DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1A
DATED MAY 1, 2006 - PAGE 211 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1A

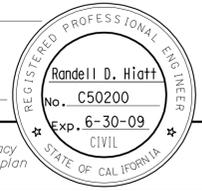
2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	181	231

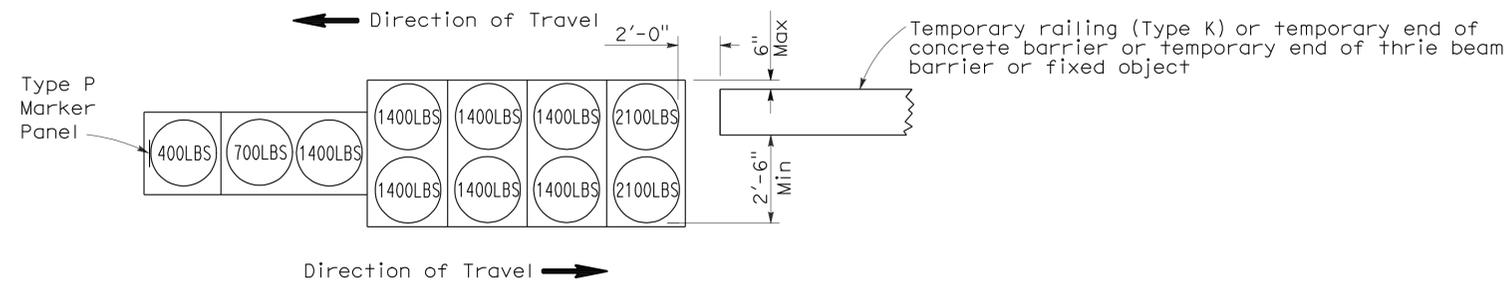
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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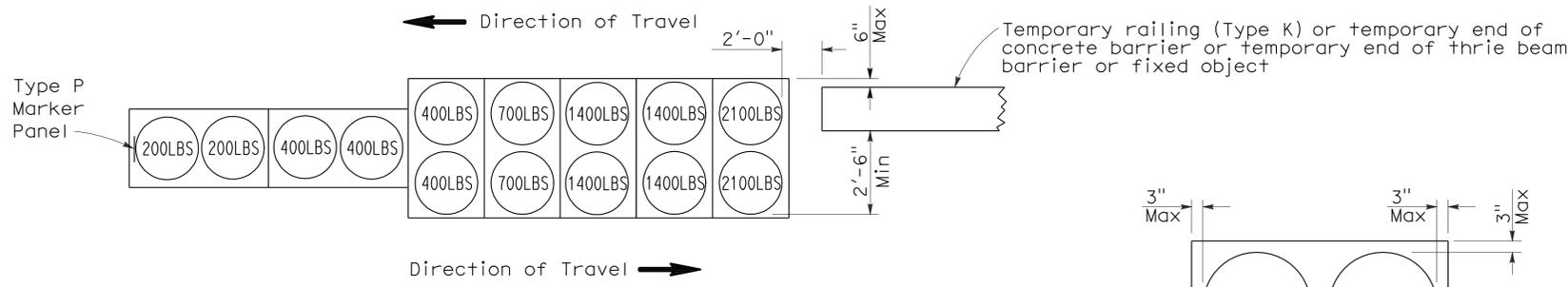


To accompany plans dated 6-25-12



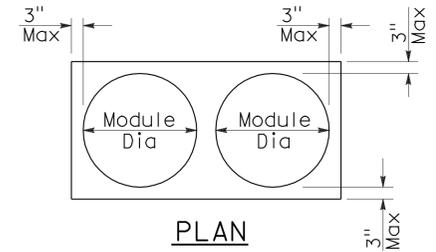
ARRAY 'TB11'

Approach speed less than 45 mph

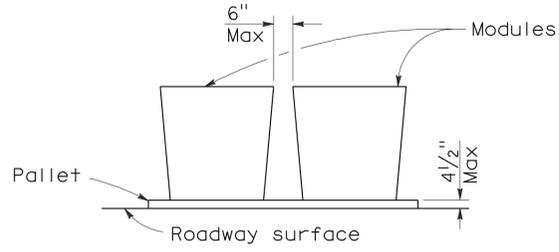


ARRAY 'TB14'

Approach speed 45 mph or more



PLAN



ELEVATION

CRASH CUSHION PALLET DETAIL

See Note 7

NOTES:

1. (XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
2. All sand weights are nominal.
3. Temporary crash cushion arrays shall not encroach on the traveled way.
4. Place the Type P marker panel so that the bottom of the panel rests upon the pallet.
5. Refer to Standard Plan A73B for marker details.
6. Approach speeds indicated conform to NCHRP 350 Report criteria.
7. Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CRASH CUSHION,
SAND FILLED
(BIDIRECTIONAL)**

NO SCALE

RSP T1B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T1B
DATED MAY 1, 2006 - PAGE 212 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T1B

2006 REVISED STANDARD PLAN RSP T1B

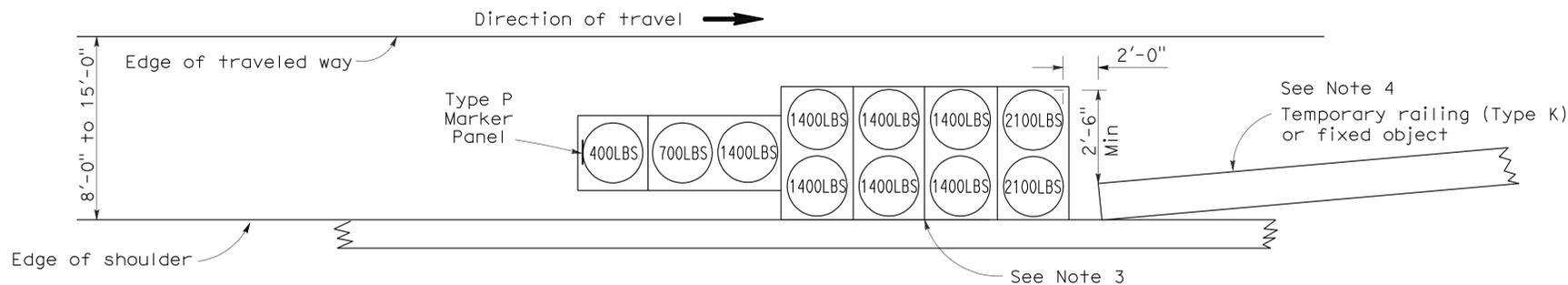
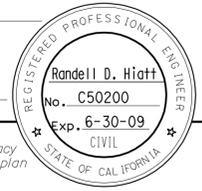
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	182	231

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

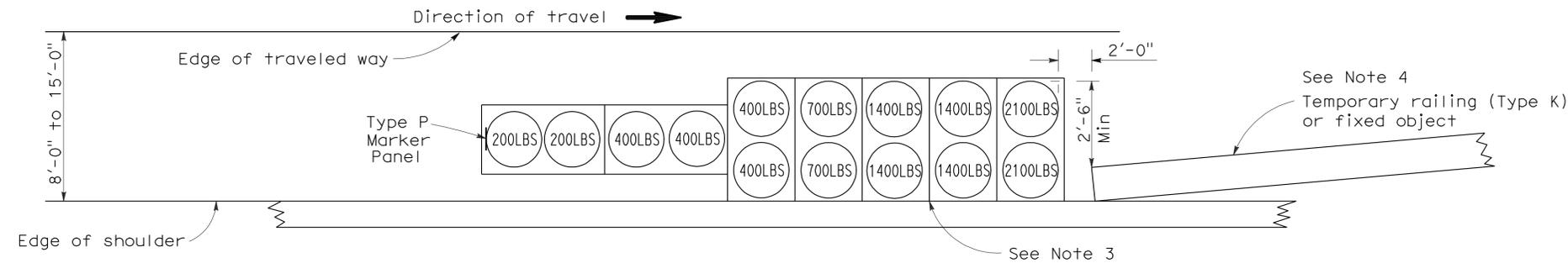
June 6, 2008
PLANS APPROVAL DATE

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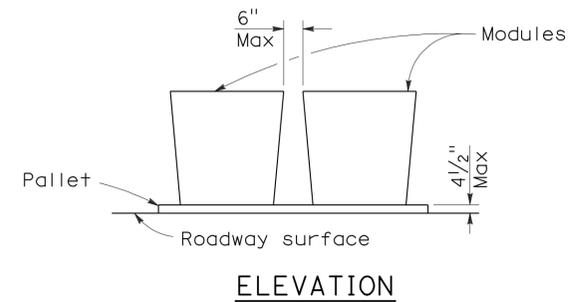
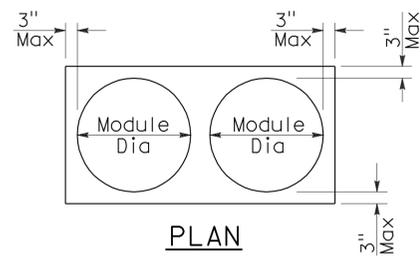
To accompany plans dated 6-25-12



ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



ARRAY 'TS14'
Approach speed 45 mph or more
See Note 9



CRASH CUSHION PALLET DETAIL
See Note 11

NOTES:

- ⊙(XXX) Indicates sand filled module location and weight of sand in pounds for each module. Module spacing is based on the greater diameter of the module.
- All sand weights are nominal.
- The temporary crash cushion arrays shown on this plan shall be used only in locations where there will be traffic on one side of the temporary crash cushion array.
- If the fixed object or approach end of the temporary railing is less than 15'-0" from the edge of traveled way, a temporary crash cushion is required in a construction or work zone.
- Temporary crash cushion arrays shall not encroach on the traveled way.
- Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
- Place the Type P marker panel so that the bottom of the panel rests upon the pallet and faces traffic.
- Refer to Standard Plan A73B for marker details.
- For shoulder widths less than 8'-0", appropriate approved crash cushion protection, other than sand filled modules, shall be provided at fixed objects and at approach ends of temporary railing. The specific type of crash cushion shall be as shown on the project plans or as specified in the Special Provisions, or if not shown on the project plans or specified in the Special Provisions, shall be as approved by the Engineer.
- Approach speeds indicated conform to NCHRP 350 Report criteria.
- Use of pallets is optional.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY CRASH CUSHION,
SAND FILLED
(SHOULDER INSTALLATIONS)**

NO SCALE
RSP T2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN T2
DATED MAY 1, 2006 - PAGE 213 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T2

2006 REVISED STANDARD PLAN RSP T2

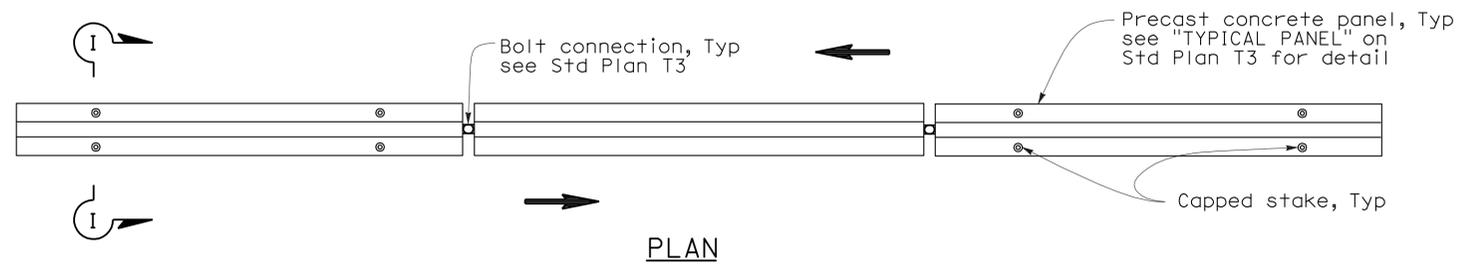
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
03	But	99	28.1/29.6	183	231

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

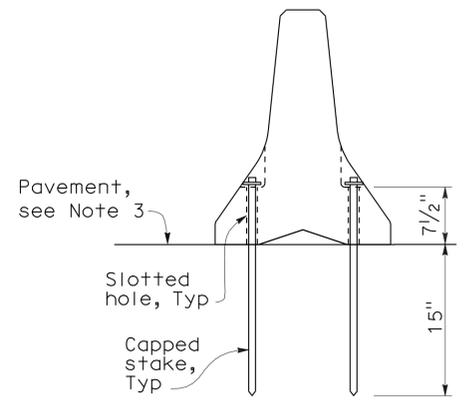
May 20, 2011
PLANS APPROVAL DATE

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

To accompany plans dated 6-25-12



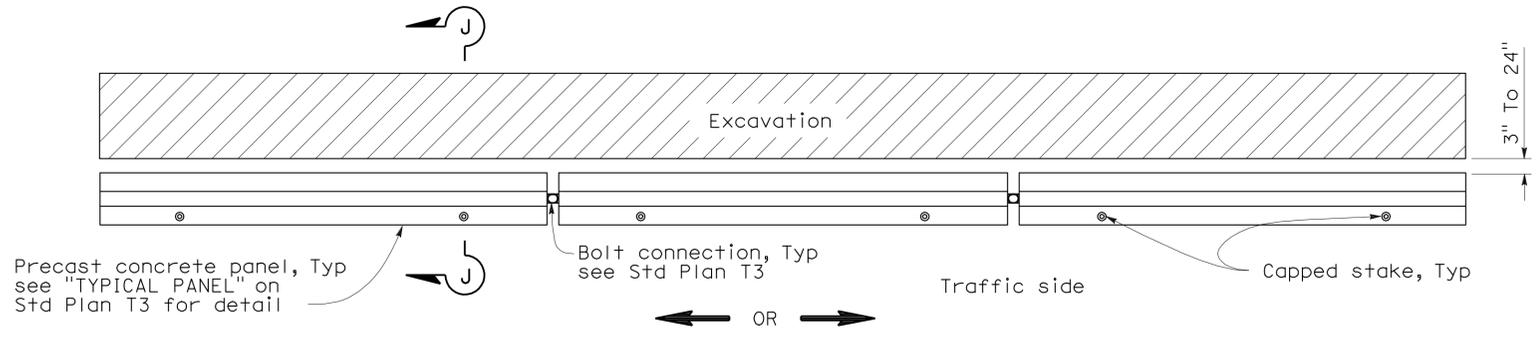
RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC
See Note 1



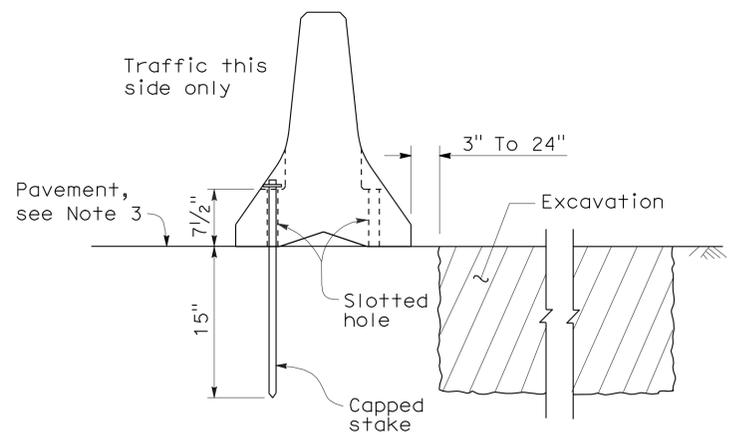
SECTION I-I

NOTES:

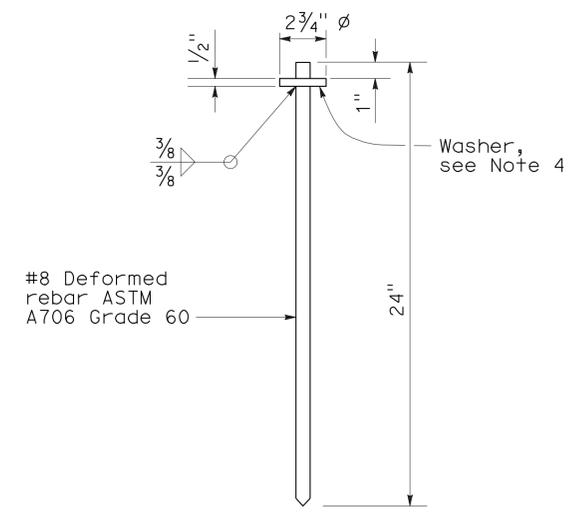
1. Where Type K Temporary Railing is placed as a temporary or long term barrier in two-way traffic on highways with less than 24" from the edge of traveled way, use four capped stakes per every other panel with end panels staked.
2. Where Type K Temporary Railing is placed 3" to 24" from the edge of an excavation on highways, use two capped stakes per panel along the traffic side.
3. Staked Type K Temporary Railing must be supported by at least 4" thick concrete, hot mix asphalt or existing asphalt concrete pavement.
4. The minimum yield strength for the washer must be 60,000 psi.
5. Direction of adjacent traffic indicated by \Rightarrow .



RAILING STAKING CONFIGURATION ADJACENT TO AN EXCAVATION
See Note 2



SECTION J-J



CAPPED STAKE DETAIL

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**TEMPORARY RAILING
(TYPE K)**
NO SCALE

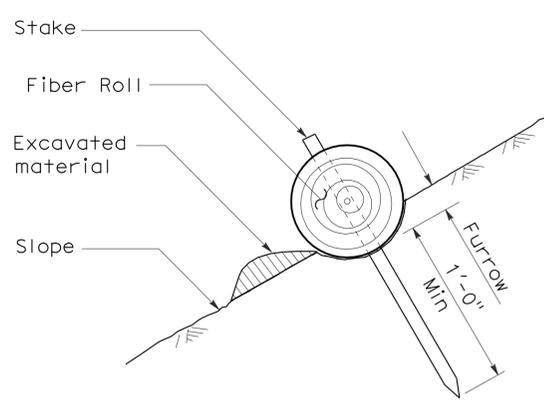
NSP T3A DATED MAY 20, 2011 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T3A

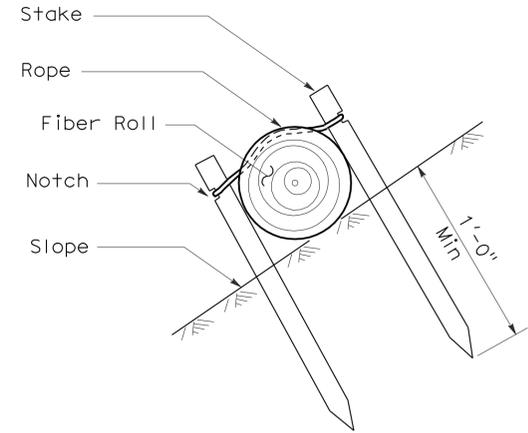
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	185	231

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

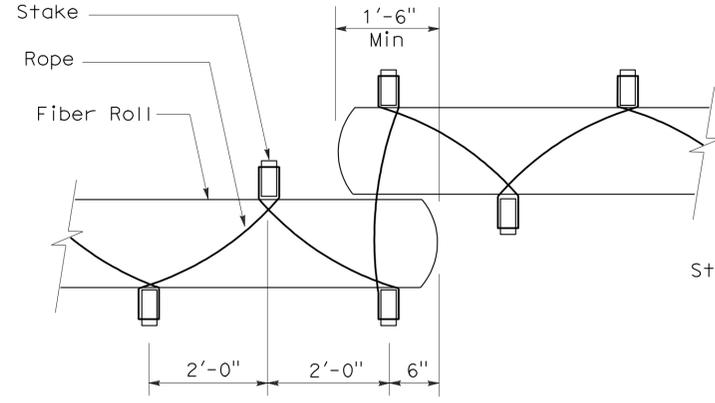
To accompany plans dated 6-25-12



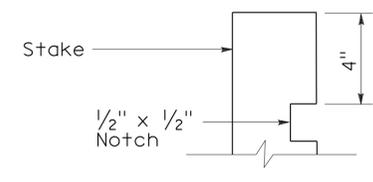
SECTION
TEMPORARY FIBER ROLL (TYPE 1)



SECTION
TEMPORARY FIBER ROLL (TYPE 2)

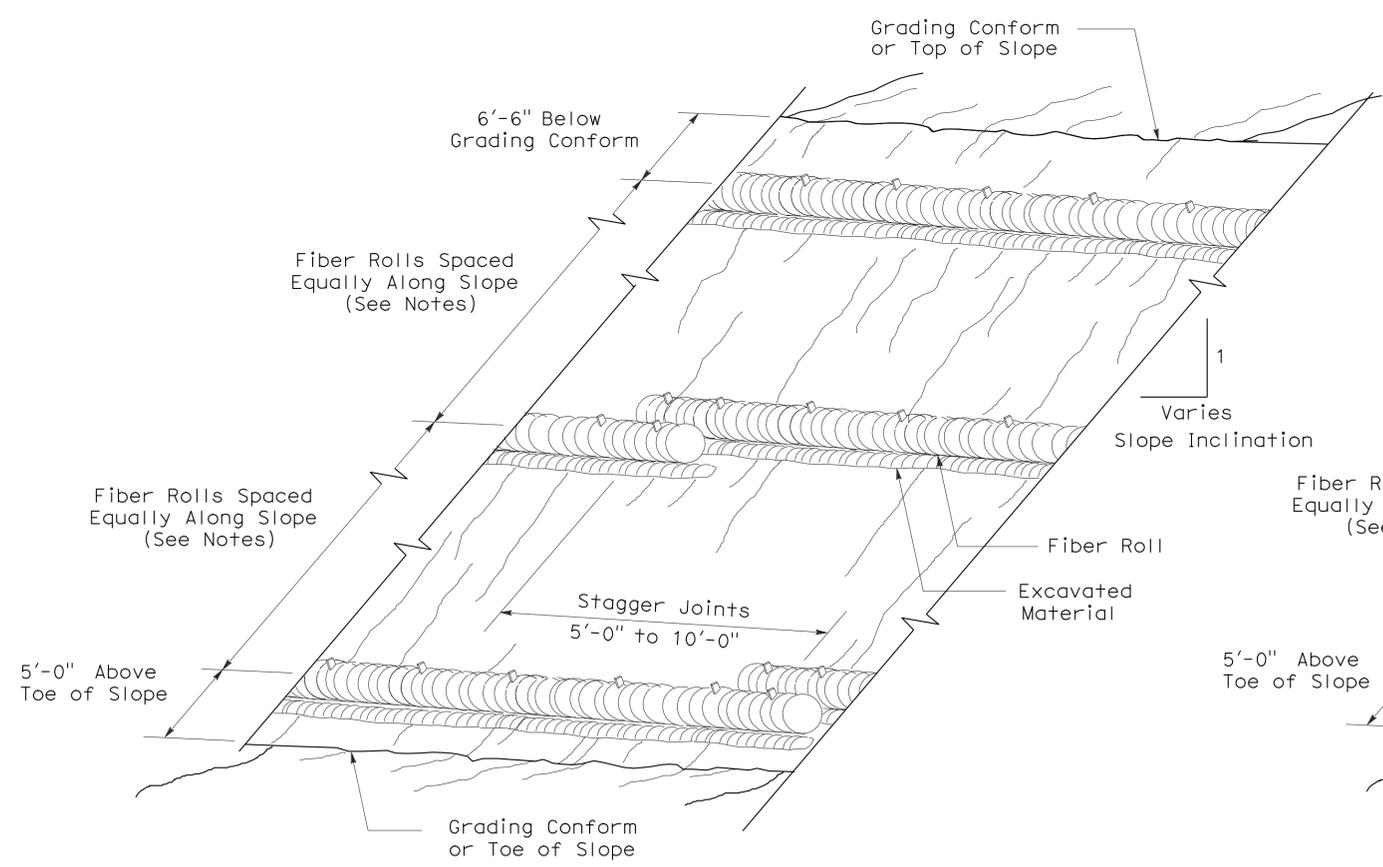


PLAN
TEMPORARY FIBER ROLL (TYPE 2)

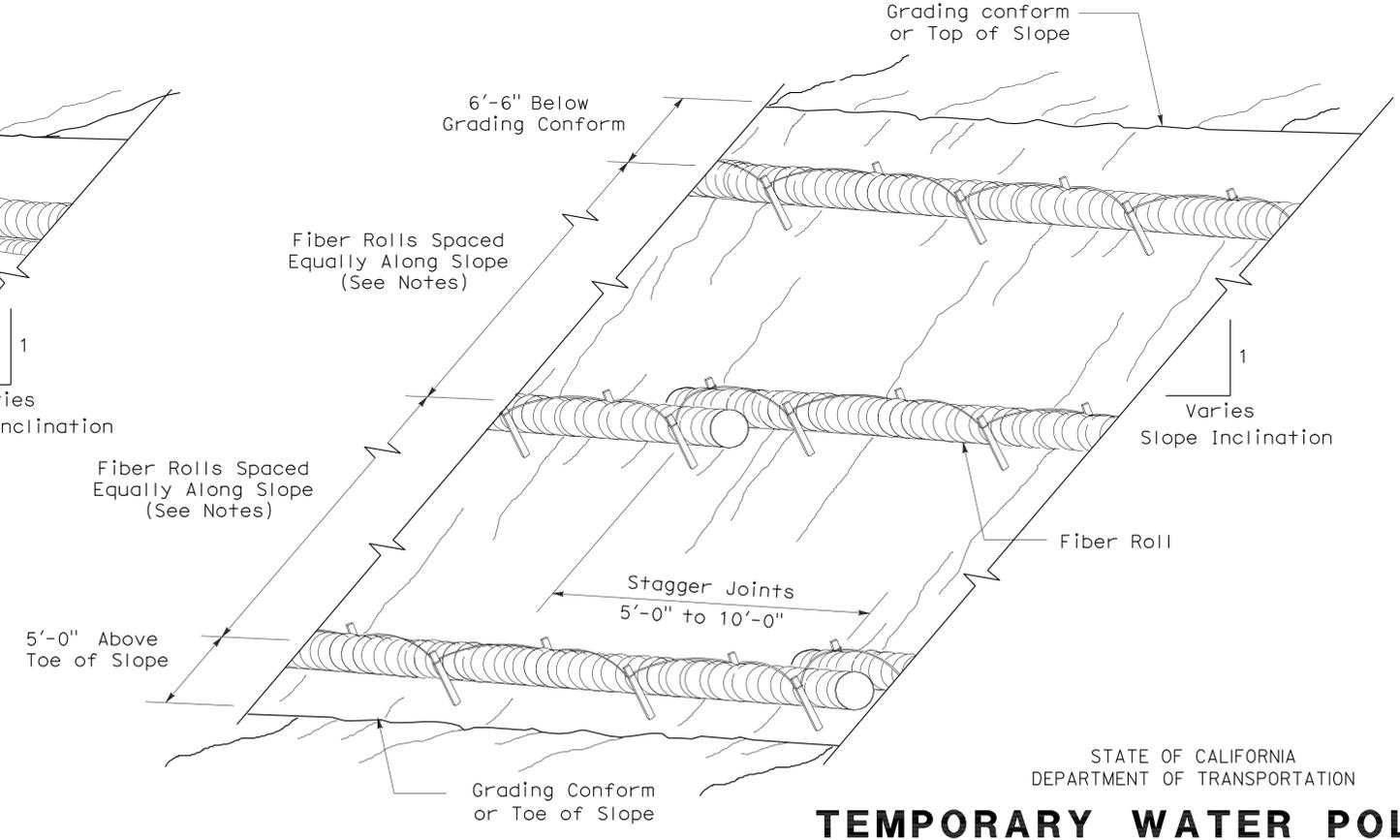


ELEVATION
STAKE NOTCH DETAIL

- NOTES:**
1. Temporary fiber roll spacing varies depending upon slope inclination.
 2. Installations shown in the perspectives are for slope inclination of 10:1 and steeper.



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)

NO SCALE

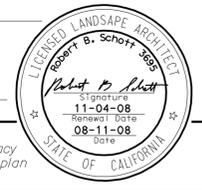
RSP T56 DATED APRIL 3, 2009 SUPERSEDES STANDARD PLAN T56 DATED MAY 1, 2006 - PAGE 232 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP T56

2006 REVISED STANDARD PLAN RSP T56

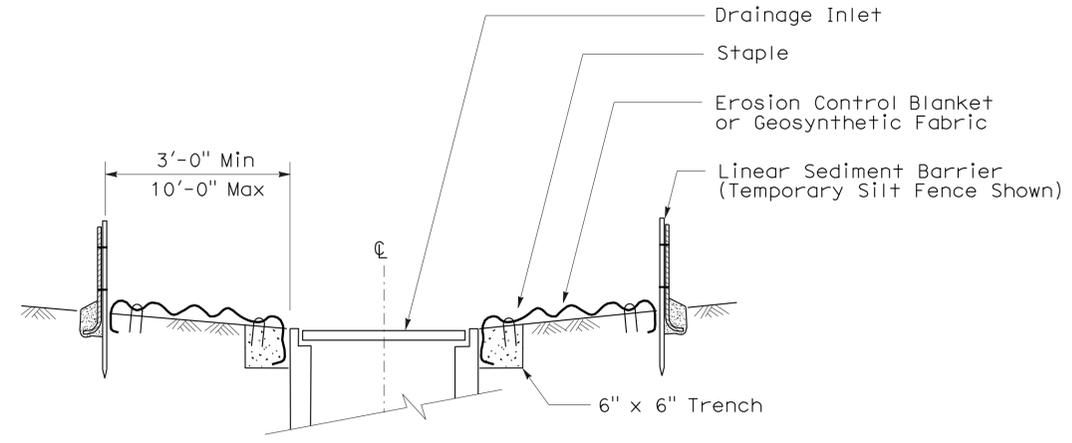
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	186	231

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS Approval DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

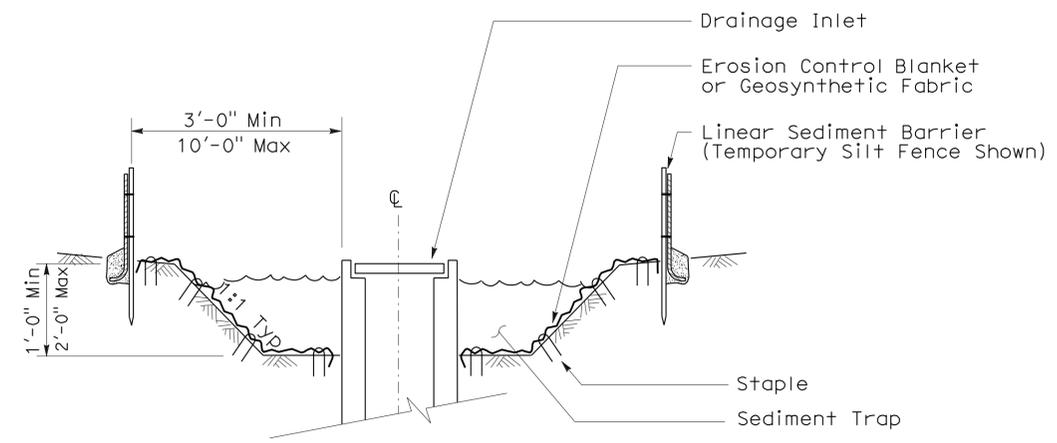


To accompany plans dated 6-25-12

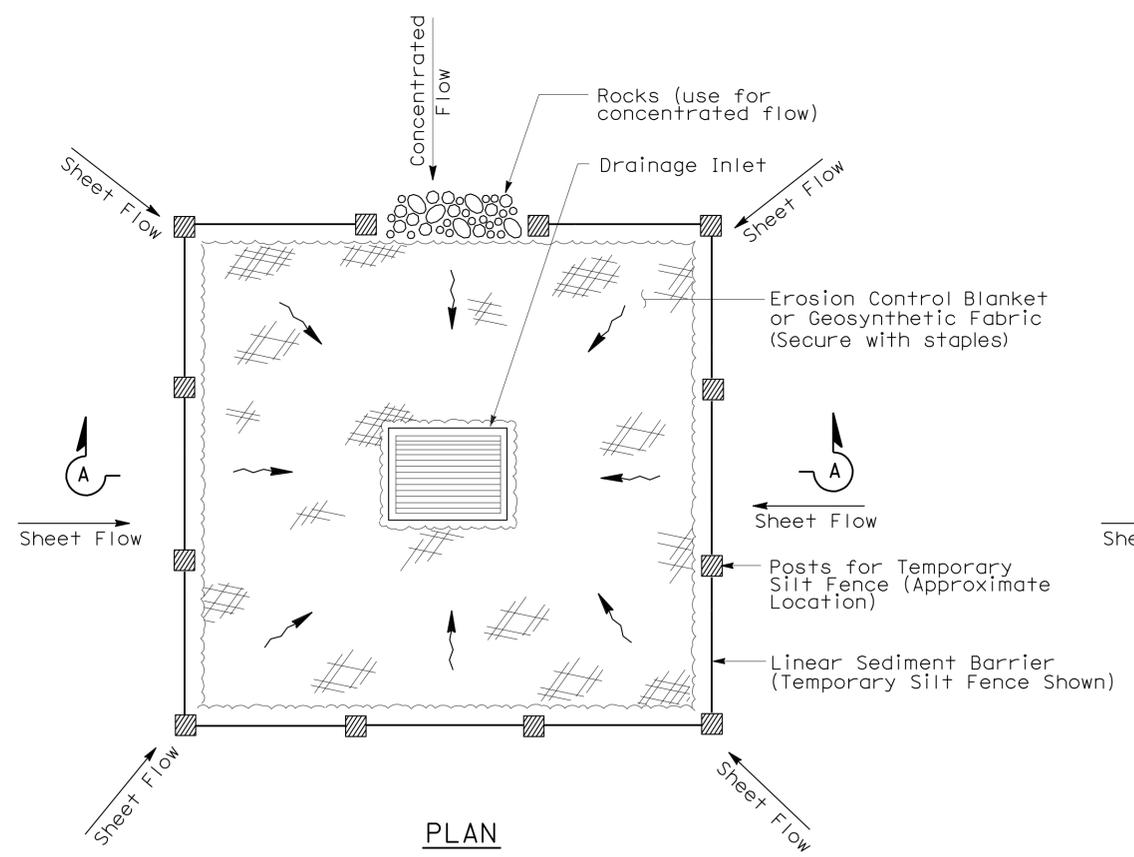
- NOTES:**
1. See Standard Plan T51 for Temporary Silt Fence.
 2. Dimensions may vary to fit field conditions.



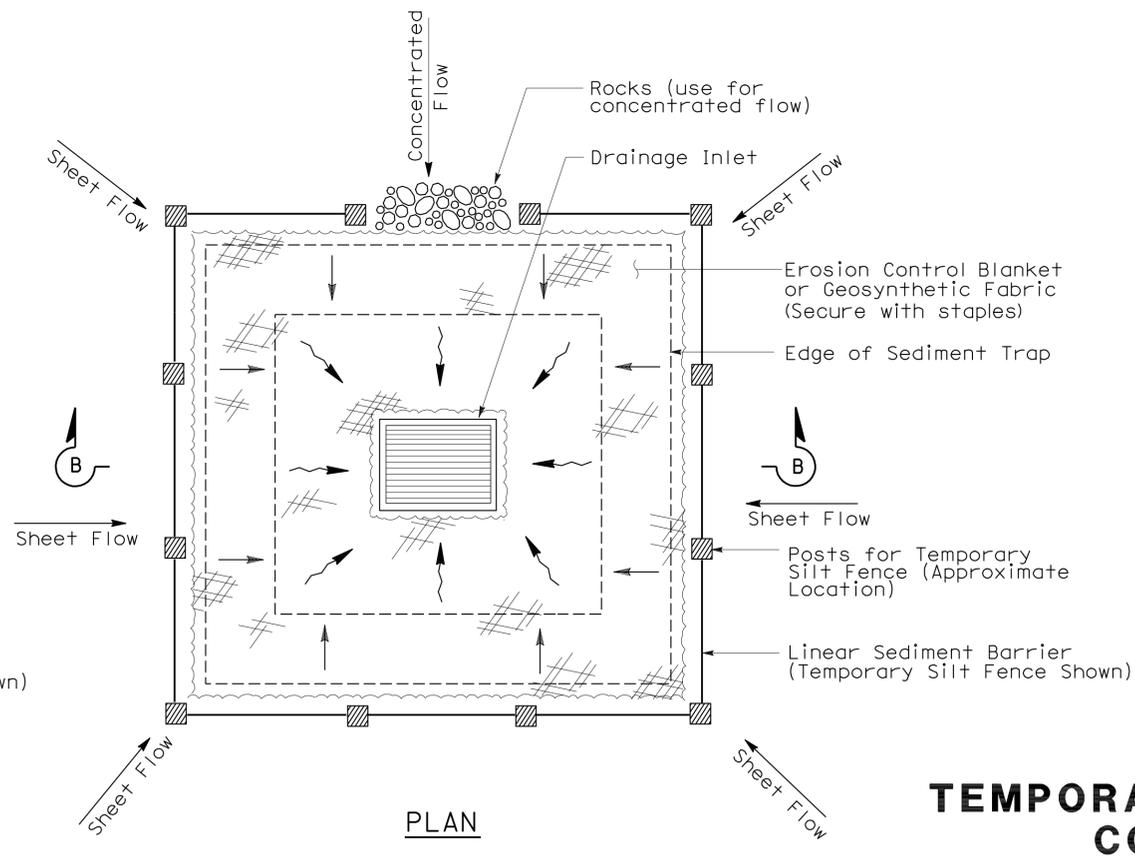
SECTION A-A



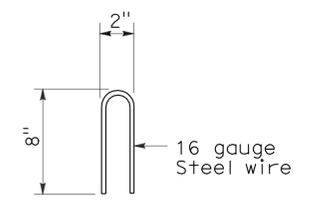
SECTION B-B



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 1)



TEMPORARY DRAINAGE INLET PROTECTION (TYPE 2) (EXCAVATED SEDIMENT TRAP)



STAPLE DETAIL

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS
(TEMPORARY DRAINAGE INLET PROTECTION)
 NO SCALE

NSP T61 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T61

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	187	231

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

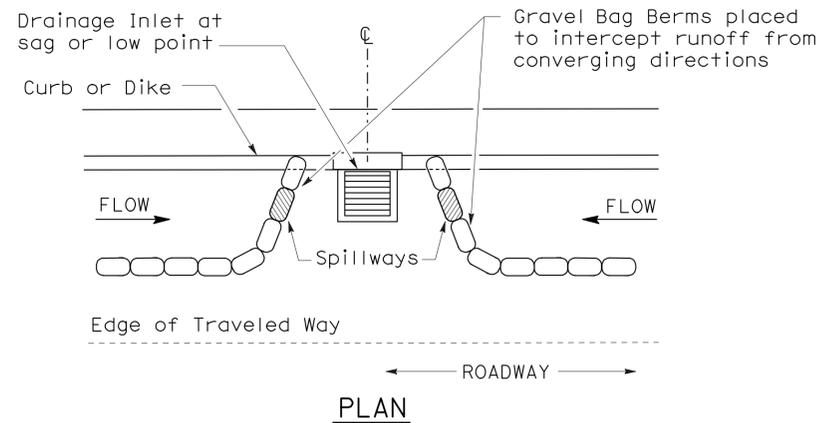
To accompany plans dated 6-25-12

2006 NEW STANDARD PLAN NSP T62

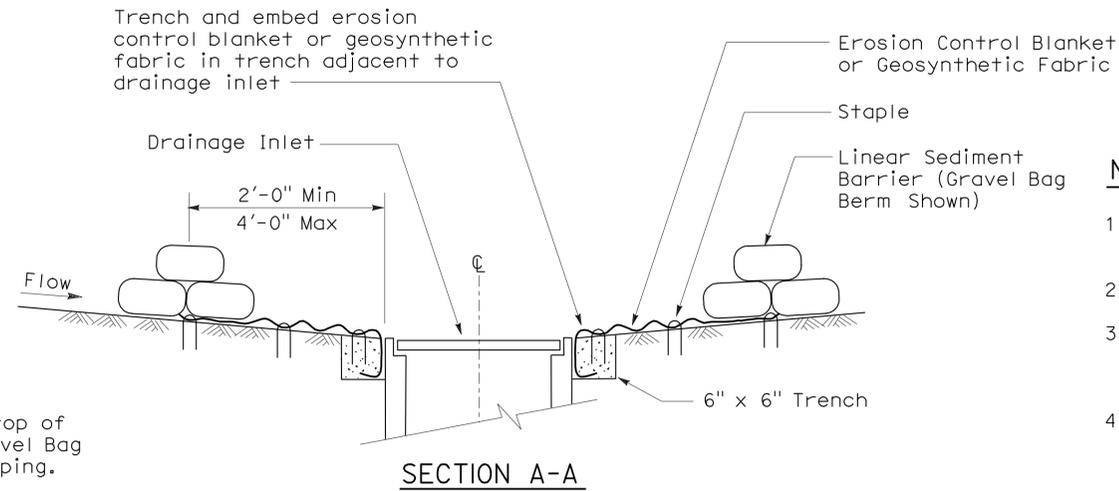
GRAVEL BAG BERM (TYPE 3A) SPACING TABLE

SLOPE OF ROADWAY (PERCENT)	1 to 3.9	4 to 5.9	6 to 7.9	8 to 10	10+
INTERVAL BETWEEN BERM	100'	75'	50'	25'	12'

For slope of less than 1%, install barriers only if erosion/sediment is prevalent



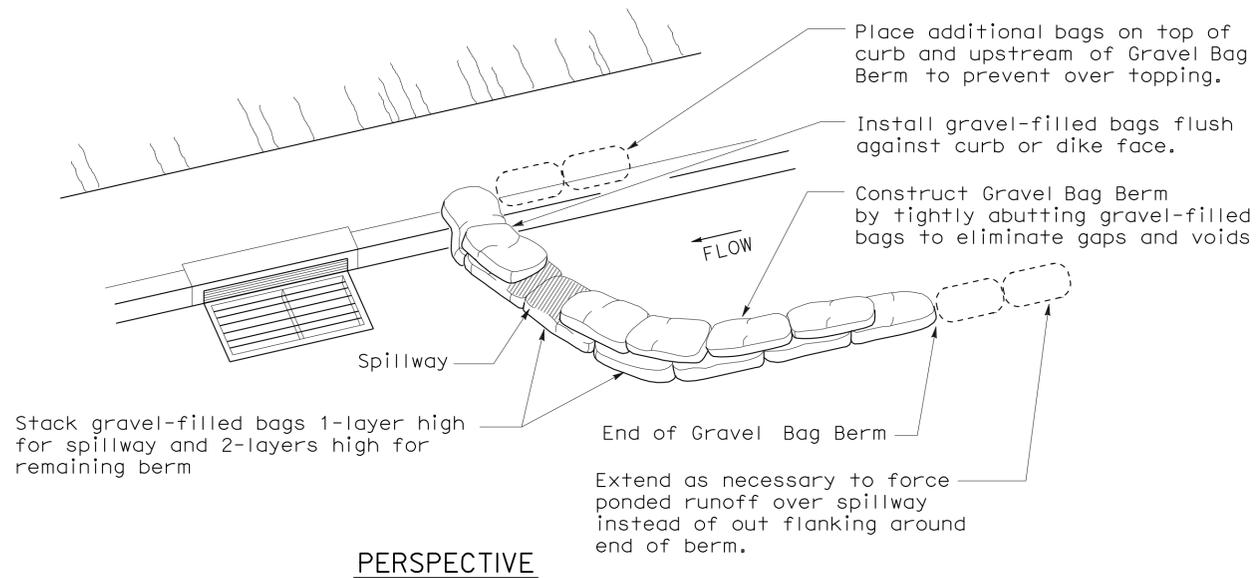
PLAN
CONFIGURATION FOR SAG POINT INLET (GRAVEL BAG BERM)



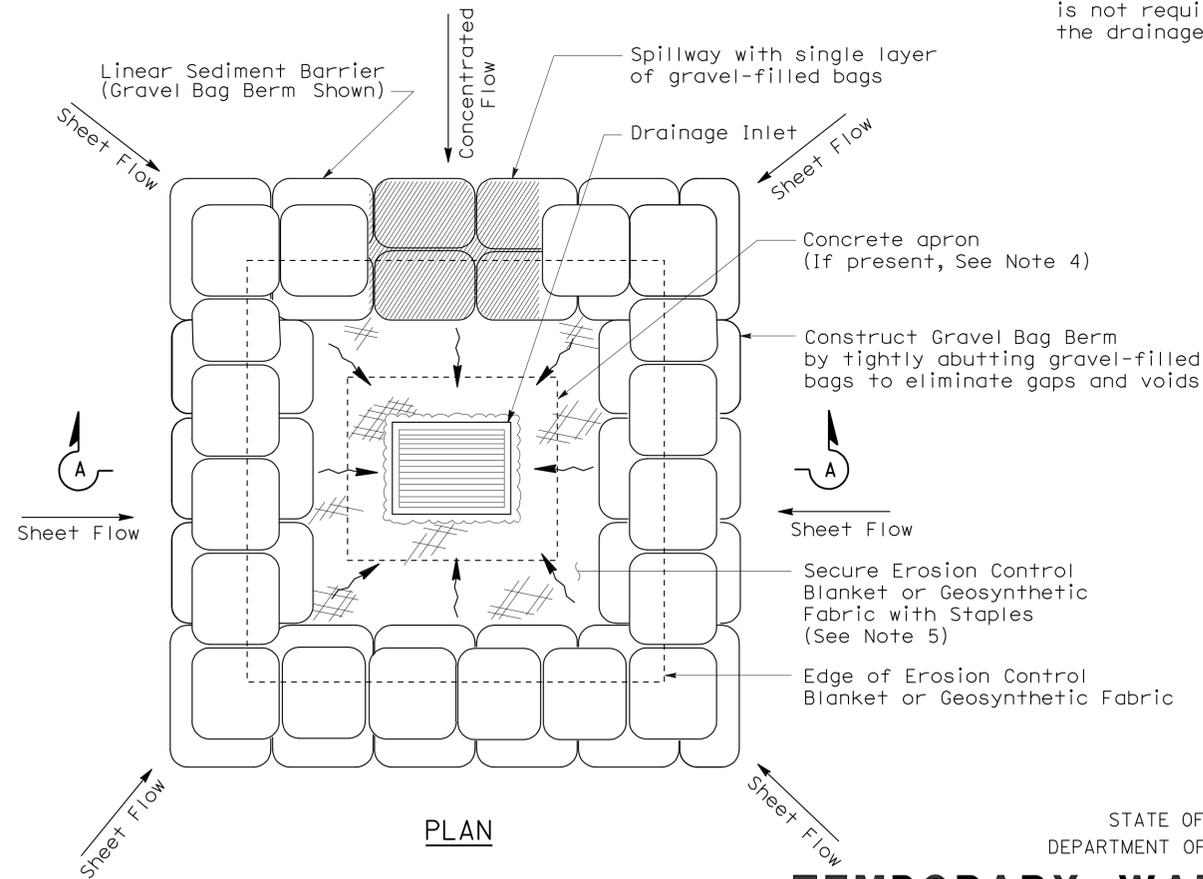
SECTION A-A

NOTES:

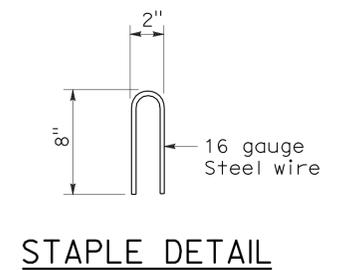
1. Place safety cones adjacent to drainage inlet protection.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 gravel bag berms upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated or paved.



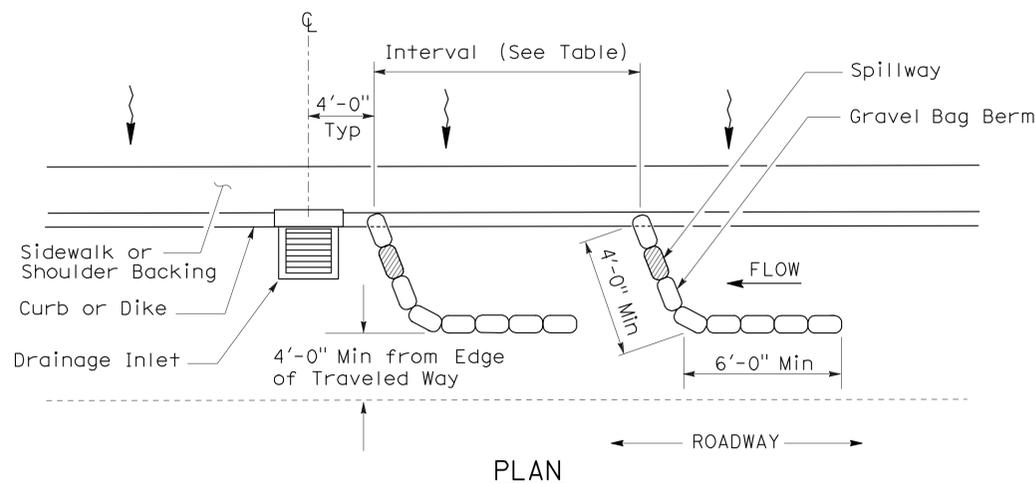
PERSPECTIVE



PLAN
TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3B)



STAPLE DETAIL



PLAN
TEMPORARY DRAINAGE INLET PROTECTION (TYPE 3A) (GRAVEL BAG BERM)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

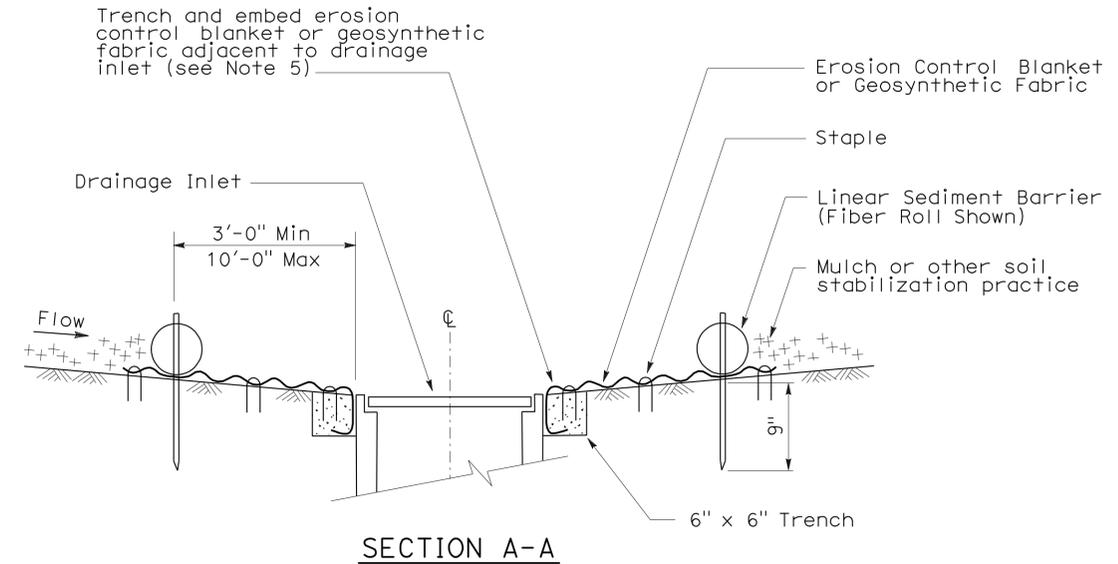
NO SCALE
NSP T62 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	188	231

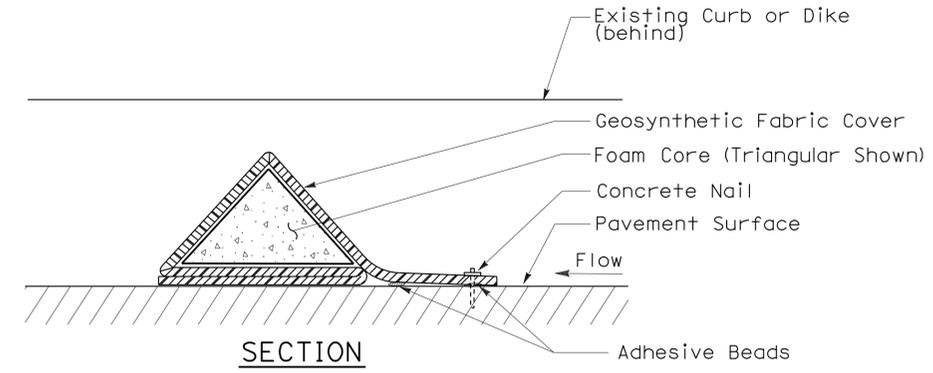
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

FLEXIBLE SEDIMENT BARRIER SPACING TABLE

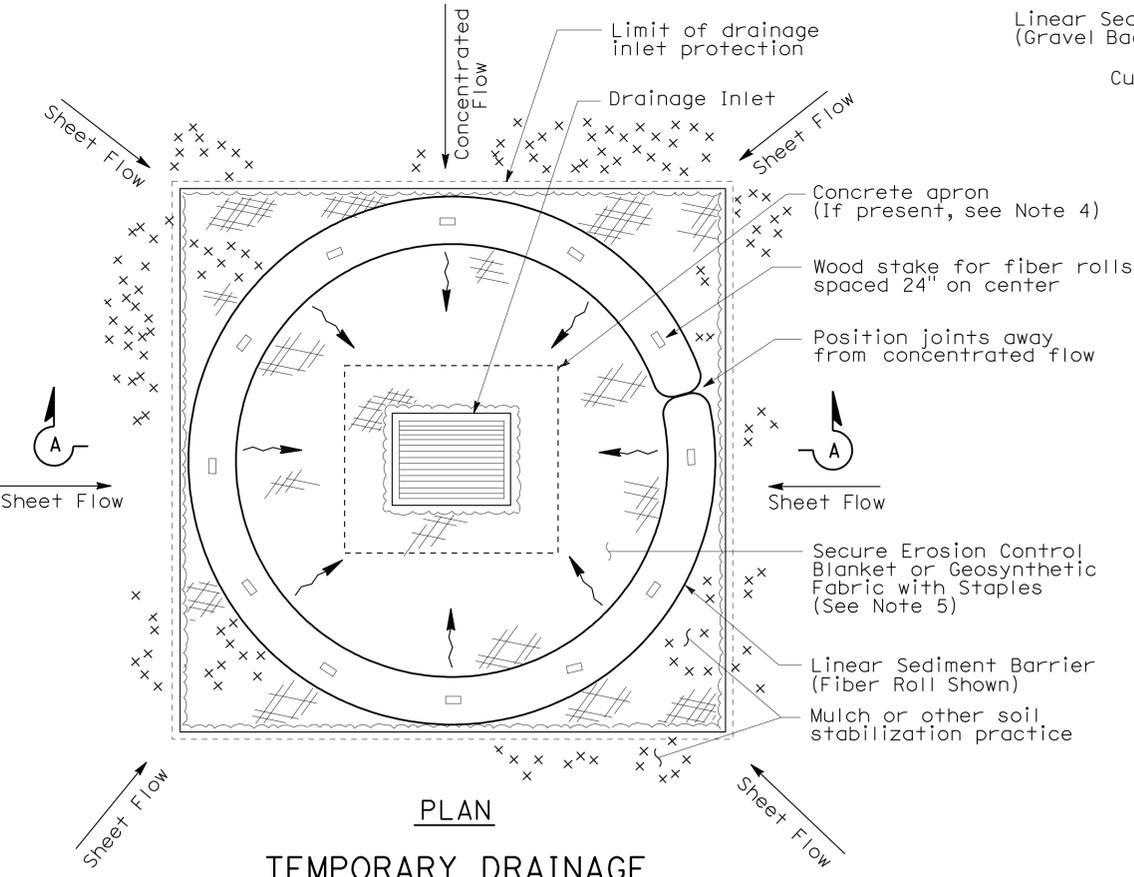
SLOPE OF ROADWAY (PERCENT)	0 to 0.9	1 to 1.9	2 to 2.9	3 to 4	5+
INTERVAL BETWEEN BARRIERS	50'	35'	30'	25'	20'
ANGLE FROM FACE OF CURB	70°	70°	70°	45°	45°
SUGGESTED BARRIER LENGTH	6'	6'	6'	6'	6'



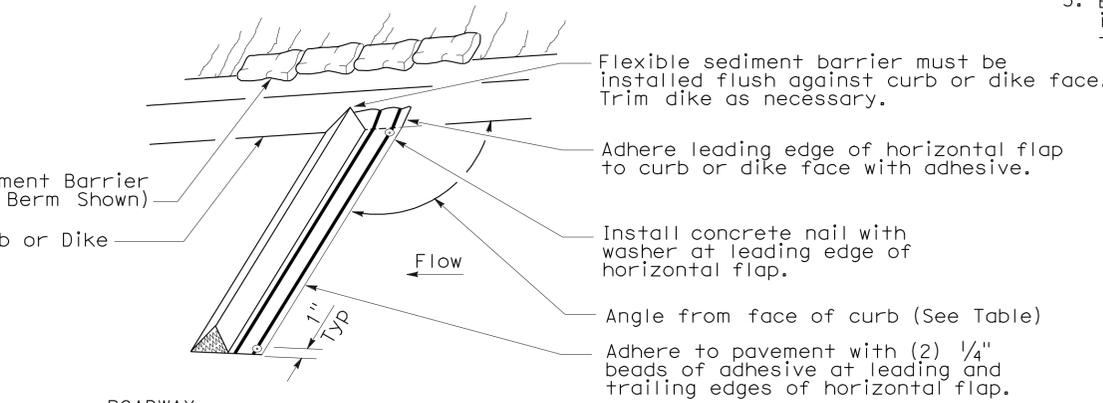
SECTION A-A



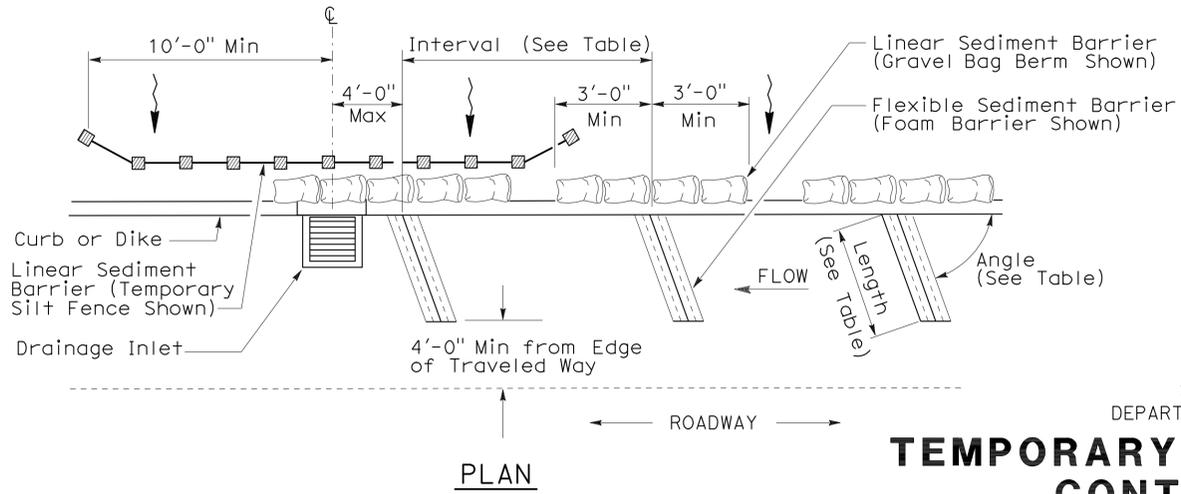
SECTION FLEXIBLE SEDIMENT BARRIER DETAIL (FOAM BARRIER SHOWN)



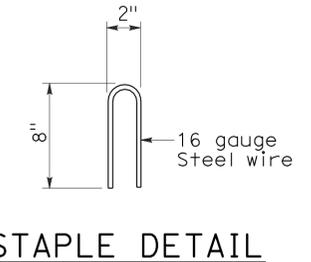
PLAN TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4A)



PERSPECTIVE



PLAN TEMPORARY DRAINAGE INLET PROTECTION (TYPE 4B) FLEXIBLE SEDIMENT BARRIER



NOTES:

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.
3. Install a minimum of 3 flexible sediment barriers upstream of each drainage inlet to be protected.
4. Position erosion control blanket or geosynthetic fabric at edge of concrete apron and secure in trench.
5. Erosion control blanket or geosynthetic fabric is not required if the area adjacent to the drainage inlet is vegetated.

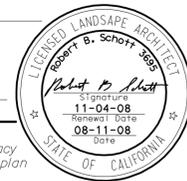
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE
 NSP T63 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

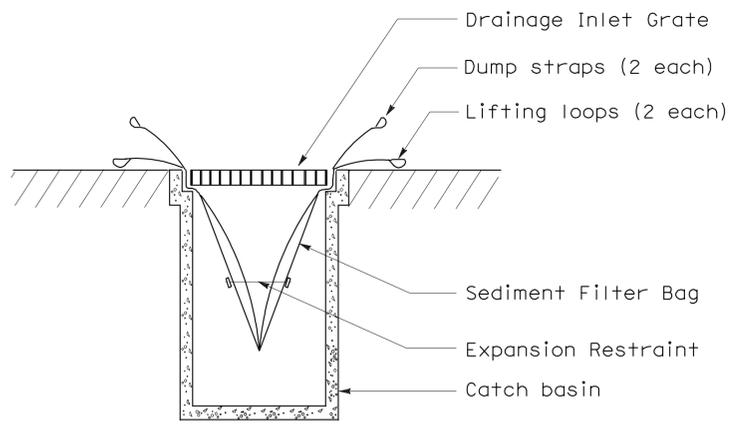
2006 NEW STANDARD PLAN NSP T63

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	189	231

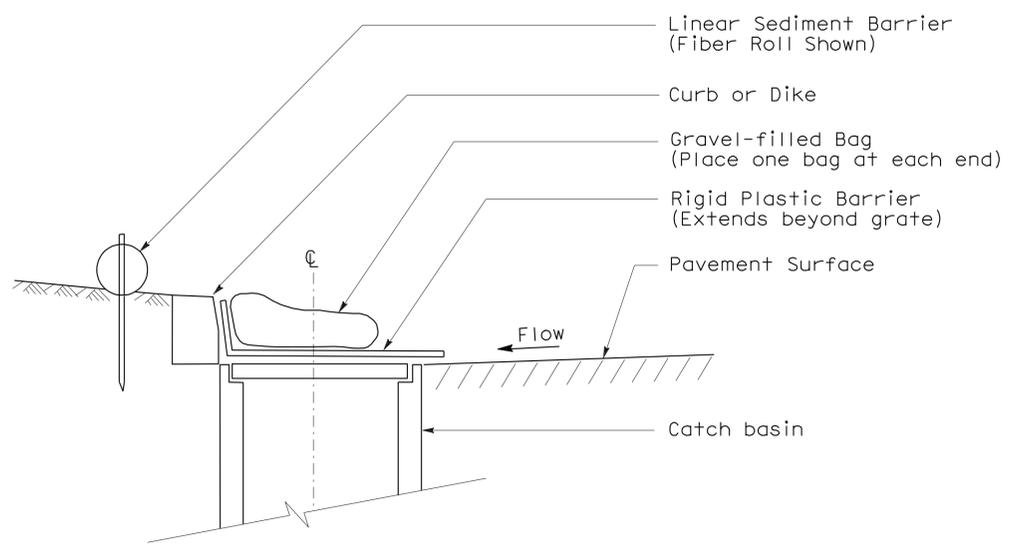
Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 August 15, 2008
 PLANS APPROVAL DATE
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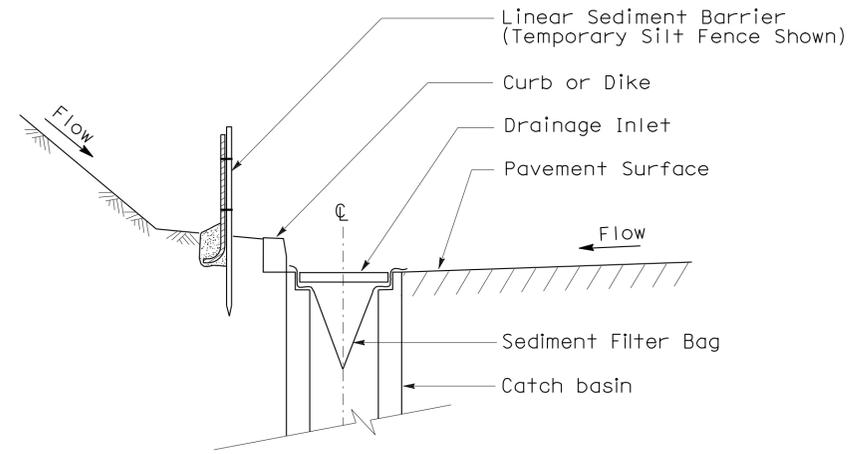
To accompany plans dated 6-25-12



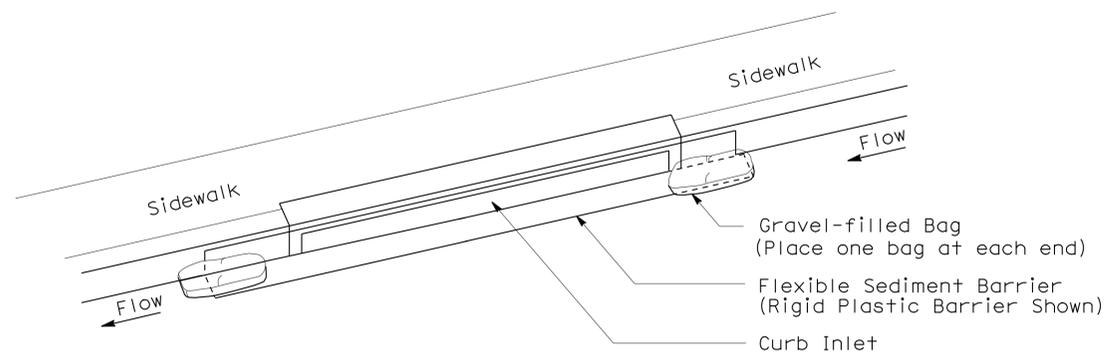
SECTION B-B
SEDIMENT FILTER BAG DETAIL



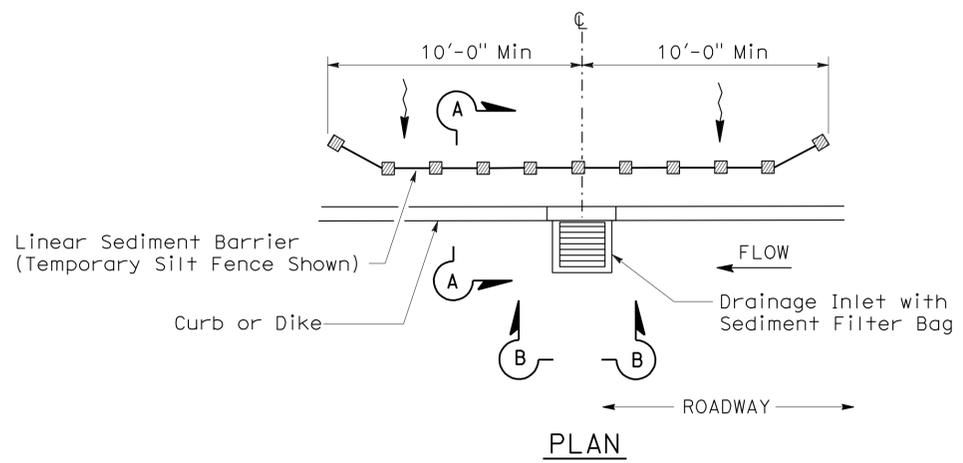
SECTION
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6A)
(CATCH BASIN WITH GRATE)



SECTION A-A



PERSPECTIVE
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 6B)
(CURB INLET WITHOUT GRATE)



PLAN
TEMPORARY DRAINAGE
INLET PROTECTION (TYPE 5)
(SEDIMENT FILTER BAG)

NOTES:

1. See Standard Plan T51 for Temporary Silt Fence.
2. Dimensions may vary to fit field conditions.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY DRAINAGE INLET PROTECTION)

NO SCALE

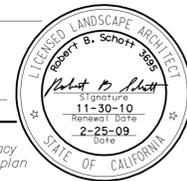
NSP T64 DATED AUGUST 15, 2008 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP T64

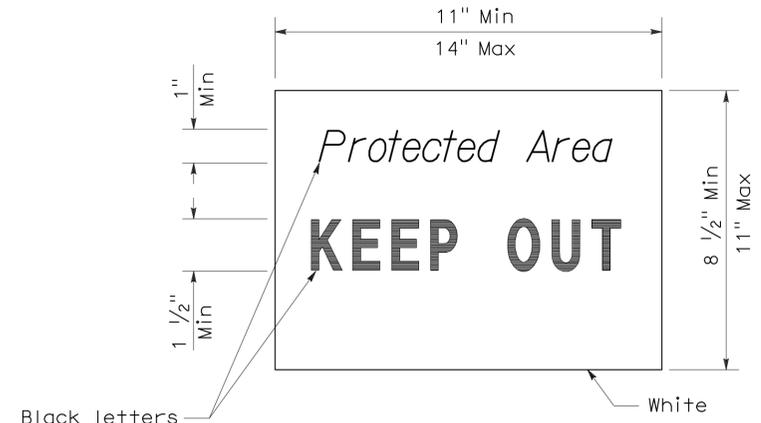
2006 NEW STANDARD PLAN NSP T64

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	190	231

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



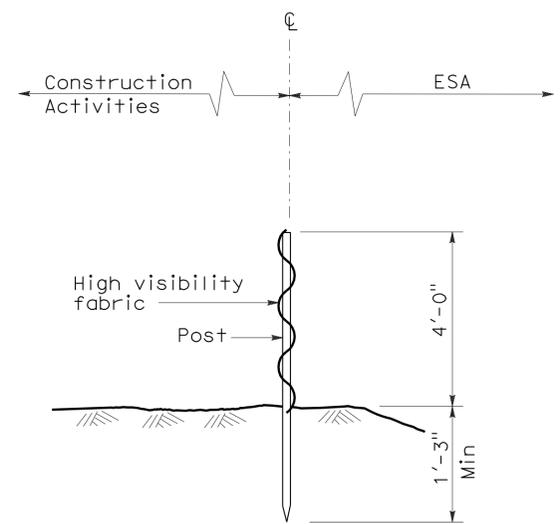
To accompany plans dated 6-25-12



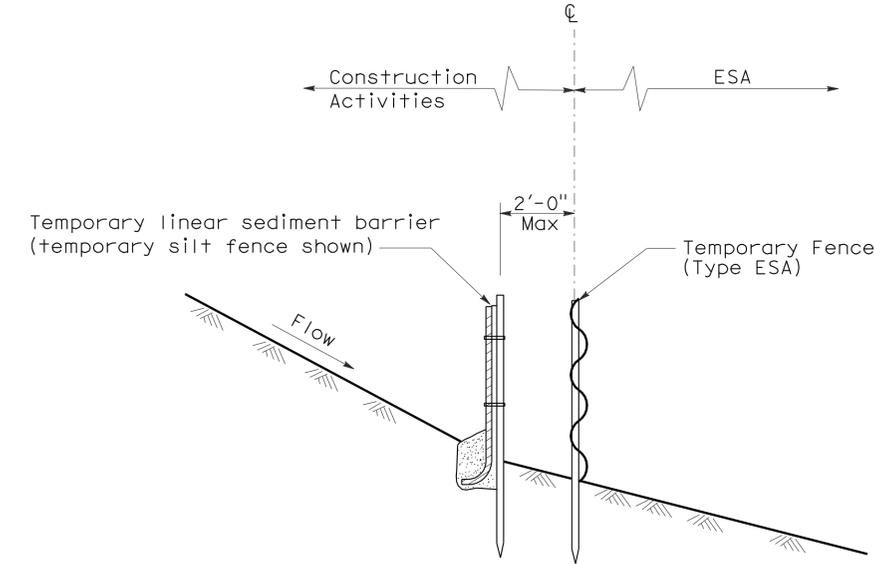
SIGN DETAIL

NOTE:

1. Temporary silt fence and temporary straw bale barrier shown for reference purposes only.

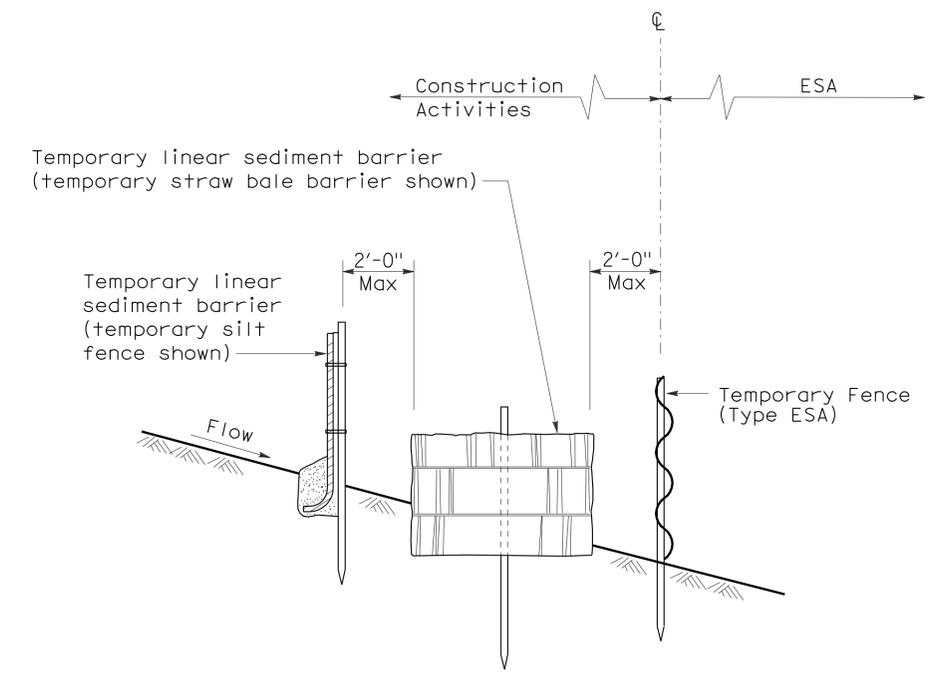


SECTION TEMPORARY FENCE (TYPE ESA)



SECTION PLACEMENT DETAIL FOR TEMPORARY LINEAR SEDIMENT BARRIER USED WITH TEMPORARY FENCE (TYPE ESA)

(See Note 1)



SECTION PLACEMENT DETAIL FOR TEMPORARY SILT FENCE AND TEMPORARY STRAW BALE BARRIER USED WITH TEMPORARY FENCE (TYPE ESA)

(See Note 1)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY WATER POLLUTION CONTROL DETAILS [TEMPORARY FENCE (TYPE ESA)]

NO SCALE

NSP T65 DATED APRIL 3, 2009 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

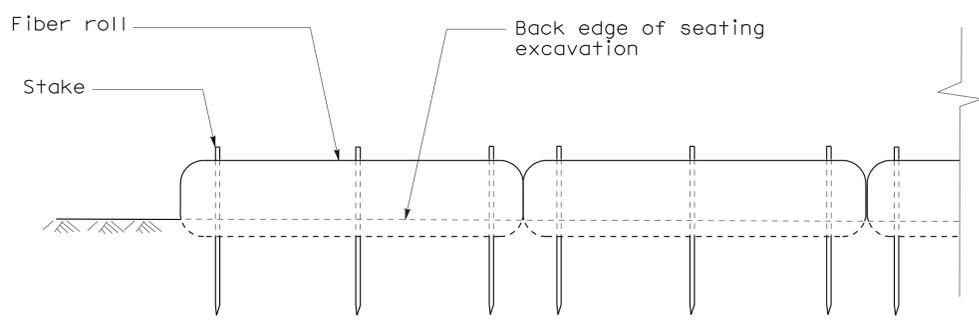
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	191	231

Robert B. Schott
 LICENSED LANDSCAPE ARCHITECT
 June 5, 2009
 PLANS APPROVAL DATE
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

To accompany plans dated 6-25-12

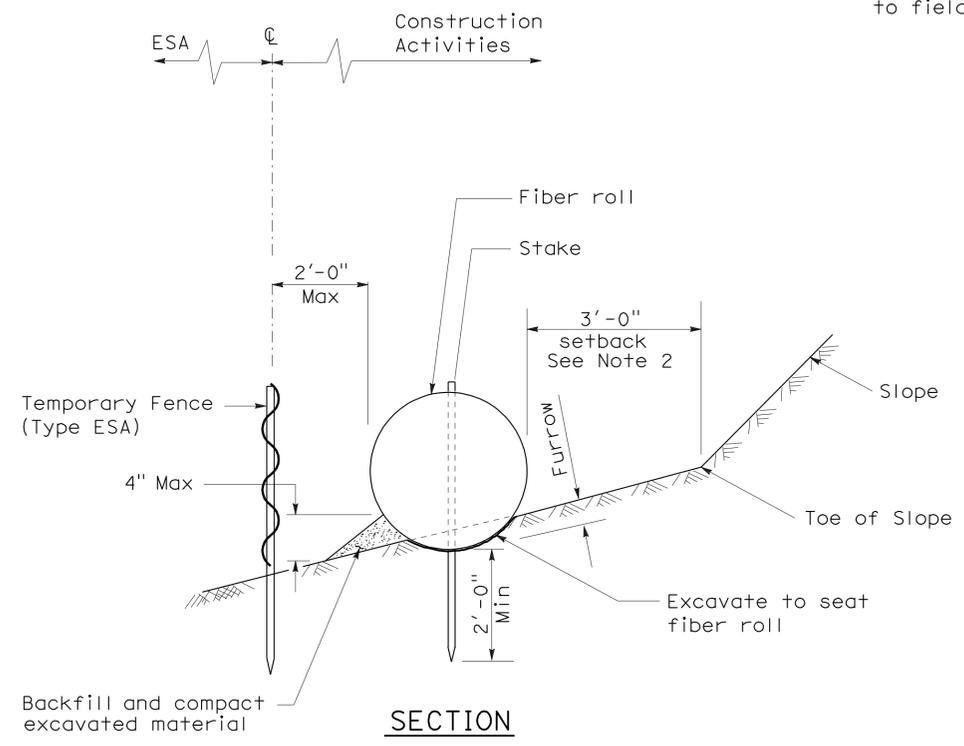
NOTES:

1. Temporary fence (Type ESA) shown for reference purposes only.
2. Setback dimension may vary according to field conditions or as designated on plans



FRONT ELEVATION

TEMPORARY LARGE SEDIMENT BARRIER



SECTION

PLACEMENT DETAIL
FOR TEMPORARY FENCE (TYPE ESA)
USED WITH TEMPORARY LARGE SEDIMENT BARRIER

(See Note 1)

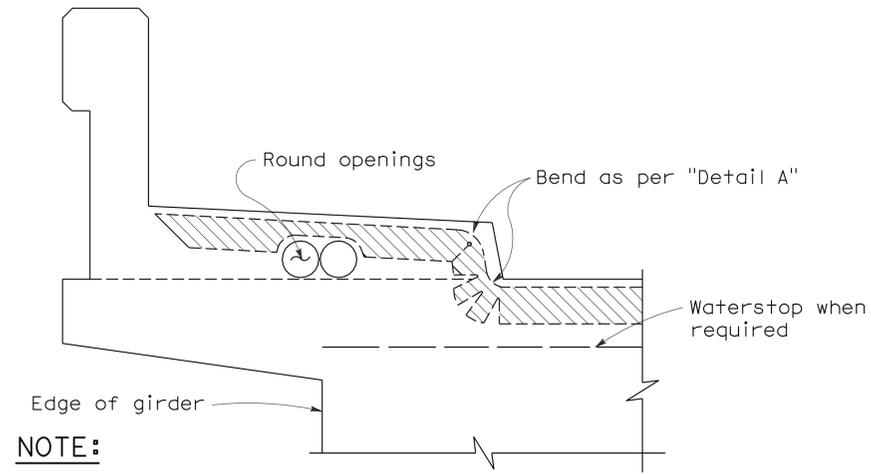
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TEMPORARY WATER POLLUTION
CONTROL DETAILS
(TEMPORARY LARGE SEDIMENT
BARRIER)**

NO SCALE

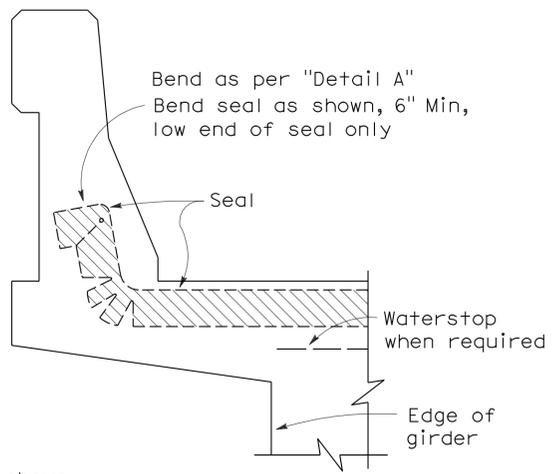
NSP T66 DATED JUNE 5, 2009 SUPPLEMENTS
THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP T66

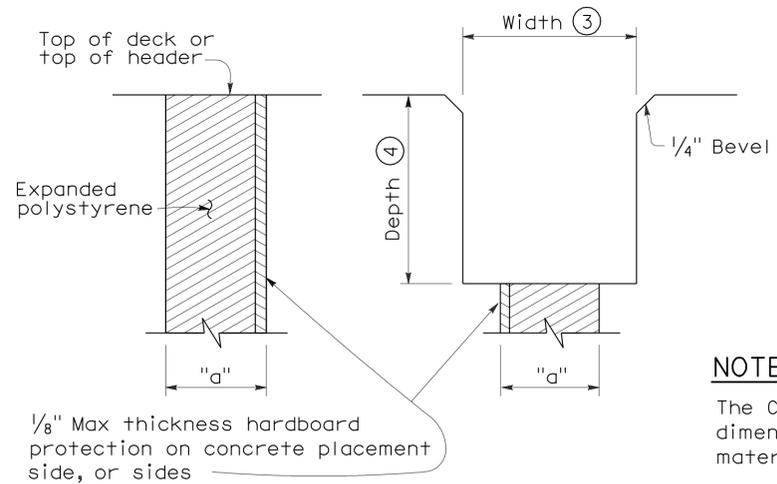


NOTE:
 Type "B" seal shown. Type "A" seals to conform to the general path of seal shown, cuts for bending not required. Bend Type "A" seals 3" up into curb or barrier rail on only the low end of the seal.

CONCRETE BARRIER AND SIDEWALK



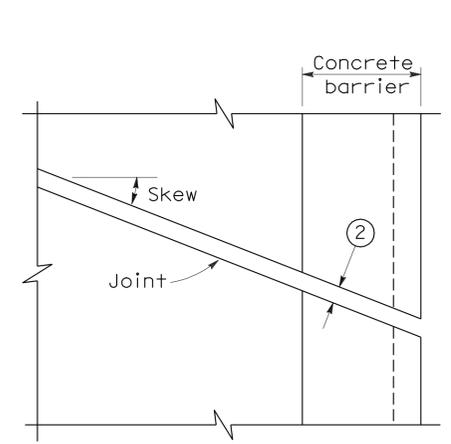
CONCRETE BARRIER



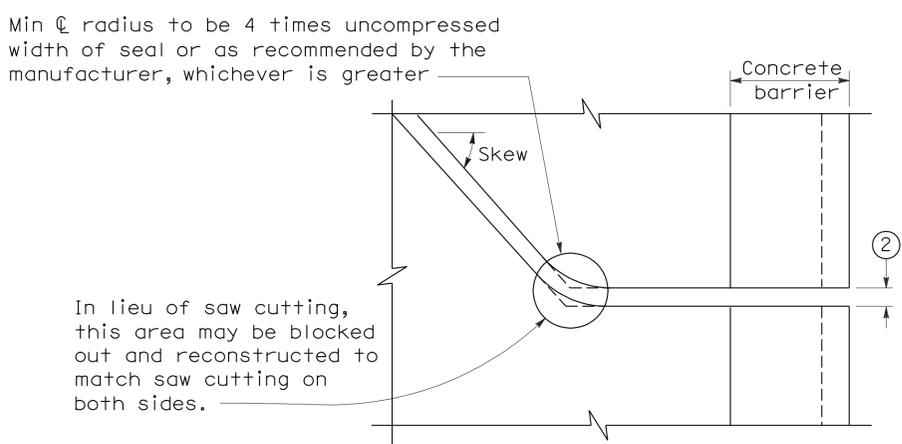
FORMING DETAIL SAWCUT DETAIL

NOTE:
 The Contractor shall verify all controlling field dimensions before ordering or fabricating any material.

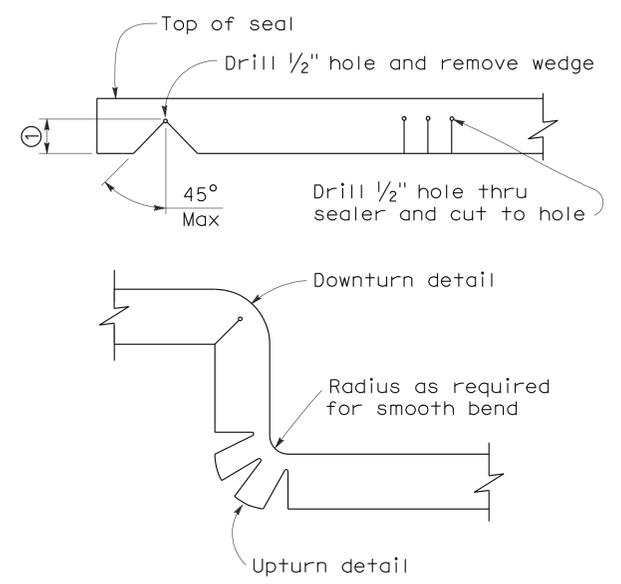
JOINT SEALS DETAILS



PLAN OF JOINT (SKEW ≤ 20°)



PLAN OF JOINT (SKEW > 20°)



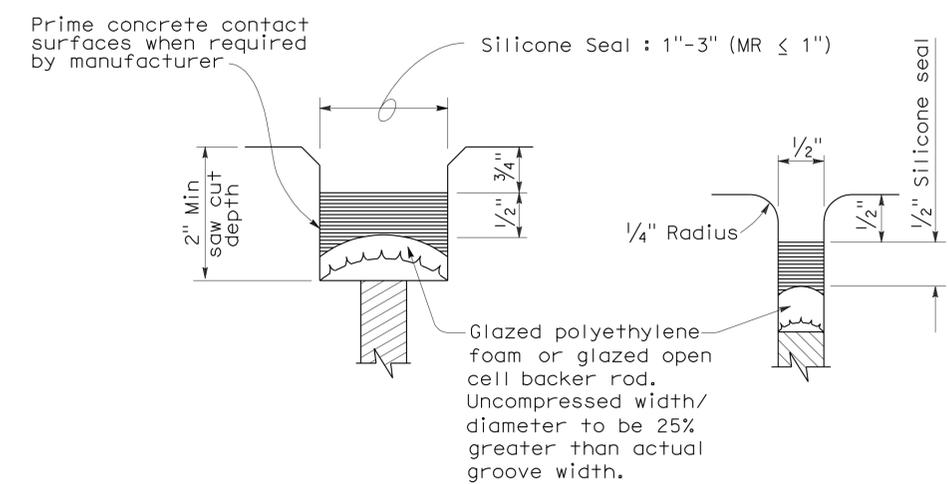
DETAIL A

- NOTES:**
- Make smooth cuts from the bottom of seal to 1 1/2" clear of top leaving at least one complete cell between the top of the cut and top of the seal. When necessary cut back of seal to clear conduit and round openings.
 - Opening in barrier to match width of sawn deck joint.
 - Sawcut groove widths shall be as ordered by the Engineer.
 - Depth of sawcut: Type A - Depth to be 2" minimum.
 Type B - Depth to be equal to or greater than the depth of seal measured along the contact surface, when compressed to minimum width position (W₂) plus dimensions shown.
 - MR (movement rating) as shown on other plan sheets.
 - Other depths must be approved by the Engineer.

DIMENSIONS "a" OF JOINT REQUIRED

Movement Rating (MR) ⑤	Bridge Type	"a" Dimension		
		Deck Concrete Placed		
		Winter	Fall-Spring	Summer
2"	All except CIP/PS	1 1/2"	1 1/4"	3/4"
	CIP/PS	1 1/4"	1"	1/2"
1 1/2"	All except CIP/PS	1 1/4"	1"	1/2"
	CIP/PS	1"	3/4"	1/2"
1"	All except CIP/PS	1"	3/4"	1/2"
	CIP/PS	3/4"	1/2"	1/2"
1/2"	All except CIP/PS	3/4"	3/4"	1/2"
	CIP/PS	1/2"	1/2"	1/2"

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
JOINT SEALS
(MAXIMUM MOVEMENT RATING = 2")
 NO SCALE

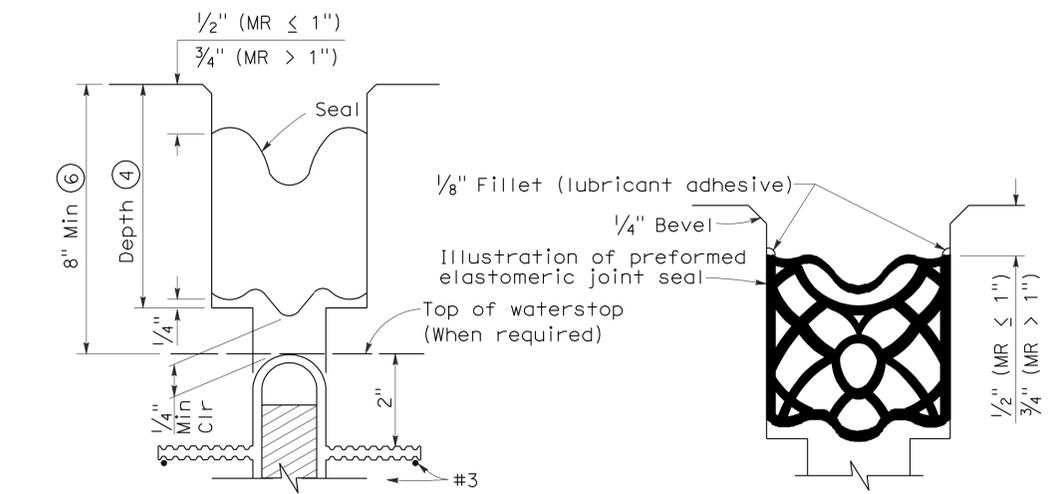


TYPE A SEAL

Movement rating : Silicone = 1" Max

TYPE AL SEAL

Longitudinal joints only



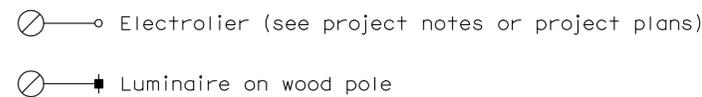
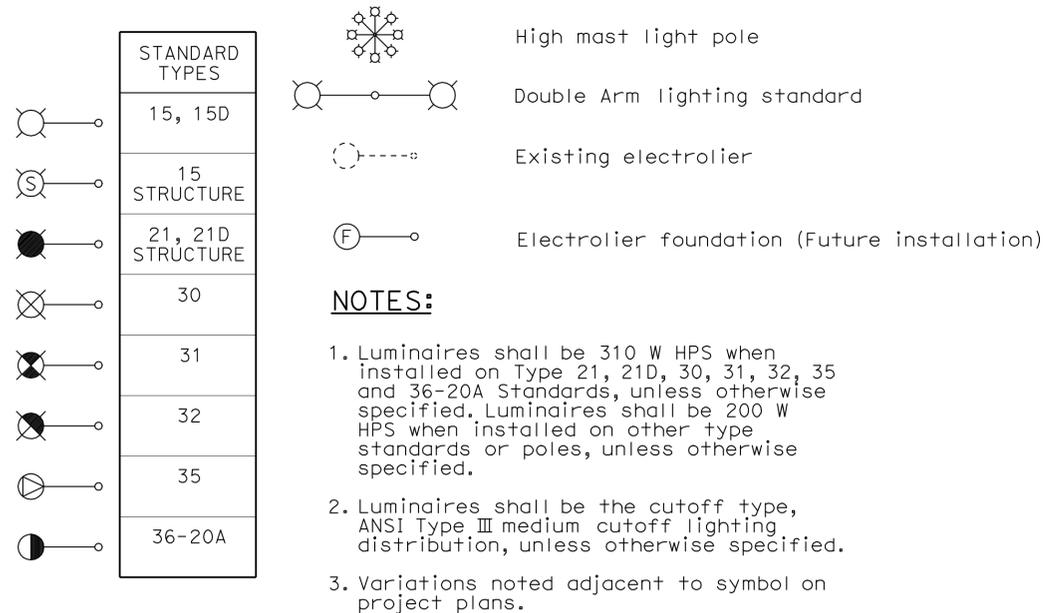
TYPE B JOINT SEAL IN MINIMUM WIDTH POSITION (W₂)

TYPE B SEAL

Movement Rating ≤ 2"

RSP B6-21 DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN B6-21 DATED MAY 1, 2006 - PAGE 258 OF THE STANDARD PLANS BOOK DATED MAY 2006.

ELECTROLIERS



STANDARD NOTES:

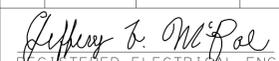
- AB** Abandon. If applied to conduit, remove conductors.
- BC** Install pull box in existing conduit run.
- BP** Pedestrian barricade, type as indicated on plan.
- CB** Install conduit into existing pull box.
- CC** Connect new and existing conduit. Remove existing conductors and install conductors as indicated.
- CF** Conduit to remain for future use. Remove conductors. Install pull wire or rope.
- DH** Detector handhole.
- FA** Foundation to be abandoned.
- IS** Install sign on signal mast arm.
- NS** No slip base on standard.
- PEC** Photoelectric control.
- PEU** Photoelectric unit.
- RC** Equipment or material to be removed and become the property of the Contractor.
- RE** Remove electrolier, fuses and ballast. Tape ends of conductors.
- RL** Relocate equipment.
- RR** Remove and reuse equipment.
- RS** Remove and salvage equipment.
- SC** Splice new to existing conductors.
- SD** Service disconnect.
- SF** Standard to remain for future use. Remove luminaire, pole conductors, fuses and ballast.
- TSP** Telephone service point.

ABBREVIATIONS AND EQUIPMENT DESIGNATIONS

PROPOSED EXISTING

BBS	bbs	Battery backup system
BC	bc	Bolt circle
C	C	Conduit
CCTV	cctv	Closed circuit television
CKT	ckt	Circuit
CMS	cms	Changeable message sign
DLC	dlc	Loop detector lead-in cable
EMS	ems	Extinguishable message sign
EVC	evc	Emergency vehicle cable
EVD	evd	Emergency vehicle detector
FB	fb	Flashing beacon
FBCA	fbca	Flashing beacon control assembly
FBS	fbs	Flashing beacon with slip base
FO	fo	Fiber optic
G	G	Ground (Equipment Grounding Conductor)
GFCI	GFCI	Ground fault circuit interrupt
HAR	har	Highway advisory radio
HEX	hex	Hexagonal
HPS	hps	High pressure sodium
IISNS	iisns	Internally illuminated street name sign
ISL	isl	Induction sign lighting
LED	led	Light emitting diode
LMA	lma	Luminaire mast arm
LPS	lps	Low pressure sodium
LTG	ltg	Lighting
LUM	lum	Luminaire
MAT	mat	Mast arm mounting vehicle signal faces, top attachment
MAS	mas	Mast arm mounting vehicle signal faces, side attachment
MAS-4A	mas-4A	Mast arm mounting vehicle signal faces, side attachment - 4 signal section
MAS-4B	mas-4B	
MAS-4C	mas-4C	
MAS-5A	mas-5A	Mast arm mounting vehicle signal faces, side attachment - 5 signal section
MAS-5B	mas-5B	
MC	mc	Mercury contactor
M/M	m/m	Multiple to multiple transformer
MT	mt	Conduit with pull wire or rope only
MTG	mtg	Mounting
	mv	Mercury vapor lighting fixture
N	N	Neutral (Grounded Conductor)
NC	NC	Normally closed
NO	NO	Normally open
PB	pb	Pull box
PEC	pec	Photoelectric control (Type I, II, III, IV or V as shown)
PED	ped	Pedestrian
PEU	peu	Photoelectric unit
PPB	ppb	Pedestrian push button
RL		Relocated equipment
RM	rm	Ramp metering
SB	sb	Slip base
SIC	sic	Signal interconnect cable
SIG	sig	Signal
SMA	sma	Signal mast arm
SNS	sns	Street name sign
SP	sp	Service point
TDC	tdc	Telephone demarcation cabinet
TMS	tms	Traffic monitoring station
TOS	tos	Traffic Operations System
VEH	veh	Vehicle
XFMR	xfmr	Transformer
COMM	comm	Communication
RWIS	rwis	Roadway weather information system

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	193	231


 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE

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To accompany plans dated 6-25-12

SOFFIT AND WALL MOUNTED LUMINAIRES

-  Pendant, 70 W HPS unless otherwise specified.
-  Flush, 70 W HPS unless otherwise specified.
-  Wall surface, 70 W HPS unless otherwise specified.
-  Existing soffit or wall luminaire to remain unmodified.
-  Existing soffit or wall luminaire to be modified as specified.

NOTE:

Arrow indicates "street side" of luminaire.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(SYMBOLS AND ABBREVIATIONS)**

NO SCALE

RSP ES-1A DATED OCTOBER 5, 2007 SUPERSEDES STANDARD PLAN ES-1A
DATED MAY 1, 2006 - PAGE 400 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	194	231

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

To accompany plans dated 6-25-12

CONDUIT

PROPOSED	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 in/on structure or service pole

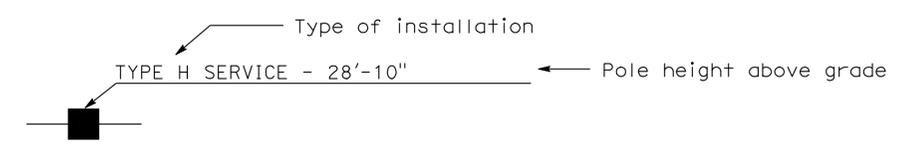
SIGNAL EQUIPMENT

PROPOSED	EXISTING	
		Pedestrian signal face
		Pedestrian push button post
		Pedestrian barricade
		Vehicle signal face (with backplate, 3-Section: red, yellow and green)
		Vehicle signal face with angle visors
		Modifications of basic symbols: "L" indicates all non-arrow sections louvered "LG" indicates louvered green section only "PV" indicates 12" programmed visibility sections "8" indicates all 8" sections (only when specified)
		Type 15TS and Vehicle signal face
		Vehicle signal face with red, yellow and green left arrow sections
		Vehicle signal face with red and yellow sections and up green arrow
		Vehicle signal face (5 Section) with red, yellow and green sections and yellow and green right arrows
		Type 1 Standard and attached vehicle signal faces
		Standard with signal mast arm only and attached vehicle signal faces and internally illuminated street name sign
		Type 33 Standard, Left-turn vehicle signal face and sign
		Standard with luminaire and signal mast arms and attached vehicle signal faces
		Cantilever flashing beacon Type 9 Frame, with a sign unless otherwise specified or indicated
		Type 15-FBS Standard with two vehicle signal face sections with lens, backplate and visor with a sign
		Flashing beacon. One vehicle signal face section with lens, backplate and visor. "R" indicates red indication, "Y" indicates yellow indication
		Controller assembly. Door indicates front of cabinet

SERVICE EQUIPMENT

PROPOSED	EXISTING	
		Overhead lines
		Wood pole "U" indicates utility owned
		Pole guy with anchor
		Utility transformer - ground mounted
		Service equipment enclosure type
		Service equipment enclosure door indicates front of enclosure
		Telephone demarcation cabinet

POLE-MOUNTED SERVICE DESIGNATION



ILLUMINATED OVERHEAD SIGN

PROPOSED	EXISTING	
		Overhead sign - Single post
		Overhead sign - Two post
		Overhead sign - Mounted on structure
		Overhead sign with electrolier

SIGNAL EQUIPMENT Cont

PROPOSED	EXISTING	
		Guard post
		Type 1 Standard with "Meter On" sign
		Emergency Vehicle detector

NOTES:

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SYMBOLS AND ABBREVIATIONS)**
 NO SCALE

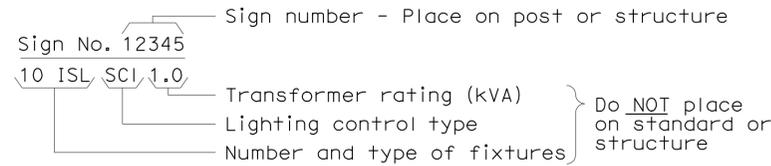
RSP ES-1B DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1B
 DATED MAY 1, 2006 - PAGE 401 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1B

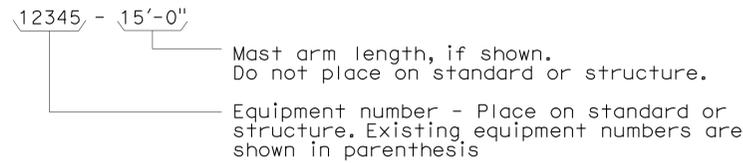
2006 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

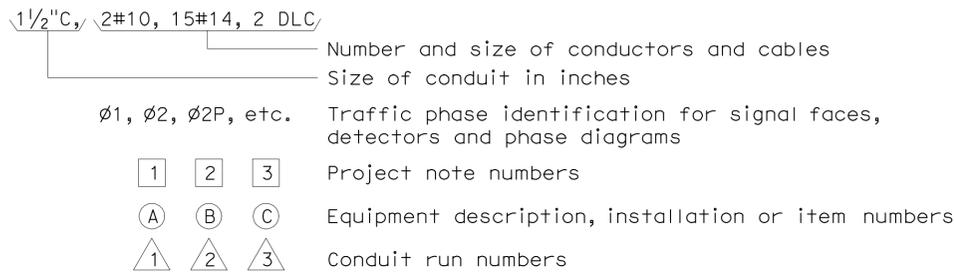
ILLUMINATED SIGN IDENTIFICATION NUMBER:



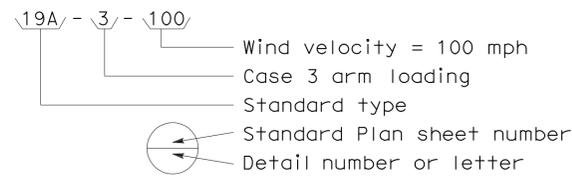
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



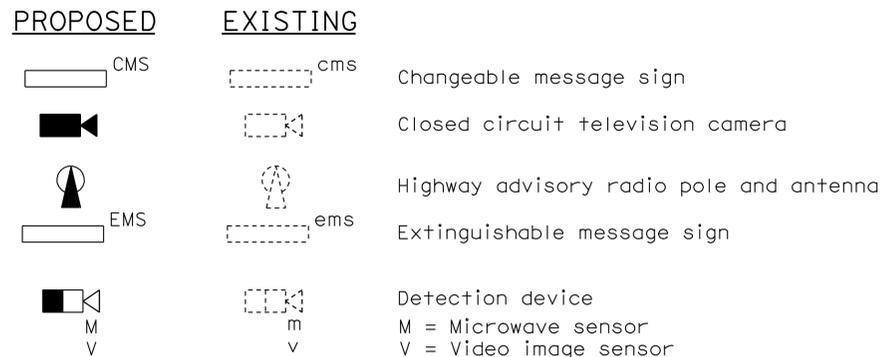
CONDUIT AND CONDUCTOR IDENTIFICATION:



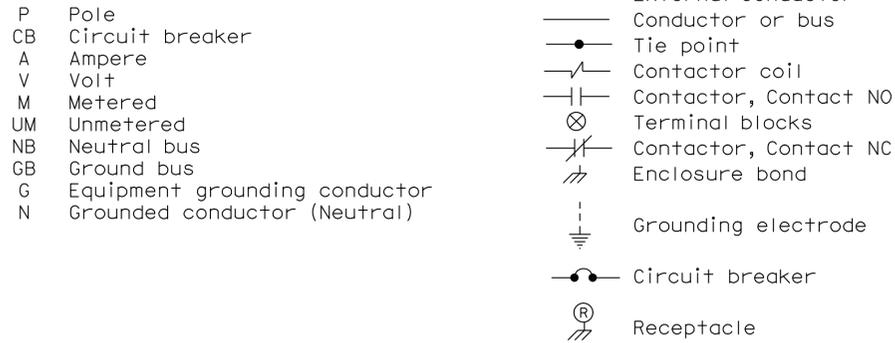
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



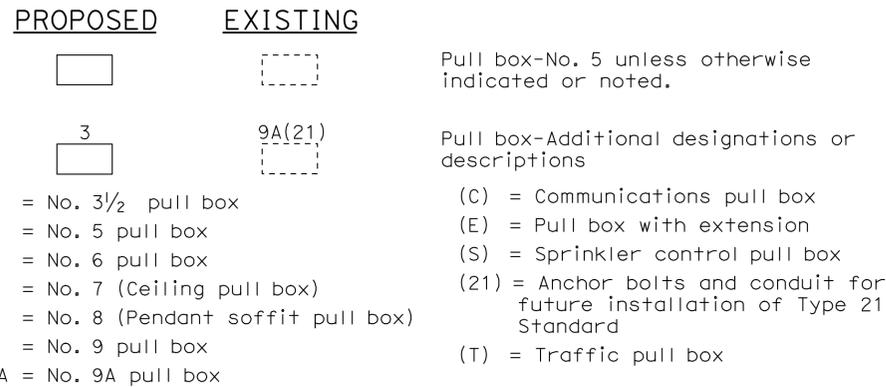
MISCELLANEOUS EQUIPMENT



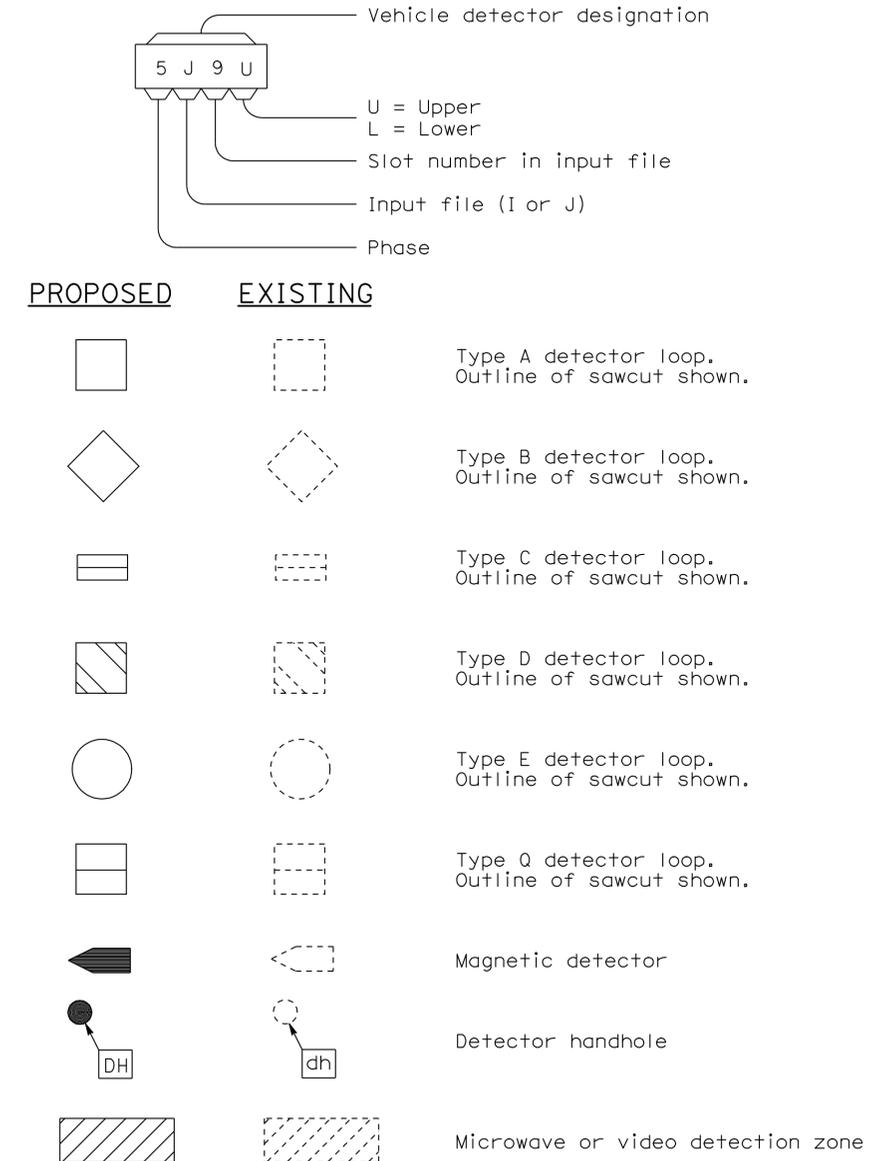
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(SYMBOLS AND ABBREVIATIONS)**

NO SCALE

RSP ES-1C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-1C
DATED MAY 1, 2006 - PAGE 402 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-1C

2006 REVISED STANDARD PLAN RSP ES-1C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	196	231

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER

October 5, 2007
 PLANS APPROVAL DATE

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NOTES-TYPE III SERVICE EQUIPMENT ENCLOSURES:

1. Service equipment enclosure and metering equipment shall meet the requirements of the service utility. The meter area shall have a sealable, lockable, weathertight cover that can be removed without the use of tools.
2. Service equipment enclosures shall be factory wired and conform to NEMA standards.
3. Dimensions of service equipment enclosures shall meet the requirements of the service utility.
4. The dead front panels on Type III service equipment enclosures shall have a continuous stainless steel or aluminum piano hinge. The panel in front of the breakers shall be secured with a latch or captive screws. No live parts shall be mounted on the dead front panel.
5. The exterior door shall have provisions for padlocking. The padlock hole shall be a minimum diameter of $\frac{1}{16}$ ".
6. Enclosures housing transformers of more than one kVA shall have effective screened ventilation louver of not less than 50 square inches. Screen shall be stainless steel No. 304, with a No. 10 size mesh. Framed screen shall be secured with at least four bolts.
7. Fasteners on the exterior of the enclosure shall be vandal-resistant and shall not be removable from the exterior. Exterior screws, nuts, bolts and washers shall be stainless steel.
8. Landing lugs for incoming service conductors shall be compatible with either copper or aluminum conductors sized to suit the conductors shown on the plan. Landing lugs shall be copper or tin-plated aluminum. Neutral bus shall be rated for 125 A and be suitable for copper or aluminum conductors unless otherwise specified. The terminal shall include but not be limited to:
 - a) Incoming terminals (landing lugs)
 - b) Neutral lugs
 - c) Solid neutral terminal strip
9. At least 6 standard single pole circuit breaker spaces, $\frac{3}{4}$ " nominal, shall be provided for branch circuits. Circuit breaker interiors shall be copper. Interiors of enclosure shall accept plug-in or cable-in/cable-out circuit breakers.
10. Control wiring shall be 600 V, 14 stranded machine tool wire. Where subject to flexing, 19 strand wire shall be used.
11. Main bus shall be rated for 125 A and shall be tin-plated copper.
12. A plastic laminated wiring diagram shall be provided with brass mounting eyelets and attached to the inside of the enclosure and the wiring diagram shall be affixed to the interior with a UL or ETL approved method.

13. An engraved phenolic nameplate on the dead front panel indicating the function of each circuit or device shall be installed with stainless steel rivets or stainless steel screws:
 - a) Adjacent to the breaker or device with character size a minimum of $\frac{1}{8}$ ".
 - b) At the top of the exterior door panel indicating State system number, voltage level and number of phases with character size a minimum of $\frac{3}{16}$ ".
14. 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.
15. 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.
16. Foundation shall extend 2" minimum beyond edge of service equipment enclosure.
17. Internal bus, where shown, is typical only. Alternative design of proposed service equipment enclosure shall be submitted to the Engineer for approval.
18. 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.
19. 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.
20. Type III-AR and Type III-BR service equipment enclosures 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.
21. Minimum clearance shall be required for front and back of service equipment enclosure per National Electrical Code, Article 110.26, "Spaces About Electric Equipment (600 Volts, Nominal, or Less)."

To accompany plans dated 6-25-12

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

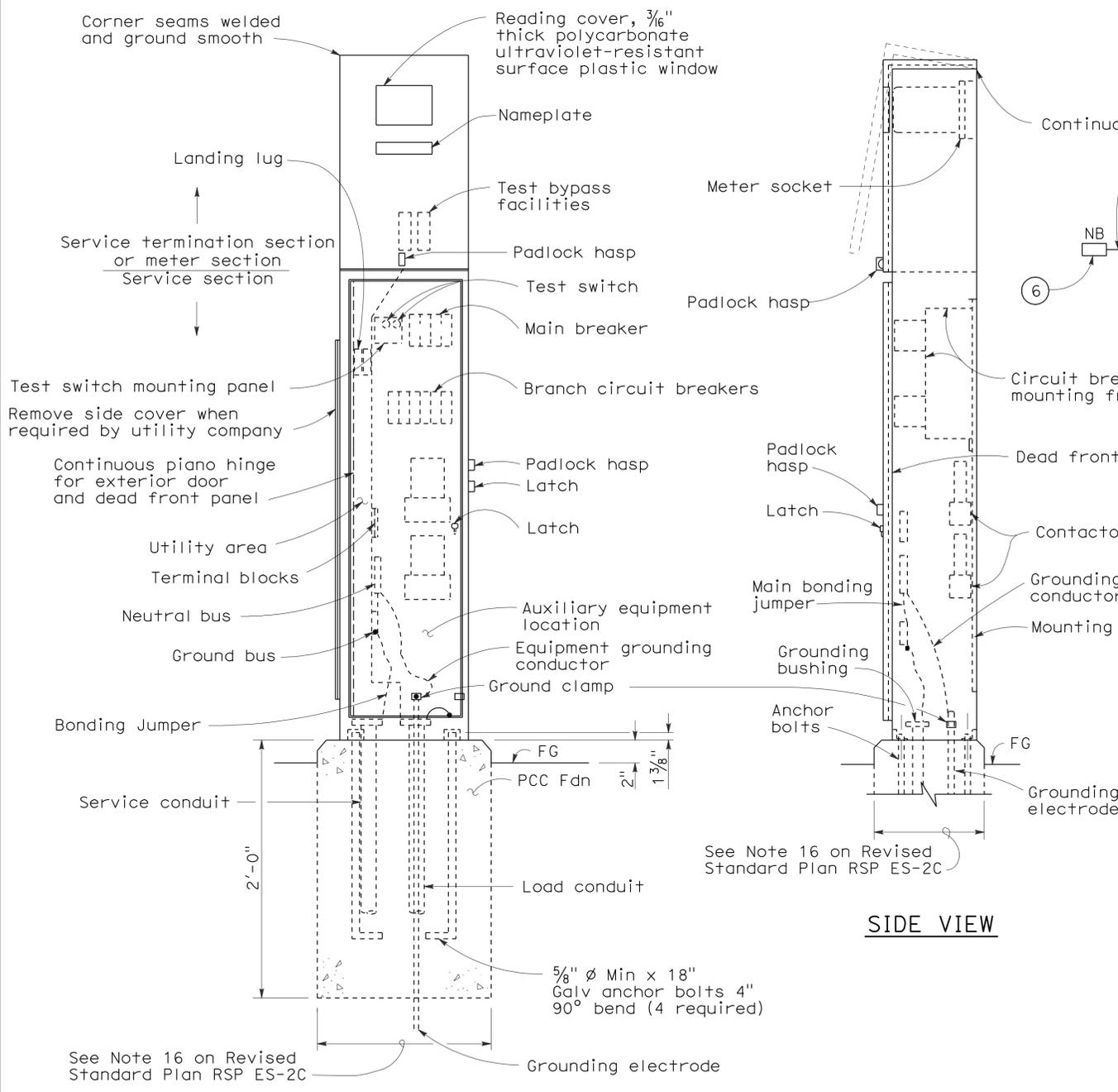
**ELECTRICAL SYSTEMS
 (SERVICE EQUIPMENT NOTES
 TYPE III SERIES)**

NO SCALE

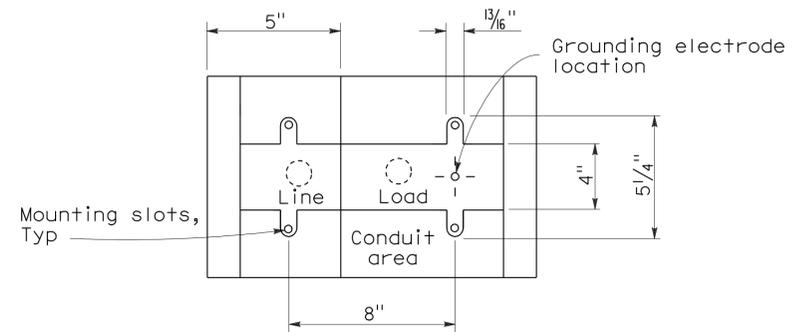
RSP ES-2C DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2C
 DATED MAY 1, 2006 - PAGE 405 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP ES-2C

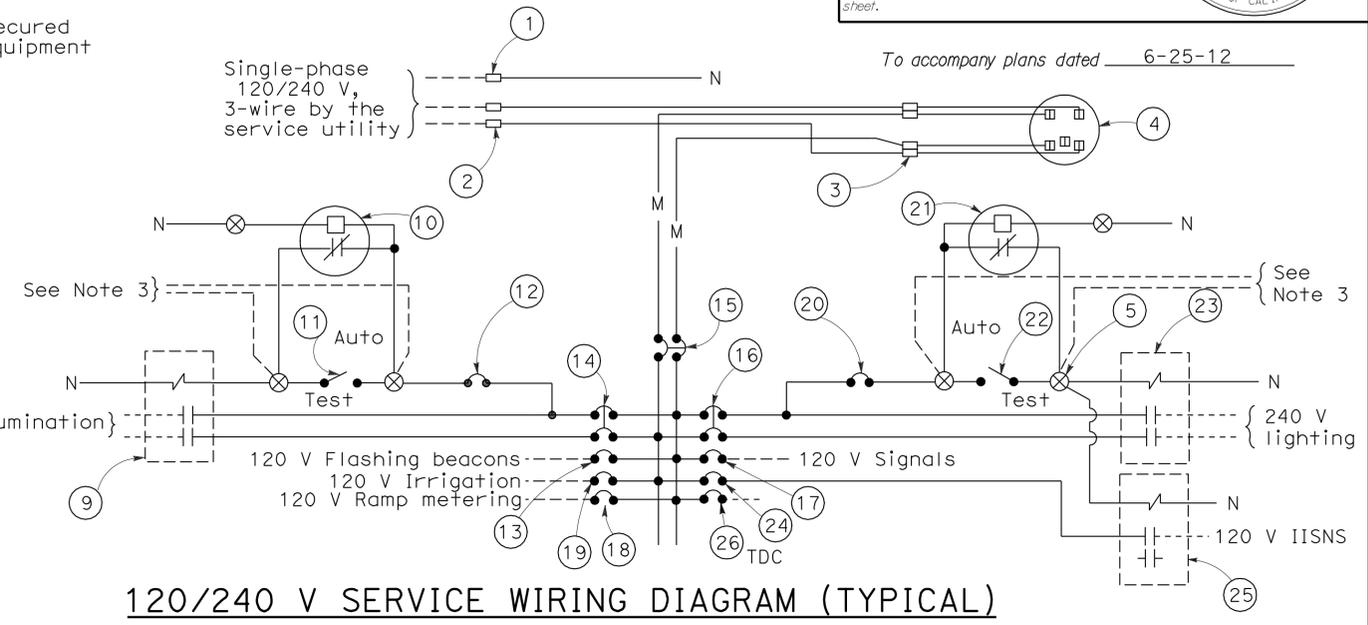
2006 REVISED STANDARD PLAN RSP ES-2C



TYPE III-AF SERVICE EQUIPMENT ENCLOSURE (TYPICAL)



BASE FOR TYPE III-A SERVICE EQUIPMENT ENCLOSURE



TYPE III-A SERVICE (120/240 V) EQUIPMENT LEGEND					
ITEM No.	COMPONENT	NAME PLATE DESCRIPTION	ITEM No.	COMPONENT	NAME PLATE DESCRIPTION
1	Neutral lug		14	30 A, 240 V, 2P, CB	Sign Illumination
2	Landing lug (Note 6)		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	Photoelectric unit (Note 7)	
9	30 A, 2PNO Contactor	Sign Illumination	22	15 A, 1P, Test switch	Lighting Test Switch
10	Photoelectric unit (Note 7)		23	60 A, 2PNO 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, 2PNO Contactor	IISNS
13	15 A, 120 V, 1P, CB	Flashing Beacon	26	20 A, 120 V, 1P, CB	Telephone Demarcation Cabinet

- NOTES: (FOR SERVICE EQUIPMENT ENCLOSURE)**
- Voltage ratings of service equipment shall conform to the service voltages indicated on the plans.
 - 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 No. 1 and 6 shall be isolated from the service equipment enclosure.
 - Meter sockets shall be 5 clip type.
 - The landing lug shall be suitable for multiple conductors.
 - Type I photoelectric control shall be used unless otherwise indicated on the plans.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (SERVICE EQUIPMENT AND
 TYPICAL WIRING DIAGRAM,
 TYPE III - A SERIES)**

NO SCALE

RSP ES-2D DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-2D DATED MAY 1, 2006 - PAGE 406 OF THE STANDARD PLANS BOOK DATED MAY 2006.

2006 REVISED STANDARD PLAN RSP ES-2D

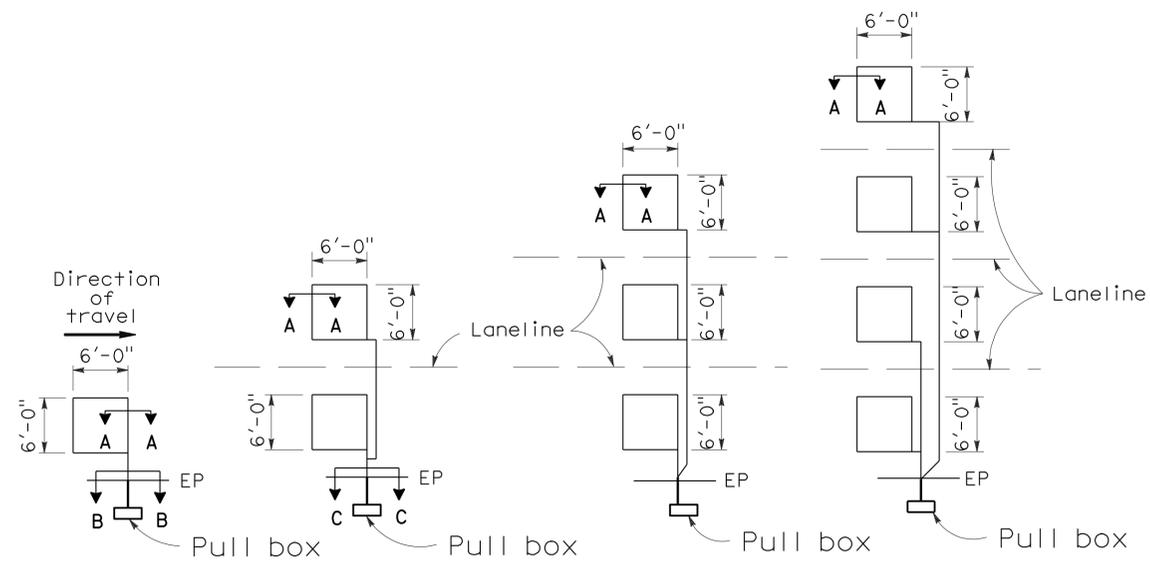
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	198	231

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 October 5, 2007
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
Jeffery G. McRae
 No. E14512
 Exp. 6-30-08
 ELECTRICAL
 STATE OF CALIFORNIA

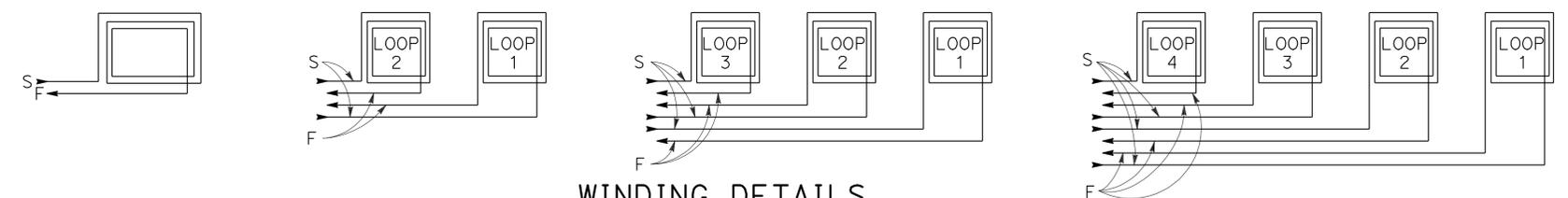
LOOP INSTALLATION PROCEDURE

- Loops shall be centered in lanes.
- Saw slots in pavement for loop conductors as shown in details.
- Distance between side of loop and a lead-in saw cut from adjacent detectors shall be 2'-0" minimum. Distance between lead-in saw cuts shall be 6" minimum.
- Bottom of saw slot shall be smooth with no sharp edges.
- Slots shall be washed until clean, blown out and thoroughly dried before installing loop conductors.
- Adjacent loops on the same sensor unit channel shall be wound in opposite directions.
- Identify and tag loop circuit pairs in the pull box with loop number, start (S) and finish (F) of conductor. Identify and tag lead-in-cable with sensor number and phase.
- Install loop conductor in slot using a 3/16" to 1/4" thick wood paddle. Hold loop conductors with wood paddles (at the bottom of the sawed slot) during sealant placement.
- No more than 2 twisted pairs shall be installed in one sawed slot.
- Allow additional 5'-0" of slack length of conductor for the lead-in run to pull box.
- The additional length of each conductor for each loop shall be twisted together into a pair (6 turns per 3'-4" minimum) before being placed in the slot and conduit leading to pull box.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the pull box before filling slots.
- Fill slots as shown in details.
- Splice loop conductors to lead-in-cable. Splices shall be soldered.
- End of lead-in-cable and Type 2 loop conductor shall be waterproofed prior to installing in conduit to prevent moisture from entering the cable.
- Lead-in-cable shall not be spliced between the pull box and the controller cabinet terminals.
- Test each loop circuit for continuity, circuit resistance and insulation resistance at the controller cabinet location.
- Where loop conductors are not to be spliced to a lead-in-cable, the ends of the conductors shall be taped and waterproofed with electrical insulating coating.



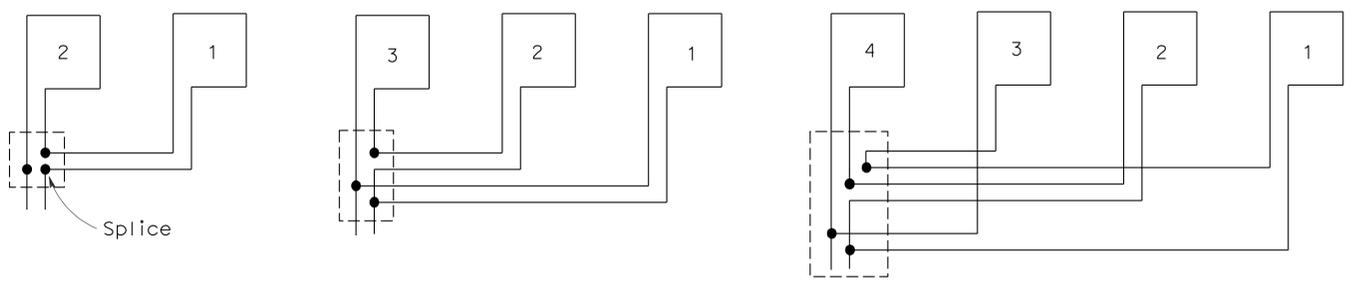
TYPE 1A INSTALLATION TYPE 2A INSTALLATION TYPE 3A INSTALLATION TYPE 4A INSTALLATION
SAWCUT DETAILS

- (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)



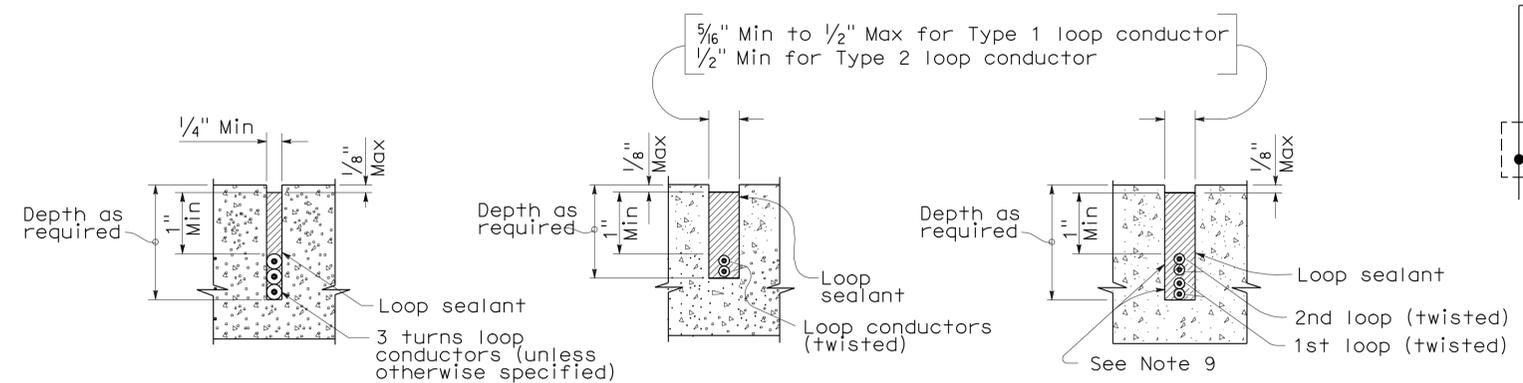
WINDING DETAILS

See Notes 6 and 7



TYPICAL LOOP CONNECTIONS

(Dashed lines represent the pull box)



SECTION A-A SECTION B-B SECTION C-C
SLOT DETAILS - TYPE 1 AND TYPE 2 LOOP CONDUCTOR

ELECTRICAL SYSTEMS (DETECTORS)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

NO SCALE

RSP ES-5A DATED OCTOBER 5, 2007 SUPERCEDES STANDARD PLAN ES-5A DATED MAY 1, 2006 - PAGE 423 OF THE STANDARD PLANS BOOK DATED MAY 2006.

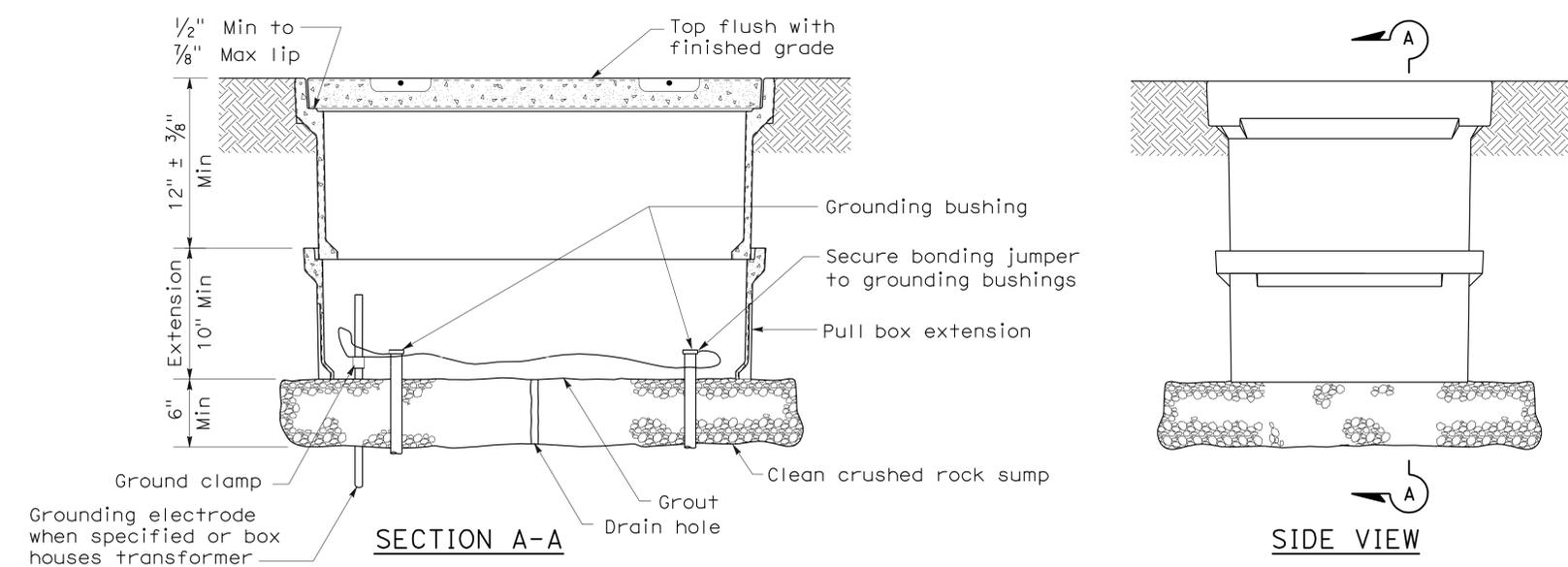
2006 REVISED STANDARD PLAN RSP ES-5A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	199	231

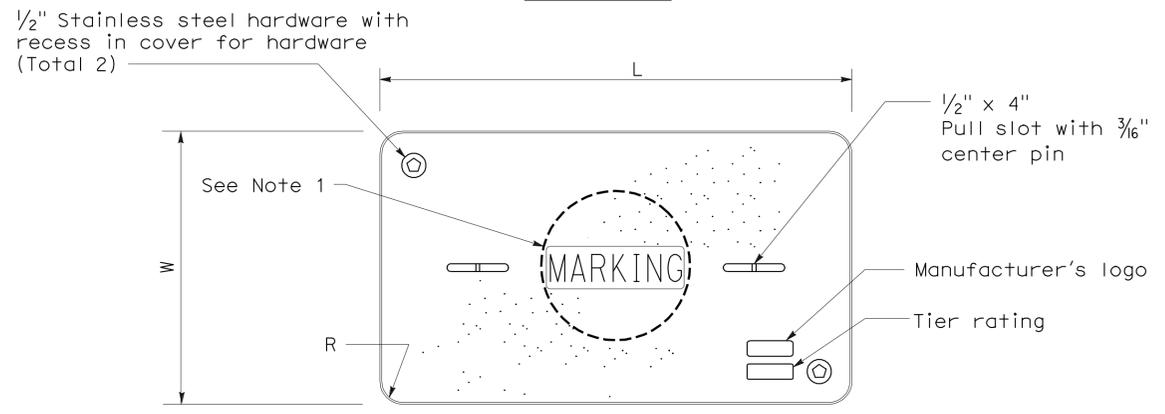
Jeffrey G. McRae
 REGISTERED ELECTRICAL ENGINEER
 January 20, 2012
 PLANS APPROVAL DATE
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER
 Jeffrey G. McRae
 No. E14512
 Exp. 6-30-12
 ELECTRICAL
 STATE OF CALIFORNIA

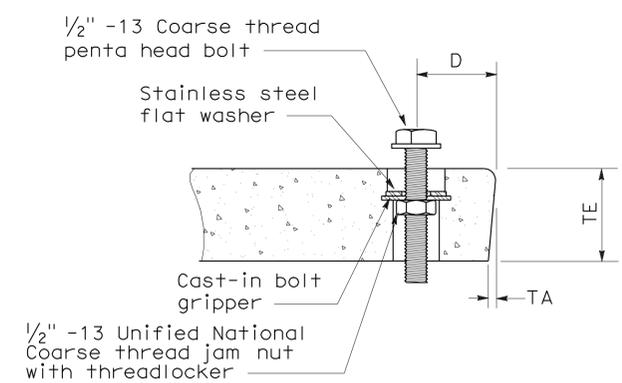
To accompany plans dated 6-25-12



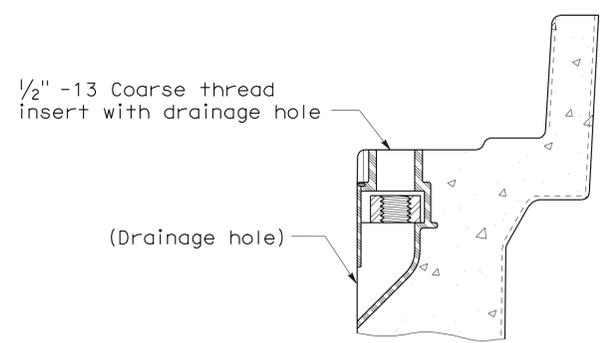
INSTALLATION DETAILS
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
(Or similar)



TYPICAL THREADED INSERT
(Or similar)

NOTES ON PULL BOXES:

- Pull box covers must 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. 3/2 pull box.
 - "SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
 - "ST LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - No. 5, 6, 9 or 9A pull box.
 - "TRAFFIC SIGNAL" - Traffic signal circuits with or without street or sign lighting circuits.
 - "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - "STREET LIGHTING-HIGH VOLTAGE" - Street or sign lighting circuits where voltage is above 600 V.
 - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
 - "RAMP METER" - Ramp meter circuits.
 - "COUNT STATION" - Count or speed monitor circuits.
 - "COMMUNICATIONS" - Communication circuits.
 - "TOS COMMUNICATIONS" - TOS communication line.
 - "TOS POWER" - TOS power.
 - "TDC POWER" - Telephone demarcation cabinet power.
 - "CCTV" - Closed circuit television circuits.
 - "TMS" - Traffic monitoring station circuits.
 - "CMS" - Changeable message sign circuits.
 - "HAR" - Highway advisory radio circuits.
- The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions (L and W) plus 1/8" or greater.
- Covers and boxes must be interchangeable with California Standard. When interchanged with a standard, the top surfaces must be flush within 1/8". Top outside radius of covers and pull boxes must have a 1/8" radius.
- Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	Minimum Depth Box	Minimum Depth Extension	Maximum Weight	L	W	R	TE	TA	D	Maximum Weight
No. 3/2	12"	N/A	40 lb	1' - 3 3/8"	10 1/8"	1 3/8"	2"	1/8"	1 3/4"	30 lb
No. 5	12"	10"	55 lb	1' - 11 1/4"	1' - 1 3/4"	1 3/8"	2"	1/8"	1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 6 1/2"	1' - 5 1/2"	1 3/8"	2"	1/8"	2"	85 lb

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

NSP ES-8A DATED JANUARY 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED MAY 2006.

2006 NEW STANDARD PLAN NSP ES-8A

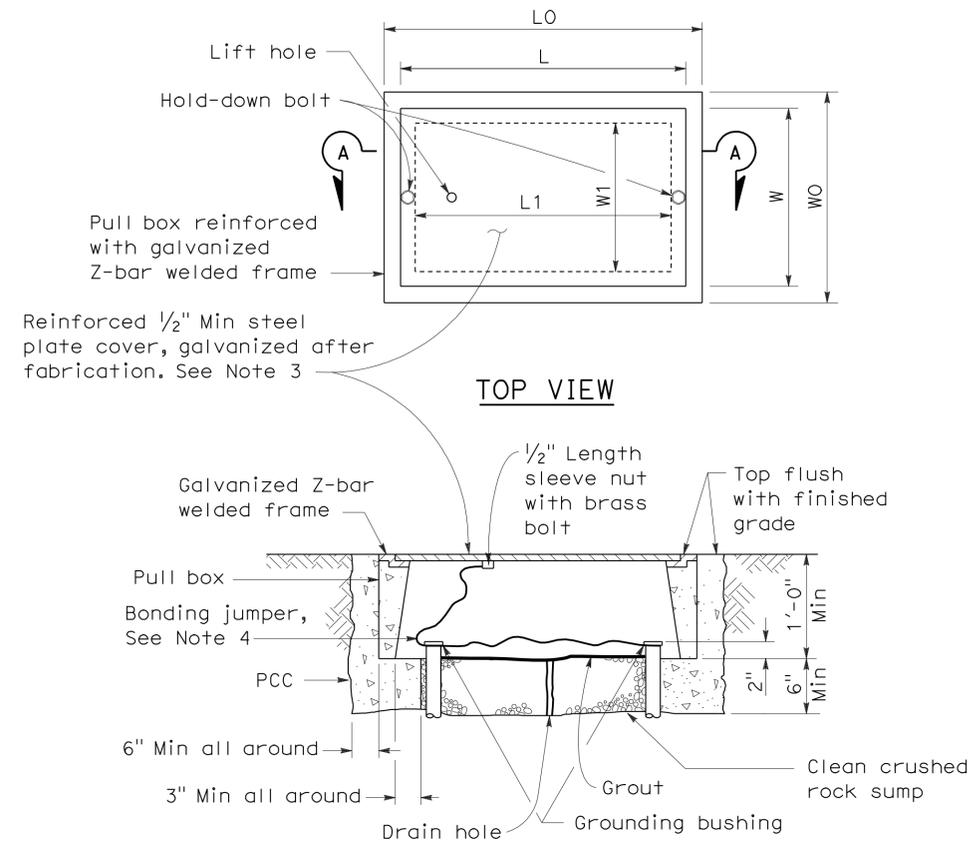
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
03	But	99	28.1/29.6	200	231

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 January 20, 2012
 PLANS APPROVAL DATE

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To accompany plans dated 6-25-12

2006 NEW STANDARD PLAN NSP ES-8B



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

NOTES ON PULL BOXES:

- 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 must 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 street or sign lighting circuits.
 - "ST LIGHTING" - Street 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 street or sign lighting circuits.
 - "STREET LIGHTING" - Street or sign lighting circuits where voltage is under 600 V.
 - "STREET LIGHTING-HIGH VOLTAGE" - Street 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.
- Bonding jumper for metal covers shall be 3' long, minimum.
- The nominal dimensions of the opening in which the cover sets must be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes must be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces must be flush within 1/8".

DIMENSION TABLE

PULL BOX	BOX						COVER				
	Minimum * Thickness	Minimum Depth Box and Extension	W0	L0	L1	W1	L **	W **	R	Edge Thickness	Edge Taper
No. 3 1/2(T)	1 1/2"	1'-0"	1'-5"± 1"	1'-8 7/8"±	1'-2 1/2"±	10 5/8"± 1"	1'-8"±	1'-1 3/4"±	0"	1/2"	None
No. 5(T)	1 3/4"	1'-0"	1'-11 1/2"± 1"	2'-5 1/2"±	1'-7"±	1'-1"± 1"	2'-3"±	1'-4"±	0"	1/2"	None
No. 6(T)	2"	1'-0"	2'-6"± 1"	2'-11 1/2"±	1'-11 1/2"±	1'-5"± 1"	2'-9"±	1'-8"±	0"	1/2"	None

* Excluding conduit web ** Top dimension

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

NSP ES-8B DATED JANUARY 20, 2012 SUPPLEMENTS THE
STANDARD PLANS BOOK DATED MAY 2006.

NEW STANDARD PLAN NSP ES-8B