

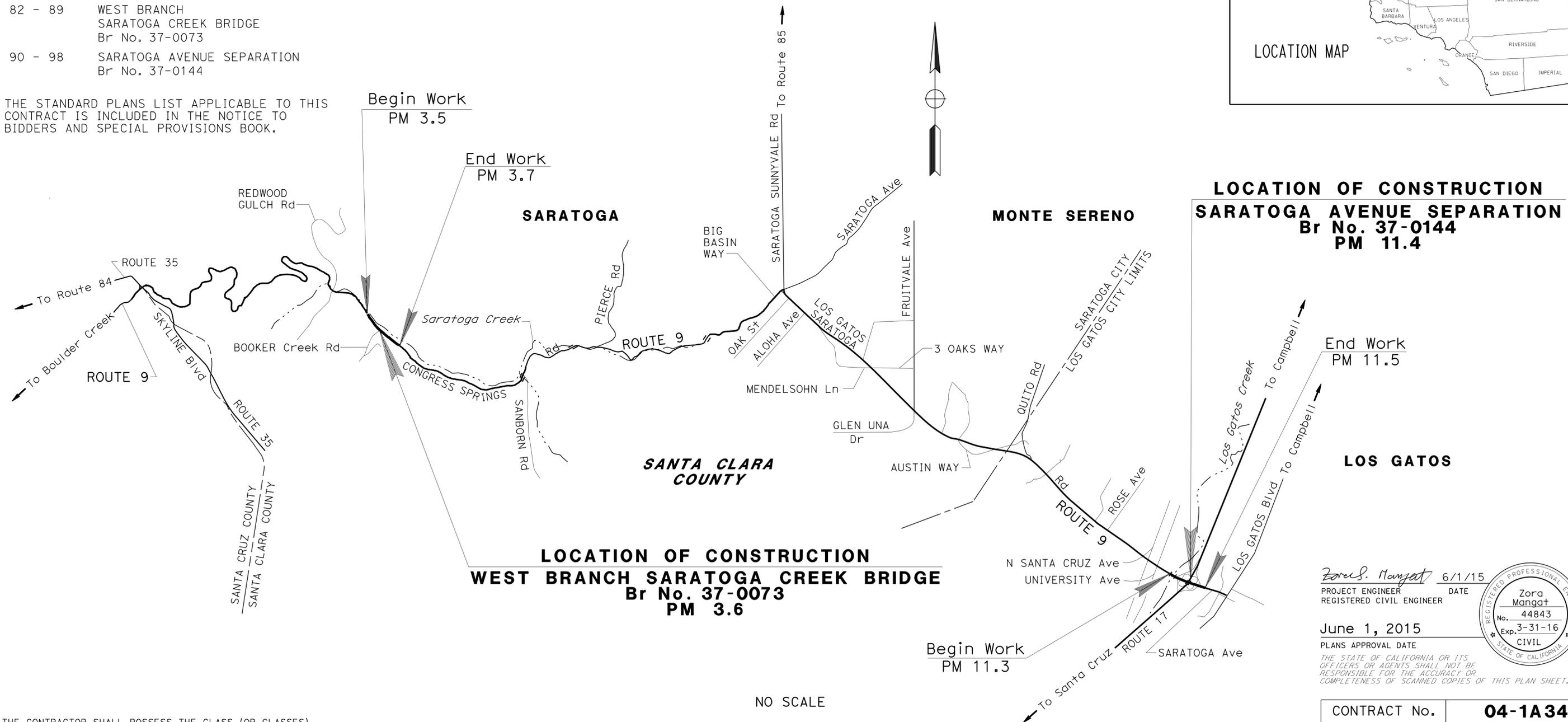
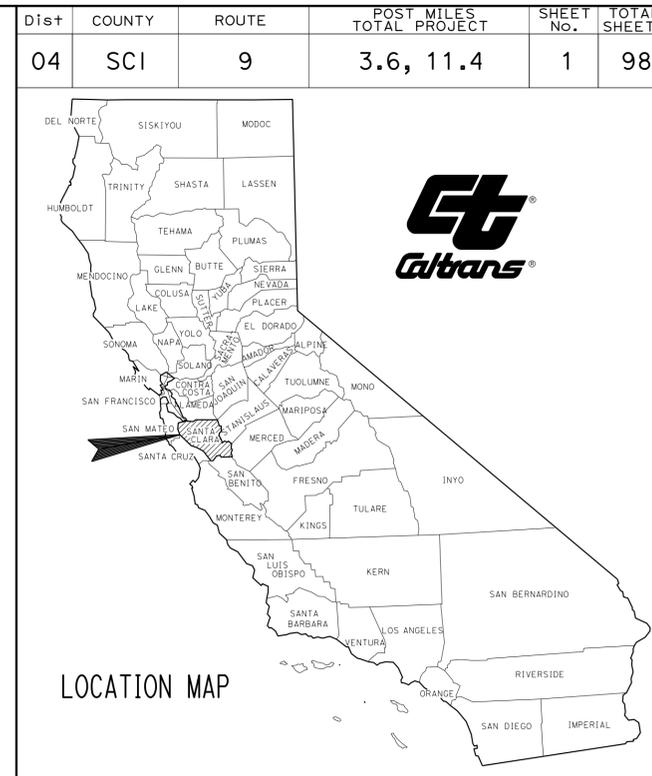
INDEX OF PLANS

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2	TYPICAL CROSS SECTIONS
3 - 4	LAYOUT
5 - 7	CONSTRUCTION DETAILS
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18 - 21	STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN AND QUANTITIES
22 - 25	PAVEMENT DELINEATION PLAN, DETAILS AND QUANTITIES
26 - 34	SIGN PLAN, DETAILS, SPECIAL DESIGN SIGNS AND QUANTITIES
35	SUMMARY OF QUANTITIES
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90 - 98	SARATOGA AVENUE SEPARATION Br No. 37-0144

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

STATE OF CALIFORNIA **ACSTP-P009(022)E**
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON STATE HIGHWAY
IN SANTA CLARA COUNTY
IN SARATOGA AND LOS GATOS
AT WEST BRANCH SARATOGA CREEK BRIDGE
AND AT SARATOGA AVENUE SEPARATION

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



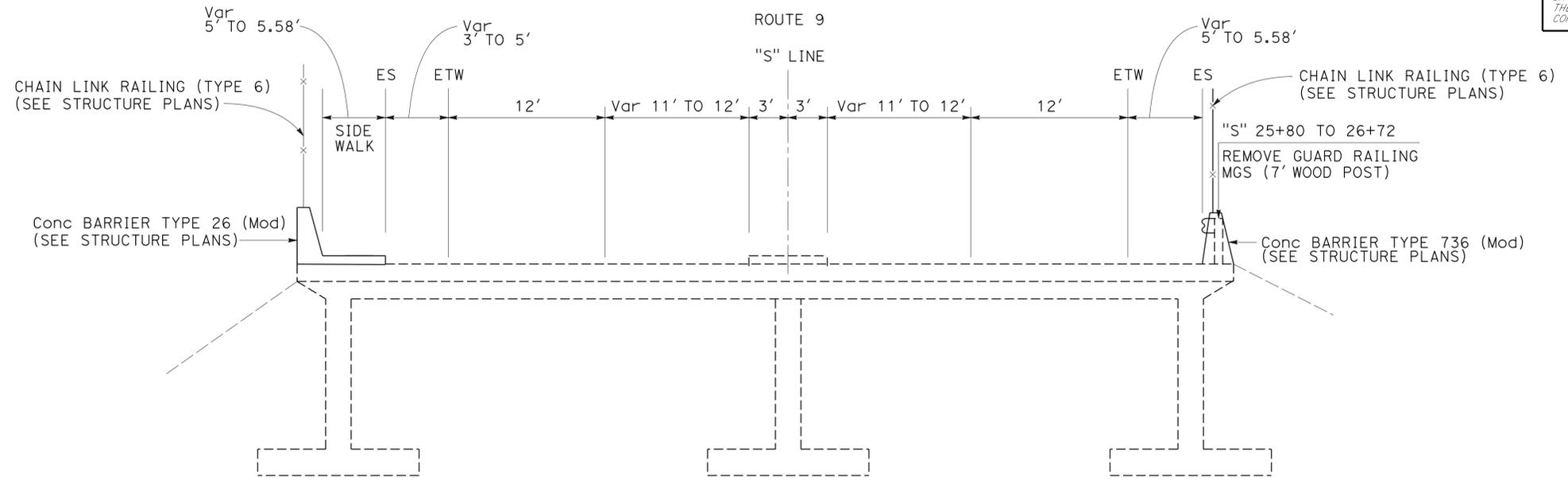
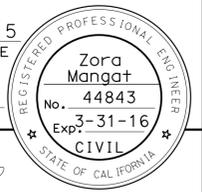
Zora Mangat 6/1/15
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER
June 1, 2015
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



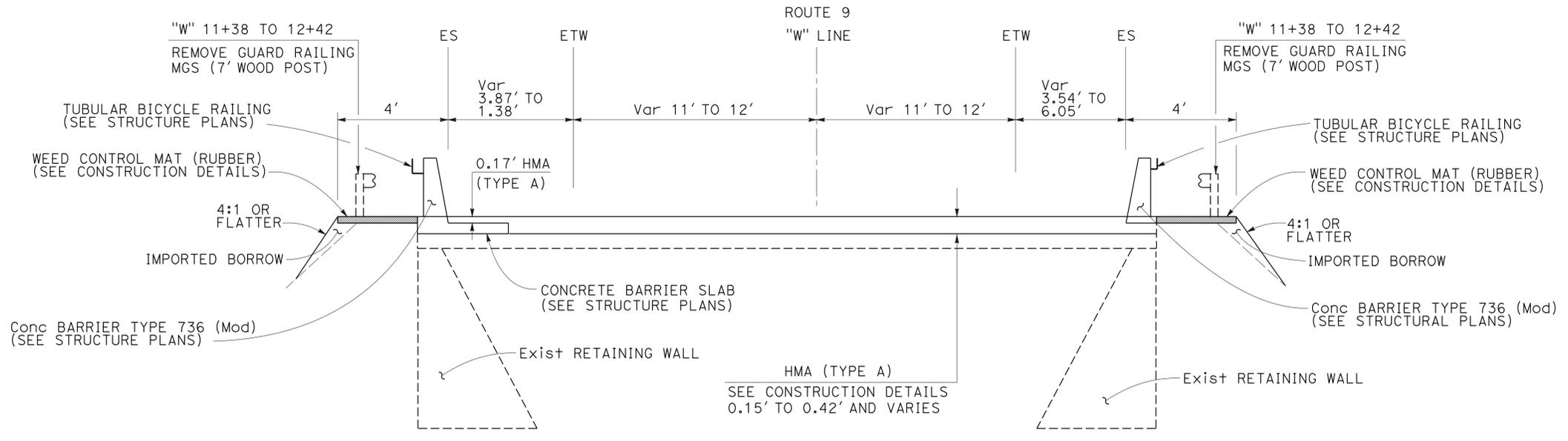
CONTRACT No.	04-1A3404
PROJECT ID	0412000162

PROJECT MANAGER
 FUK NYAN KURNIAWAN
 DESIGN MANAGER
 SINDHU KURUP

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	2	98
<i>Zora Mangat</i> 6/1/15 REGISTERED CIVIL ENGINEER DATE					
6-1-15 PLANS APPROVAL DATE					
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.					



"S" 24+80 TO 31+10
SARATOGA AVENUE SEPARATION (ROUTES 9 AND 17)



"W" 11+62.20 TO 12+52.20, "W" 13+10.20 TO 14+10.20
WEST BRANCH SARATOGA CREEK BRIDGE

TYPICAL CROSS SECTIONS
 NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	SINDHU KURUP
ZORA MANGAT	SINDHU KURUP
REVISOR	ZM
DATE	5/26/15
CHECKED BY	
DESIGNED BY	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: SINDHU KURUP
 CHECKED BY: SINDHU KURUP
 ZORA MANGAT
 REVISOR: ZM
 DATE: 5/26/15

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

LEGEND:

-  CONFORM FROM BRIDGE DECK TO Exist SURFACE
-  LONGITUDINAL CONFORM ROUTE 9 TO Exist BOOKER CREEK ROAD
-  TRSF TEMPORARY REINFORCED SILT FENCE
-  WEED CONTROL MAT (RUBBER)

NOTE:
 1. FOR DETAILS OF WEED CONTROL MAT (RUBBER),
 SEE CONSTRUCTION DETAILS.

ABBREVIATIONS:

- AFTS ALTERNATIVE FLARED TERMINAL SYSTEM
- AITs ALTERNATIVE IN-LINE TERMINAL SYSTEM
- BM BRIDGE MOUNTED
- TRSF TEMPORARY REINFORCED SILT FENCE

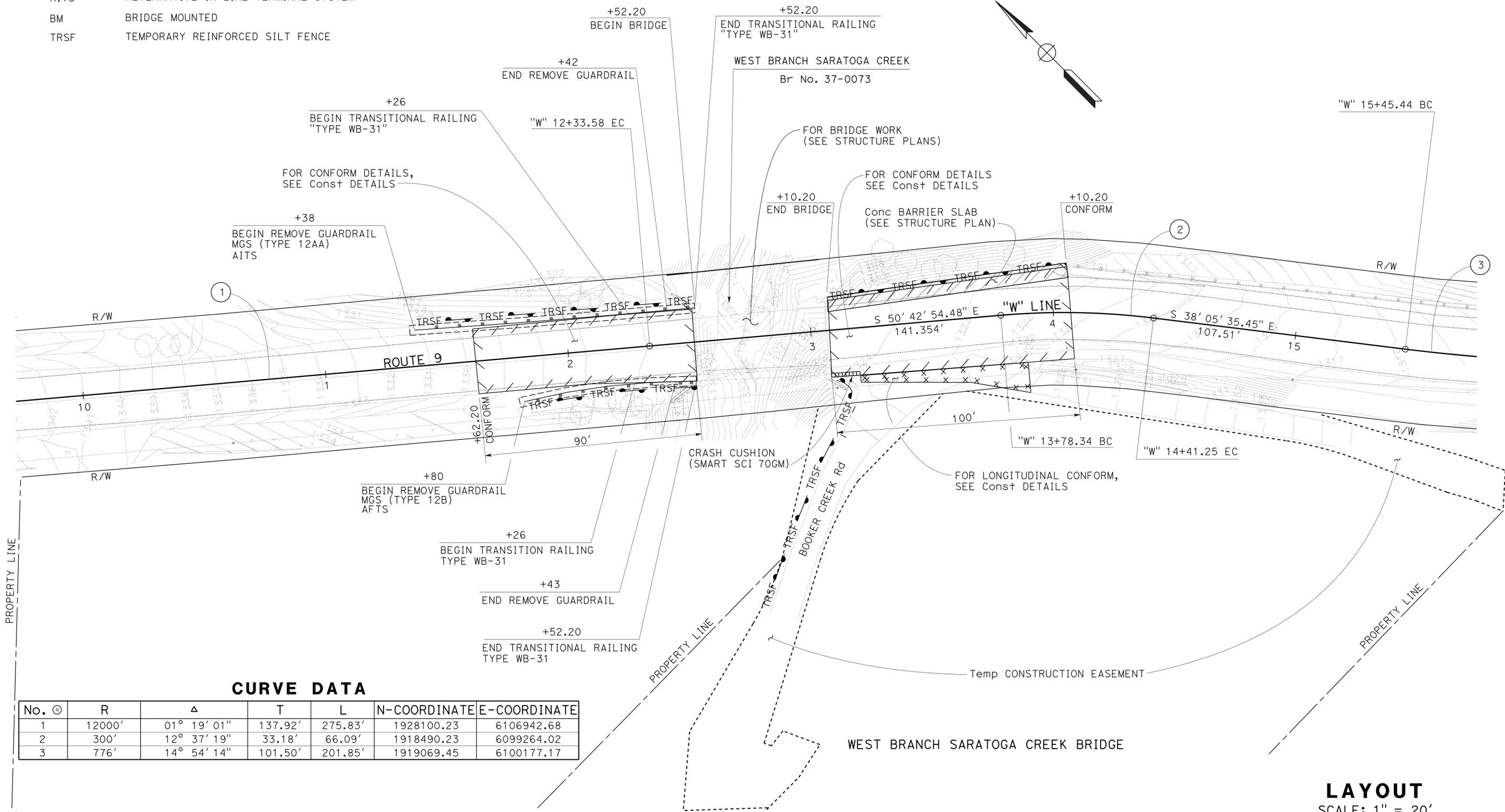
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	3	98

Zora Mangat 6/1/15
 REGISTERED CIVIL ENGINEER DATE

6-1-15
 PLANS APPROVAL DATE

Zora Mangat
 No. 44843
 Exp. 3-31-16
 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.



CURVE DATA

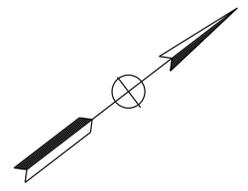
No. @	R	Δ	T	L	N-COORDINATE	E-COORDINATE
1	12000'	01° 19' 01"	137.92'	275.83'	1928100.23	6106942.68
2	300'	12° 37' 19"	33.18'	66.09'	1918490.23	6099264.02
3	776'	14° 54' 14"	101.50'	201.85'	1919069.45	6100177.17

LAYOUT
 SCALE: 1" = 20'



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: SINDHU KURUP
 CHECKED BY: SINDHU KURUP
 ZORA MANGAT
 REVISIONS: ZM 5/26/15

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



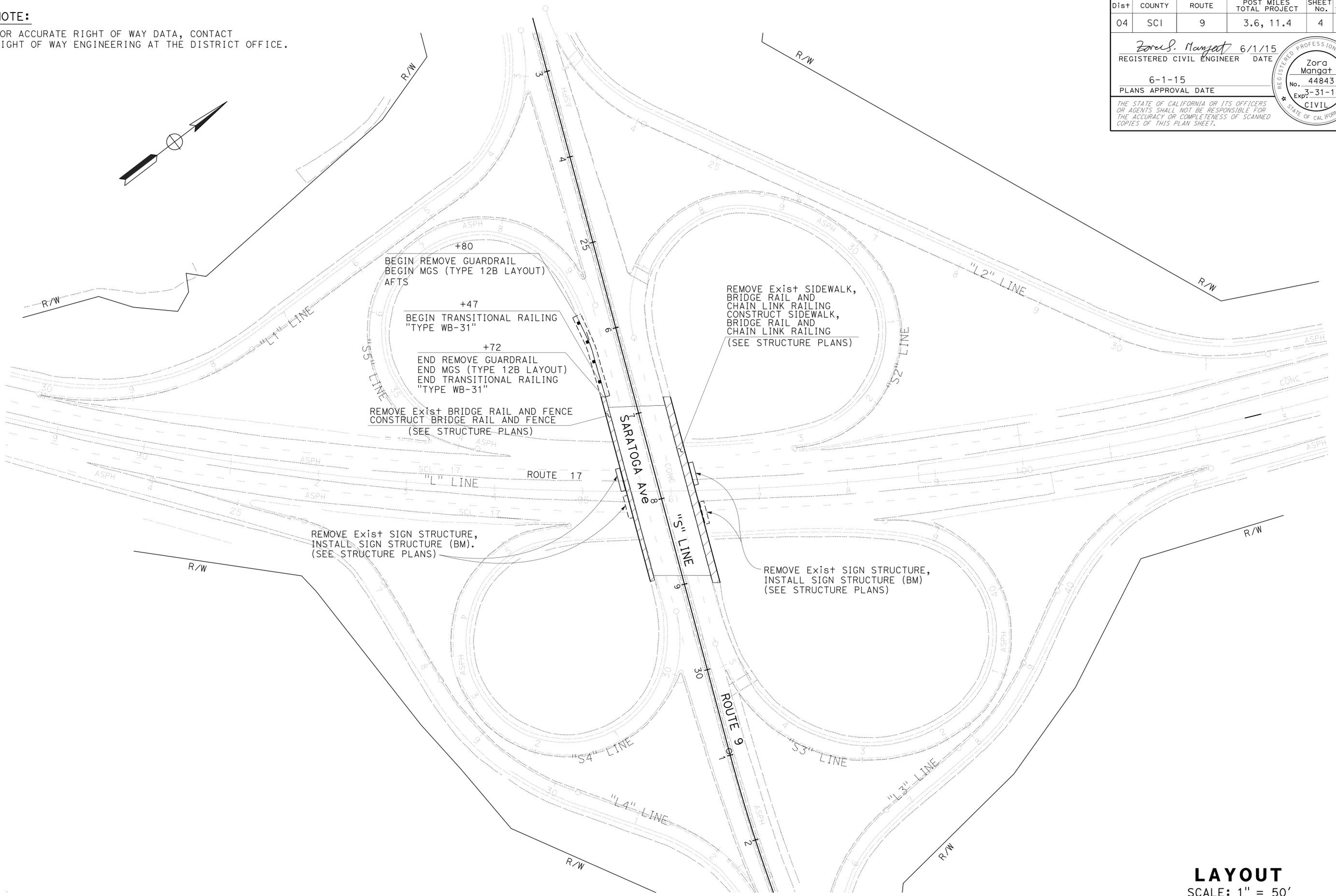
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	4	98

Zora Mangat 6/1/15
 REGISTERED CIVIL ENGINEER DATE

6-1-15
 PLANS APPROVAL DATE

Zora Mangat
 No. 44843
 Exp. 3-31-16
 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.



FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET L-1

LAYOUT
 SCALE: 1" = 50'

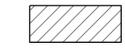
L-2

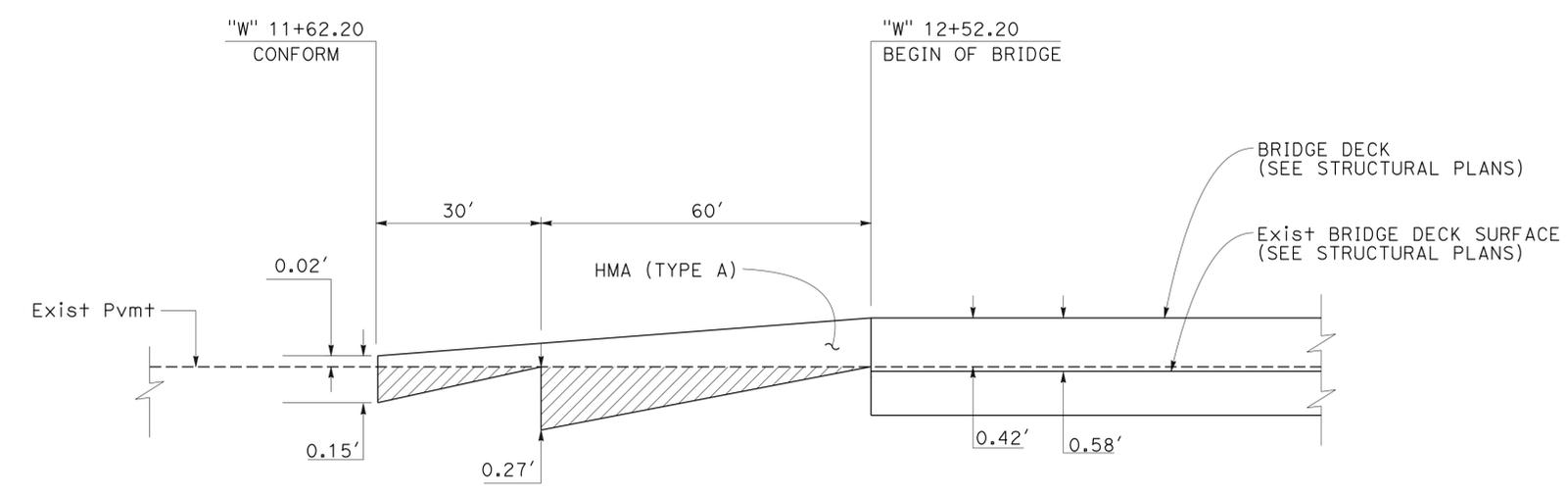
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: SINDHU KURUP
 ZORA MANGAT
 SINDHU KURUP
 REVISIONS: ZM 5/26/15
 REVISIONS: DATE REVISIONS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	5	98

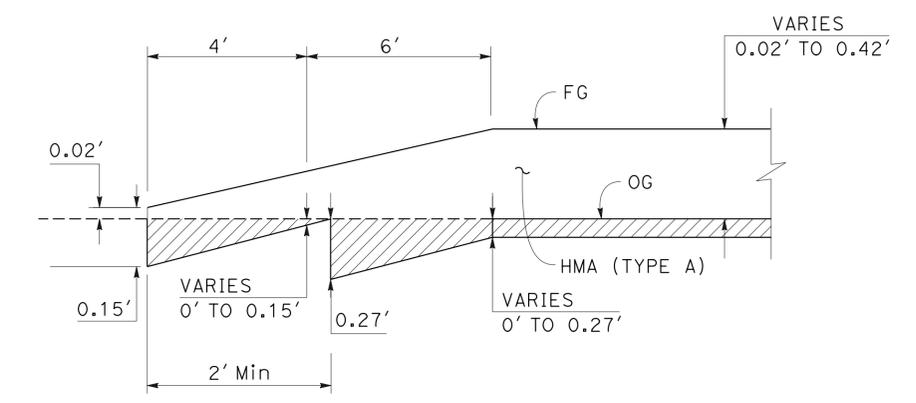
REGISTERED CIVIL ENGINEER: *Zora Mangat* 6/1/15
 DATE: 6-1-15
 PLANS APPROVAL DATE: 6-1-15
 REGISTERED PROFESSIONAL ENGINEER: Zora Mangat, No. 44843, Exp. 3-31-16, CIVIL
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

LEGEND:

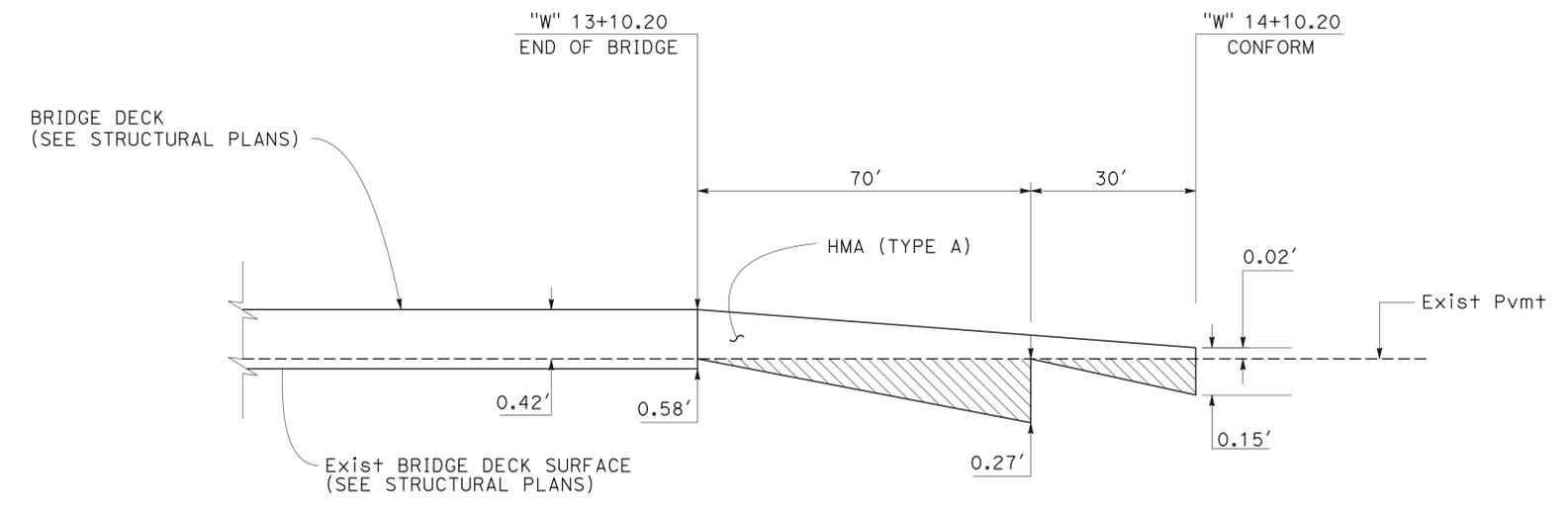
 COLD PLANE Exist AC PAVEMENT



CONFORM
 "W" 11+62.20 TO 12+52.28



LONGITUDINAL CONFORM



CONFORM
 "W" 13+10.20 TO 14+10.20

CONSTRUCTION DETAILS
 NO SCALE

C-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - LANDSCAPE ARCHITECTURE

CONNIE YIP
DAVID ENG

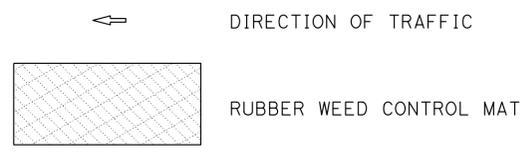
REVISOR: CY
DATE: 5/29/15

DESIGNED BY: KIMBERLY WHITE
CHECKED BY:

NOTES:

1. EDGES OF MAT TO ABUT EDGES OF POST.
2. WHERE EDGE OF PAVED SHOULDER IS MORE THAN 24" FROM BACK OF POST, EDGE OF WEED CONTROL MAT MUST BE 24" FROM BACK OF POST. WHERE PAVED SHOULDER IS CONSTRUCTED 24" OR LESS FROM BACK OF POST, ABUT EDGE OF WEED CONTROL MAT AGAINST EDGE OF PAVED SHOULDER. WHERE DIKE IS CONSTRUCTED UNDER RAILING, ABUT EDGE OF WEED CONTROL MAT AGAINST BACK OF DIKE.
3. LAP WEED CONTROL MAT IN DIRECTION OF WATER FLOW.
4. FOR CONTINUOUS ROLL PRODUCT, LOCATE OVERLAP JOINT AT OR BETWEEN POSTS AS SHOWN.
5. DIRECTION OF ADJACENT TRAFFIC INDICATED BY ←.

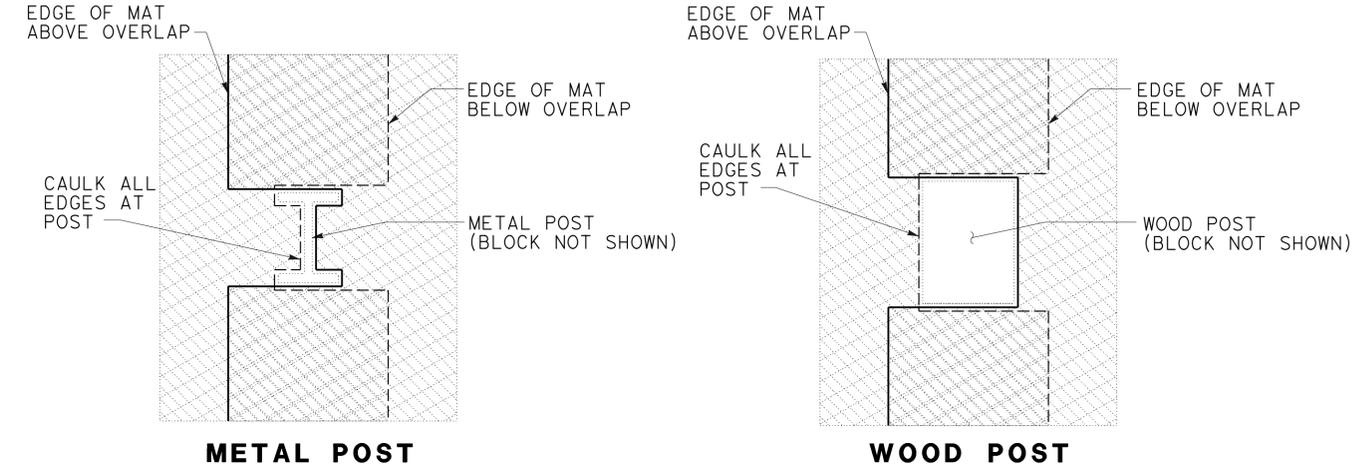
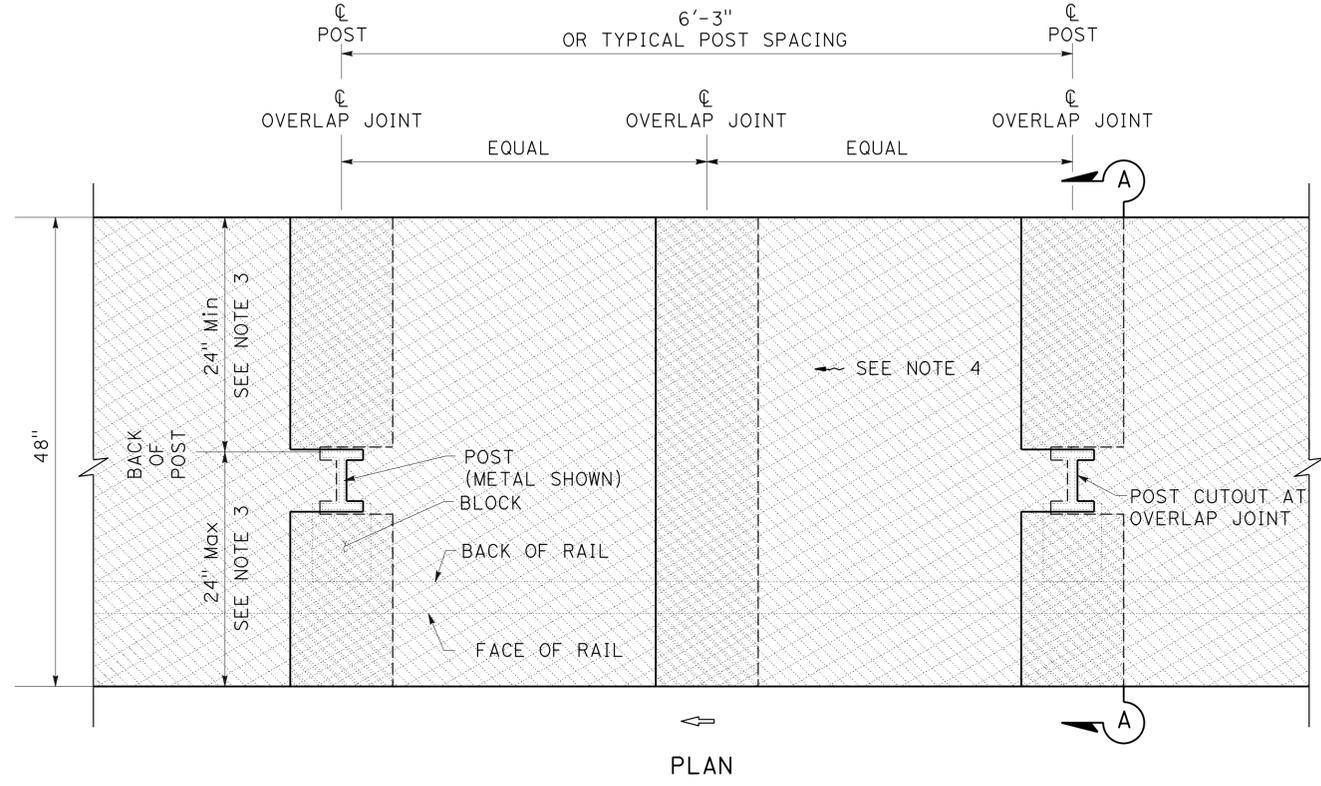
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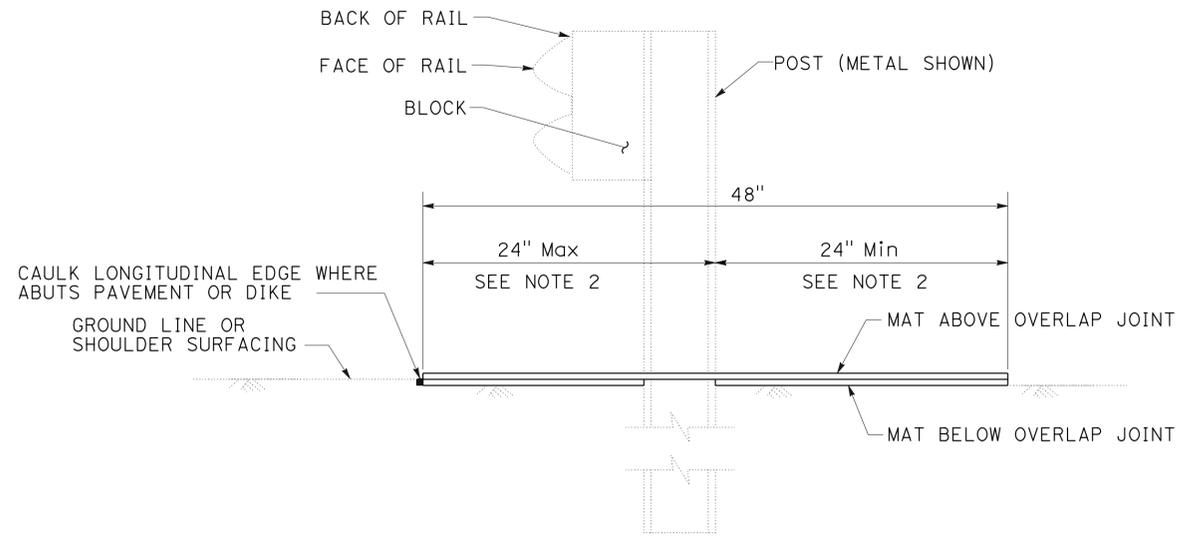
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	6	98

6-1-15
 PLANS APPROVAL DATE

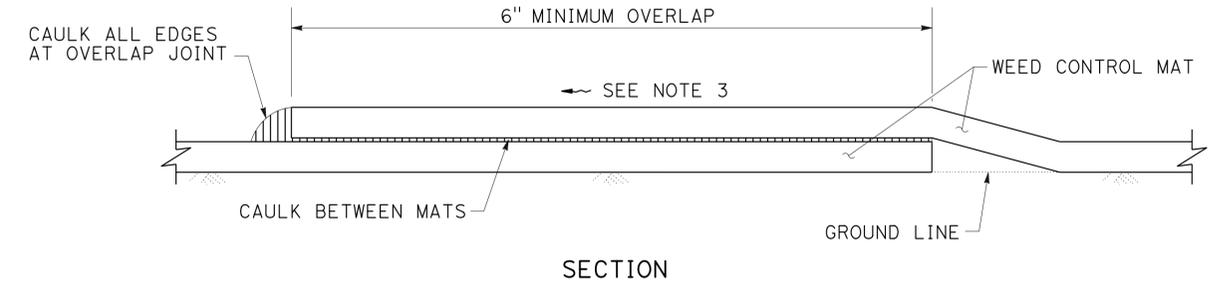
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



PLAN
POST CUTOUT AT OVERLAP JOINT
SEE NOTE 2



SECTION A-A



SECTION
OVERLAP JOINT

WEED CONTROL MAT (RUBBER) UNDER MIDWEST GUARDRAIL SYSTEM

CONSTRUCTION DETAILS
NO SCALE

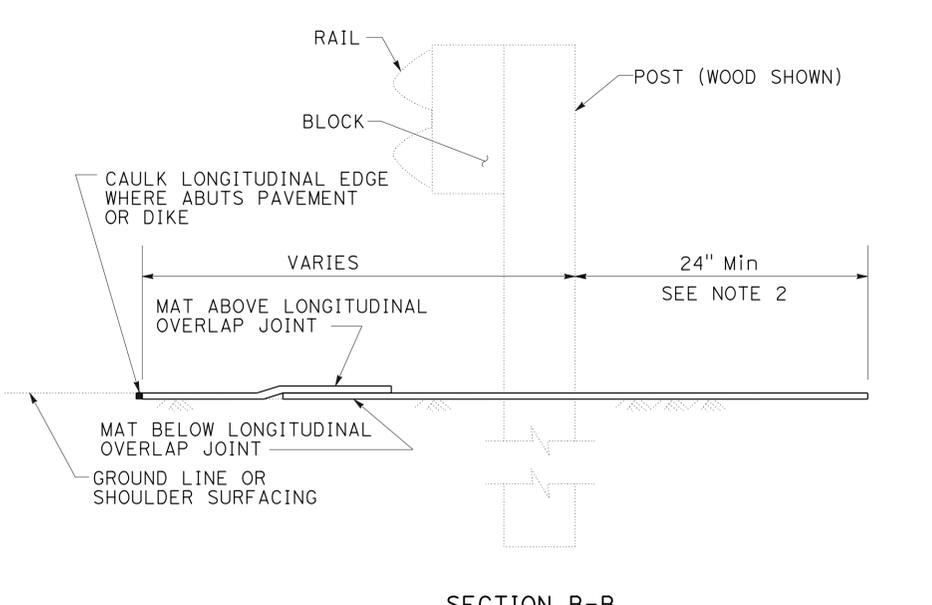
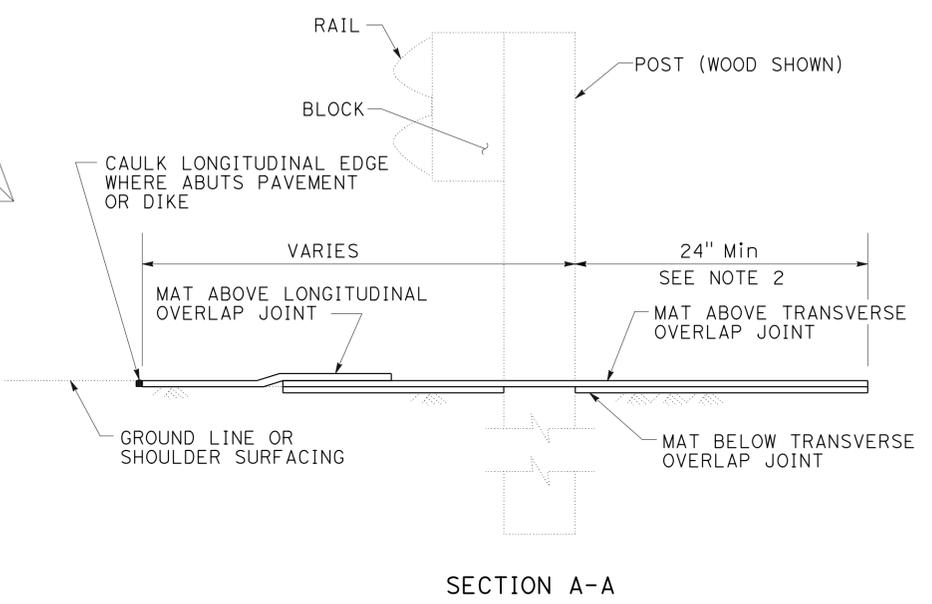
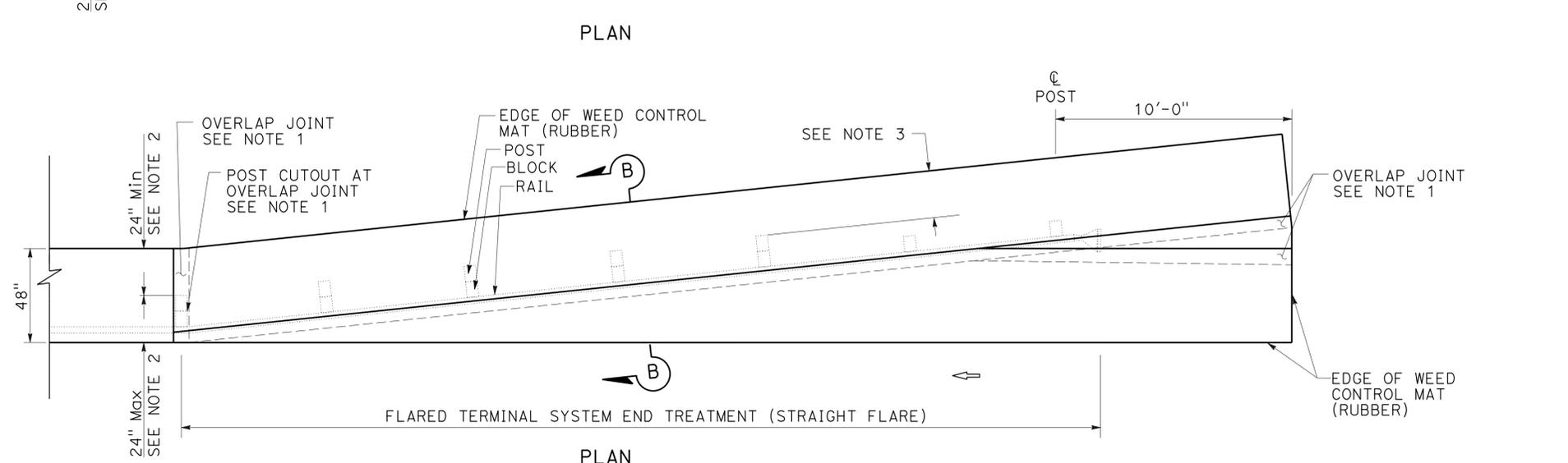
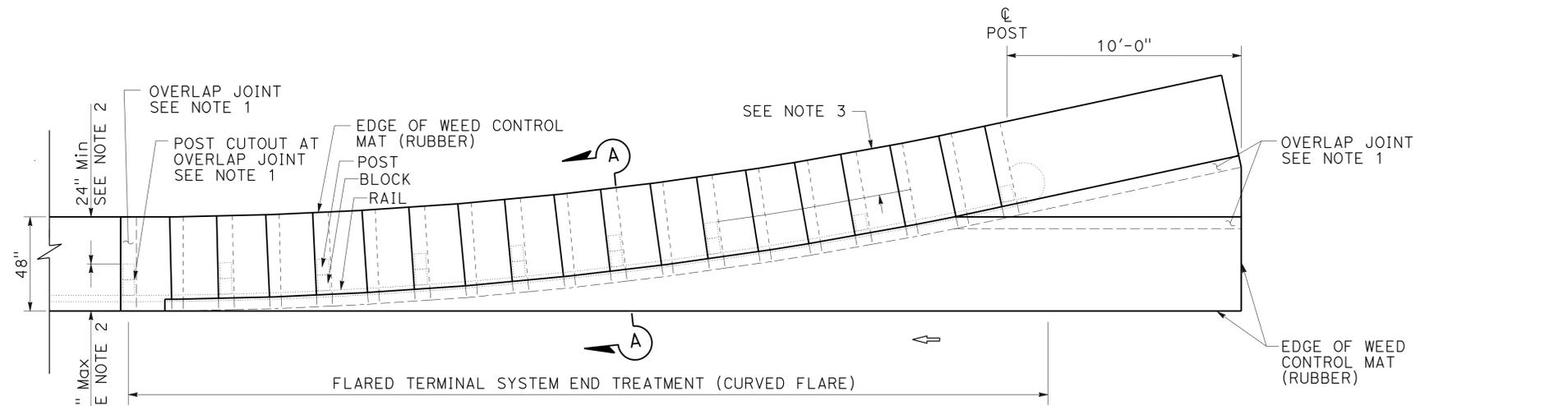
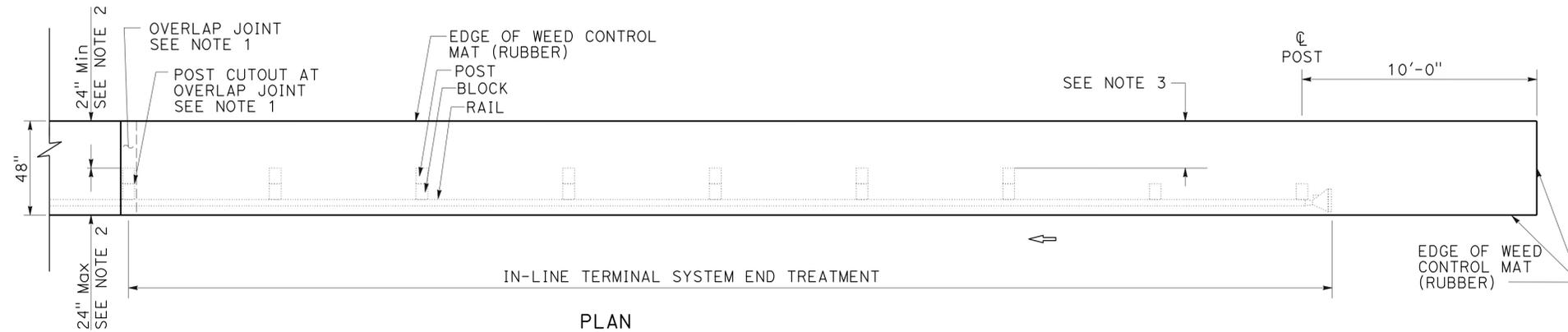
SEE NOTE 1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	7	98

Signature: *Connie M YIP*
 LICENSED LANDSCAPE ARCHITECT
 6-1-15
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTES:

- SEE WEED CONTROL MAT (RUBBER) UNDER METAL BEAM GUARD RAILING FOR ADDITIONAL POST CUTOUT AND OVERLAP JOINT DETAILS.
- WHERE EDGE OF PAVED SHOULDER IS MORE THAN 24" FROM BACK OF POST, EDGE OF WEED CONTROL MAT MUST BE 24" FROM BACK OF POST. WHERE PAVED SHOULDER IS CONSTRUCTED 24" OR LESS FROM BACK OF POST, ABUT EDGE OF WEED CONTROL MAT AGAINST EDGE OF PAVED SHOULDER. WHERE DIKE IS CONSTRUCTED UNDER RAILING, ABUT EDGE OF WEED CONTROL MAT AGAINST BACK OF DIKE.
- CONTINUE ALIGNMENT OF MAT EDGE AT OFFSET FROM BACK OF POST.
- LAP WEED CONTROL MAT IN DIRECTION OF WATER FLOW.
- DIRECTION OF ADJACENT TRAFFIC INDICATED BY ← .



RUBBER WEED CONTROL MAT (RUBBER) UNDER TERMINAL SYSTEM END TREATMENTS

CONSTRUCTION DETAILS

NO SCALE

C-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION - LANDSCAPE ARCHITECTURE
 SENIOR LANDSCAPE ARCHITECT: KIMBERLY WHITE
 CONNIE YIP
 DAVID ENG
 REVISED BY: DATE REVISED: 5/29/15
 CY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans WATER QUALITY

FUNCTIONAL SUPERVISOR
 KAMRAN NAKHJURI

CALCULATED/DESIGNED BY
 CHECKED BY

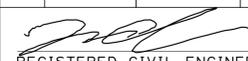
JIANGFAN CHEN
 KAMRAN NAKHJURI

REVISED BY
 DATE REVISED

JC
 10/30/14

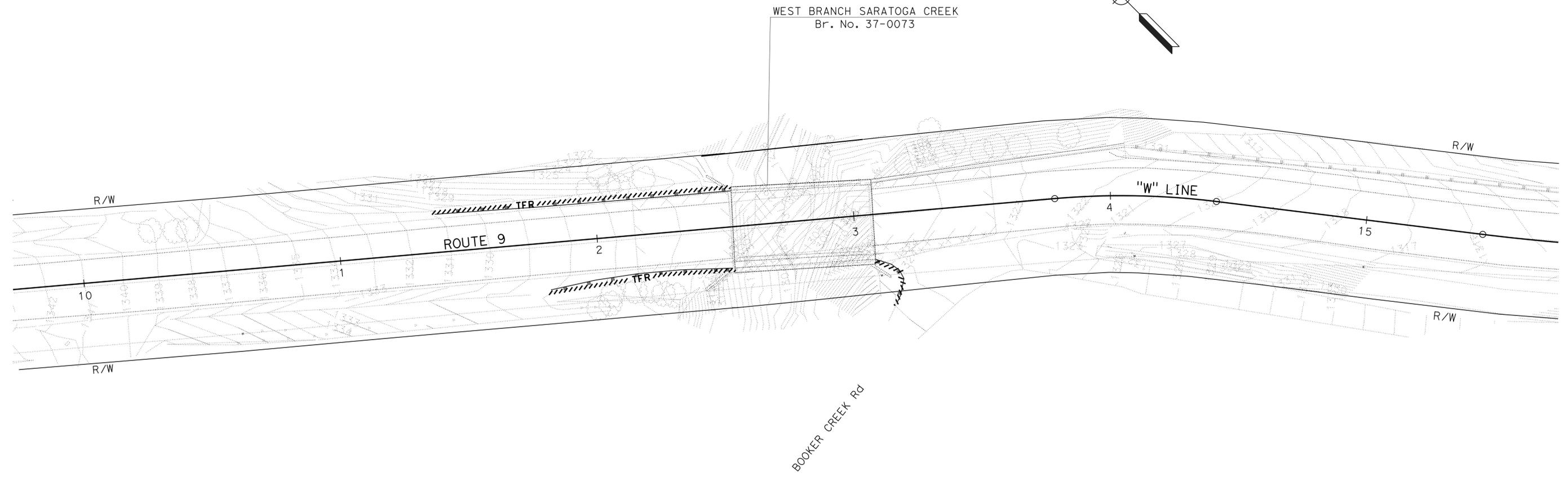
NOTE:
 FOR ACCURATE RIGHT OF WAY DATA, CONTACT
 RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	8	98

 6/1/15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Jiangfan Chen
 No. 77248
 Exp. 6-30-17
 CIVIL
 STATE OF CALIFORNIA

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



TEMPORARY WATER POLLUTION CONTROL PLAN
 NO SCALE

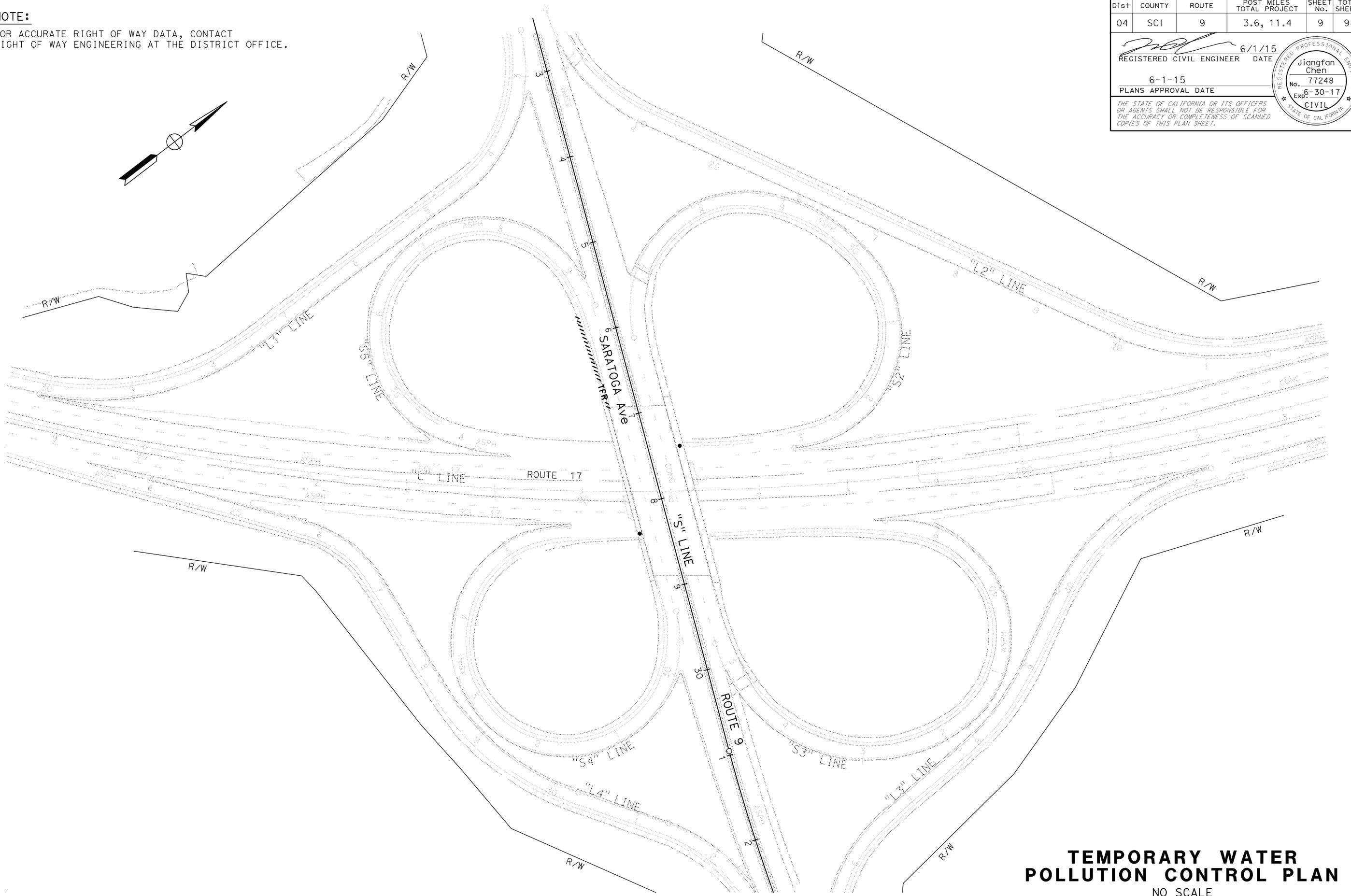
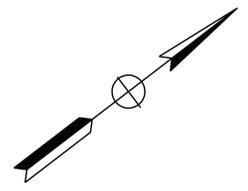
APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

WPC-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans WATER QUALITY

FUNCTIONAL SUPERVISOR: KAMRAN NAKHJURI
 CALCULATED/DESIGNED BY: KAMRAN NAKHJURI
 CHECKED BY:
 REVISIONS:
 REVISION NO. | DATE | BY | DESCRIPTION
 1 | 12/20/14 | JC |

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



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	9	98

6/1/15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Jiangfan Chen
 No. 77248
 Exp. 6-30-17
 CIVIL
 STATE OF CALIFORNIA

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

APPROVED FOR TEMPORARY WATER POLLUTION CONTROL WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET WPC-1

TEMPORARY WATER POLLUTION CONTROL PLAN
 NO SCALE

WPC-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans WATER QUALITY

FUNCTIONAL SUPERVISOR
 KAMRAN NAKHJURI

CALCULATED-DESIGNED BY
 CHECKED BY

JIANGFAN CHEN
 KAMRAN NAKHJURI

REVISED BY
 DATE REVISED

JC
 12/2/14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	10	98

Jiangfan Chen 6/1/15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Jiangfan Chen
 No. 77248
 Exp. 6-30-17
 CIVIL
 STATE OF CALIFORNIA

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

TEMPORARY WATER POLLUTION CONTROL QUANTITY

TEMPORARY FIBER ROLL	
SHEET No.	LF
WPC-1	500
WPC-2	200
TOTAL	700

TEMPORARY WATER POLLUTION CONTROL QUANTITIES

WPCQ-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG
 ROY YUAN
 REVISOR: JERILYN STRUVEN
 DATE: 3/18/15
 CALCULATED/DESIGNED BY: [Blank]
 CHECKED BY: [Blank]

LEGEND:

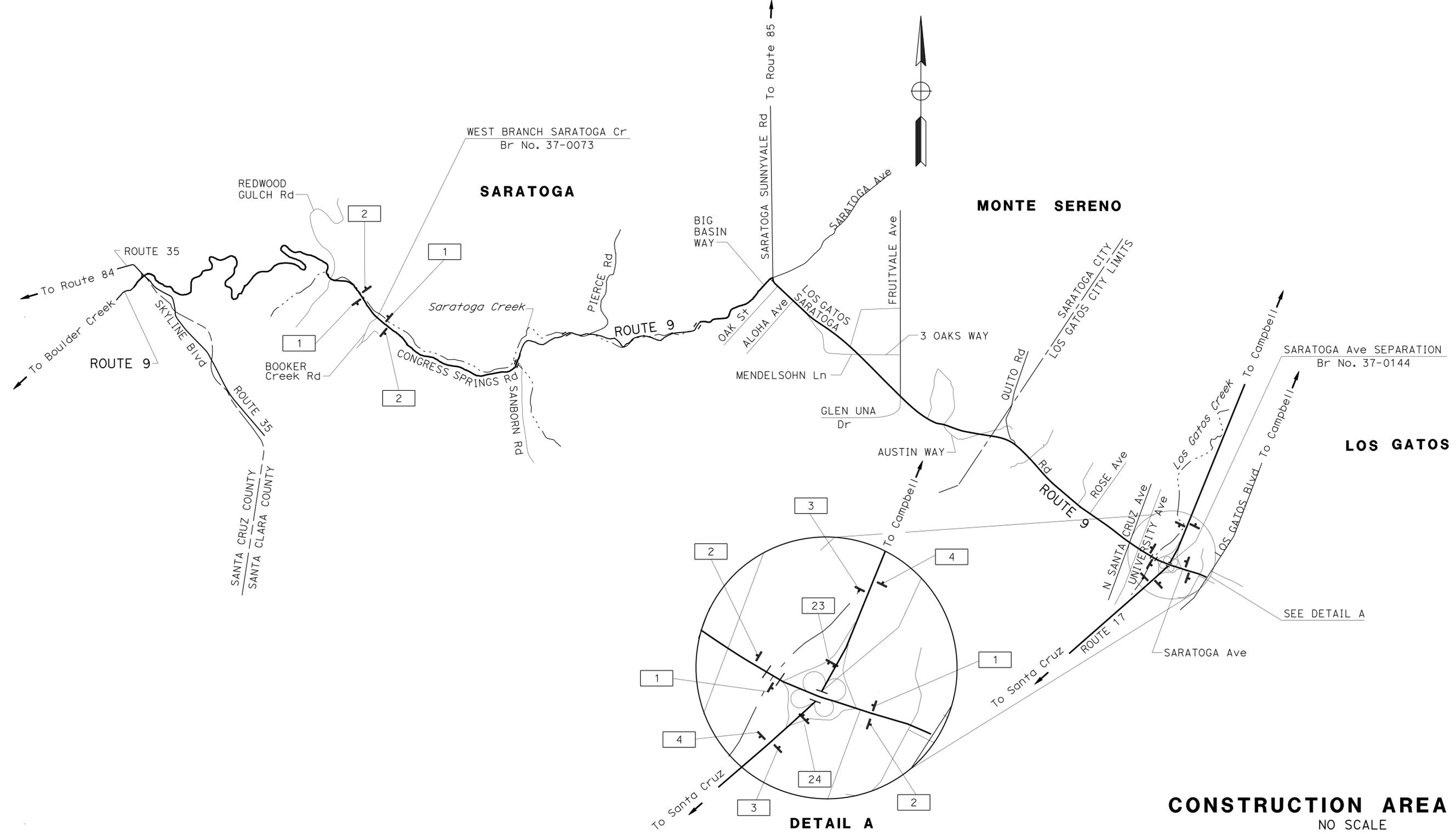
- No. CONSTRUCTION AREA SIGN NUMBER
- X RAMP CLOSED OR ROUTE CLOSED

NOTE:

1. LOCATION OF CONSTRUCTION AREA SIGNS SHOWN ARE APPROXIMATE, EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	11	98

REGISTERED CIVIL ENGINEER: *Jerilyn L. Struven* DATE: 6/1/15
 PLANS APPROVAL DATE: 6-1-15
 No. 49964
 Exp. 2-31-16
 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.



CONSTRUCTION AREA SIGNS
 NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

CS-1

LAST REVISION DATE PLOTTED => 29-JUL-2015 03-18-15 TIME PLOTTED => 15:28

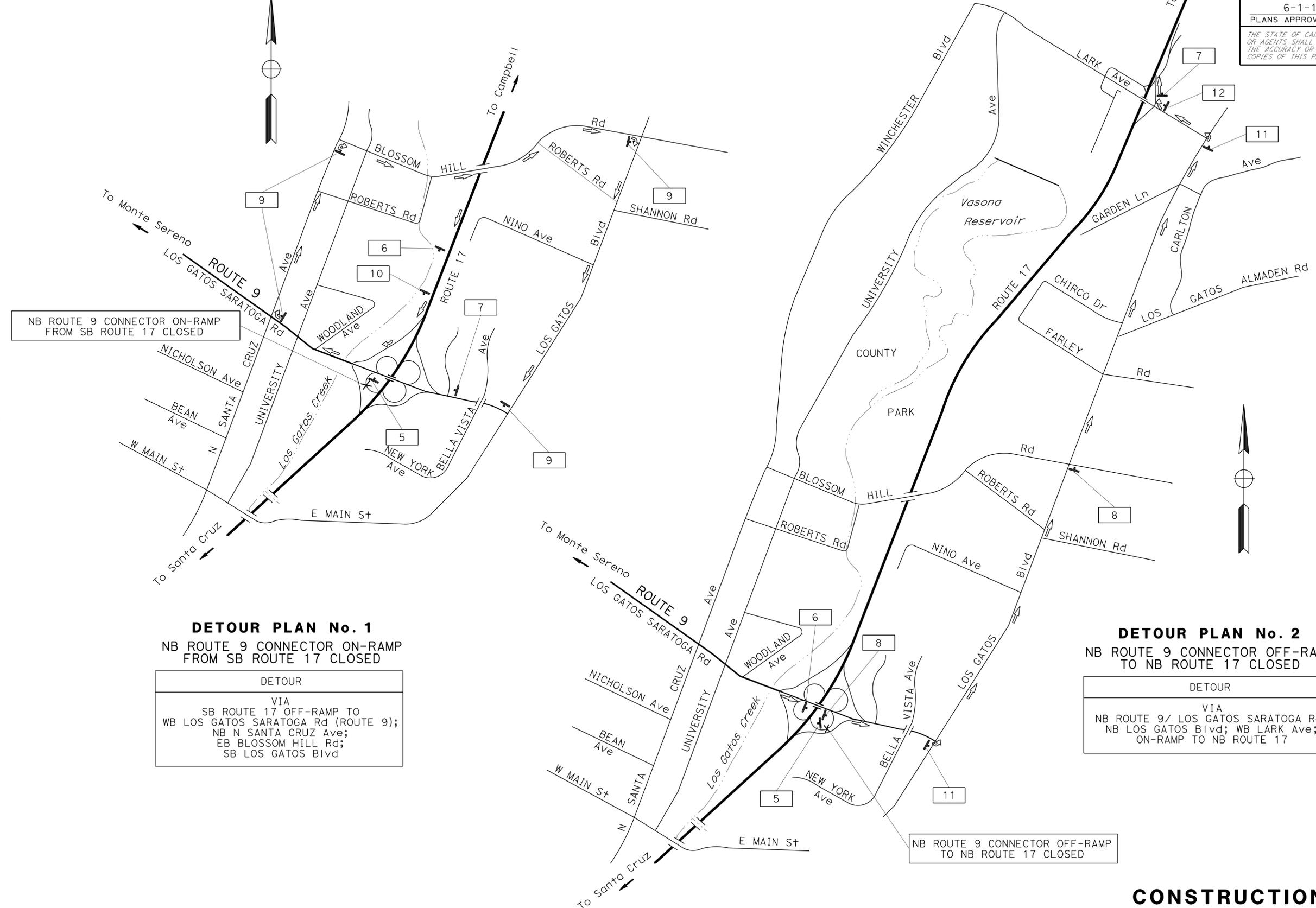
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	12	98

<i>Jerilyn L. Struven</i>	6/1/15
REGISTERED CIVIL ENGINEER	DATE
6-1-15	
PLANS APPROVAL DATE	

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	ROY YUAN	REVISOR	RY
Caltrans	ROLAND AU-YEUNG	JERILYN STRUVEN	DATE REVISED	3/18/15
	CHECKED BY			
	DESIGNED BY			



DETOUR PLAN No. 1
 NB ROUTE 9 CONNECTOR ON-RAMP FROM SB ROUTE 17 CLOSED

DETOUR
VIA SB ROUTE 17 OFF-RAMP TO WB LOS GATOS SARATOGA Rd (ROUTE 9); NB N SANTA CRUZ Ave; EB BLOSSOM HILL Rd; SB LOS GATOS Blvd

DETOUR PLAN No. 2
 NB ROUTE 9 CONNECTOR OFF-RAMP TO NB ROUTE 17 CLOSED

DETOUR
VIA NB ROUTE 9 / LOS GATOS SARATOGA Rd; NB LOS GATOS Blvd; WB LARK Ave; ON-RAMP TO NB ROUTE 17

NB ROUTE 9 CONNECTOR OFF-RAMP TO NB ROUTE 17 CLOSED

CONSTRUCTION AREA SIGNS

NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET CS-1



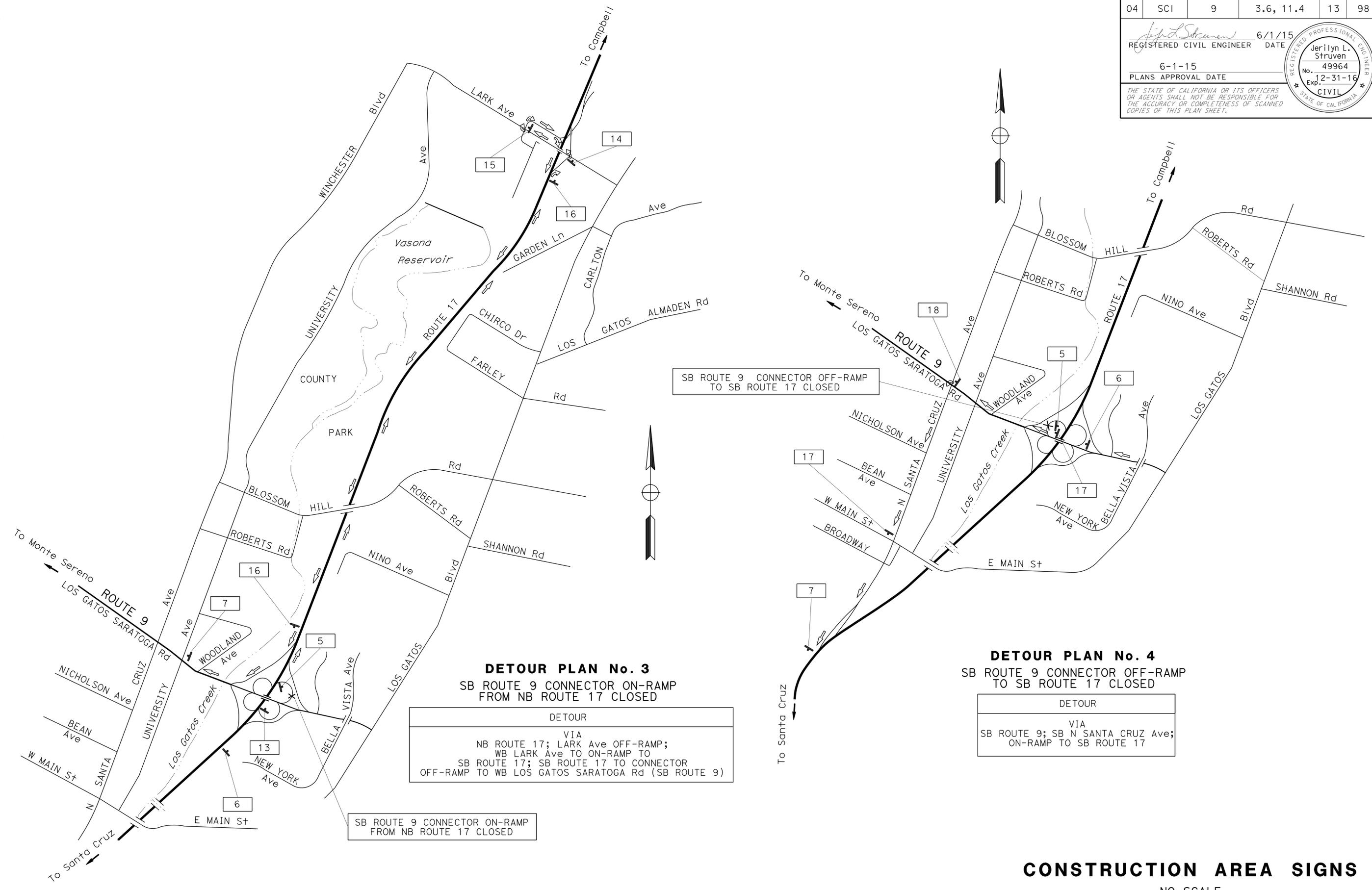
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	13	98

<i>Jerilyn L. Struven</i>	6/1/15
REGISTERED CIVIL ENGINEER	DATE
6-1-15	
PLANS APPROVAL DATE	

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



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	ROY YUAN	REVISOR	RY
TRAFFIC	ROLAND AU-YEUNG	JERILYN STRUVEN	DATE REVISOR	3/18/15
	CALCULATED/DESIGNED BY		CHECKED BY	



DETOUR PLAN No. 3
 SB ROUTE 9 CONNECTOR ON-RAMP FROM NB ROUTE 17 CLOSED

DETOUR
VIA
NB ROUTE 17; LARK Ave OFF-RAMP;
WB LARK Ave TO ON-RAMP TO
SB ROUTE 17; SB ROUTE 17 TO CONNECTOR
OFF-RAMP TO WB LOS GATOS SARATOGA Rd (SB ROUTE 9)

DETOUR PLAN No. 4
 SB ROUTE 9 CONNECTOR OFF-RAMP TO SB ROUTE 17 CLOSED

DETOUR
VIA
SB ROUTE 9; SB N SANTA CRUZ Ave;
ON-RAMP TO SB ROUTE 17

CONSTRUCTION AREA SIGNS

NO SCALE

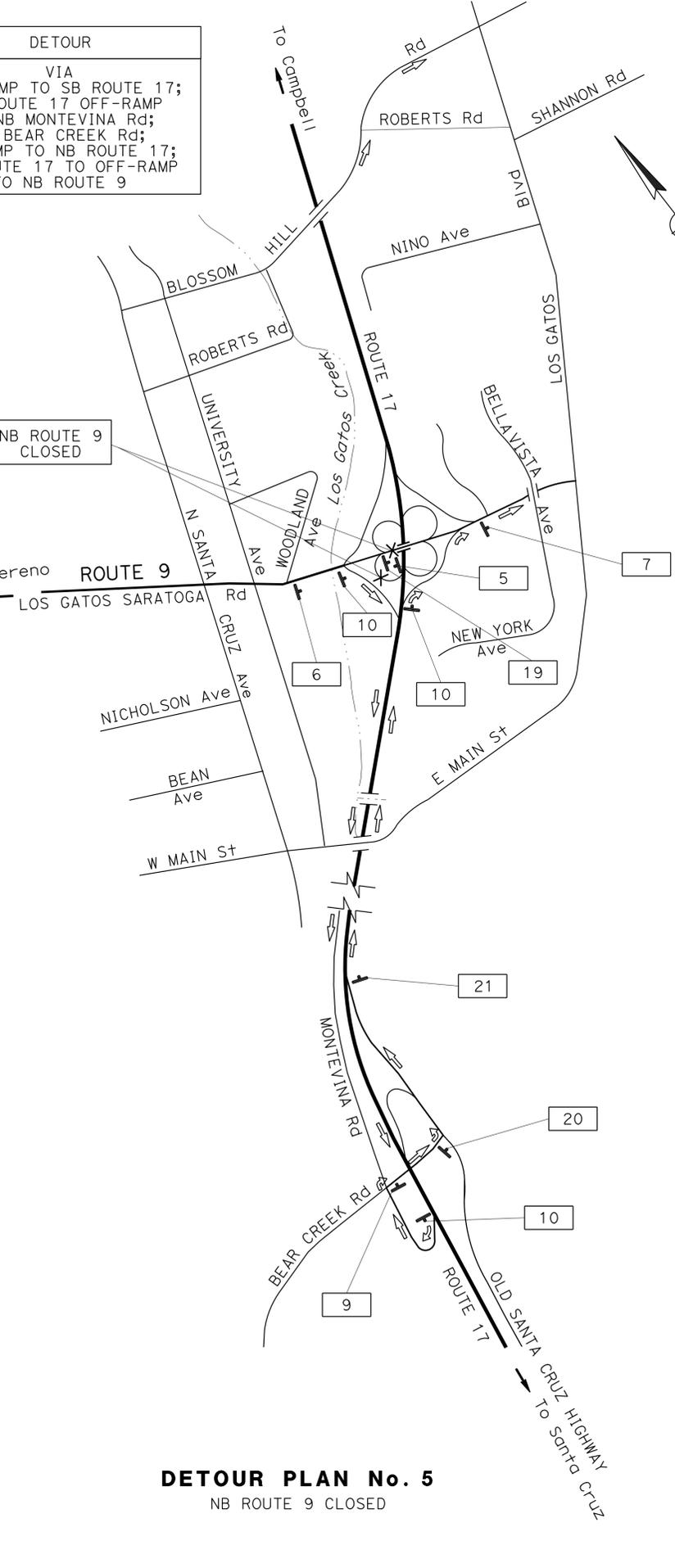
FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET CS-1

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

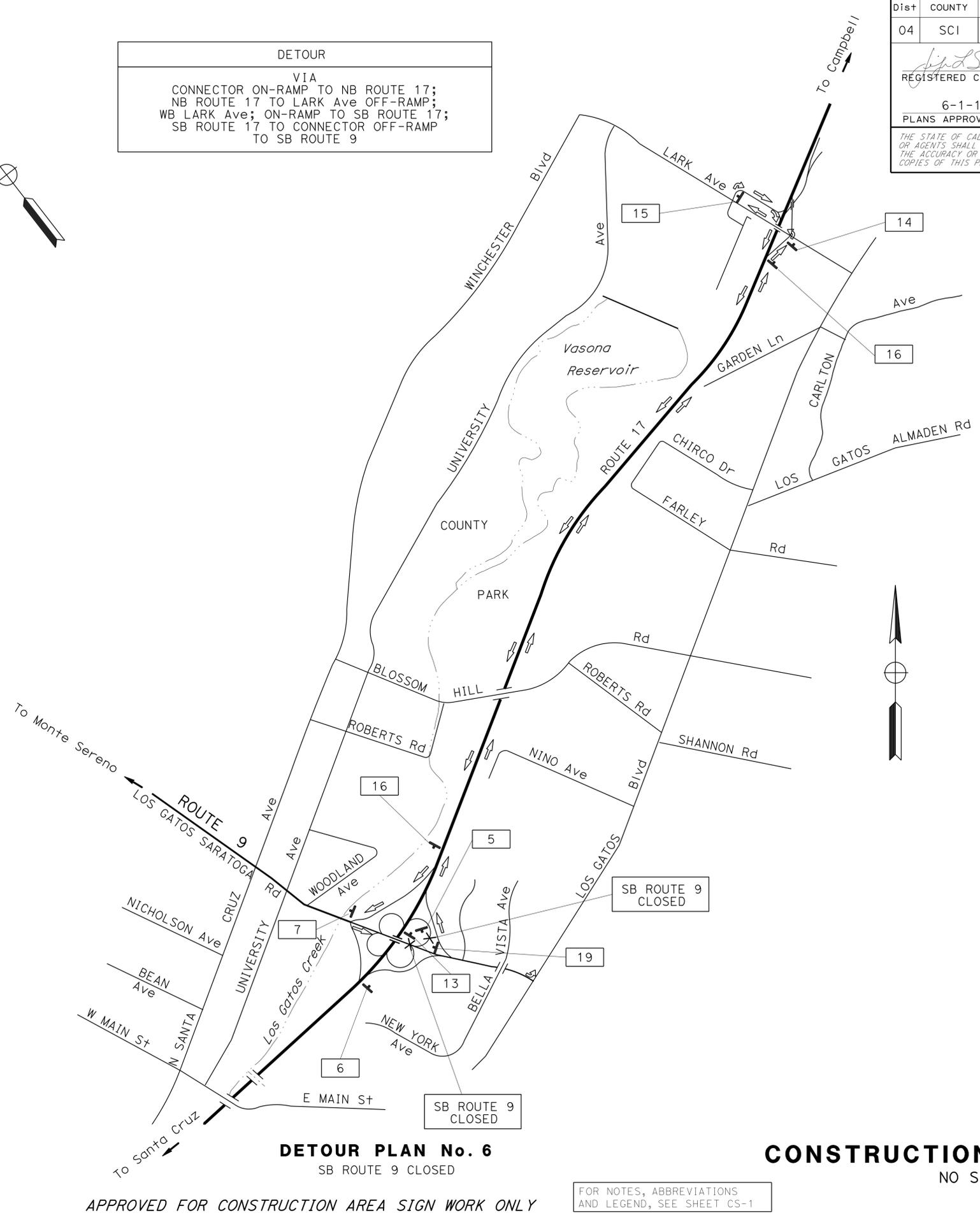
CS-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG
 DEPARTMENT OF TRANSPORTATION: TRAFFIC

RY	3/18/15
REVISOR	DATE
ROY YUAN	JERILYN STRUVEN
CALCULATED/DESIGNED BY	CHECKED BY



DETOUR PLAN No. 5
NB ROUTE 9 CLOSED



DETOUR PLAN No. 6
SB ROUTE 9 CLOSED

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	14	98

REGISTERED CIVIL ENGINEER: Jeryl L. Struven
 DATE: 6/1/15
 PLANS APPROVAL DATE: 6-1-15

PROFESSIONAL ENGINEER: Jeryl L. Struven
 No. 49964
 Exp. 2-31-16
 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.

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

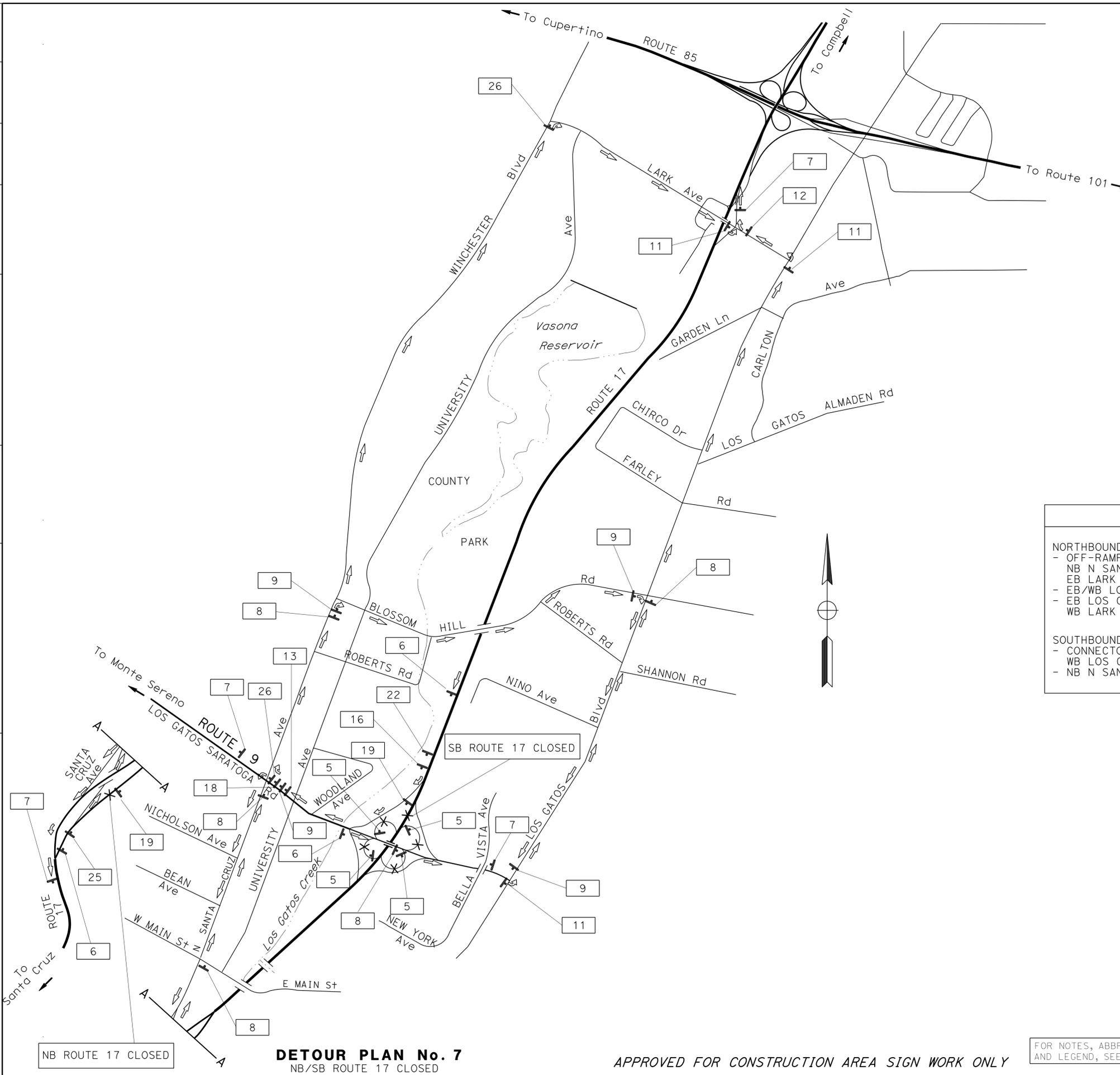
FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET CS-1

CONSTRUCTION AREA SIGNS
NO SCALE

CS-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/DESIGNED BY	REVISOR	DATE	DATE
TRAFFIC		CHECKED BY	ROY YUAN	JERILYN STRUVEN	3/18/15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	15	98
			6/1/15		
REGISTERED CIVIL ENGINEER			DATE		
6-1-15			PLANS APPROVAL DATE		
					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



DETOUR
VIA

NORTHBOUND

- OFF-RAMP TO N SANTA CRUZ Ave;
- NB N SANTA CRUZ Ave; NB WINCHESTER Blvd;
- EB LARK Ave TO ON-RAMP TO NB Rte 17.
- EB/WB LOS GATOS SARATOGA Rd
- EB LOS GATOS SARATOGA Rd; NB LOS GATOS Blvd;
- WB LARK Ave TO ON-RAMP TO NB Rte 17.

SOUTHBOUND

- CONNECTOR OFF-RAMP TO WB LOS GATOS/SARATOGA Rd (Rte 9);
- WB LOS GATOS/SARATOGA Rd; SB N SANTA CRUZ Ave; ON-RAMP TO SB Rte 17.
- NB N SANTA CRUZ Ave; EB BLOSSOM HILL Rd; SB LOS GATOS Blvd TO END Rte 9.

NB ROUTE 17 CLOSED

DETOUR PLAN No. 7
NB/SB ROUTE 17 CLOSED

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET CS-1

CONSTRUCTION AREA SIGNS
NO SCALE

CS-5

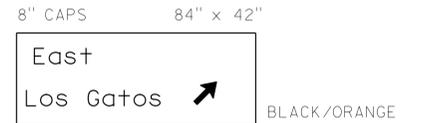
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	16	98

Jerilyn L. Struven 6/1/15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE
 No. 49964
 Exp. 2-31-16
 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 No.	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	No. OF SIGNS
	FEDERAL	CALIFORNIA				
1	W20-1		48" x 48"	ROAD WORK AHEAD	(ONE) 4" x 6"	4
2	G20-2		48" x 24"	END ROAD WORK	(ONE) 4" x 4"	4
3	W20-1		48" x 36"	ROAD WORK AHEAD	(ONE) 4" x 6"	2
4	G20-2		36" x 18"	END ROAD WORK	(ONE) 4" x 4"	2
5		SC6-4	48" x 60"	RAMP CLOSED (DATE & TIME)	(ONE) 6" x 6"	10
6	W20-2		48" x 48"	DETOUR AHEAD	(ONE) 4" x 6"	9
7	M4-8a		24" x 18"	END DETOUR	(ONE) 4" x 4"	10
8		SC-3 (↑)	48" x 18"	DETOUR (STRAIGHT AHEAD ARROW)	(ONE) 4" x 6"	7
		G28-2 (17)	24" x 25"	ROUTE SHIELD		
9	M3-1		21" x 9"	NORTH	(ONE) 4" x 6"	9
	M4-10 (R+)		48" x 18"	DETOUR (RIGHT)		
10		G28-2 (9)	24" x 25"	ROUTE SHIELD	(ONE) 4" x 6"	4
	M3-1		21" x 9"	NORTH		
11		G28-2 (9)	24" x 25"	ROUTE SHIELD	(ONE) 4" x 6"	5
	M4-8		21" x 9"	DETOUR (RIGHT)		
12		G28-2 (17)	24" x 25"	ROUTE SHIELD	(ONE) 4" x 6"	2
	M3-1		21" x 9"	NORTH		
13		SC-3 (↑)	48" x 18"	DETOUR (STRAIGHT AHEAD ARROW)	(ONE) 4" x 6"	3
		G28-2 (9)	24" x 25"	ROUTE SHIELD		
14		G28-2 (9)	24" x 25"	ROUTE SHIELD	(ONE) 4" x 6"	2
	M3-3		21" x 9"	SOUTH		

* ADDITIONAL CONSTRUCTION AREA SIGNS ARE SHOWN IN STAGE CONSTRUCTION AND TRAFFIC HANDLING SHEETS.



SPECIAL 1



SPECIAL 2

CONSTRUCTION AREA SIGNS

CS-6

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	17	98

Jeryl L. Struven 6/1/15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 No. 49964
 Exp. 2-31-16
 CIVIL
 STATE OF CALIFORNIA

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

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE		PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	No. OF SIGNS
	FEDERAL	CALIFORNIA				
15	M4-10 (R+)		48" x 18"	DETOUR (RIGHT)	(ONE) 4" x 6"	2
		G28-2 (9)	24" x 25"	ROUTE SHIELD		
	M3-3		21" x 9"	SOUTH		
16	M4-8		21" x 9"	DETOUR	(ONE) 4" x 6"	5
		G28-2 (9)	24" x 25"	ROUTE SHIELD		
	M3-3		21" x 9"	SOUTH		
	M6-2 (↘)		21" x 15"	DETOUR (DIAGONAL ARROW)		
17		SC-3 (↑)	48" x 18"	DETOUR (STRAIGHT AHEAD ARROW)	(ONE) 4" x 6"	2
		G28-2 (17)	24" x 25"	ROUTE SHIELD		
	M3-3		21" x 9"	SOUTH		
18	M4-10 (L+)		48" x 18"	DETOUR (LEFT)	(ONE) 4" x 6"	2
		G28-2 (17)	24" x 25"	ROUTE SHIELD		
	M3-3		21" x 9"	SOUTH		
19		SC6-4 (MODIFIED)	48" x 60"	ROUTE CLOSED (DATE & TIME)	(ONE) 6" x 6"	4
20	M4-10 (L+)		48" x 18"	DETOUR (LEFT)	(ONE) 4" x 6"	1
		G28-2 (9)	24" x 25"	ROUTE SHIELD		
	M3-1		21" x 9"	NORTH		
21		SC-3 (↑)	48" x 18"	DETOUR (STRAIGHT AHEAD ARROW)	(ONE) 4" x 6"	1
		G28-2 (9)	24" x 25"	ROUTE SHIELD		
	M3-1		21" x 9"	NORTH		
22	M4-8		21" x 9"	DETOUR	(ONE) 4" x 6"	1
		G28-2 (17)	24" x 25"	ROUTE SHIELD		
	M3-3		21" x 9"	SOUTH		
	M6-2 (↘)		21" x 15"	DETOUR (DIAGONAL ARROW)		
23		SPECIAL	84" x 42"	SEE SPECIAL 1	(TWO) 4" x 6"	1
24		SPECIAL	84" x 72"	SEE SPECIAL 2	(TWO) 6" x 6"	1
25	M4-8		21" x 9"	DETOUR	(ONE) 4" x 6"	1
		G28-2 (17)	24" x 25"	ROUTE SHIELD		
	M3-1		21" x 9"	NORTH		
	M6-2 (↘)		21" x 15"	DETOUR (DIAGONAL ARROW)		
26	M4-10 (R+)		48" x 18"	DETOUR (RIGHT)	(ONE) 4" x 6"	2
		G28-2 (17)	24" x 25"	ROUTE SHIELD		
	M3-1		21" x 9"	NORTH		

CONSTRUCTION AREA SIGNS

CS-7

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

Caltrans

TRAFFIC

FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG

CALCULATED/DESIGNED BY: ROY YUAN

CHECKED BY: JERILYN STRUVEN

REVISOR: RY

DATE REVISED: 3/18/15



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

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

- LEGEND:**
-  CONSTRUCT THIS STAGE
 -  CHANNELIZERS (SURFACE MOUNTED) @ 25' C-C
 -  UNLESS OTHERWISE SHOWN
ONE WAY TRAFFIC CONTROL
 -  COLD PLANE 1" AC AND PLACE 1" HMA (TYPE A)
 -  DIRECTION OF TRAFFIC
 -  TEMPORARY PAVEMENT MARKING (PAINT)

- NOTES:**
1. FOR TEMPORARY SIGNAL AND LIGHTING, SEE ELECTRICAL PLANS.
 2. FOR STAGE CONSTRUCTION SIGN QUANTITIES AND INFORMATION, SEE SHEET SCQ-1.
 3. REMOVE CENTERLINE RUMBLE STRIP BEFORE ONE WAY TRAFFIC CONTROL.
 4. KEEP BOOKER CREEK ROAD AND PRIVATE ROAD OPEN AT ALL TIMES DURING CONSTRUCTION.

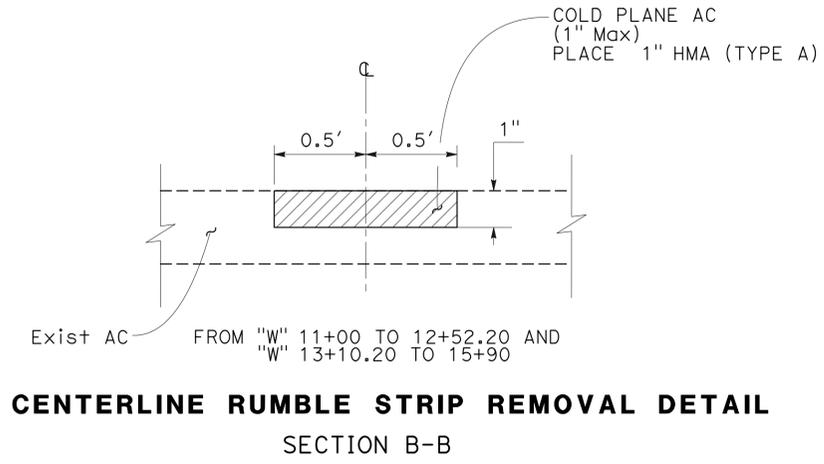
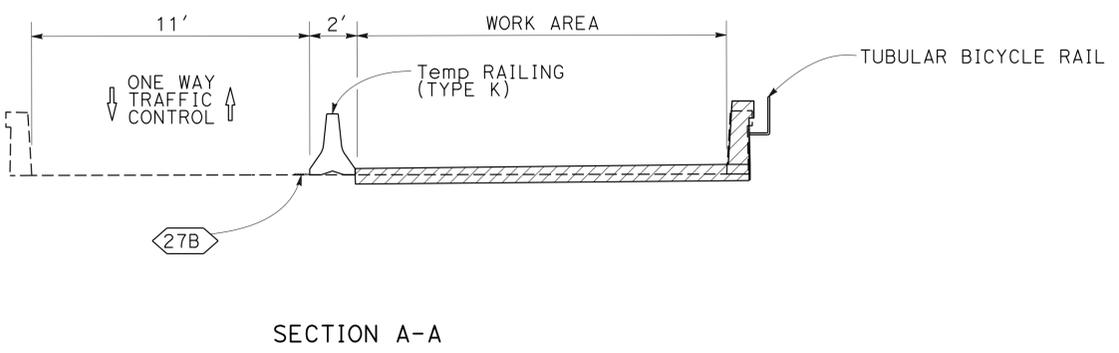
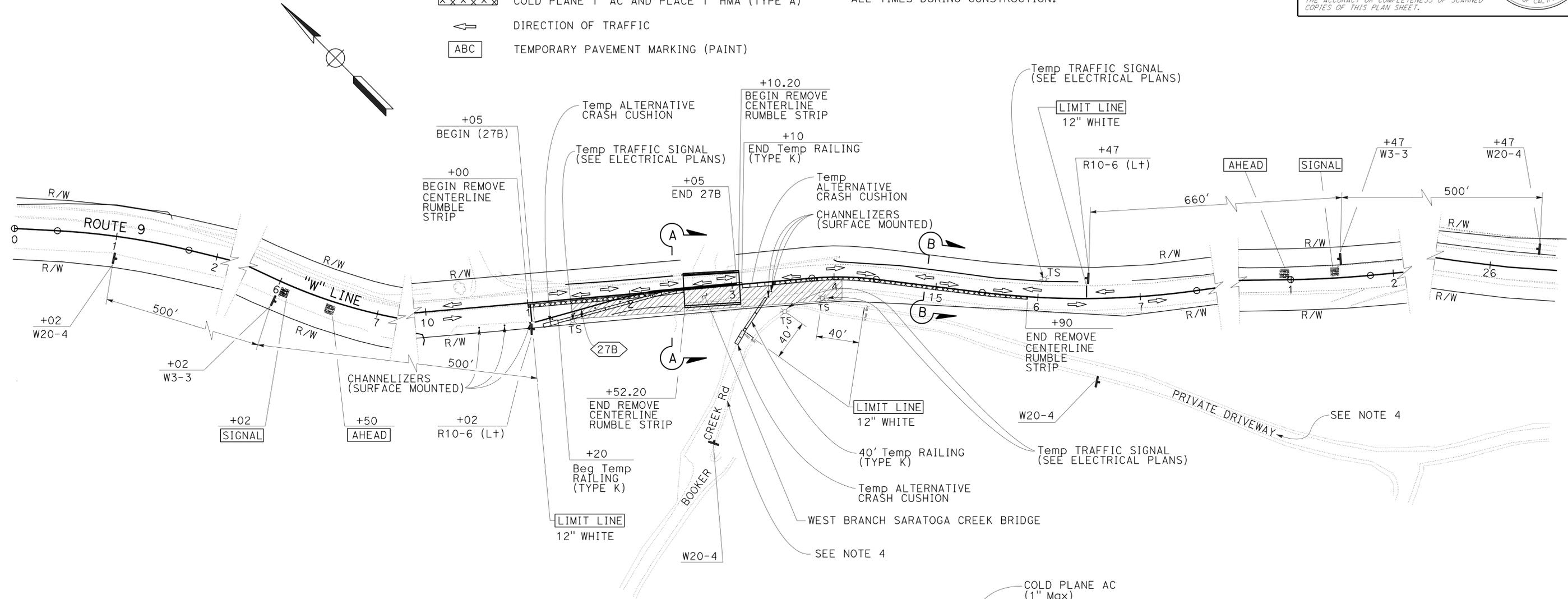
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	18	98

Zora Mangat 6/1/15
 REGISTERED CIVIL ENGINEER DATE

6-1-15
 PLANS APPROVAL DATE

Zora Mangat
 No. 44843
 Exp. 3-31-16
 CIVIL

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STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN
STAGE 1
AT WEST BRANCH SARATOGA CREEK BRIDGE

SCALE: 1" = 50'

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

SC-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	19	98

Zora Mangat 6/1/15
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

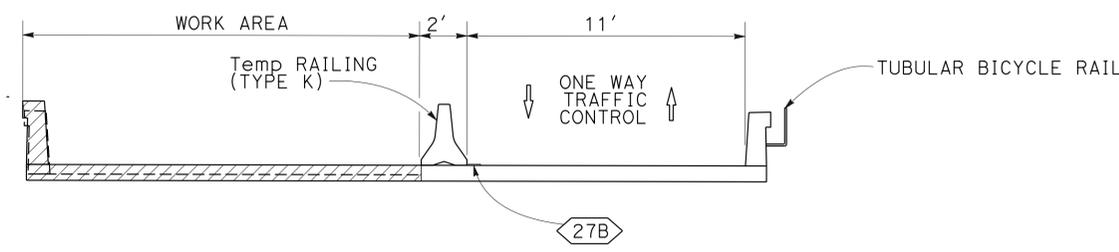
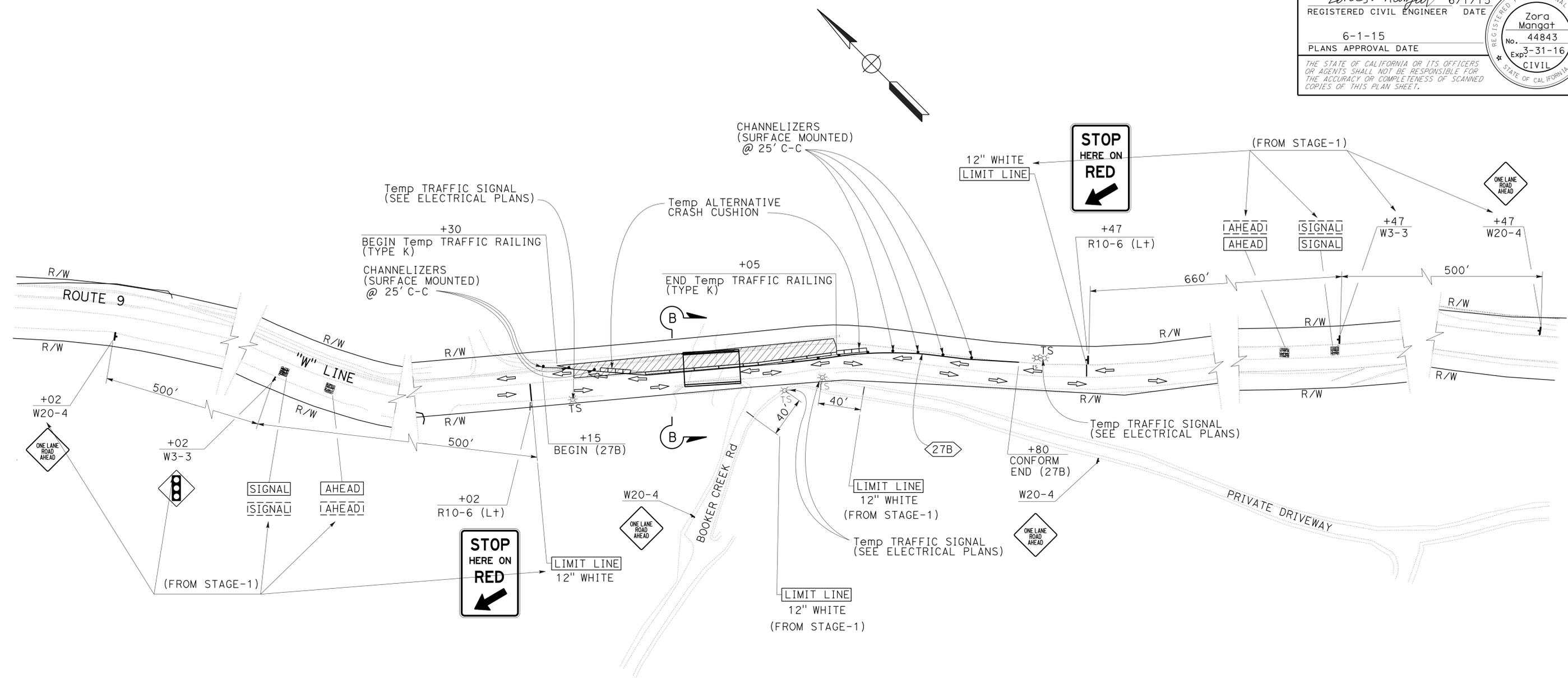
Zora Mangat
No. 44843
Exp. 3-31-16
CIVIL

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

FUNCTIONAL SUPERVISOR: SINDHU KURUP
CALCULATED/DESIGNED BY: SINDHU KURUP
CHECKED BY: SINDHU KURUP

REVISOR: ZM
DATE REVISED: 5/26/15



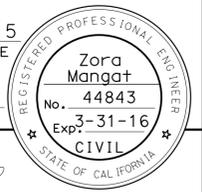
STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN
STAGE 2
AT WEST BRANCH SARATOGA CREEK BRIDGE
SCALE: 1" = 50'

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

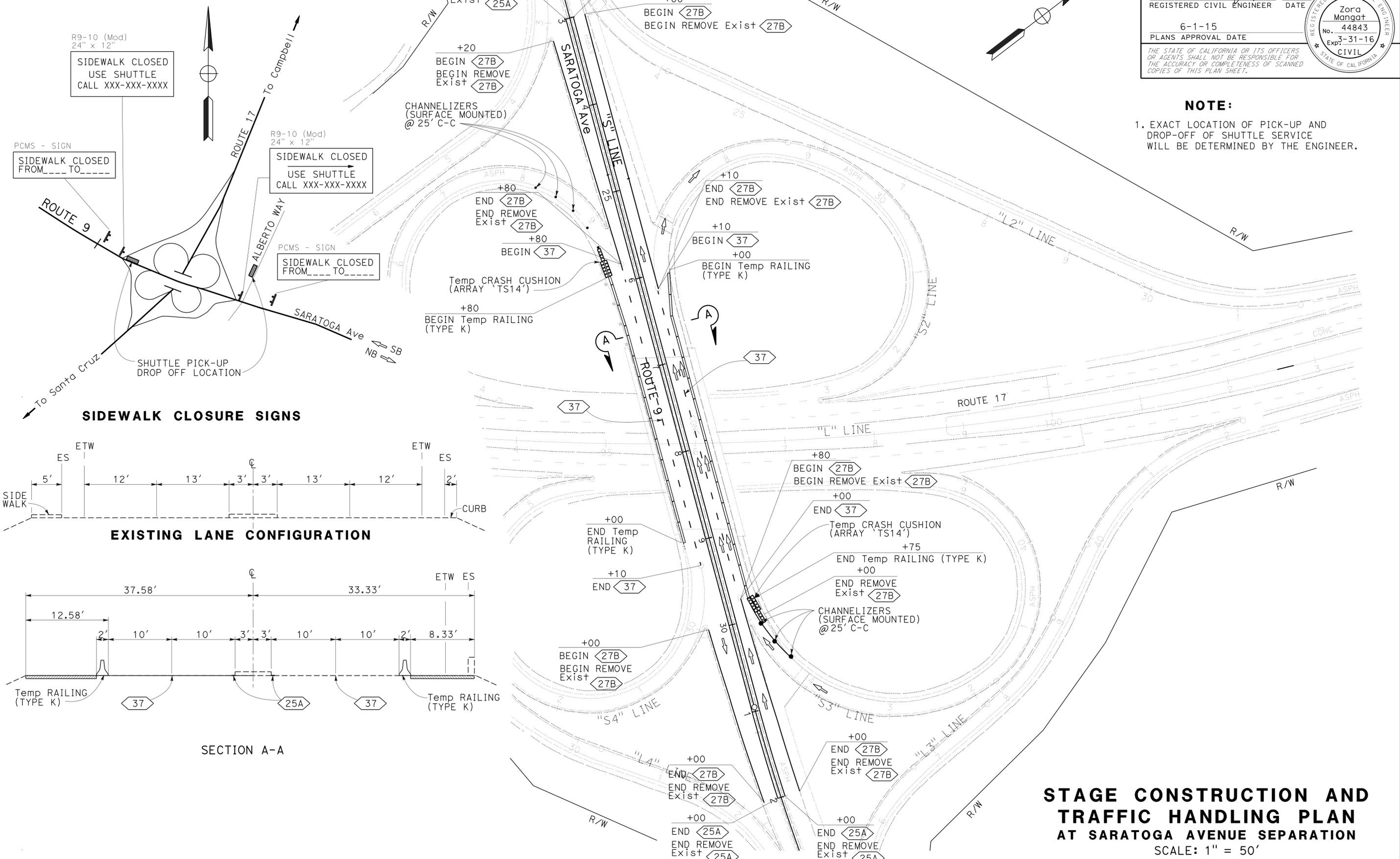
SC-2

LAST REVISION DATE PLOTTED => 19-JUN-2015 06-01-15 TIME PLOTTED => 09:14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	20	98
Zora Mangat			6/1/15	REGISTERED CIVIL ENGINEER DATE	
6-1-15			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



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



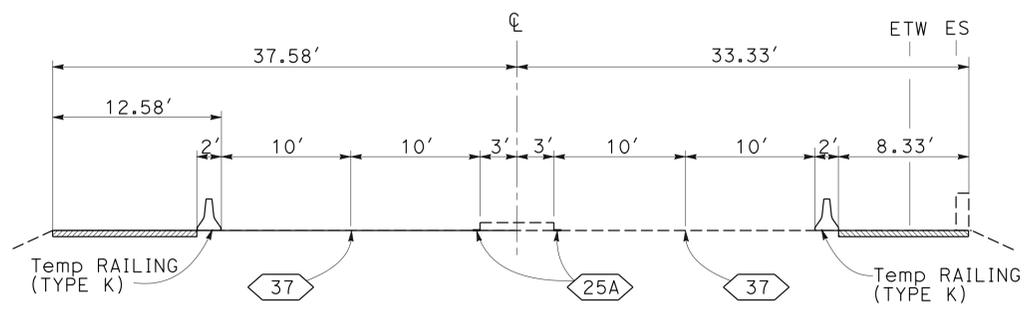
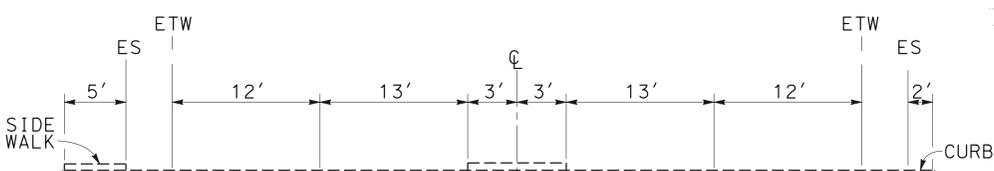
NOTE:
1. EXACT LOCATION OF PICK-UP AND DROP-OFF OF SHUTTLE SERVICE WILL BE DETERMINED BY THE ENGINEER.

R9-10 (Mod) 24" x 12"
SIDEWALK CLOSED
USE SHUTTLE
CALL XXX-XXX-XXXX

R9-10 (Mod) 24" x 12"
SIDEWALK CLOSED
USE SHUTTLE
CALL XXX-XXX-XXXX

PCMS - SIGN
SIDEWALK CLOSED
FROM _____ TO _____

SIDEWALK CLOSURE SIGNS



STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN AT SARATOGA AVENUE SEPARATION
SCALE: 1" = 50'

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

SC-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	SINDHU KURUP
CALCULATED/DESIGNED BY	CHECKED BY
ZORA MANGAT	SINDHU KURUP
REVISOR	DATE
ZM	5/26/15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR
 SINDHU KURUP
 CALCULATED/DESIGNED BY
 CHECKED BY
 ZORA MANGAT
 SINDHU KURUP
 REVISED BY
 DATE
 ZM
 5/26/15

STAGE CONSTRUCTION QUANTITIES

SHEET No.	STATION LIMITS	TEMPORARY RAILING (TYPE K) LF	TEMPORARY CRASH CUSHION MODULE (ARRAY 'TS14')	TEMPORARY ALTERNATIVE CRASH CUSHION	CHANNELIZERS (SURFACE MOUNTED)	REMOVE CENTERLINE RUMBLE STRIP		
			EA	SQYD		COLD PLANE AC PAVEMENT	HMA (TYPE A)	TACK COAT TONS
						(0.08' Max)		
SC-1	"W" 11+20 TO 15+90	190		3	10	55	3	0.1
SC-2	"W" 11+00 TO 13+10	275		2	20			
SC-3	"S" 26+00 TO 30+00	320	14		20			
	"S" 25+80 TO 29+40	375	14		20			
TOTAL		1160	28	5	70	55*	3 *	0.1*

* ADDED TO TOTAL QUANTITY SHOWN ON SHEET Q-1.

TEMPORARY TRAFFIC STRIPES, PAVEMENT MARKINGS, AND PAVEMENT MARKERS

SHEET No.	STATION LIMITS	DETAIL No.	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	REMOVE PAVEMENT MARKERS	TEMPORARY TRAFFIC STRIPE (PAINT)			REMOVE PAINTED TRAFFIC STRIPE	TEMPORARY PAVEMENT MARKING (PAINT)	REMOVE PAINTED PAVEMENT MARKING	PAVEMENT MARKERS (RETROREFLECTIVE)
			LF	EA	4" YELLOW	4" WHITE	8" WHITE	SQFT	EA		
					LF						
SC-1	"W" 11+00 TO 15+90	22 (Mod)	980	140							
	"W" 11+05 TO 13+05	27B				200		200			
	"W" 6+00 TO 26+00							490	490		
SC-2	"W" 11+15 TO 15+80	27B				466		466			
SC-3	"S" 23+00 TO 25+80	27B					280	280			
	"S" 25+80 TO 29+10	37						330	330		14
	"S" 26+10 TO 29+80	37						370	370		14
	"S" 30+00 TO 32+00	27B				200		200			
	"S" 23+00 TO 32+00	25A	1800	76	1800		1800				76
	"S" 30+00 TO 32+00	27B				200		200			
	"S" 23+00 TO 26+10	27B				310		310			
SUBTOTAL			2780	216	1800	1656	700	4156	490	490	
TOTAL			2780	216	4156			4156	490	490	104*

* ADDED TO TOTAL QUANTITY SHOWN ON SHEET PDQ-1

STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SHEET No.	SIGN CODE	PANEL SIZE	SIGN MESSAGE	NUMBER OF POSTS AND SIZE	No. OF SIGNS
	FEDERAL				
SC-1	W20-4	36" x 36"	ONE LANE ROAD AHEAD	(ONE) 4" x 6"	4
	W3-3	36" x 36"	SIGNAL AHEAD	(ONE) 4" x 6"	2
	R10-6 (L+)	24" x 36"	STOP HERE ON RED	(ONE) 4" x 4"	2
SC-3	R9-10 (Mod)	24" x 12"	SIDEWALK CLOSED USE SHUTTLE ←→	(ONE) 4" x 4"	2

STAGE CONSTRUCTION QUANTITIES SCQ-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	21	98

Zora Mangat 6/1/15
 REGISTERED CIVIL ENGINEER DATE

REGISTERED PROFESSIONAL ENGINEER
 Zora Mangat
 No. 44843
 Exp. 3-31-16
 CIVIL
 STATE OF CALIFORNIA

6-1-15
PLANS APPROVAL DATE

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

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: SINDHU KURUP
 CALCULATED/DESIGNED BY: SINDHU KURUP
 CHECKED BY: SINDHU KURUP
 ZORA MANGAT
 REVISOR: ZM
 DATE: 5/26/15

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

LEGEND:

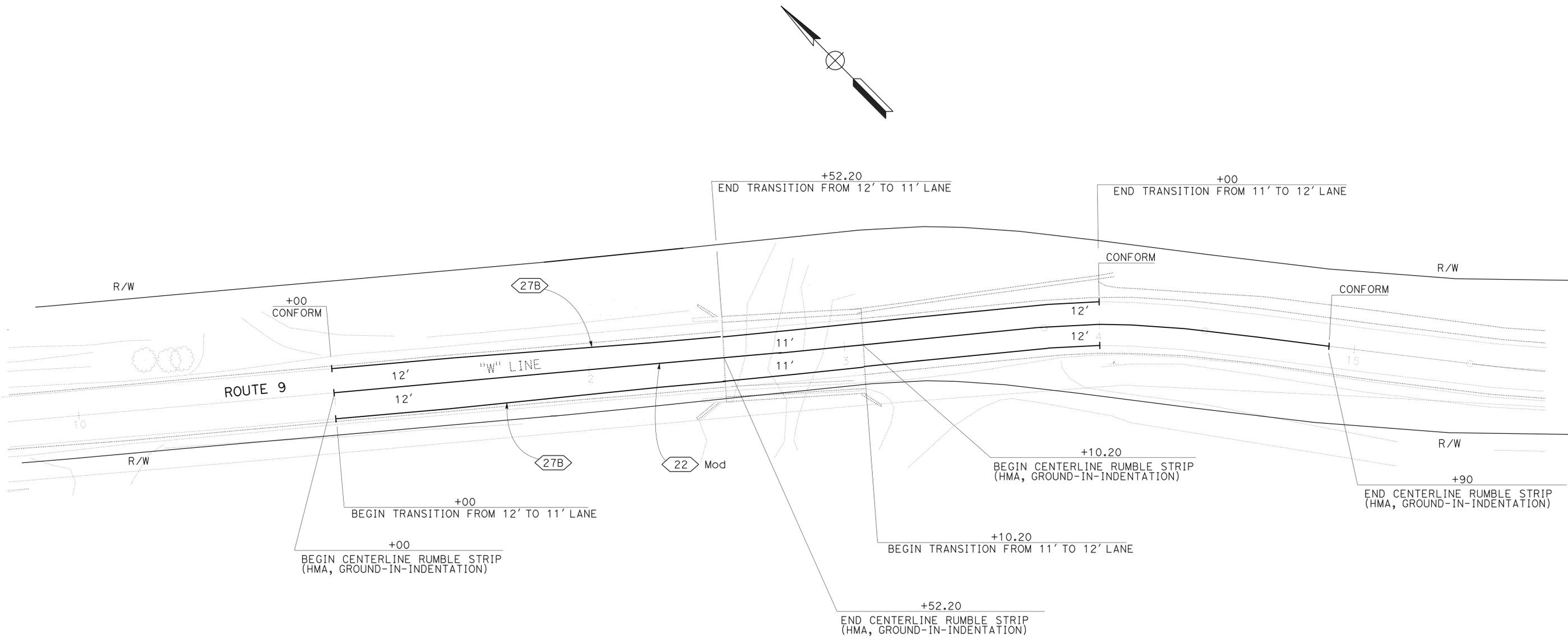
↔ CHANGE OF PAVEMENT DELINEATION DETAIL

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	22	98

Zora Mangat 6/1/15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE

Zora Mangat
 No. 44843
 Exp. 3-31-16
 CIVIL
 STATE OF CALIFORNIA

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PAVEMENT DELINEATION PLAN
 SCALE: 1" = 20'

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

PD-1

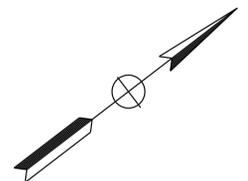
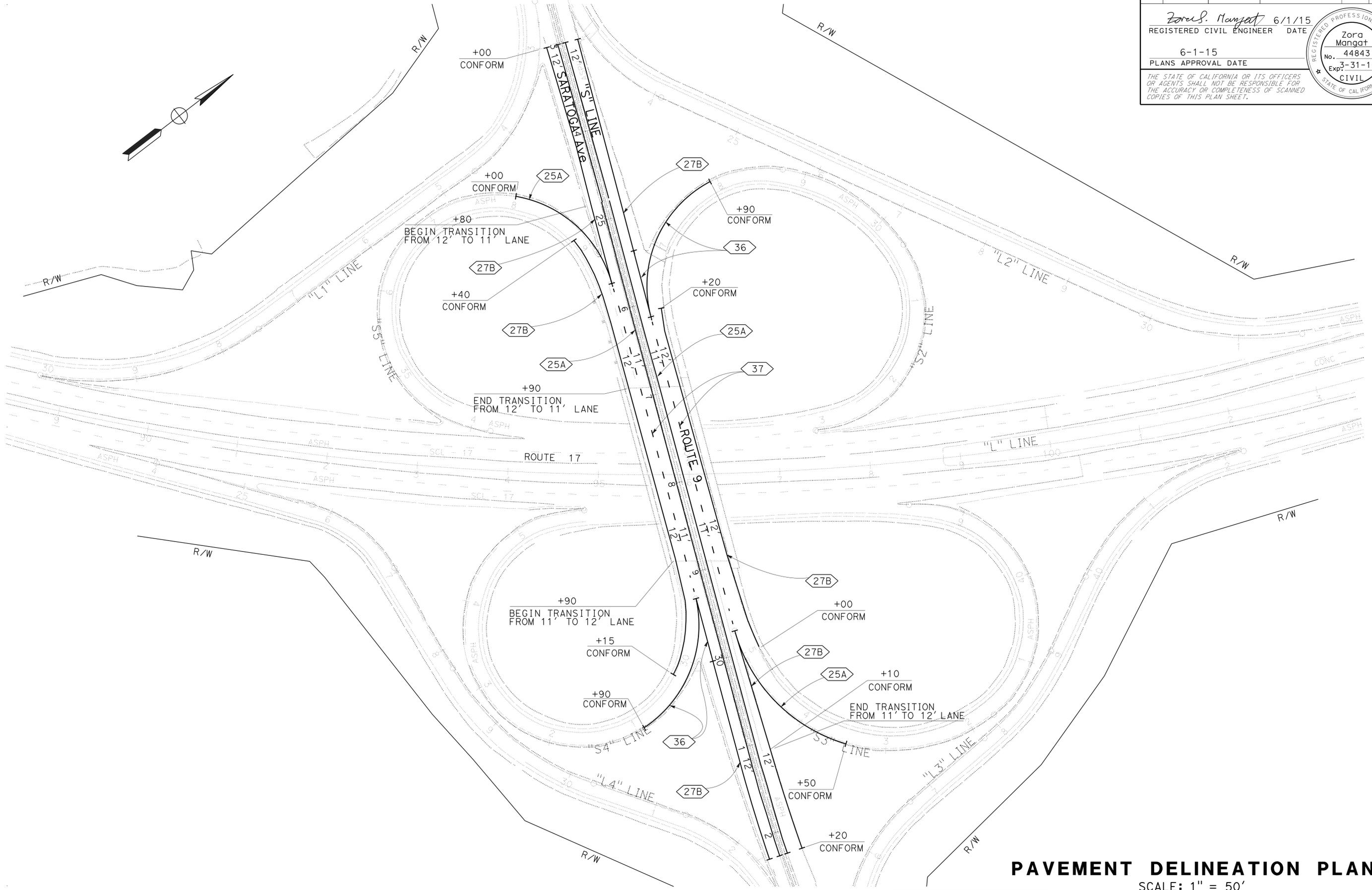
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	23	98

Zora Mangat 6/1/15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 Zora Mangat
 No. 44843
 Exp. 3-31-16
 CIVIL
 STATE OF CALIFORNIA

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	DESIGN
FUNCTIONAL SUPERVISOR	SINDHU KURUP
CALCULATED/DESIGNED BY	CHECKED BY
ZORA MANGAT	SINDHU KURUP
REVISOR	DATE
ZM	5/26/15



PAVEMENT DELINEATION PLAN
 SCALE: 1" = 50'

APPROVED FOR PAVEMENT DELINEATION WORK ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET PD-1

PD-2

LAST REVISION DATE PLOTTED => 19-JUN-2015 06-01-15 TIME PLOTTED => 14:36

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN

FUNCTIONAL SUPERVISOR
 SINDHU KURUP

CALCULATED-DESIGNED BY
 CHECKED BY

ZORA MANGAT
 SINDHU KURUP

REVISOR
 DATE REVISED

ZM
 5/26/15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	24	98

Zora S. Mangat 6/1/15
 REGISTERED CIVIL ENGINEER DATE

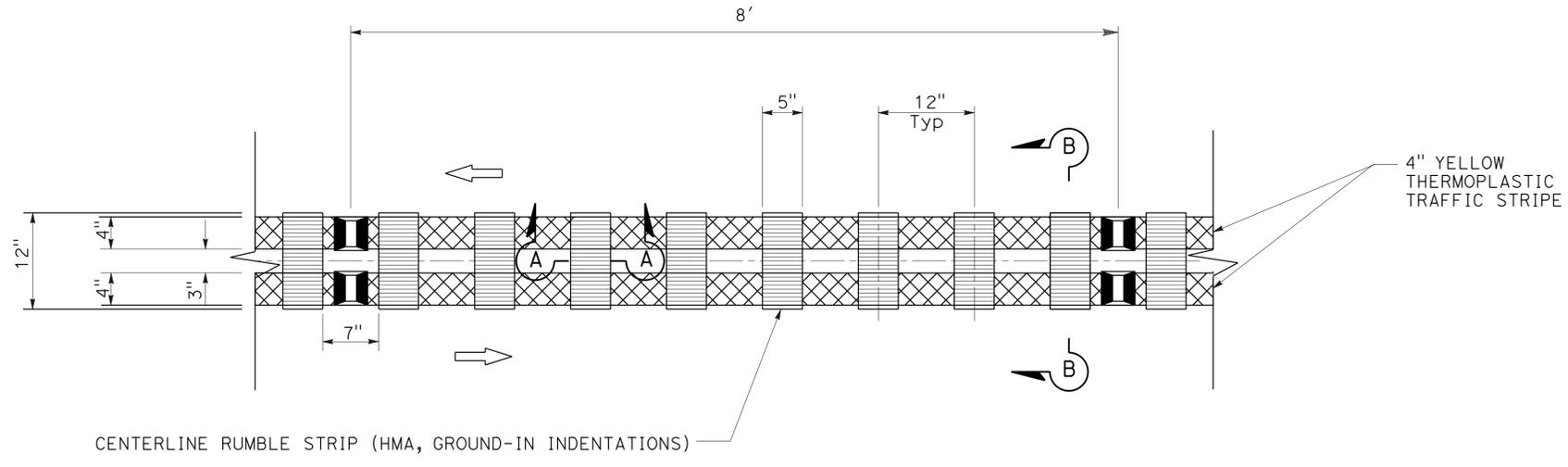
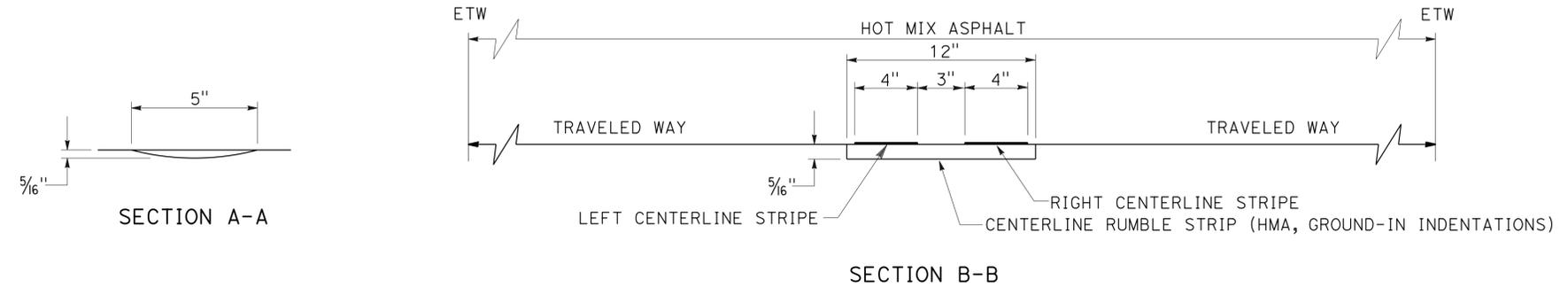
6-1-15
 PLANS APPROVAL DATE

Zora Mangat
 No. 44843
 Exp. 3-31-16
 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.

LEGEND:

-  PAVEMENT MARKER (RETROREFLECTIVE) (TYPE D)
-  CENTERLINE RUMBLE STRIP
-  4" YELLOW THERMOPLASTIC TRAFFIC STRIPE



**DETAIL 22 (MODIFIED)
 ROADWAY CENTERLINE DETAIL
 (TYPICAL)**

PAVEMENT DELINEATION DETAILS
 NO SCALE

PDD-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	25	98

Zora S. Mangat 6/1/15
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

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

TRAFFIC STRIPES, PAVEMENT MARKINGS AND PAVEMENT MARKERS

SHEET No.	STATION LIMIT	DETAIL No.	THERMOPLASTIC TRAFFIC STRIPE		8" THERMOPLASTIC TRAFFIC STRIPE (BROKEN 12-3)	PAVEMENT MARKERS (RETROREFLECTIVE)			CENTERLINE RUMBLE STRIP (HMA, GROUND-IN-INDENTATION)
			4" YELLOW	4" WHITE	8" WHITE	TYPE D	TYPE G	TYPE H	
			LF			EA			Sta
PD-1	"W" 11+00 TO 14+00	27B		600					
	"W" 11+00 TO 14+90	22 (Mod)	780			75			3.4
PD-2	"S" 23+00 TO 32+20	27B		920					
	"S" 23+00 TO 32+20	25A	1840					77	
	"S" 25+40 TO 29+40	37			800		13		
	"S" 24+90 TO 27+20	27B		400					
	"S" 29+20 TO 31+10	27B		400					
	"S" 24+90 TO 26+20	36			400				
SCQ-1	"S" 29+20 TO 30+00	36			400			104	
SUBTOTAL			2620	2320	1600	75	13	181	
TOTAL			4940		1600	269			3.4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR
 SINDHU KURUP
 CALCULATED/DESIGNED BY
 CHECKED BY
 ZORA MANGAT
 SINDHU KURUP
 REVISED BY
 DATE REVISED
 ZM
 5/26/15

**PAVEMENT DELINEATION
QUANTITIES
PDQ-1**

LAST REVISION DATE PLOTTED => 19-JUN-2015
 05-27-15 TIME PLOTTED => 09:14

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG
 CALCULATED/DESIGNED BY: JERILYN STRUVEN
 CHECKED BY:
 ROY YUAN
 REVISOR: JERILYN STRUVEN
 DATE REVISED: 3/18/15
 RY: 3/18/15

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

ABBREVIATION:

BM BRIDGE MOUNTED

G85
 East Los Gatos
 REMOVE BM SIGN STRUCTURE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	26	98

REGISTERED CIVIL ENGINEER: Jerilyn L. Struven
 No. 49964
 Exp. 2-31-16
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
 DATE: 6/1/15
 PLANS APPROVAL DATE: 6-1-15
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.

G24
 17 San Jose
 Oakland
 REMOVE BM SIGN STRUCTURE

G24
 17 San Jose
 Oakland
 INSTALL SIGN STRUCTURE
 (BRIDGE MOUNTED WITHOUT WALKWAY)
 (SEE SHEET SD-1)

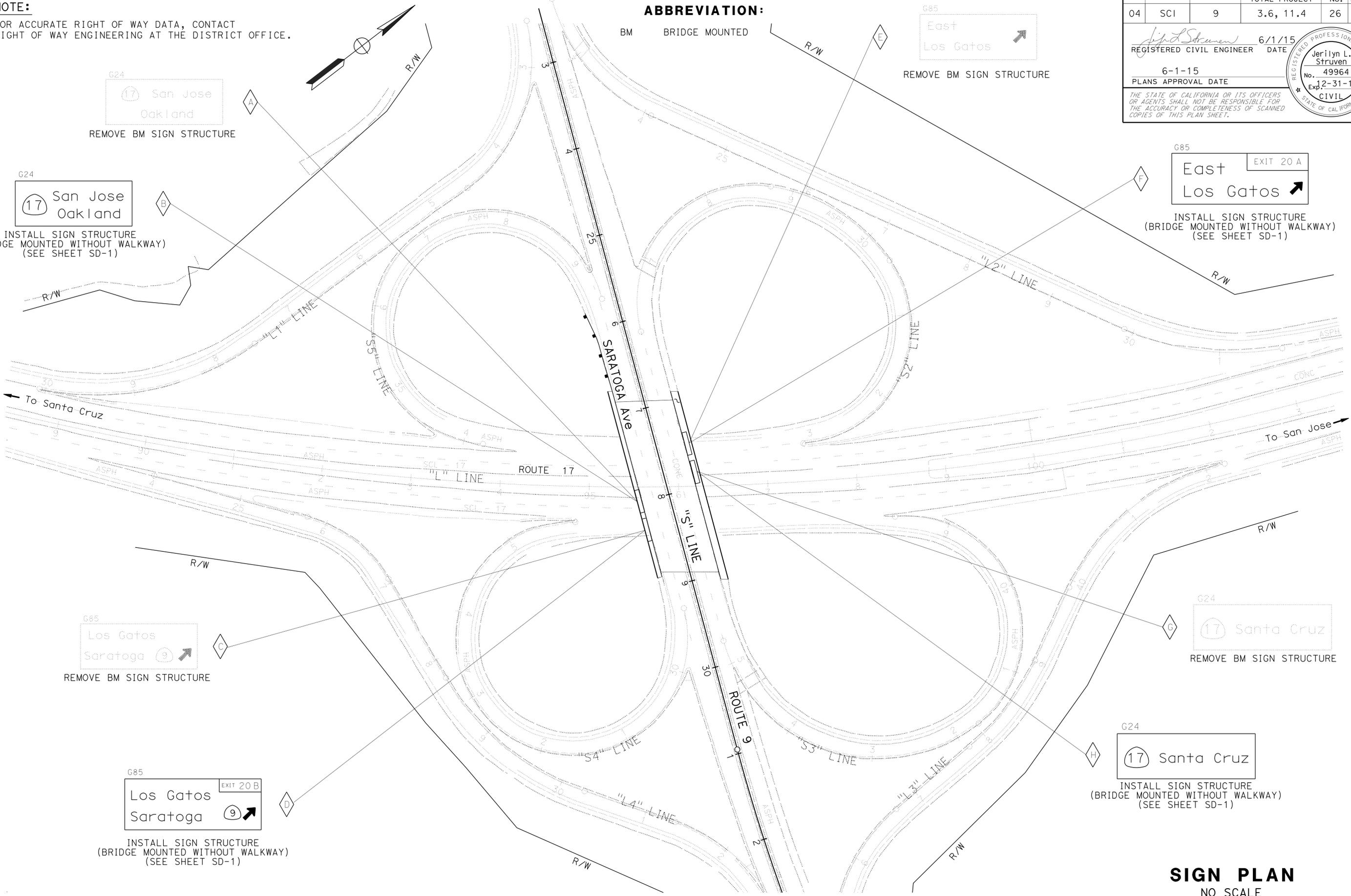
G85
 East Los Gatos
 EXIT 20 A
 INSTALL SIGN STRUCTURE
 (BRIDGE MOUNTED WITHOUT WALKWAY)
 (SEE SHEET SD-1)

G85
 Los Gatos
 Saratoga
 REMOVE BM SIGN STRUCTURE

G85
 Los Gatos
 Saratoga
 EXIT 20 B
 9
 INSTALL SIGN STRUCTURE
 (BRIDGE MOUNTED WITHOUT WALKWAY)
 (SEE SHEET SD-1)

G24
 17 Santa Cruz
 REMOVE BM SIGN STRUCTURE

G24
 17 Santa Cruz
 INSTALL SIGN STRUCTURE
 (BRIDGE MOUNTED WITHOUT WALKWAY)
 (SEE SHEET SD-1)



APPROVED FOR SIGN WORK ONLY

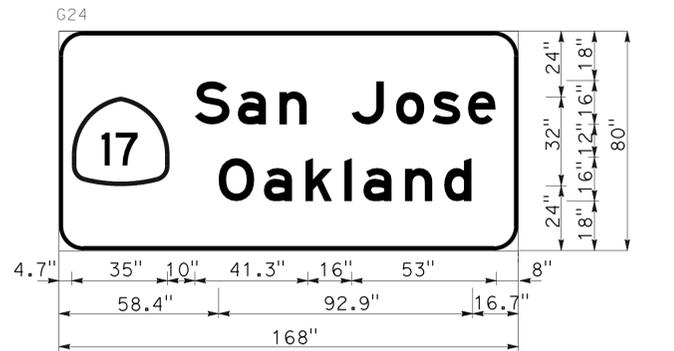
SIGN PLAN
 NO SCALE

S-1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	27	98

<i>Jeryl L. Struven</i>	6/1/15
REGISTERED CIVIL ENGINEER	DATE
6-1-15	
PLANS APPROVAL DATE	

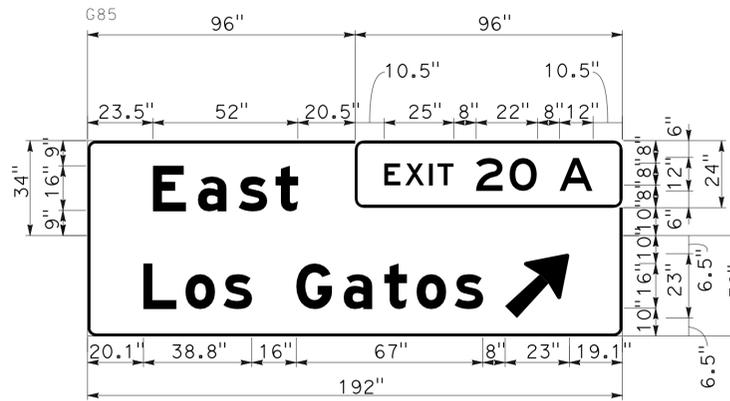
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



9.0" RADIUS, 1.5" BORDER, WHITE ON GREEN;
 [San Jose] E 80% SPACING; [Oakland] E 80% SPACING;

B

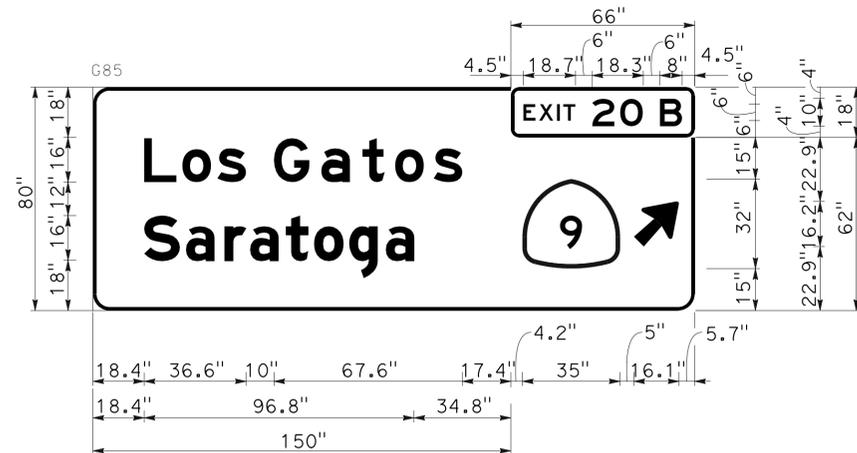
(FOR MOUNTING DETAILS, SEE SDS SHEET 1,2,5 AND 6)



3.0" RADIUS, 1.0" BORDER, WHITE ON GREEN;
 [East] E Mod;
 3.0" RADIUS, 1.0" BORDER, WHITE ON GREEN;
 [Exit] E; [20] E; [A] E;
 3.0" RADIUS, 1.0" BORDER, WHITE ON GREEN;
 3.0" RADIUS, 1.0" BORDER, WHITE ON GREEN;
 [Los Gatos] E Mod; ARROW 12CAP-2LV - 29.3" 45°;

F

(FOR MOUNTING DETAILS, SEE SDS SHEET 1,4,5 AND 6)

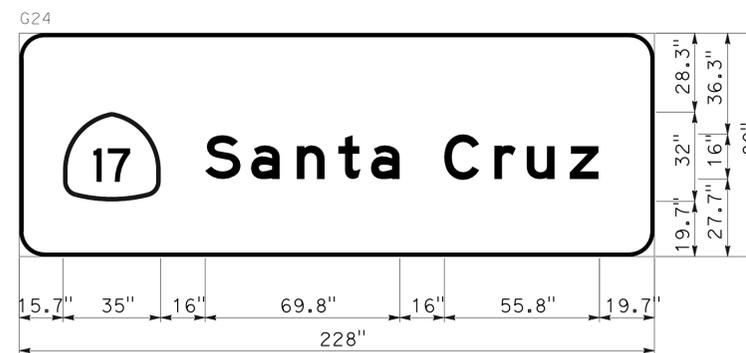


6.0" RADIUS, 1.3" BORDER, WHITE ON GREEN;
 [Los] E 60% SPACING; [Gatos] E;
 [Saratoga] E Mod 60% SPACING;

3.0" RADIUS, 1.3" BORDER, WHITE ON GREEN;
 [EXIT] E; [20] E; [B] E;
 6.0" RADIUS, 1.3" BORDER, WHITE ON GREEN;
 ARROW CUSTOM - 20.0" 45°;

D

(FOR MOUNTING DETAILS, SEE SDS SHEET 1,3,5 AND 6)



9.0" RADIUS, 1.5" BORDER, WHITE ON GREEN;
 [Santa Cruz] E 70% SPACING;

H

(FOR MOUNTING DETAILS, SEE SDS SHEET 1,4,5 AND 6)

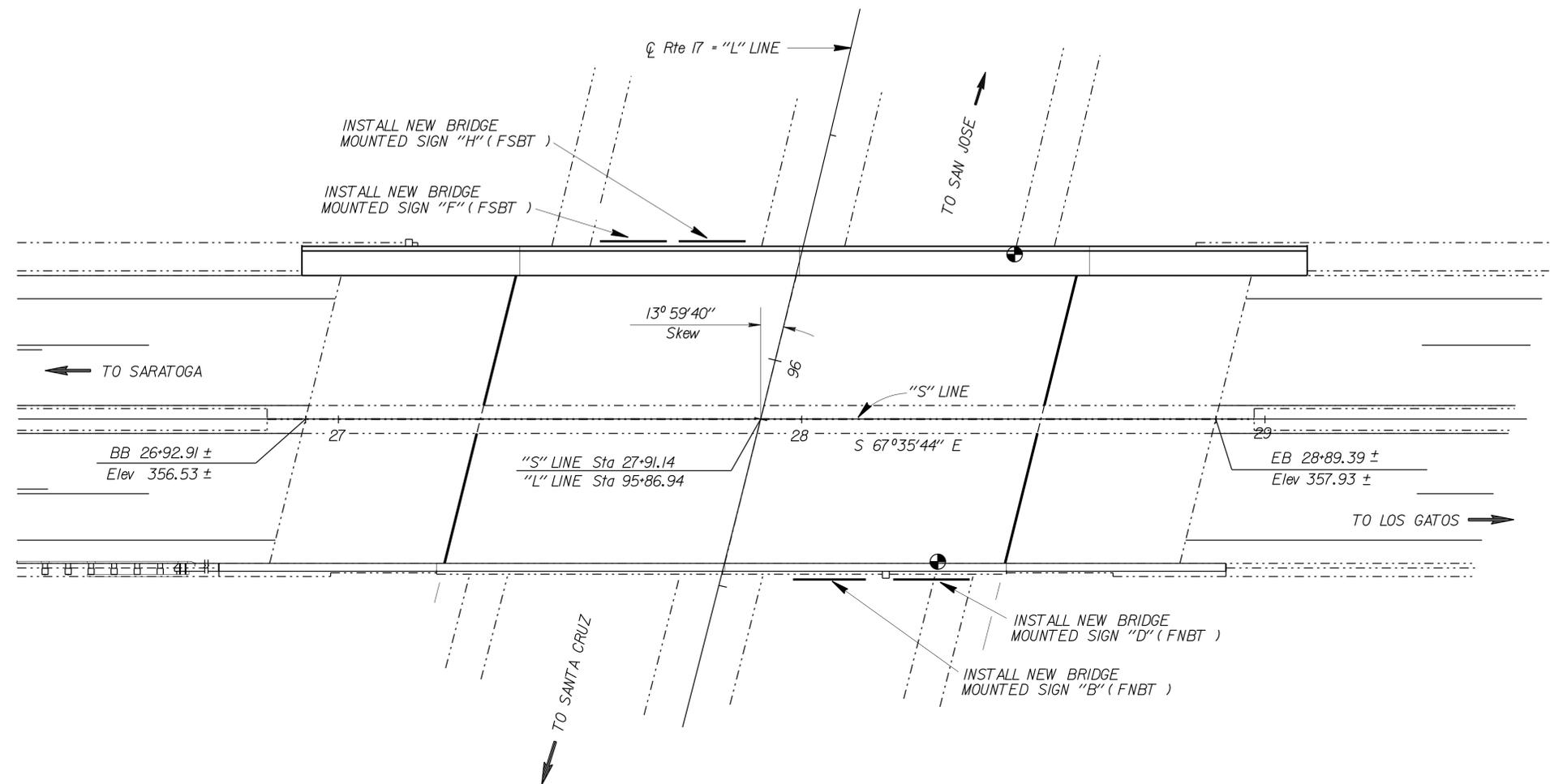
SIGN DETAILS
NO SCALE

SD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	ROY YUAN	REVISOR	DATE
Caltrans	ROLAND AU-YEUNG	JERILYN STRUVEN	RY	3/18/15
TRAFFIC				

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SCI	9	3.6,11.4	28	98

Devang K. Vora 4/13/15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE
 No. C76546
 Exp. 12/31/16
 CIVIL
 STATE OF CALIFORNIA



LOCATION PLAN

NOTE:
1. For sign location, see "SIGN PLANS".

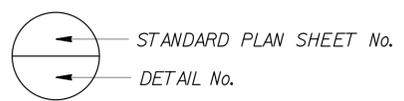
LEGEND

-----	Existing structure
—————	New structure
BMS	Bridge mounted sign

STANDARD PLANS 2010

SHEET No.	TITLE
AIOA	ABBREVIATIONS (SHEET 1 OF 2)
RSP AIOB	ABBREVIATIONS (SHEET 2 OF 2)

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



BRANCH CHIEF JEFF WOODY	DESIGN BY DEVANG VORA	CHECKED ARLENA GUTIERREZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH	BRIDGE NO. 37-0144	SARATOGA AVENUE SEPARATION BRIDGE MOUNTED SIGN - SKEWED LOCATION PLAN AND LAYOUT	SDS-1
	DETAILS BY R. YEE	CHECKED DEVANG VORA			POST MILE 3.6,11.4		
QUANTITIES BY DEVANG VORA CHECKED ARLENA GUTIERREZ			UNIT: 3619 PROJECT NUMBER & PHASE: 0412000162-1		CONTRACT NO.: 04-1A3404		SHEET OF

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3
 (ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)
 FILE => /2015sd/04-1A3401/sds-1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

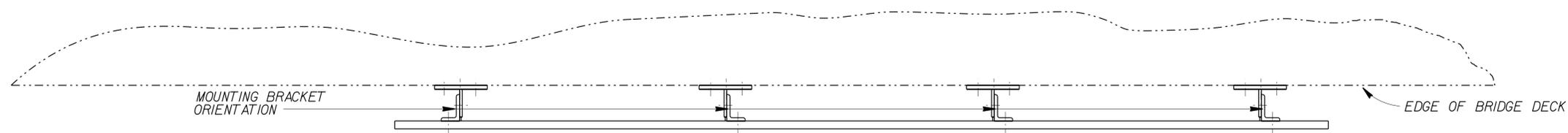
REVISION DATES
3/27/15 4/27/15 5/28/15 4/27/15

USERNAME => s128787 DATE PLOTTED => 19-JUN-2015 TIME PLOTTED => 09:14

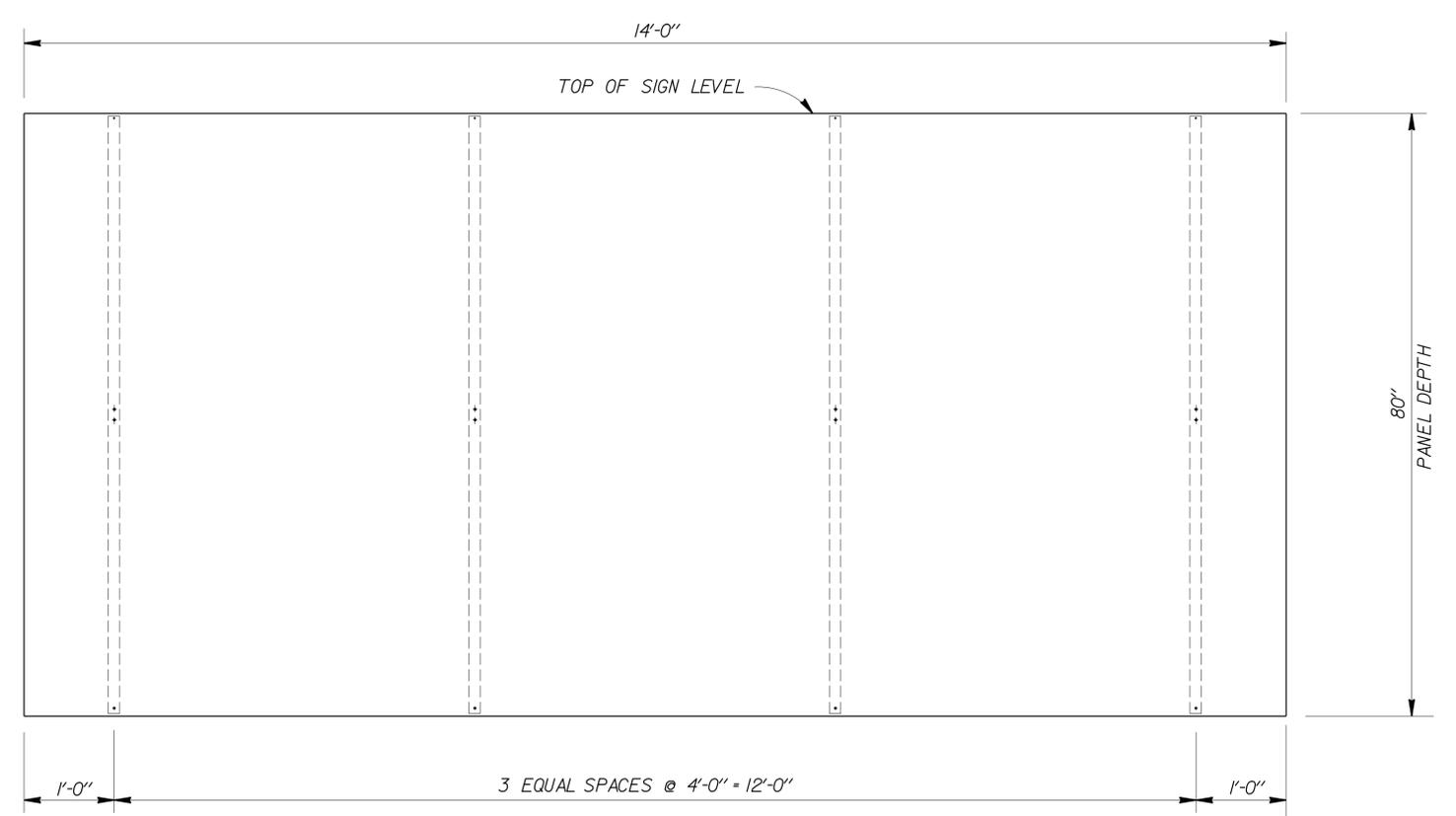
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SCI	9	3.6,11.4	29	98

Devang K. Vora 4/13/15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE
 No. C76546
 Exp. 12/31/16
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
 DEVANG VORA

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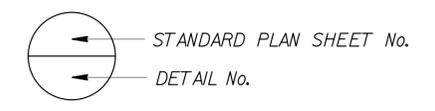


PLAN VIEW



FRONT VIEW
NEW SIGN No. B (FNBT)

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



BRANCH CHIEF JEFF WOODY	DESIGN	BY <i>DEVANG VORA</i>	CHECKED <i>ARLENA GUTIERREZ</i>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH A	BRIDGE NO.	SARATOGA AVENUE SEPARATION	SDS-2			
	DETAILS	BY <i>R. YEE</i>	CHECKED <i>DEVANG VORA</i>			37-0144			BRIDGE MOUNTED SIGN - FRONT VIEW		
	QUANTITIES	BY <i>DEVANG VORA</i>	CHECKED <i>ARLENA GUTIERREZ</i>			POST MILE 3.6,11.4					
(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	UNIT: 3619 PROJECT NUMBER & PHASE: 0412000162-1	CONTRACT NO.: 04-1A3404	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF

USERNAME => s128787 DATE PLOTTED => 19-JUN-2015 TIME PLOTTED => 09:14

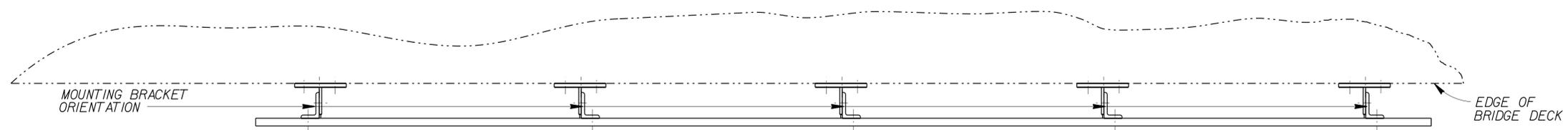
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SCI	9	3.6,11.4	30	98

Devang K. Vora 4/13/15
REGISTERED CIVIL ENGINEER DATE

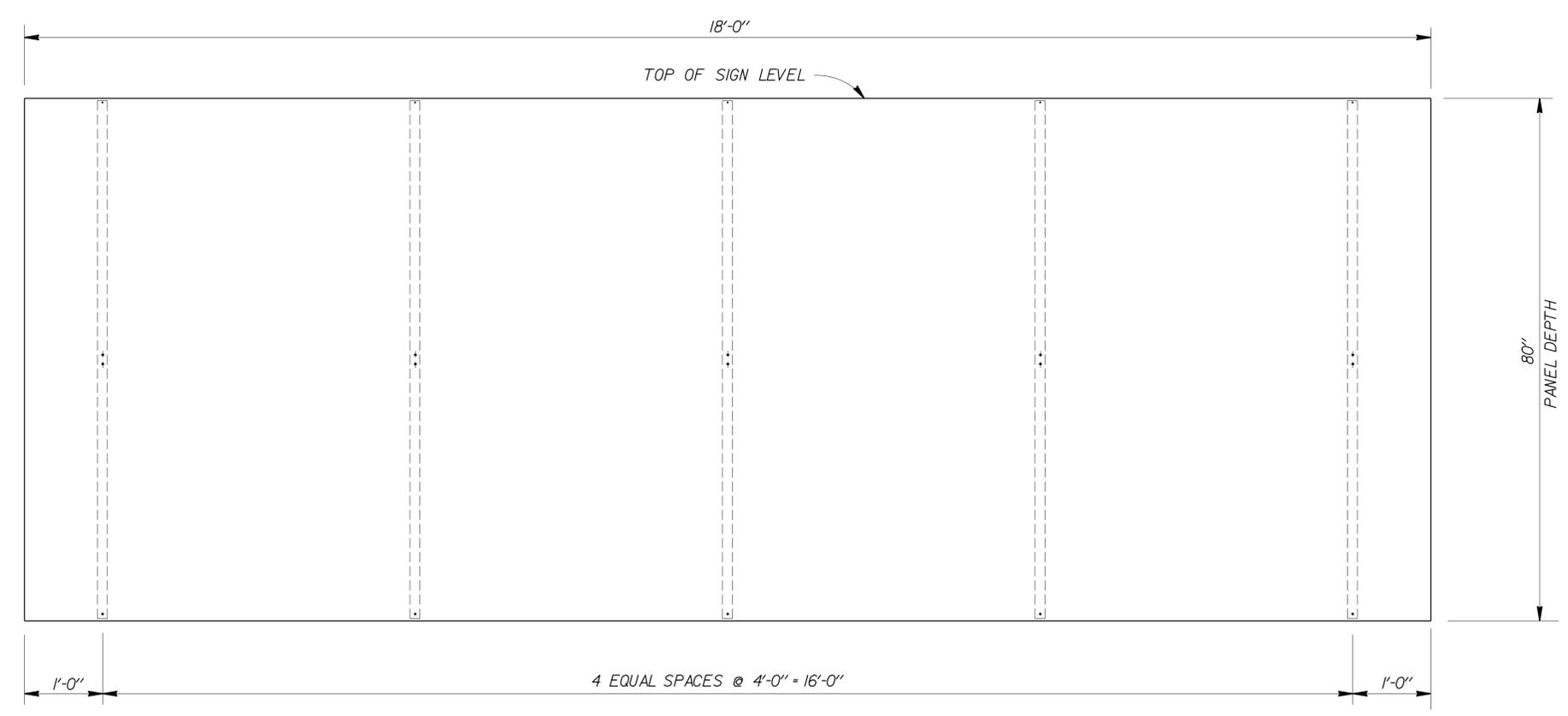
6-1-15
PLANS APPROVAL DATE

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

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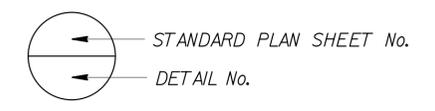


PLAN VIEW



FRONT VIEW
NEW SIGN No. D (FNBT)

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



BRANCH CHIEF JEFF WOODY	DESIGN	BY <i>DEVANG VORA</i>	CHECKED <i>ARLENA GUTIERREZ</i>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH A	BRIDGE NO.	SARATOGA AVENUE SEPARATION BRIDGE MOUNTED SIGN - FRONT VIEW	SDS-3	
	DETAILS	BY <i>R. YEE</i>	CHECKED <i>DEVANG VORA</i>			37-0144			
	QUANTITIES	BY <i>DEVANG VORA</i>	CHECKED <i>ARLENA GUTIERREZ</i>			3.6,11.4			
<small>(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)</small>				<small>ORIGINAL SCALE IN INCHES FOR REDUCED PLANS</small> 0 1 2 3	<small>UNIT: 3619</small> PROJECT NUMBER & PHASE: 0412000162-1	<small>CONTRACT NO.:</small> 04-1A3404	<small>DISREGARD PRINTS BEARING EARLIER REVISION DATES</small>	<small>REVISION DATES</small> 3/2/15 5/28/15 3/2/15 4/12/15	<small>SHEET</small> 30 <small>OF</small> 98

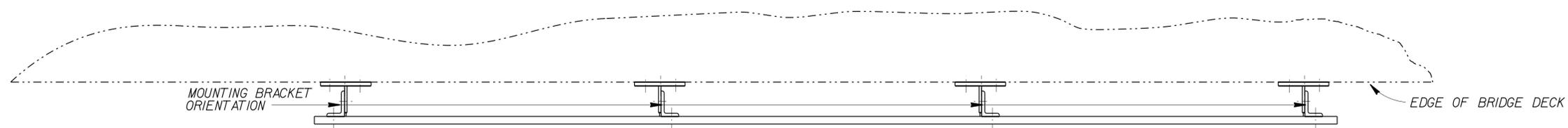
USERNAME => s128787 DATE PLOTTED => 19-JUN-2015 TIME PLOTTED => 09:14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SCI	9	3.6,11.4	31	98

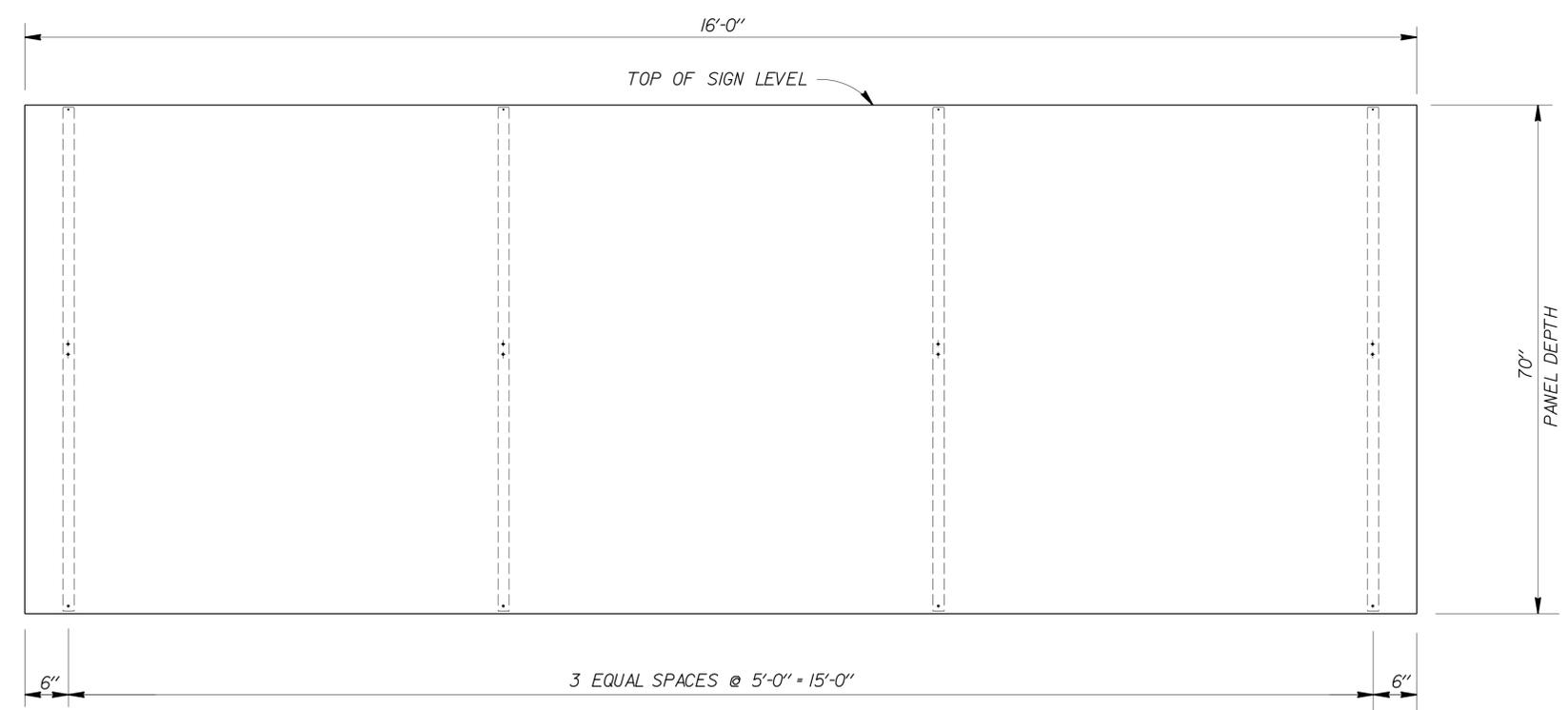
Devang K. Vora 4/13/15
REGISTERED CIVIL ENGINEER DATE
6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
DEVANG VORA
No. C76546
Exp. 12/31/10
CIVIL
STATE OF CALIFORNIA

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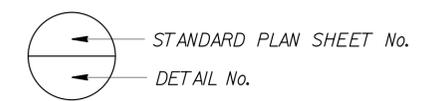
PLAN VIEW



FRONT VIEW

NEW SIGN No. F (FSBT) AND SIGN No. H (FSBT)

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

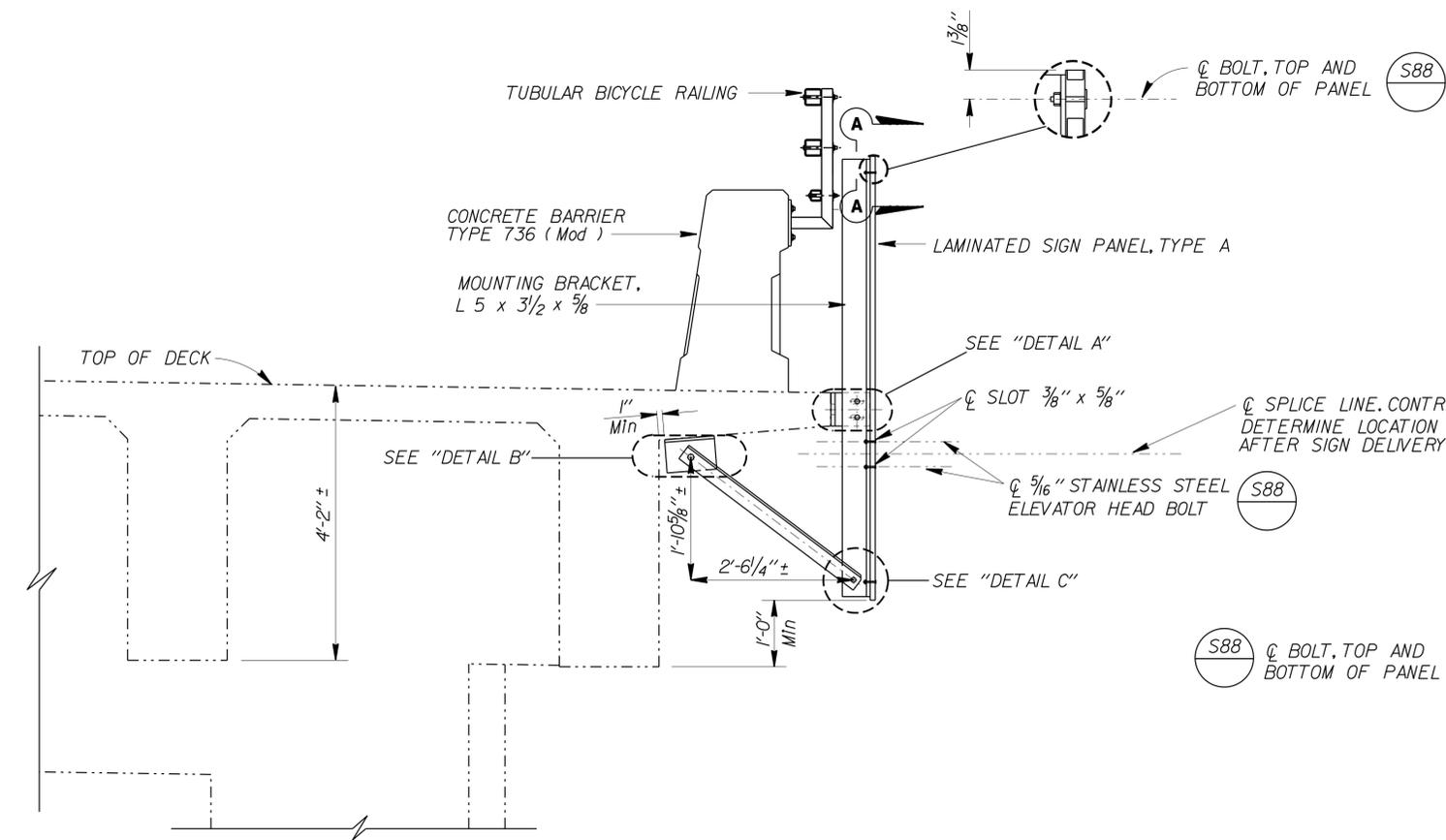


BRANCH CHIEF JEFF WOODY	DESIGN BY <i>DEVANG VORA</i>	CHECKED <i>ARLENA GUTIERREZ</i>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH A	BRIDGE NO. 37-0144	SARATOGA AVENUE SEPARATION BRIDGE MOUNTED SIGN - FRONT VIEW	SDS-4			
	DETAILS BY <i>R. YEE</i>	CHECKED <i>DEVANG VORA</i>			POST MILE 3.6,11.4					
	QUANTITIES BY <i>DEVANG VORA</i>	CHECKED <i>ARLENA GUTIERREZ</i>								
(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3619	PROJECT NUMBER & PHASE: 0412000162-1	CONTRACT NO.: 04-1A3404	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF

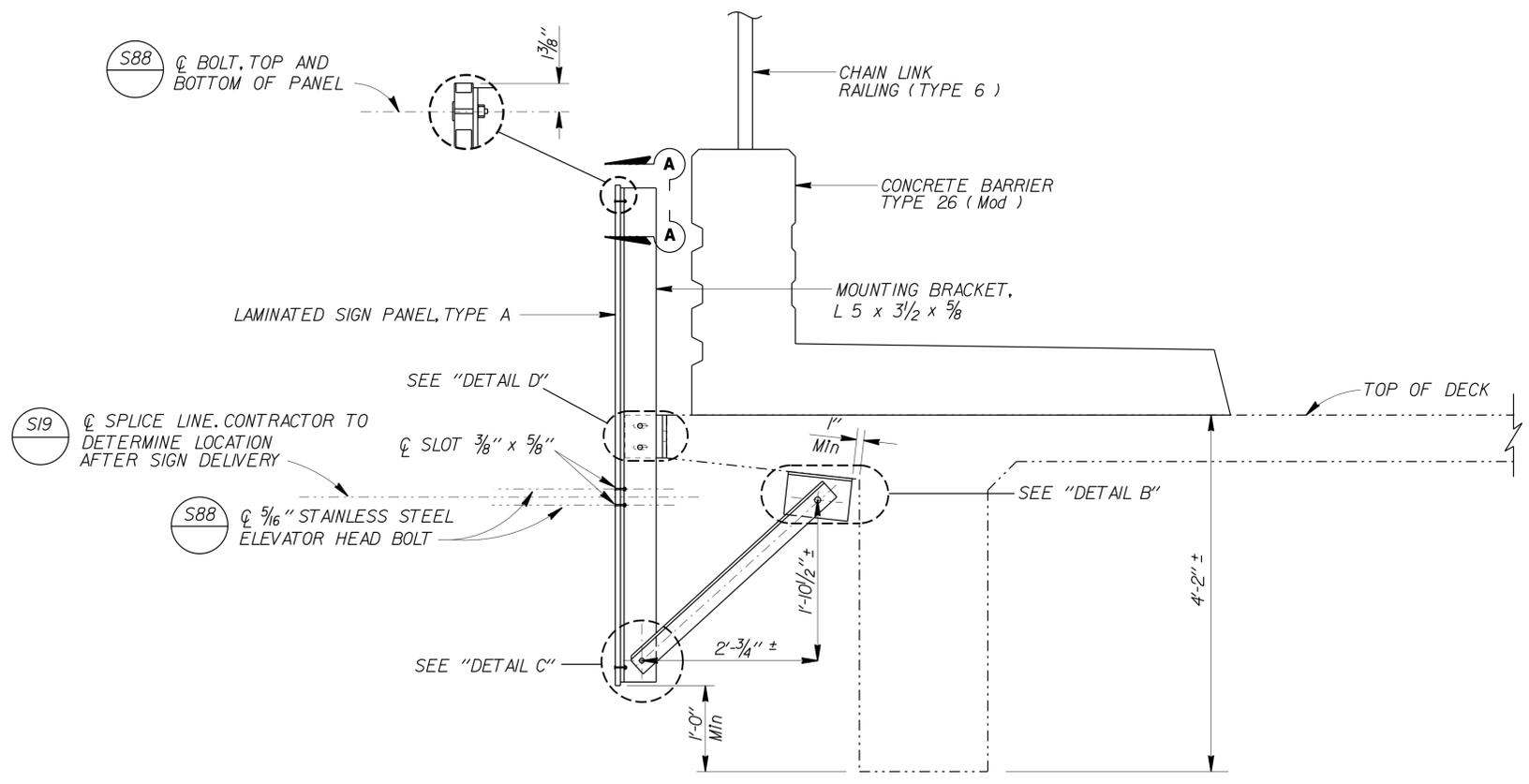
USERNAME => s128787 DATE PLOTTED => 19-JUN-2015 TIME PLOTTED => 09:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SCI	9	3.6,11.4	32	98

Devang K. Vora 4/13/15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE
 No. C76546
 Exp. 12/31/16
 CIVIL
 STATE OF CALIFORNIA
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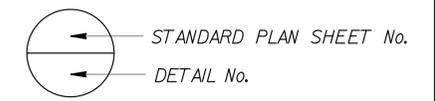
TYPICAL SECTION
FOR SIGN No. B AND SIGN No. D



TYPICAL SECTION
FOR SIGN No. F AND SIGN No. H

- NOTES:**
1. For details not shown, see "STANDARD PLANS 2010".
 2. All high strength (HS) bolts must be snug tightened.
 3. Minimum size fillet weld is 1/4" or thickness of thinner part unless noted otherwise.
 4. For "SECTION A-A", "DETAIL A", "DETAIL B", "DETAIL C" and "DETAIL D", see "TYPICAL DETAILS" sheet.
 5. All steel must be galvanized after fabrication.

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



BRANCH CHIEF **JEFF WOODY**

DESIGN	BY DEVANG VORA	CHECKED ARLENA GUTIERREZ
DETAILS	BY R. YEE	CHECKED DEVANG VORA
QUANTITIES	BY DEVANG VORA	CHECKED ARLENA GUTIERREZ

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
DESIGN AND TECHNICAL SERVICES
SPECIAL DESIGNS BRANCH **A**

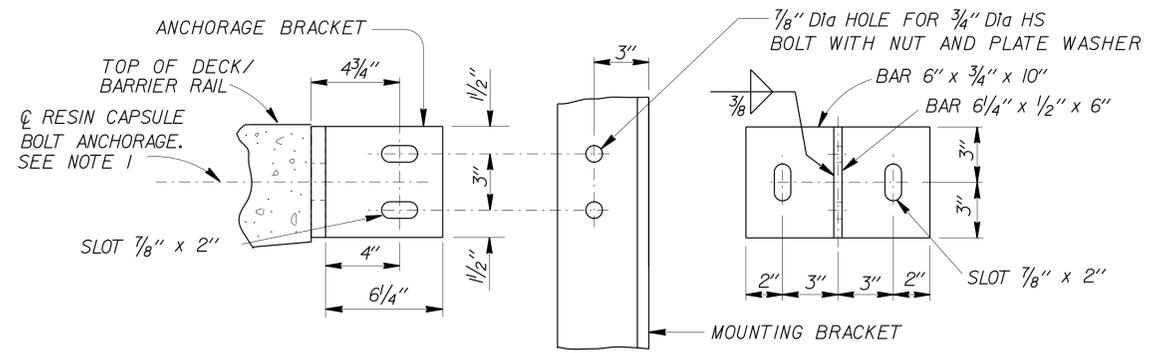
NO SCALE

BRIDGE NO.	37-0144
POST MILE	3.6,11.4

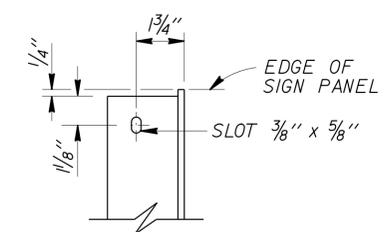
SARATOGA AVENUE SEPARATION
BRIDGE MOUNTED SIGN - SKEWED
TYPICAL SECTIONS

SDS-5

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
04	SCI	9	3.6,11.4	33	98
Devang K. Vora REGISTERED CIVIL ENGINEER DATE 4/13/15			6-1-15 PLANS APPROVAL DATE		
No. C76546 Exp. 12/31/16 CIVIL STATE OF CALIFORNIA					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



DETAIL A



SECTION A-A

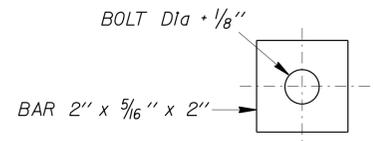
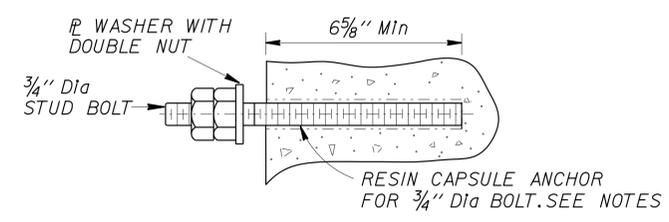


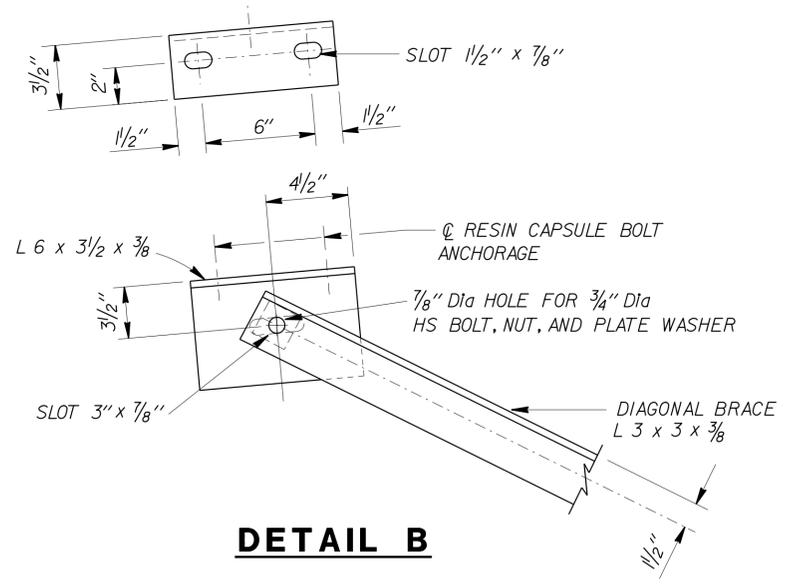
PLATE WASHER
FOR ALL SLOTTED HOLE AND WHERE NOTED



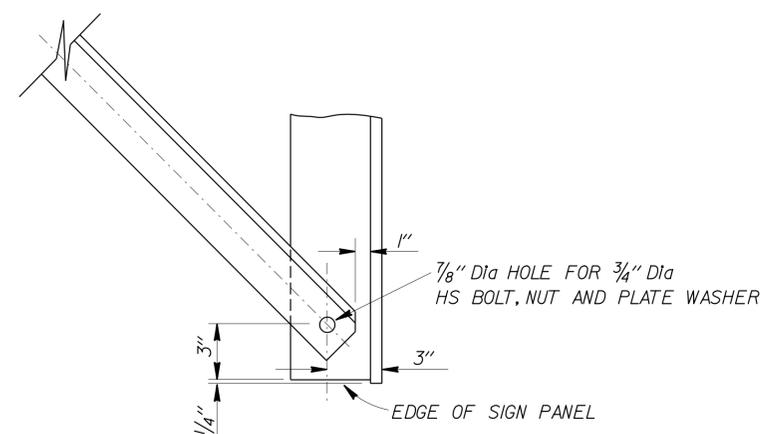
RESIN CAPSULE BOLT ANCHORAGE

NOTES:

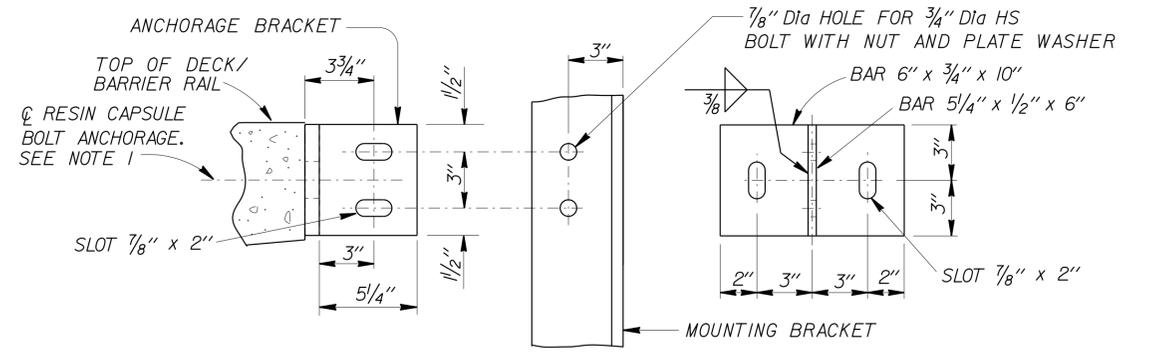
- Contractor to provide anchor bolt layout before anchor bolts are placed.
- Where new resin capsule bolt anchorage coincides with fence post, adjust new mounting bracket to create a minimum distance of 6" measured from the centerline of nearest resin capsule bolt anchorage to the centerline of fence post, or as approved by the Engineer.
- Resin capsule anchorage is subject to approval of the Engineer. Installation procedure must comply with manufacturer's instructions.
- Unless otherwise shown, all steel must be galvanized after fabrication.
- Resin capsule bolt anchors must be installed in sound concrete free of cracks or delamination.



DETAIL B

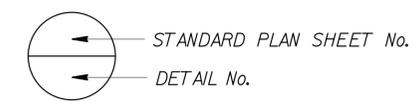


DETAIL C



DETAIL D

NOTE:
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BRANCH CHIEF JEFF WOODY	DESIGN	BY DEVANG VORA	CHECKED ARLENA GUTIERREZ	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES DESIGN AND TECHNICAL SERVICES SPECIAL DESIGNS BRANCH	BRIDGE NO.	SARATOGA AVENUE SEPARATION BRIDGE MOUNTED SIGN - SKEWED TYPICAL DETAILS	SDS-6
	DETAILS	BY R. YEE	CHECKED DEVANG VORA			POST MILE		
	QUANTITIES	BY DEVANG VORA	CHECKED ARLENA GUTIERREZ	UNIT: 3619	PROJECT NUMBER & PHASE: 0412000162-1	CONTRACT NO.: 04-1A3404	REVISION DATES	SHEET OF
(ENGLISH) SPECIAL DESIGNS BRANCH BORDER SHEET (REV. 7-1-09)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3		DISREGARD PRINTS BEARING EARLIER REVISION DATES		3/22/15 5/28/15 1/22/15 4/13/15

USERNAME => s128787 DATE PLOTTED => 19-JUN-2015 TIME PLOTTED => 09:15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	34	98

Jeryl L. Struven 6/1/15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE

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SIGN QUANTITIES

SIGN No.	SIGN LETTER ◇	SIGN CODE	PANEL SIZE	SINGLE FACE	REMOVE BM SIGN	FURNISH SIGN STRUCTURE (BM WITHOUT WALKWAY)	INSTALL SIGN STRUCTURE (BM WITHOUT WALKWAY)	FURNISH LAMINATED SIGN PANEL (1"-TYPE A)	BACKGROUND (ASTM TYPE)		LEGEND (ASTM TYPE)		PROTECTIVE OVERLAY	RETROREFLECTIVE SHEETING (TYPE XI)
			INCH x INCH		EA	LB	SQFT	COLOR	RETRO REFLECTIVE	COLOR	RETRO REFLECTIVE	PREMIUM	SQFT	
S-1	A	G24 (CA)		X	1									
S-1 SD-1	B	G24 (CA)	168 x 80	X		708	708	93.4	GREEN	XI	WHITE	XI	X	93.4
S-1	C	G85 (CA)		X	1									
S-1 SD-1	D	G85 (CA)	216 x 80	X		884	884	120	GREEN	XI	WHITE	XI	X	120
S-1	E	G85 (CA)		X	1									
S-1 SD-1	F	G85 (CA)	192 x 70	X		637	637	93.4	GREEN	XI	WHITE	XI	X	93.4
S-1	G	G24 (CA)		X	1									
S-1 SD-1	H	G24 (CA)	192 x 70	X		637	637	93.4	GREEN	XI	WHITE	XI	X	93.4
TOTAL					4	2866	2866	401						401

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 FUNCTIONAL SUPERVISOR: ROLAND AU-YEUNG
 ROY YUAN
 JERILYN STRUVEN
 CALCULATED/DESIGNED BY: JERILYN STRUVEN
 CHECKED BY:
 REVISIONS: 1/13/15
 RY

SIGN QUANTITIES

SQ-1

LAST REVISION DATE PLOTTED => 19-JUN-2015 05-12-15 TIME PLOTTED => 14:41

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	35	98

Zora S. Mangat 6/1/15
REGISTERED CIVIL ENGINEER DATE

6-1-15
PLANS APPROVAL DATE

Zora Mangat
No. 44843
Exp. 3-31-16
CIVIL

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MIDWEST GUARDRAIL SYSTEM

SHEET No.	STATION LIMIT	LOCATION	LAYOUT TYPE	MGS (7' WOOD POST)	TRANSITION RAILING (TYPE WB-31)	GUARDRAILING DELINEATOR	OBJECT MARKER (L-1)	ALTERNATIVE FLARED TERMINAL SYSTEM	ALTERNATIVE IN-LINE TERMINAL SYSTEM	REMOVE GUARDRAIL	TREATED WOOD WASTE	WEED CONTROL MAT (RUBBER)
				LF	EA				LF	LB	SQFT	
L-1	"W" 11+80 TO 12+52.20	R+	12B		1	3	1	1		71	800	284
	"W" 11+38 TO 12+52.20	L+	12AA	38	1	5	1		1	113	1100	452
L-2	"W" 25+80 TO 26+72	R+	12B	17	1	4	1	1		92	400	368
TOTAL				55	3	12	3	2	1	276	2300	1104

ROADWAY QUANTITIES

SHEET No.	STATION LIMIT	HMA (TYPE A)	TACK COAT	COLD PLANE AC PAVEMENT			TEMPORARY REINFORCED SILT FENCE	CRASH CUSHION (SMART SCI 70GM)	IMPORTED BORROW
				0.27' Max	0.13' Max	0.08' Max			
		TONS		SQYD			LF	EA	CY
L-1	"W" 11+38 TO 12+52.20						125		
	"W" 11+62.20 TO 12+52.20	110	0.2	200	100		95		7
	"W" 13+10.20 TO 14+10.20	90	0.2	240	105		100	1	
	"W" 12+75 TO 13+15						120		
FROM SCQ-1		3	0.1			55			
TOTAL		203	0.5	700			440	1	7

SUMMARY OF QUANTITIES Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: SINDHU KURUP
 CALCULATED/DESIGNED BY: ZORA MANGAT
 CHECKED BY: SINDHU KURUP
 REVISIONS: ZM 5/26/15



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	36	98

Kenneth Y. Xu 6/1/15
 REGISTERED ELECTRICAL ENGINEER DATE

6-1-15
 PLANS APPROVAL DATE

Kenneth Y. Xu
 No. 15219
 Exp. 6-30-16
 ELECTRICAL

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

GENERAL NOTES:

1. THE LOWEST SAG POINT OF THE MESSENGER WIRE MUST HAVE 25 ft MINIMUM CLEARANCE FROM FINISHED GRADE/ROADWAY.
2. OVERHEAD ENTRANCE CONDUIT FITTING MUST BE INSTALLED IN A WAY THAT RAINWATER DOES NOT SEEP INTO THE ELECTRICAL EQUIPMENT THROUGH THE ENTRANCE FITTING. FORM A DRIP LOOP AT THE ENTRANCE FITTING.
3. ESTABLISH CONTINUOUS GROUND WITH THE SYSTEM GROUND TO ALL METAL PARTS IN THE SYSTEM BY BONDING JUMPERS AND CONDUITS.
4. A GROUNDING ELECTRODE MUST BE INSTALLED IN THE PULL BOX ADJACENT TO WOOD POLES AND BOND TO RIGID METAL CONDUIT, UNLESS OTHERWISE NOTED.

PROJECT NOTES:

- 1 10' x 10' x 4" (W x L x D) CONCRETE SLAB FOR PORTABLE GENERATORS AND SERVICE EQUIPMENT ENCLOSURE MOUNTING. SEE DETAIL 5 ON SHEET E-6.
- 2 ASSEMBLY WITH MODEL 332 CABINET. SEE TEMPORARY FOUNDATION PLATFORM DETAIL 2 ON SHEET E-6. FRONT DOOR SHALL FACE SOUTH.
- 3 76' TEMPORARY FENCE (TYPE CL-6) ONE TEMPORARY GATE (TYPE CL-6) (EACH) PART OF ROADWAY PAY ITEM.
- 4 FUEL STORAGE LIQUID PROPANE TANK. THE EXACT LOCATION TO BE DETERMINED BY THE ENGINEER.
- 5 INSTALL A UPS IN THE CONTROLLER CABINET.
- 6 1 1/2" C, 1 DLC
- 7 INSTALL BATTERY BACK-UP SYSTEM IN THE CONTROLLER CABINET.

INDEX TO ELECTRICAL PLANS:

DRAWING No.	TITLE
E-1	ELECTRICAL INDEX, NOTES, LEGEND AND ABBREVIATIONS
E-2	TEMPORARY SIGNAL SYSTEM
E-3	LIGHTING (STAGE CONSTRUCTION)
E-4	LIGHTING
E-5 TO E-6	ELECTRICAL DETAILS
E-7	ELECTRICAL QUANTITIES

LEGEND, SYMBOLS AND ABBREVIATIONS:

- PROPOSED**
- TEMPORARY ELECTROLIER WITH 165 W LED LUMINAIRE MOUNTED ON A WOOD POLE. SEE DETAIL 4 ON SHEET E-6.
 - ADVANCE FLASHING BEACON WITH A W3-3 SIGN AND SIGN LIGHTING MOUNTED ON A WOOD POLE. SEE DETAIL 1 ON SHEET E-6.
 - TEMPORARY SIGNAL STANDARD MOUNTED ON A WOOD POLE. SEE DETAIL 3 ON SHEET E-6.
 - LPT LIQUID PROPANE TANK
 - LP LIQUID PROPANE
 - PG&E PACIFIC GAS AND ELECTRIC
 - X-X- TEMPORARY FENCE AND GATE
 - G - PROPANE GAS LINE

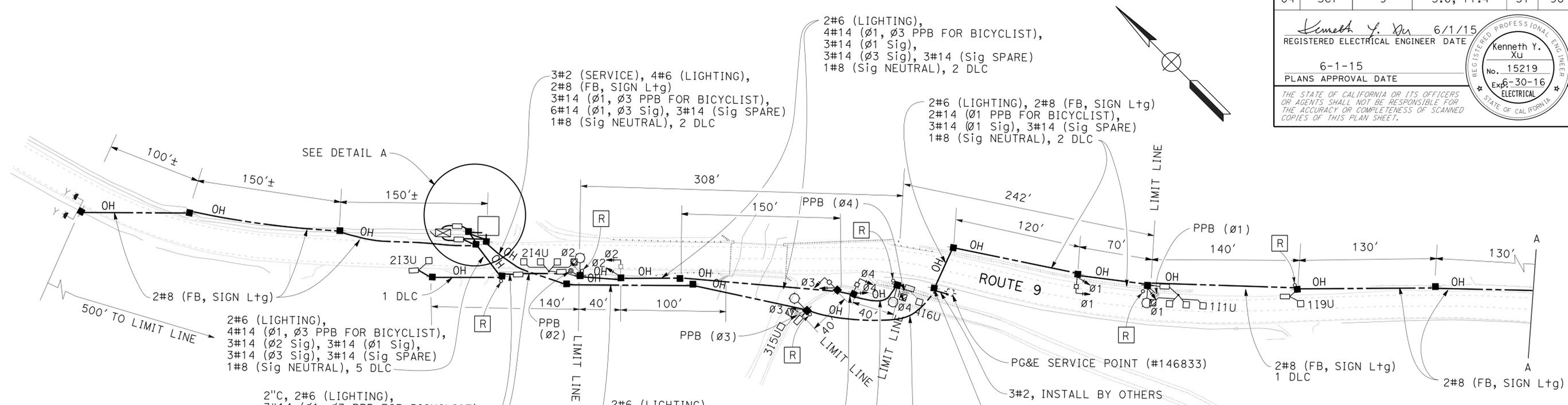
ELECTRICAL INDEX, NOTES, LEGEND AND ABBREVIATIONS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	37	98

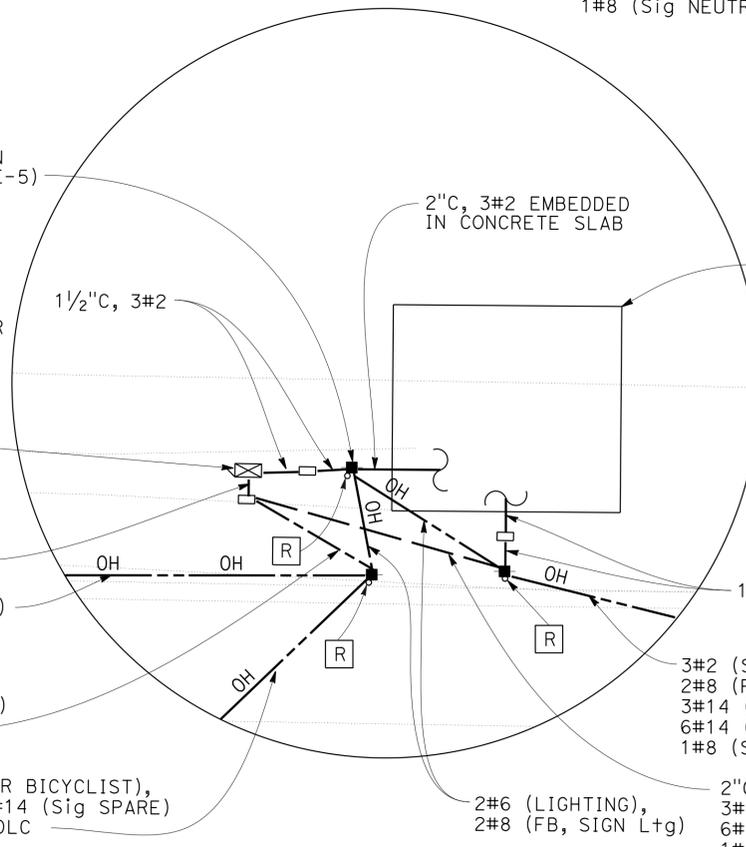
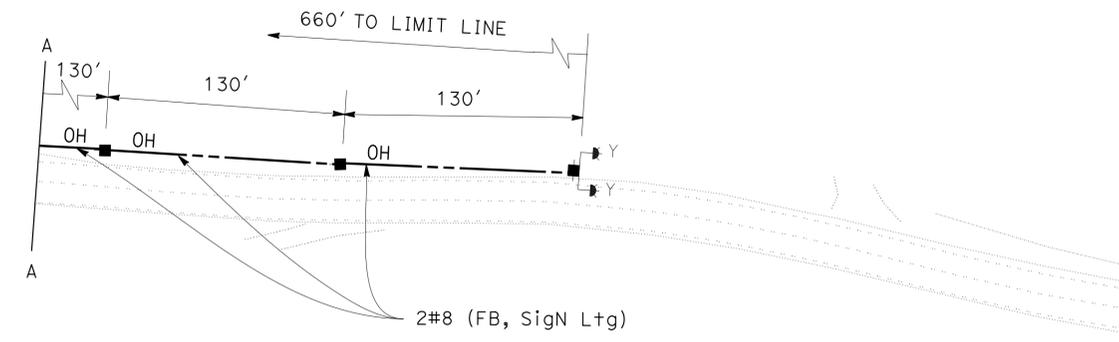
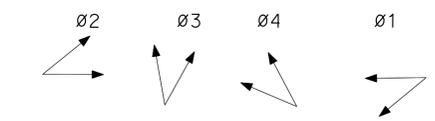
<i>Kenneth Y. Xu</i> 6/1/15 REGISTERED ELECTRICAL ENGINEER DATE	
6-1-15 PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER Kenneth Y. Xu No. 15219 Exp. 3-30-16 ELECTRICAL STATE OF CALIFORNIA

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TRAFFIC PHASE DIAGRAM



DETAIL A

APPROVED FOR ELECTRICAL WORK ONLY

TEMPORARY SIGNAL SYSTEM

SCALE: 1" = 50'

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

STATE OF CALIFORNIA	DEPARTMENT OF TRANSPORTATION	ELECTRICAL
Michelle Chan	Behzad Gole Mohammadi	
Revised By	Checked By	
MC	Kenneth Xu	
11/12/14		

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR
 BEHZAD GOLEHAMMADI

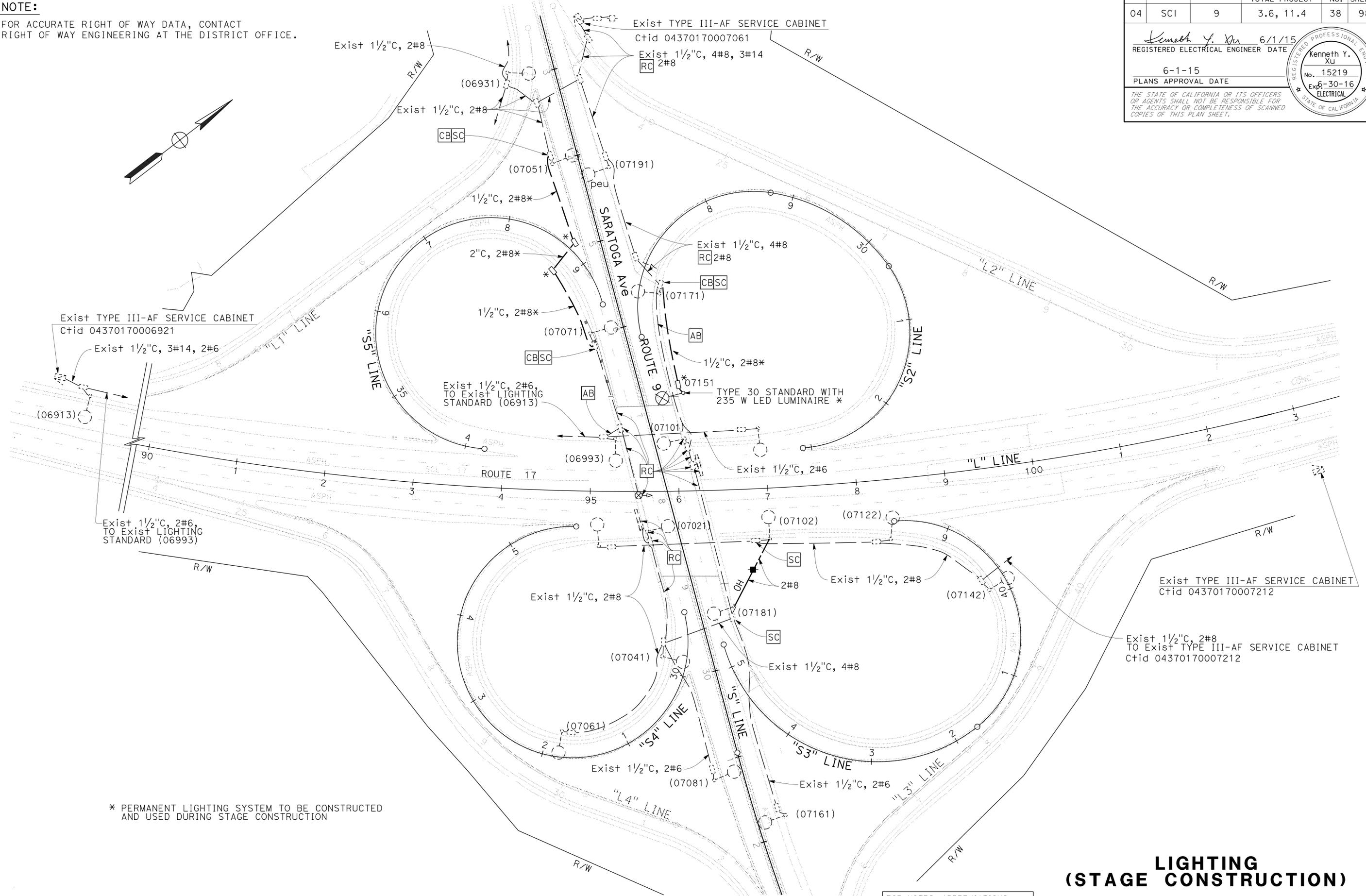
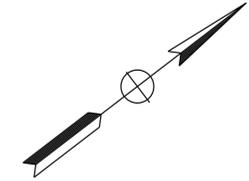
CALCULATED/DESIGNED BY
 CHECKED BY

MICHELLE CHAN
 KENNETH XU

REVISED BY
 DATE REVISED

MC
 11/12/14

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



* PERMANENT LIGHTING SYSTEM TO BE CONSTRUCTED
 AND USED DURING STAGE CONSTRUCTION

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS
 AND LEGEND, SEE SHEET E-1

**LIGHTING
 (STAGE CONSTRUCTION)**

SCALE: 1" = 50'

E-3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	38	98

REGISTERED ELECTRICAL ENGINEER
 Kenneth Y. Xu
 No. 15219
 Exp. 6-30-16
 ELECTRICAL

6/1/15
 REGISTERED ELECTRICAL ENGINEER DATE

6-1-15
 PLANS APPROVAL DATE

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

EXISTING SYSTEM No. 37-017-00706 (PG&E)
TYPE H SERVICE (240/480 V)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	39	98

Exist LOAD:
15-200 W HPS LUMINAIRES
1166 W SIGN LIGHTING
MODIFIED LOAD:
2-235 W LED LUMINAIRES
14-200 W HPS LUMINAIRES
2- 70 W HPS WALL LUMINAIRE

Kenneth Y. Xu 6/1/15
REGISTERED ELECTRICAL ENGINEER DATE

Kenneth Y. Xu
No. 15219
Exp. 8-30-16
ELECTRICAL

6-1-15
PLANS APPROVAL DATE

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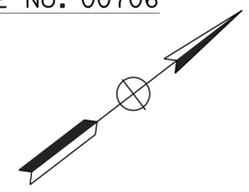
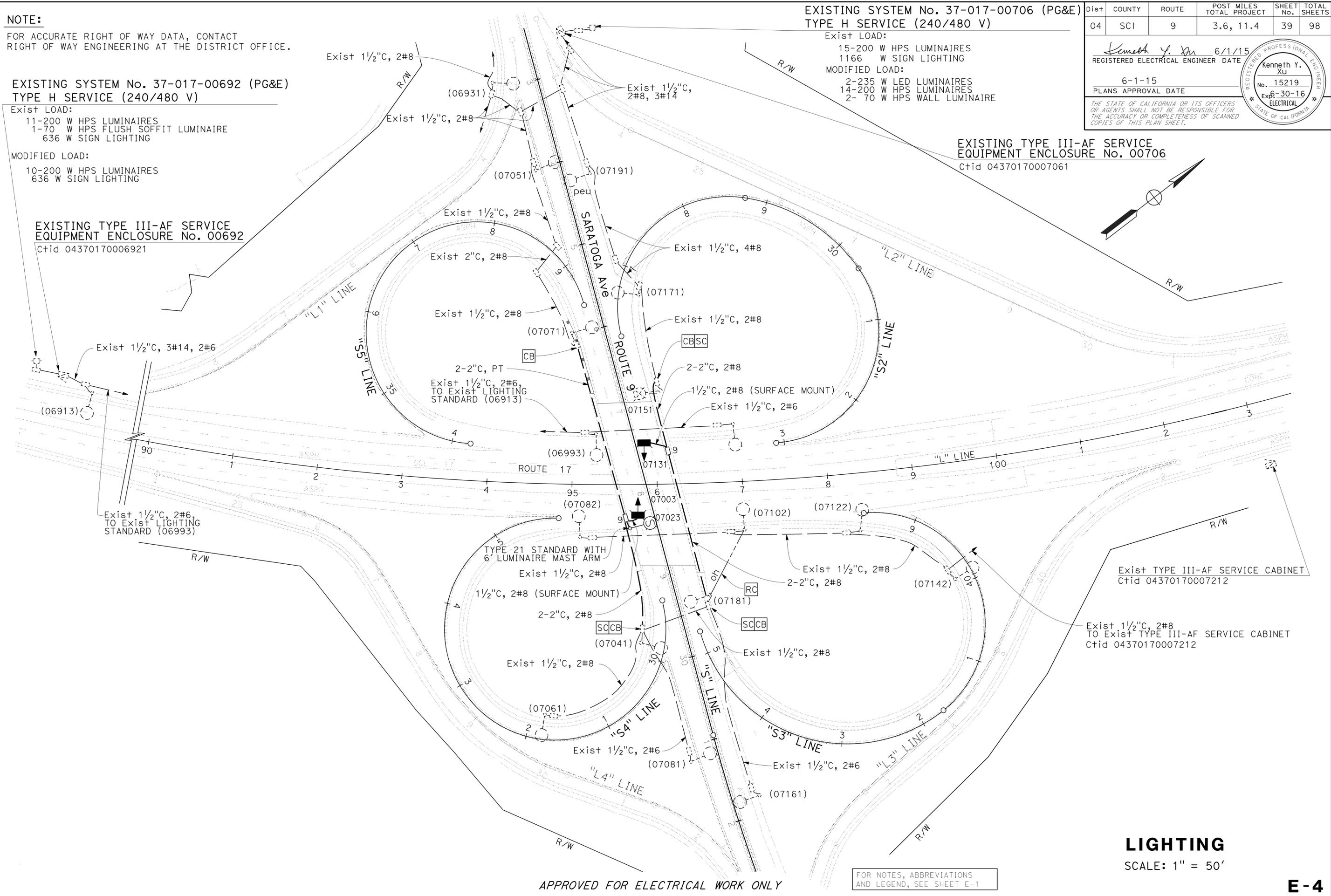
NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

EXISTING SYSTEM No. 37-017-00692 (PG&E)
TYPE H SERVICE (240/480 V)

Exist LOAD:
11-200 W HPS LUMINAIRES
1-70 W HPS FLUSH SOFFIT LUMINAIRE
636 W SIGN LIGHTING
MODIFIED LOAD:
10-200 W HPS LUMINAIRES
636 W SIGN LIGHTING

EXISTING TYPE III-AF SERVICE
EQUIPMENT ENCLOSURE No. 00692
Ctid 04370170006921

EXISTING TYPE III-AF SERVICE
EQUIPMENT ENCLOSURE No. 00706
Ctid 04370170007061



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

FUNCTIONAL SUPERVISOR: BEHZAD GOLEHAMMADI
CALCULATED/DESIGNED BY: MICHELLE CHAN
CHECKED BY: KENNETH XU
REVISOR: MC
DATE REVISED: 11/12/14

APPROVED FOR ELECTRICAL WORK ONLY

FOR NOTES, ABBREVIATIONS
AND LEGEND, SEE SHEET E-1

LIGHTING
SCALE: 1" = 50'

E-4

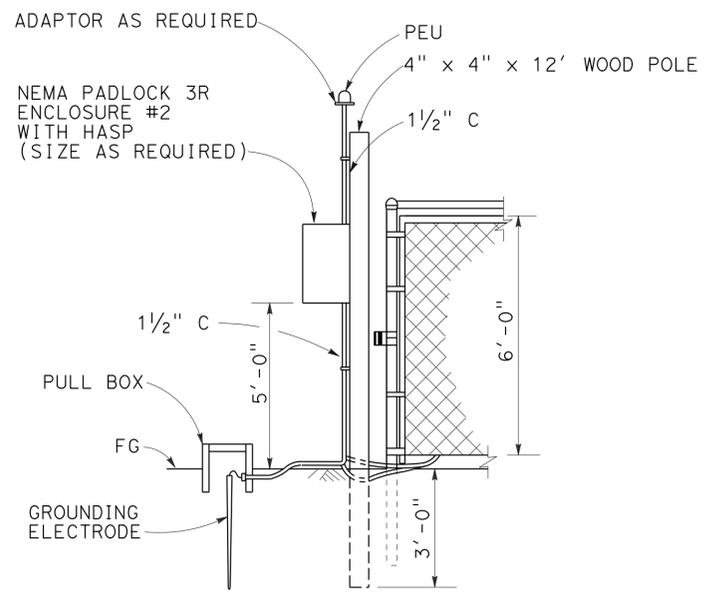
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04	SCI	9	3.6, 11.4	40	98

Kenneth Y. Xu 6/1/15
REGISTERED ELECTRICAL ENGINEER DATE

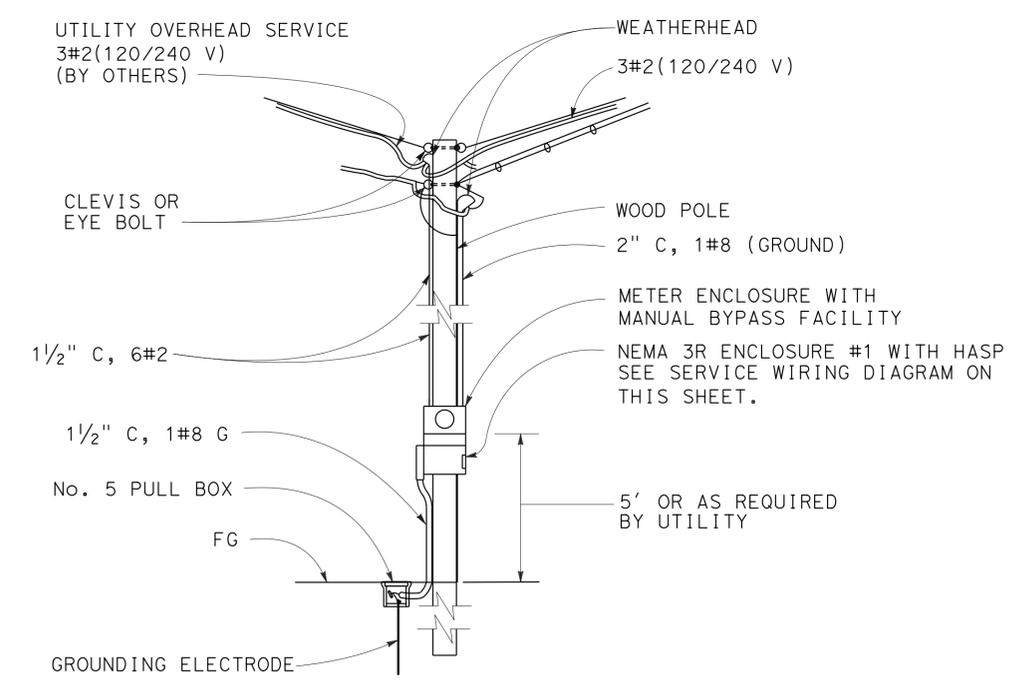
6-1-15
PLANS APPROVAL DATE

Kenneth Y. Xu
No. 15219
Exp. 6-30-16
ELECTRICAL
STATE OF CALIFORNIA

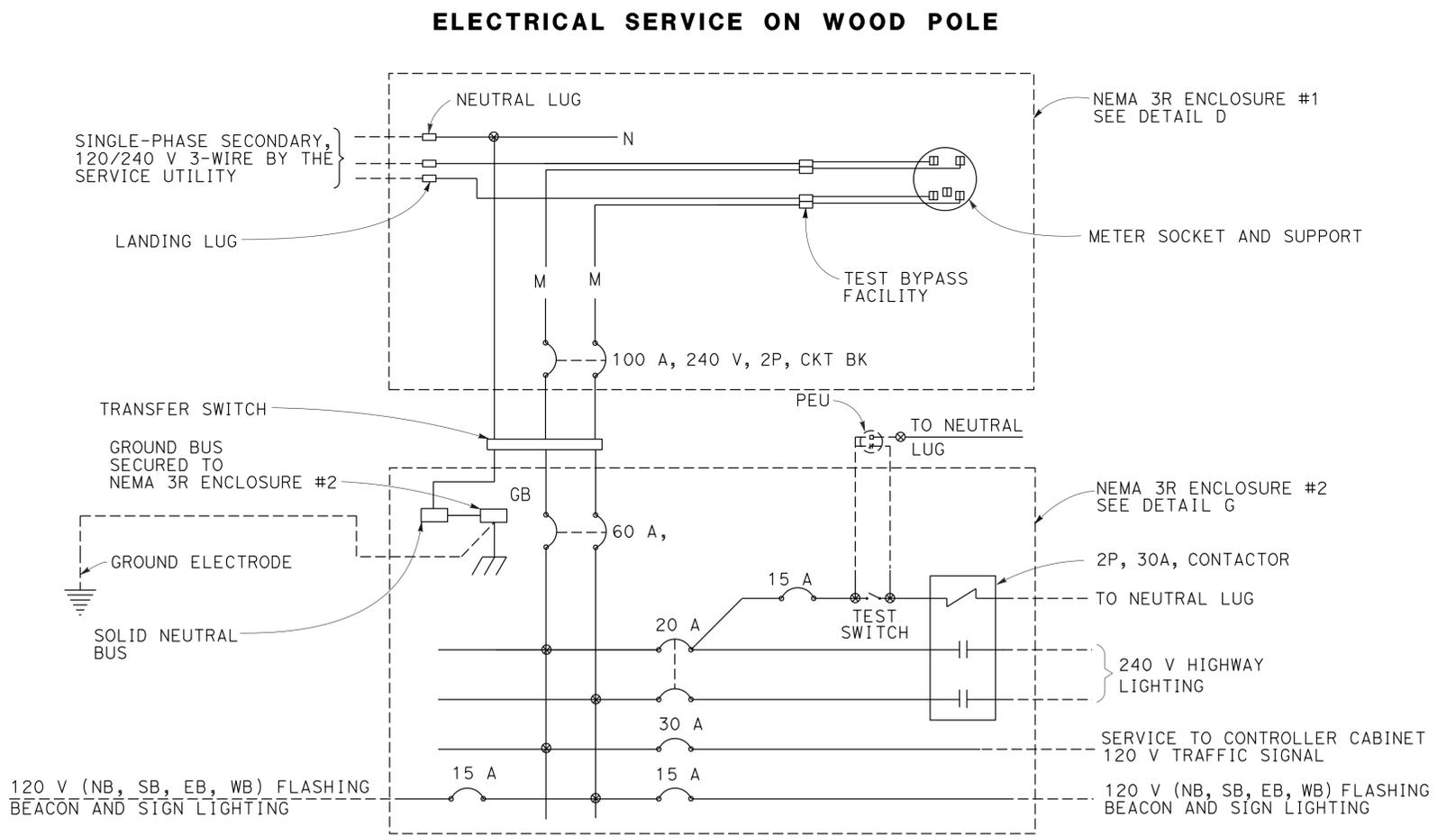
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DETAIL G



DETAIL D



PROVIDE ITEMS SHOWN IN THIS DIAGRAM
SEE Std PLANS ES-2C AND ES-2D FOR MORE INFORMATION.

SERVICE WIRING DIAGRAM
120/240 V

ELECTRICAL DETAILS
(UTILITY SERVICE WITH A BACK-UP GENERATOR)
NO SCALE

FOR NOTES, ABBREVIATIONS
AND LEGEND, SEE SHEET E-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL
FUNCTIONAL SUPERVISOR: BEHZAD GOLEMOHAMMADI
REVISOR: MICHELLE CHAN, KENNETH XU
DATE: 11/12/14
MC
11/12/14
DESIGNED BY: CHECKED BY:

LAST REVISION | DATE PLOTTED => 19-JUN-2015
04-24-15 | TIME PLOTTED => 09:15

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 ELECTRICAL

FUNCTIONAL SUPERVISOR
 BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY
 CHECKED BY

MICHELLE CHAN
 KENNETH XU

REVISED BY
 DATE REVISED

MC
 11/12/14

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	42	98

Kenneth Y. Xu 6/1/15
 REGISTERED ELECTRICAL ENGINEER DATE

6-1-15
 PLANS APPROVAL DATE

Kenneth Y. Xu
 No. 15219
 Exp. 6-30-16
 ELECTRICAL

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

TEMPORARY SIGNAL SYSTEM QUANTITIES

SHEET No.	CONDUIT (N)			PULL BOX (N)	CONDUCTOR (N)				LOOP (N)		DLC (N)	LUMINAIRE 200 W HPS (N)	SIGNAL MOUNT (N)	SIGNAL MOUNT MAST (N)	SIGNAL (N)	PPB (N)	FB SYSTEM (N)	PEU (N)	NEMA 3R (N)
	1 1/2"	2"	3"	#5	#6	#8	#14	TYPE A	TYPE D	TYPE B		SV-1-T		3-8"					
	ft			EA	ft				EA		ft	EA							
E-2	15	10	15	9	2000	4600	11000	10	4	2800	8	7	5	12	4	2	1	2	

(N) NOT A PAY ITEM, FOR INFORMATION ONLY

TEMPORARY WOODPOLE AND MISCELLANEOUS QUANTITIES (CONTINUE)

SHEET No.	WOODPOLE (N)					CONTROLLER 332 FOUNDATION (N)	2070E CONTROLLER WITH 332 CABINET (N)	BBS (N)	GENERATOR+FUEL (N)	MINOR CONCRETE (N)	REMOVE CONCRETE (N)	Temp FENCE (TYPE CL-6) (N)	4' CHAIN LINK GATE (TYPE CL-6) (N)
	30'	MAST ARM	LUMINAIRE ARM	12'	FB POLE								
E-2	14	4	4	1	2	1	1	1	1	1.24	1.24	76	1

(N) NOT A PAY ITEM, FOR INFORMATION ONLY

LIGHTING (STAGE CONSTRUCTION) QUANTITIES

SHEET No.	CONDUIT (N)		PULL BOX (N)	CONDUCTOR (N)	TYPE 30 STANDARD (N)	LED LUMINAIRE (N)	30' WOODPOLE (N)
	1 1/2"	2"	#5	#8			
	ft		EA	ft	EA		
E-3	330	40	3	740	1	1	1

(N) NOT A PAY ITEM, FOR INFORMATION ONLY

LIGHTING QUANTITIES

SHEET No.	CONDUIT (N)		PULL BOX (N)	CONDUCTOR (N)	TYPE 21 STANDARD (N)	LED LUMINAIRE (N)	WALL LUMINAIRE (N)	100W HPS LAMP (N)
	1 1/2"	2"	#9	#8				
	ft		EA	ft	EA			
E-4	80	1240	2	700	1	1	2	1

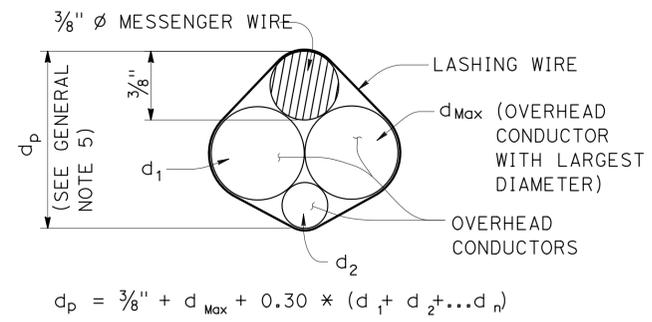
(N) NOT A PAY ITEM, FOR INFORMATION ONLY

FOR NOTES, ABBREVIATIONS AND LEGEND, SEE SHEET E-1

ELECTRICAL QUANTITIES

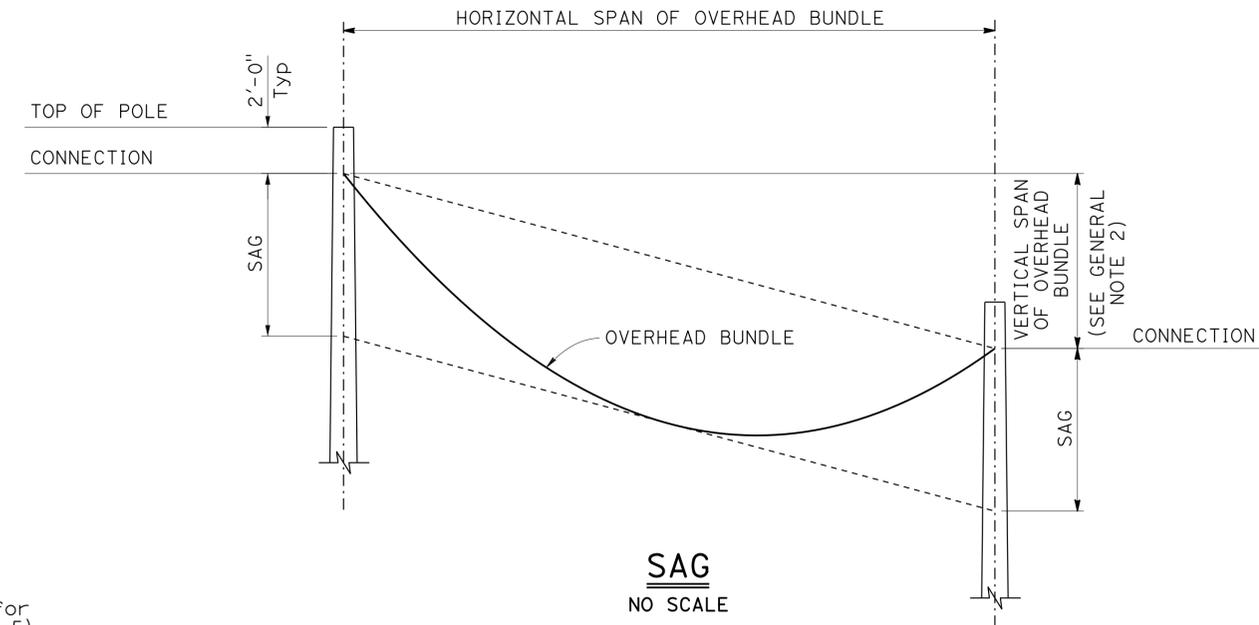
E-7

LAST REVISION DATE PLOTTED => 19-JUN-2015 05-27-15 TIME PLOTTED => 09:15



$$d_p = \frac{3}{8} + d_{Max} + 0.30 * (d_1 + d_2 + \dots + d_n)$$

PROJECTED DEPTH OF OVERHEAD BUNDLE, (d_p)



SAG
NO SCALE

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 Loading: 85 mph (3-second gust)
 Wind Recurrence Interval: 10 years
 Combined height, exposure, and elevated terrain factor = 1.05
 (Exposure C, structure is not located on or over the top half of a ridge, hill, or escarpment)

Ice Loading: 3.0 psf on surfaces, 0.60 in radial thickness of ice at a unit weight of 60 pcf on overhead bundles

BASIC DESIGN VALUES:

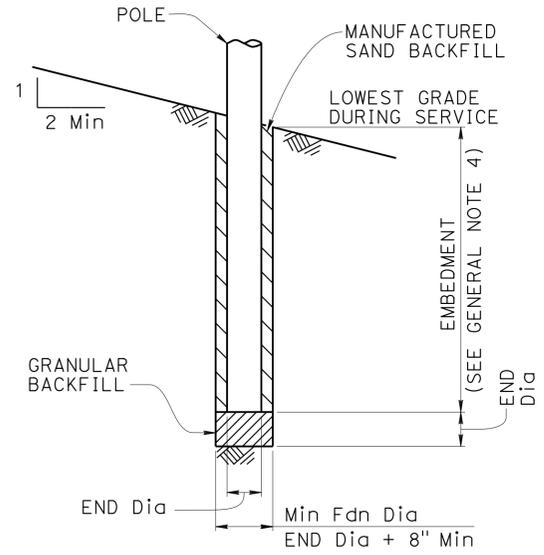
Timber Poles: $F_b = 1850$ psi
 $F_v = 110$ psi
 $F_{cp} = 230$ psi
 $F_c = 950$ psi
 $E = 1500 \times 10^3$ psi

DESIGN WIRE BREAKING STRENGTHS:

ASTM A475, Utilities Grade, 7 strand modified by termination efficiency factor of 0.8

FOUNDATION DESIGN NOTES:

- Pole embedment depth design is based on Broms' approximate procedure as described in Article 13.6 of AASHTO LTS-5.
- Embedment depth is calculated based on following soil parameters,
 Cohesive Soil:
 Shear strength of soil $c = 1500$ psf.
 Cohesionless Soil:
 $\phi = 30$ deg, $\gamma = 120$ pcf.
 Soil assumed to be unsaturated.
- An overload factor of 2.0 and an undercapacity factor of 0.7 were used for safety factor of 2.86.
- Allowable vertical bearing pressure at the end bearing of poles is 3000 psf at 6 feet or more embedment.



POLE FOUNDATION

GENERAL NOTES:

- The messenger wire and any combination of overhead conductors must not exceed either a self weight of 3.0 lb/ft or the maximum d_p .
- The maximum vertical span is 10% of the horizontal span.
- For poles with adjacent unbalanced horizontal spans, the shortest horizontal span must be at least 50% of the largest horizontal span.
- Add 2'-0" for slopes above 1V:4H.
- For a pole supporting multiple spans, calculate d_p for each span and use the largest value.
- Do not exceed the attachments shown.
- The minimum distance between any two adjacent wood poles is 10 ft.

DIAMETERS AND SELF WEIGHT OF OVERHEAD CONDUCTORS

CONDUCTOR OR CABLE TYPE	DIAMETER d (in)	WEIGHT w (plf)
3 CONDUCTOR SIGNAL CABLE (3CSC)	0.400	0.0980
5 CONDUCTOR SIGNAL CABLE (5CSC)	0.500	0.1560
9 CONDUCTOR SIGNAL CABLE (9CSC)	0.650	0.2760
12 CONDUCTOR SIGNAL CABLE (12CSC)	0.800	0.3970
28 CONDUCTOR SIGNAL CABLE (28CSC)	0.900	0.6490
1-#14	0.166	0.0235
1-#12	0.185	0.0330
1-#10	0.210	0.0476
1-#8	0.271	0.0774
1-#6	0.310	0.1130
1-#4	0.359	0.1690
1-#3	0.388	0.2080
1-#2	0.420	0.2560
1-#1	0.498	0.3340
6-CONDUCTOR SIGNAL INTERCONNECT CABLE (SIC)	0.350	0.0860
12-CONDUCTOR SIGNAL INTERCONNECT CABLE (SIC)	0.500	0.1440
DETECTOR LEAD-IN CABLE (DLC)	0.310	0.0440
12 to 48-STRAND FIBER OPTIC CABLE (48FOC)	0.424	0.0600
72-STRAND FIBER OPTIC CABLE (72FOC)	0.484	0.0770
96-STRAND FIBER OPTIC CABLE (96FOC)	0.535	0.1050
144-STRAND FIBER OPTIC CABLE (144FOC)	0.670	0.1890
$\frac{3}{8}$ " ϕ MESSENGER WIRE	0.375	0.2730

NO SCALE

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

BRANCH CHIEF <u>DAVID A. NEUMANN</u>	DESIGN BY <u>A MALAK</u> CHECKED <u>N KANEPATHIPILLAI</u>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN	BRIDGE No. <u>X</u>	TEMPORARY WOOD POLES GENERAL NOTES	SES-1
	DETAILS BY <u>H NGUYEN</u> CHECKED <u>A MALAK</u>			POST MILE <u>3.6/11.4</u>		
	QUANTITIES BY <u>X</u> CHECKED <u>X</u>					

POLE SELECTION TABLE

LEGEND

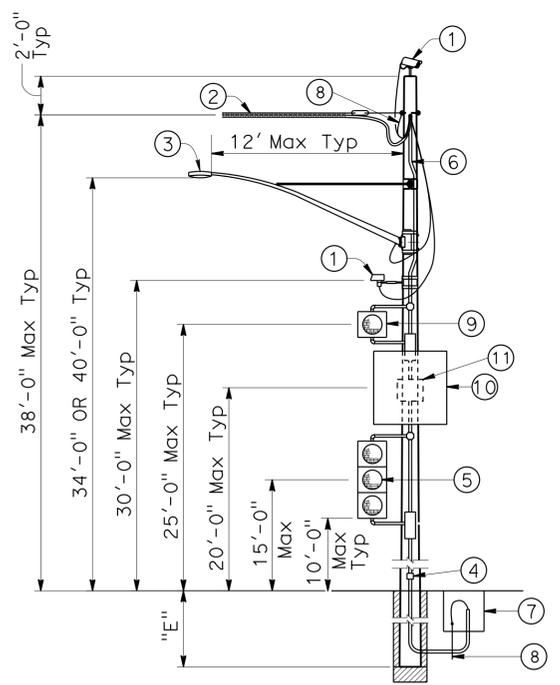
- Wood Pole No Attachments
- Wood Pole with Attachments
- Overhead Bundle

	CASE 1N				CASE 2N				CASE 3N				CASE 4N				CASE 5N (Mod)
	1"	1.5"	2.0"	2.5"	1"	1.5"	2.0"	2.5"	1.0"	1.5"	2.0"	2.5"	1"	1.5"	2.0"	2.5"	SEE NOT 3
MAXIMUM d _p																	
MINIMUM POLE CLASS	H-1	H-2	H-2	H-2	4	3	2	1	H-2	H-2	H-3	H-3	H-4	H-4	H-4	H-5	CLASS 1 E = 10'
POLE EMBEDMENT (E)	11'				10'				11'				12'				
MINIMUM POLE CLASS	H-2	H-3	H-4	H-5	1	H-1	H-2	H-3	H-4	H-5	H-5	H-6	H-5	H-5	H-6		
POLE EMBEDMENT (E)	12'				11'				12'				12'				
MINIMUM POLE CLASS	H-4	H-5	H-6		H-1	H-2	H-3	H-5	H-6				H-6				
POLE EMBEDMENT (E)	12'				12'				12'				12'				
MINIMUM POLE CLASS	H-5	H-6			H-2	H-3	H-5										
POLE EMBEDMENT (E)	12'				12'												

- ① CCTV camera assembly or vehicle detection system
- ② Overhead bundle consisting of a 3/8" * messenger wire, overhead conductors, and lashing wire.
- ③ Luminaire with mast arm
- ④ Pedestrian push button assembly or accessible push button assembly
- ⑤ Signal face with 3 indications or single sheet sign panel (10 SQFT Max)
- ⑥ Riser with weather head as required
- ⑦ Pull box as required
- ⑧ Grounding as required
- ⑨ Single flashing beacon or single sheet sign panel (4 SQFT Max)
- ⑩ Single sheet sign panel (4' x 4' Max) or signal face with 3 indications
- ⑪ Flashing beacon control assembly
- ⑫ NEMA 3R enclosure, 26"(W) x 56"(H) x 12"(D) Max dimensions. Max weight including batteries, 450 lbs
- ⑬ 25' SQFT Max total photovoltaic panels mounted as shown as required
- ⑭ 2-12" flashing beacon

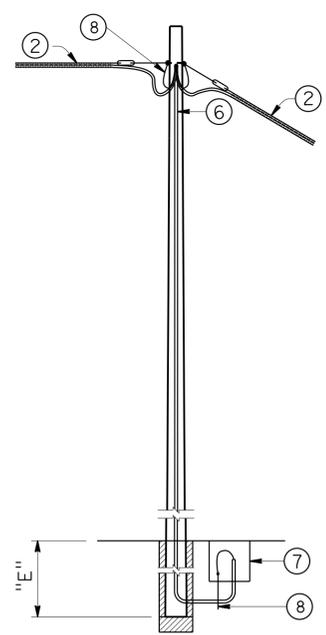
NOTES:

1. In addition to other restrictions on maximum horizontal span, this horizontal span must not exceed 100'.
2. Cases 1N, 3N and 4N may substitute the attachments shown in Case 5N if the photovoltaic panel is not included.
3. For Case 1N without an overhead bundle (item 2) use minimum pole class H-1 with E=11'.

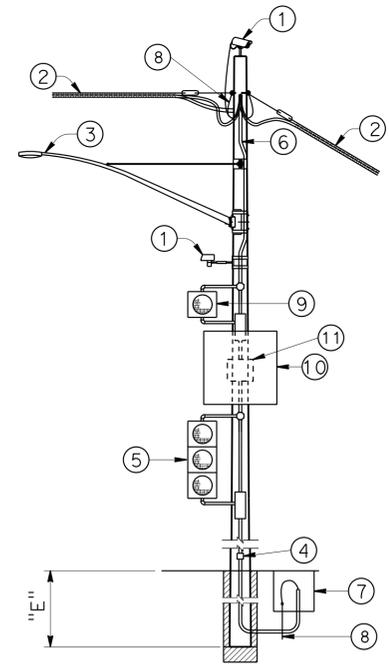


**CASE 1N
POLE AT DEAD END
WITH ATTACHMENTS**

SEE NOTE 2

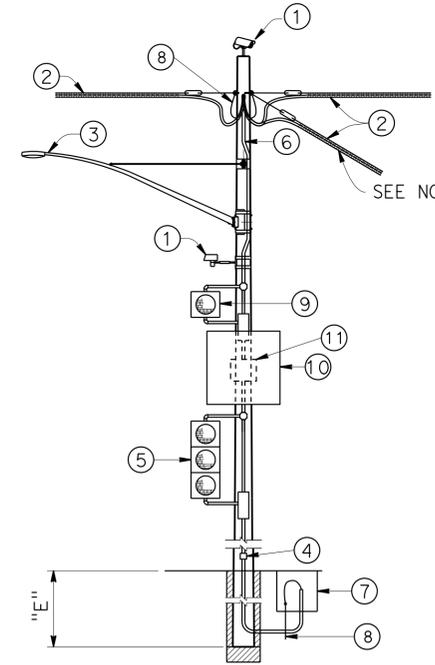


**CASE 2N
POLE AT TANGENT
WITHOUT ATTACHMENTS**



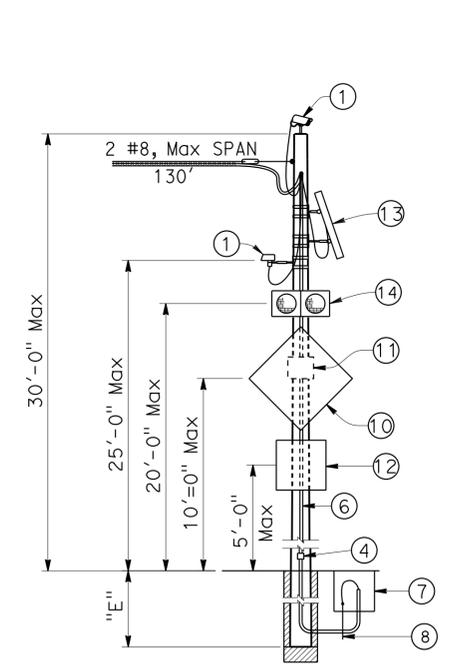
**CASE 3N
POLE AT TANGENT OR CORNER
WITH ATTACHMENTS**

SEE NOTE 2



**CASE 4N
POLE AT JUNCTION
WITH ATTACHMENTS**

SEE NOTE 2



**CASE 5N (Mod)
POLE WITH
FLASHING BEACON**

NO SCALE

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

BRANCH CHIEF DAVID A. NEUMANN

DESIGN	BY A MALAK	CHECKED N KANEPATHIPILLAI
DETAILS	BY H NGUYEN	CHECKED A MALAK
QUANTITIES	BY X	CHECKED X

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE No.	X
POST MILE	3.6/11.4

**TEMPORARY WOOD POLES
NON-GUYED-NO SIGNALS ON SPANS**

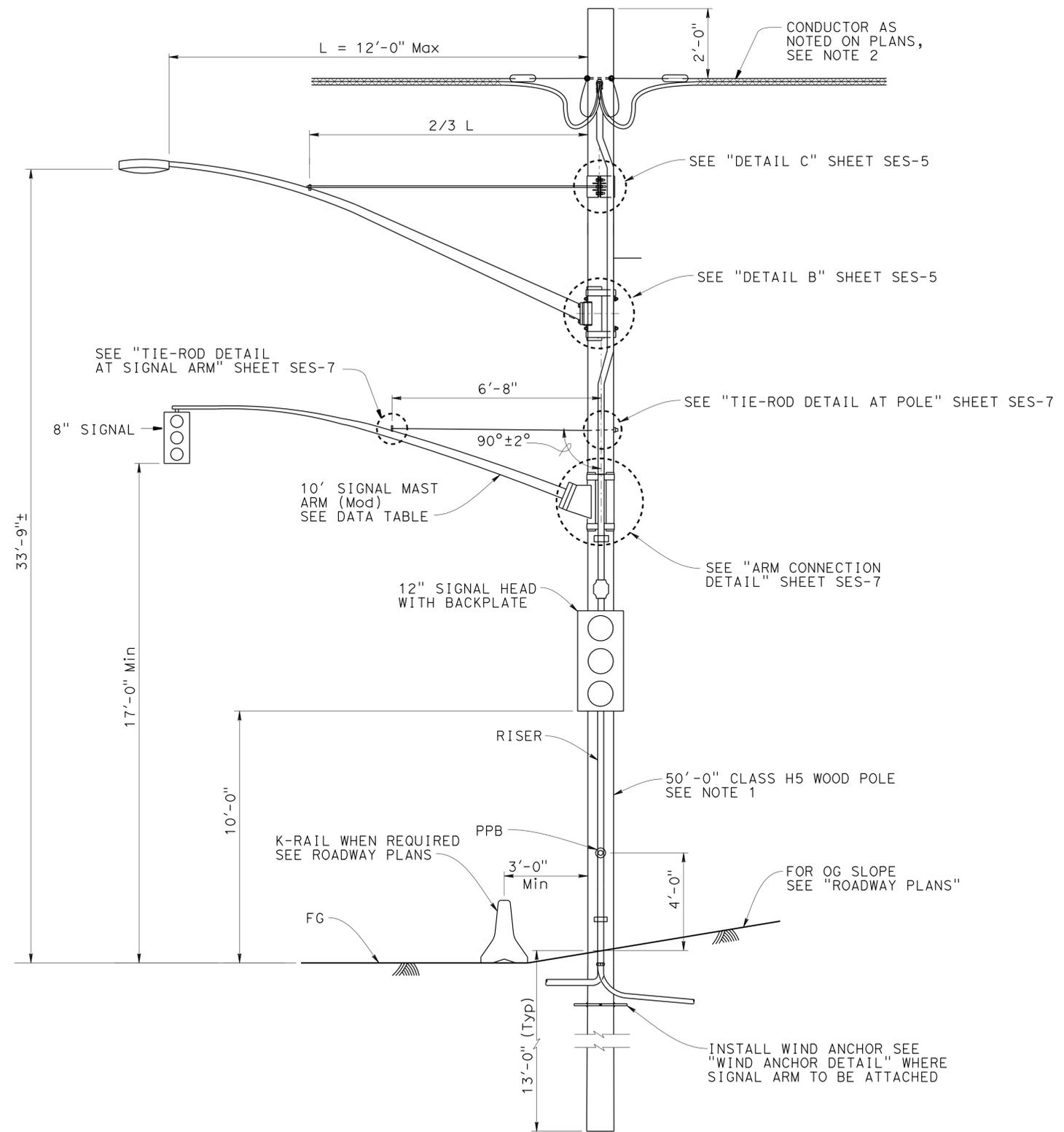
SES-2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	45	98

Amman malak
REGISTERED CIVIL ENGINEER DATE 3-20-15
6-1-15
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
ALMAN MALAK
No. C73369
Exp. 12-31-2015
CIVIL
STATE OF CALIFORNIA

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Projected Length	Min OD At Pole	Thickness
10'-0"	7 3/8"	0.1196"

Refer to SP ES-7C for Signal arm details

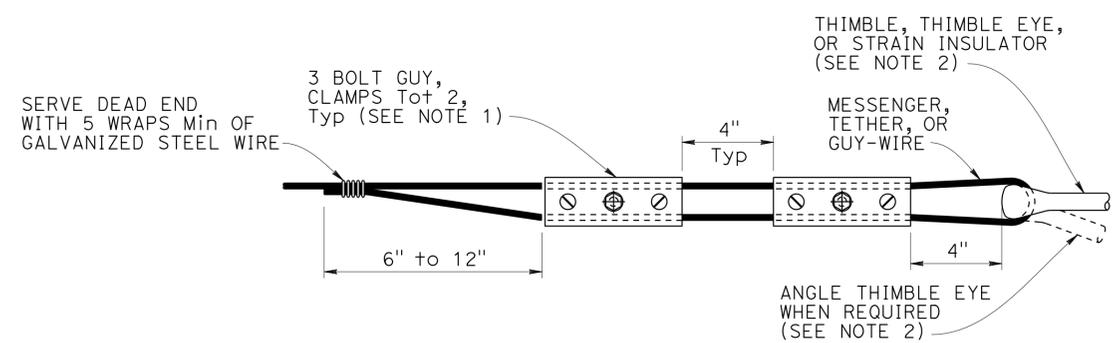
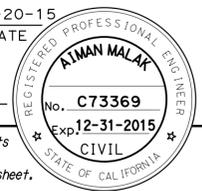
- NOTES:**
- See sheets SES-5, SES-6 and SES-7 for details.
 - Overhead bundle consisting of a 3/8" diameter messenger wire and overhead conductors and lashing wire.

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

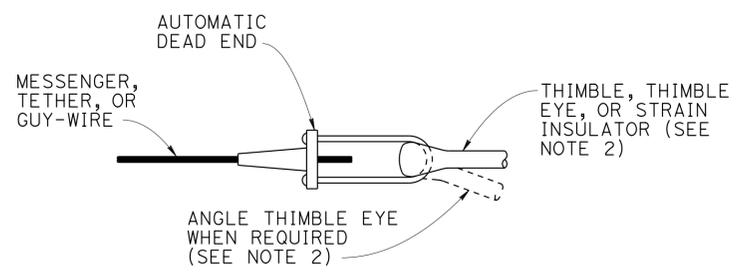
BRANCH CHIEF <u>DAVID NEUMANN</u>	DESIGN BY <u>A MALAK</u>	CHECKED <u>N KANEPATHIPILLAI</u>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO. N/A	TEMPORARY SIGNAL DETAILS FOR SIGNAL MAST ARM	SES-3
	DETAILS BY <u>H NGUYEN</u>	CHECKED <u>A MALAK</u>			POST MILE 3.6/11.4		
	QUANTITIES BY	CHECKED					

USERNAME => s128787 DATE PLOTTED => 19-JUN-2015 TIME PLOTTED => 09:15

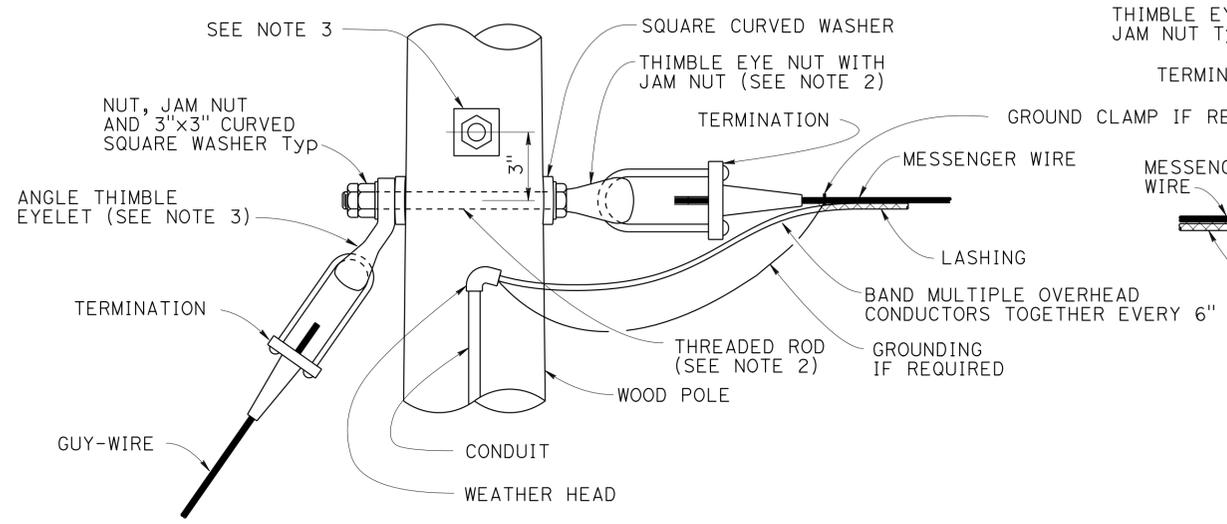
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	46	98
Aman malak REGISTERED CIVIL ENGINEER			3-20-15	DATE	
6-1-15 PLANS APPROVAL DATE					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



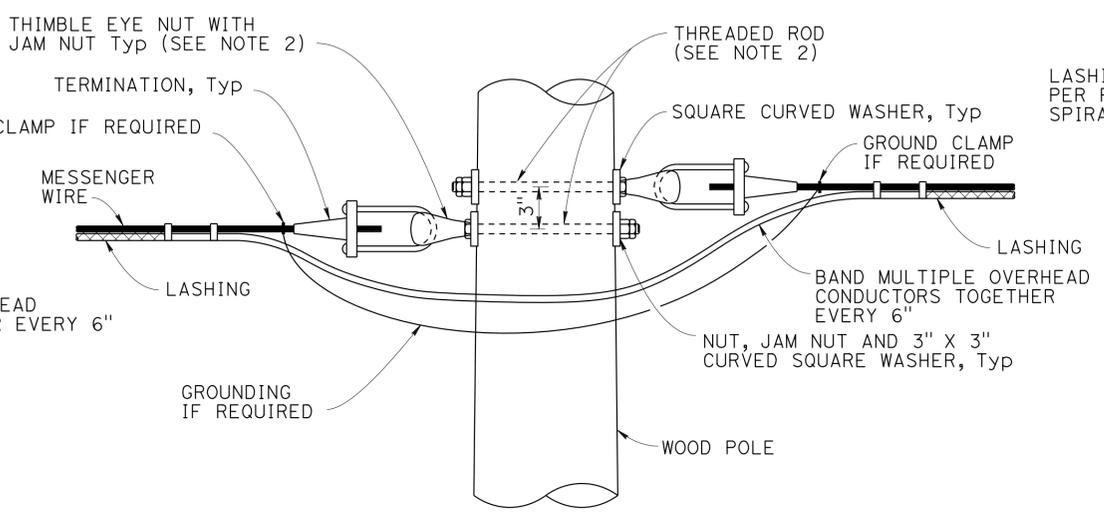
ALTERNATIVE TERMINATION OF MESSENGER WIRES USING GUY CLAMPS



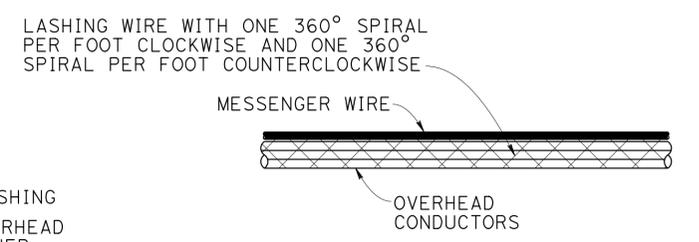
TERMINATION OF WIRES USING AUTOMATIC DEAD END



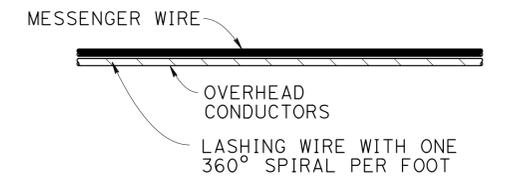
POLE AT DEAD END WITH GUY-WIRE CONNECTION



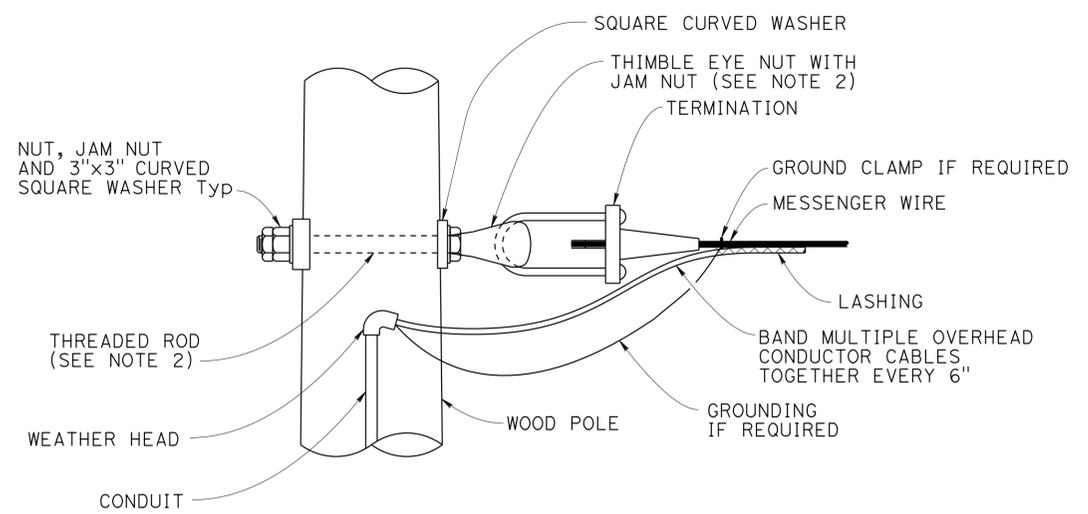
POLE AT TANGENT OR CORNER CONNECTION



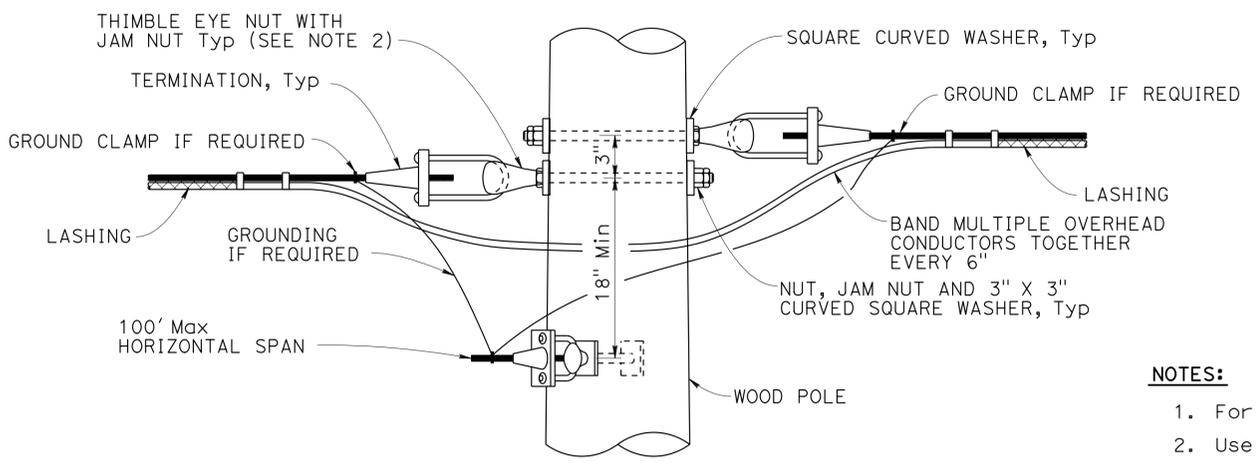
DOUBLE LASHING DETAIL
USE IF d_p IS GREATER THAN 1/2"



TYPICAL LASHING DETAIL
USE IF d_p IS 1/2" OR LESS



POLE AT DEAD END CONNECTION



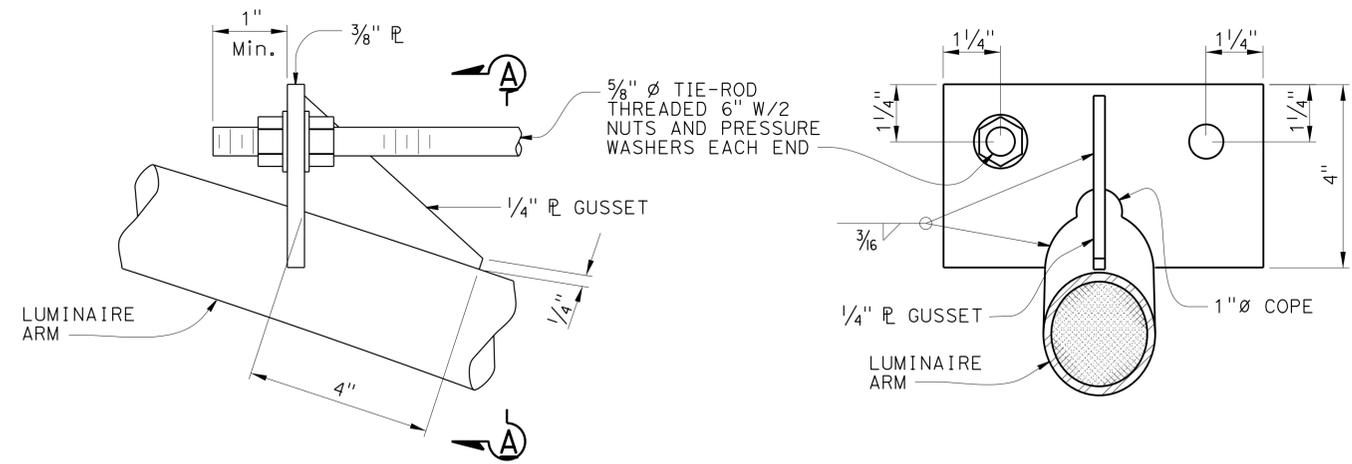
POLE AT JUNCTION CONNECTION

- NOTES:**
- For guy wires use 3 clamps.
 - Use 5/8" dia except 3/4" dia at guyed wires.
 - Install additional angle thimble eyelet at poles with two guy wires.

NO SCALE

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

BRANCH CHIEF DAVID NEUMANN	DESIGN	BY A MALAK	CHECKED N KANEPATHIPILLAI	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO.	TEMPORARY WOOD POLES DETAILS No. 1	SES-4
	DETAILS	BY H NGUYEN	CHECKED A MALAK			N/A		
	QUANTITIES	BY	CHECKED			POST MILE 3.6/11.4		



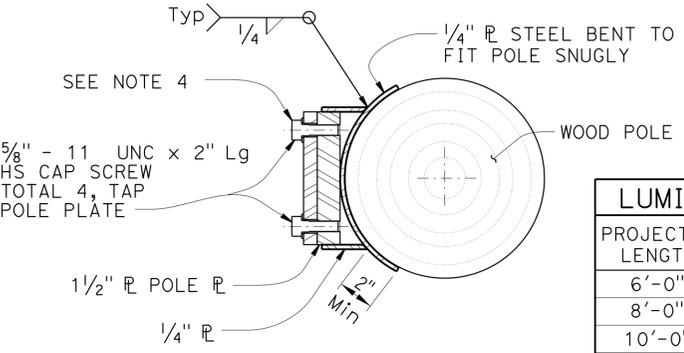
ELEVATION

**DETAIL A
TIE-ROD AT LUMINAIRE ARM**
NO SCALE

SECTION A-A

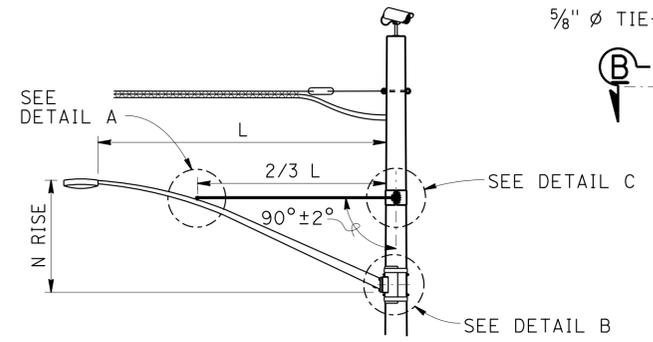
NOTES:

- Luminaire mast arms must be in compliance with Standard Plan ES-6D with noted modifications.
- Verify pole dimensions at tie-rod attachment height. Fabricate 8" flat bar with "L" Dimension to maintain an open gap between flanges in finished installation.
- Not all screw heads and bolt heads are shown for clarity.
- Mast arm not shown for clarity.

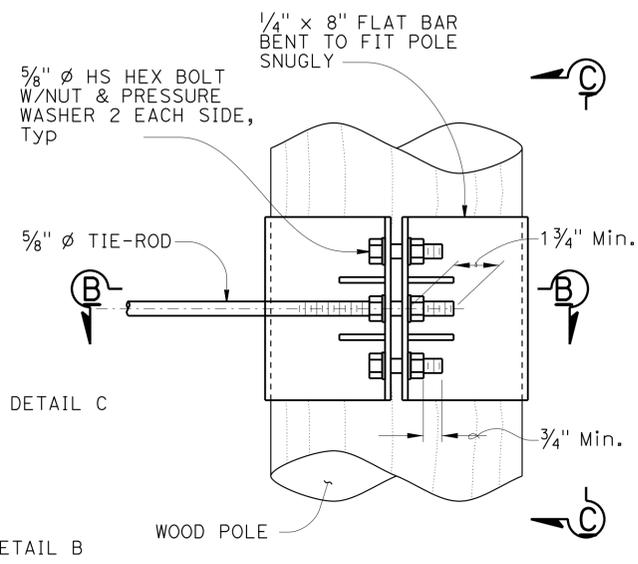


SECTION E-E

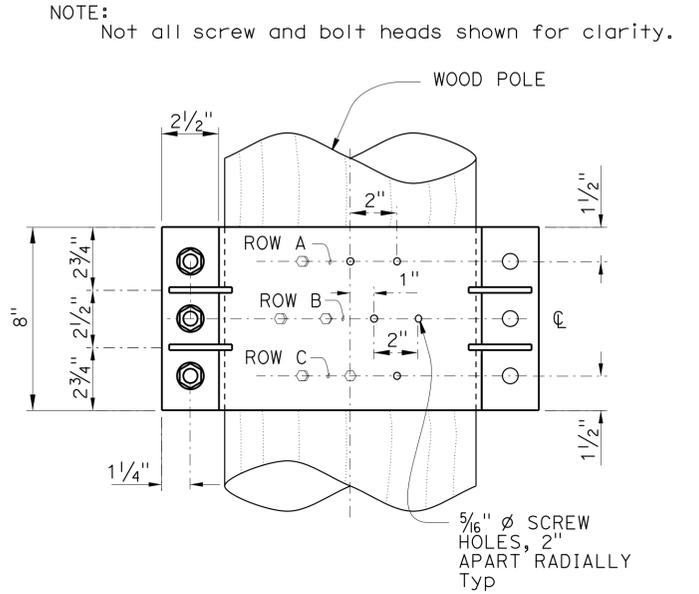
LUMINAIRE MAST ARM DATA			
PROJECTED LENGTH	N RISE	Min OD AT POLE	NOMINAL THICKNESS
6'-0"	2'-0"±	3 1/4"	0.1196"
8'-0"	2'-6"±	3 1/2"	
10'-0"	3'-3"±	3 7/8"	
12'-0"	4'-3"±	3 7/8"	



LUMINAIRE MAST ARM

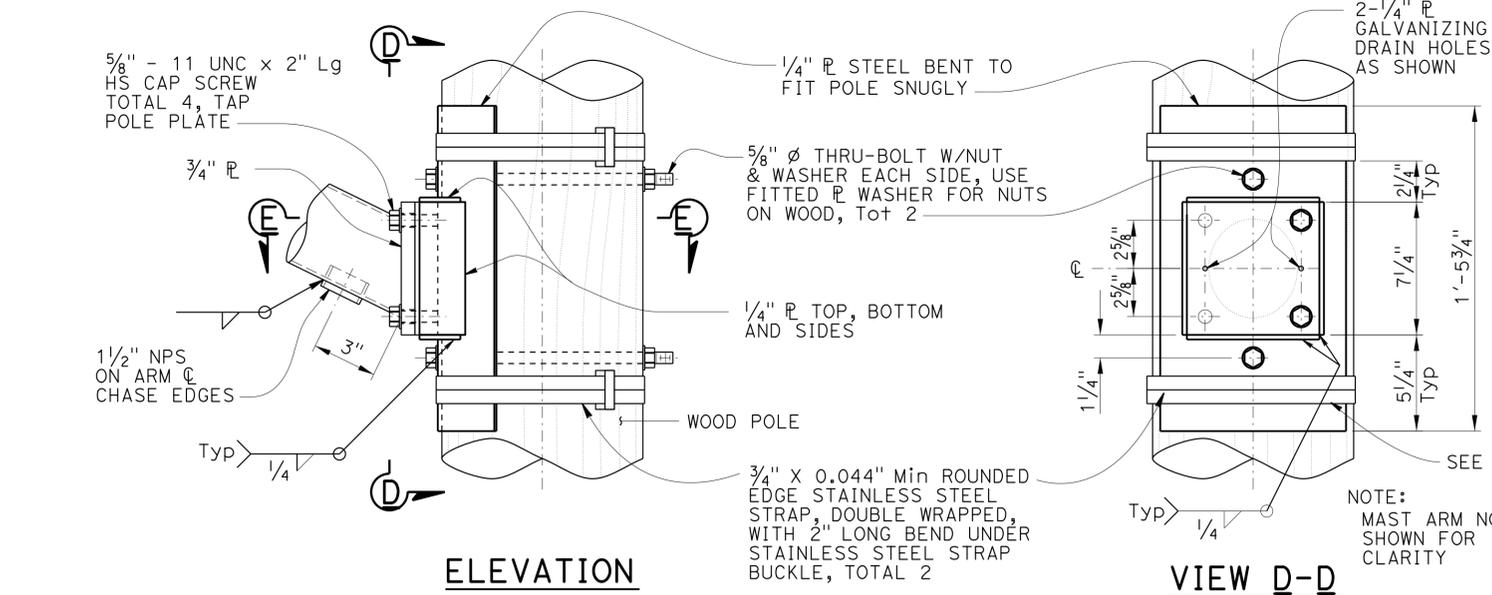


ELEVATION



VIEW C-C

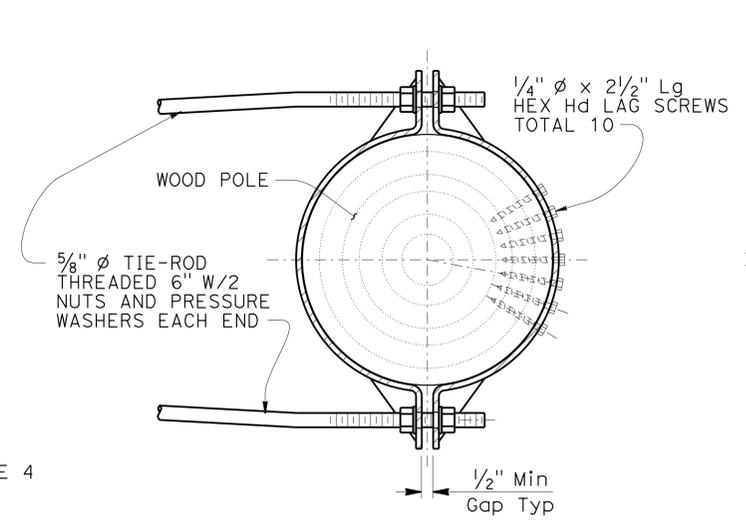
NOTE: Not all screw and bolt heads shown for clarity.



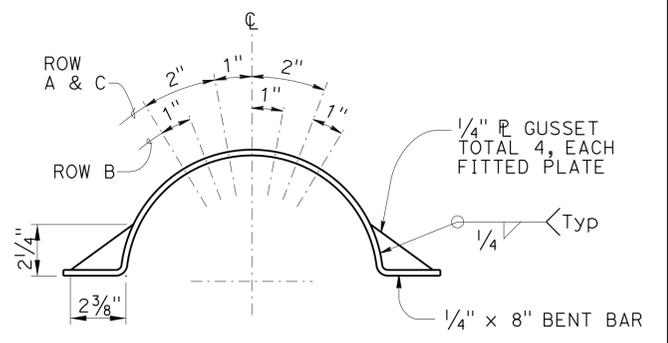
ELEVATION

**DETAIL B
ARM CONNECTION DETAILS**
NO SCALE

VIEW D-D



SECTION B-B



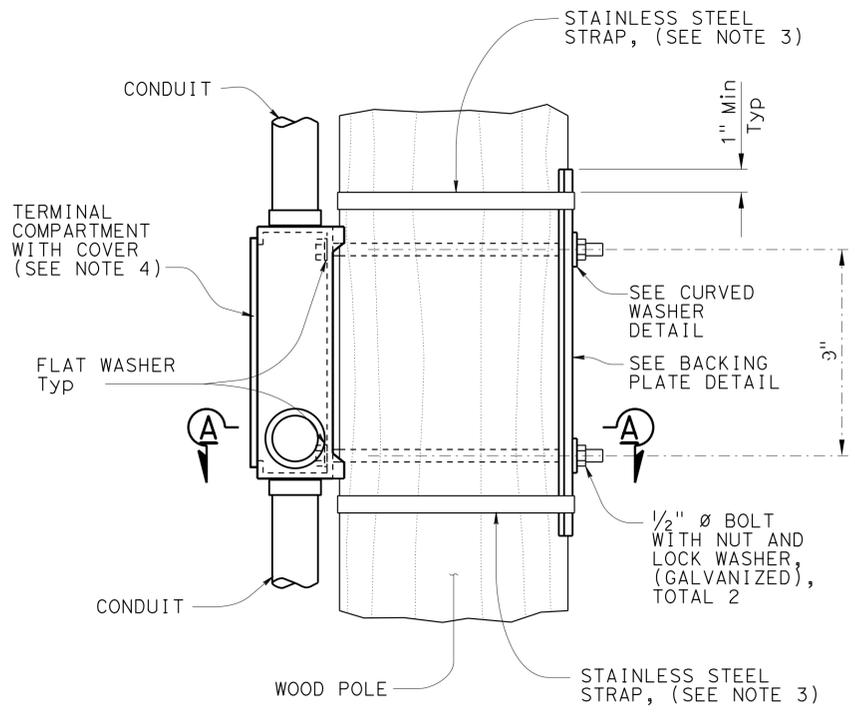
LAG SCREW AND GUSSET PLATE LAYOUT

**DETAIL C
TIE-ROD AT POLE**
NO SCALE

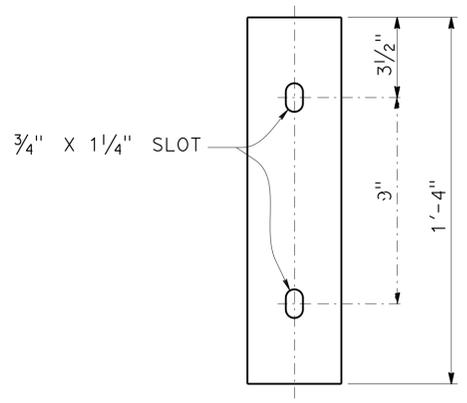
NOTE: THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

BRANCH CHIEF	DESIGN	BY A MALAK	CHECKED N KANEPATHIPILLAI	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO.	TEMPORARY WOOD POLES DETAILS No. 2	SES-5
	DAVID NEUMANN	DETAILS	BY H NGUYEN			CHECKED A MALAK		
	QUANTITIES	BY	CHECKED			POST MILE		
						3.6/11.4		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	48	98
<i>Aiman malak</i> REGISTERED CIVIL ENGINEER			3-20-15	DATE	
PLANS APPROVAL DATE			6-1-15	DATE	
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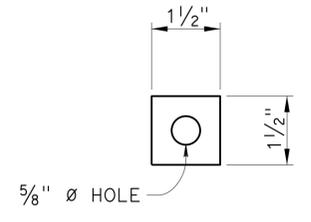
ELEVATION



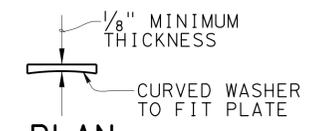
ELEVATION



PLAN



ELEVATION



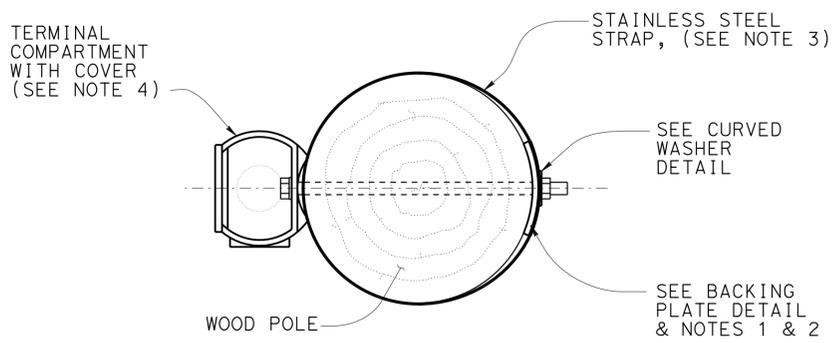
PLAN

NOTES:

1. 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.

BACKING PLATE DETAIL

CURVED WASHER DETAIL



SECTION A-A

**SIDE MOUNTING
TERMINAL COMPARTMENT**

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

NO SCALE

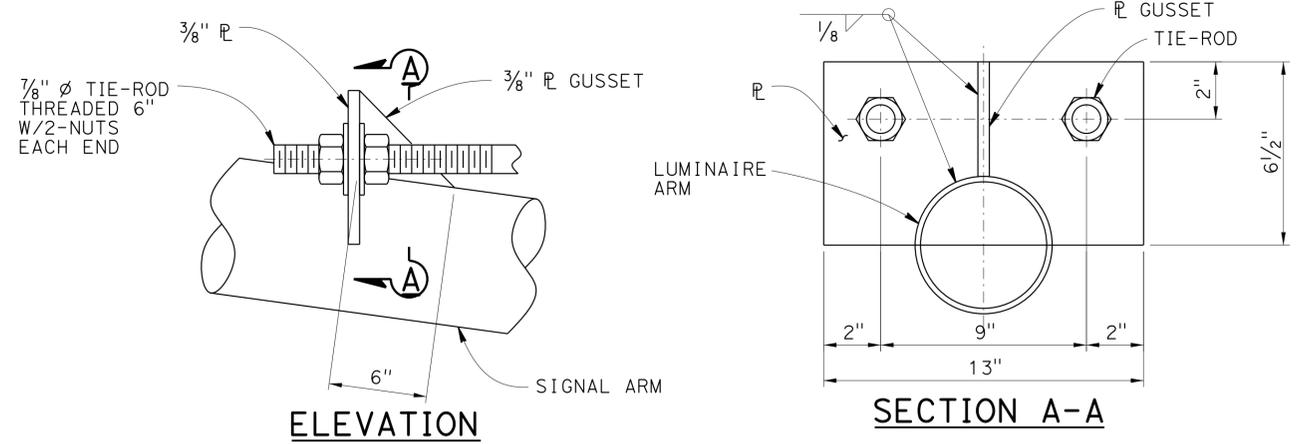
BRANCH CHIEF <u>DAVID NEUMANN</u>	DESIGN BY <u>A MALAK</u>	CHECKED <u>N KANEPATHIPILLAI</u>	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN SPECIAL DESIGN BRANCH	BRIDGE NO. N/A	TEMPORARY WOOD POLES DETAILS No. 3	SES-6
	DETAILS BY <u>H NGUYEN</u>	CHECKED <u>A MALAK</u>			POST MILE 3.6/11.4		
QUANTITIES BY	CHECKED						

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	49	98

REGISTERED CIVIL ENGINEER	DATE
3-20-15	
PLANS APPROVAL DATE	
6-1-15	

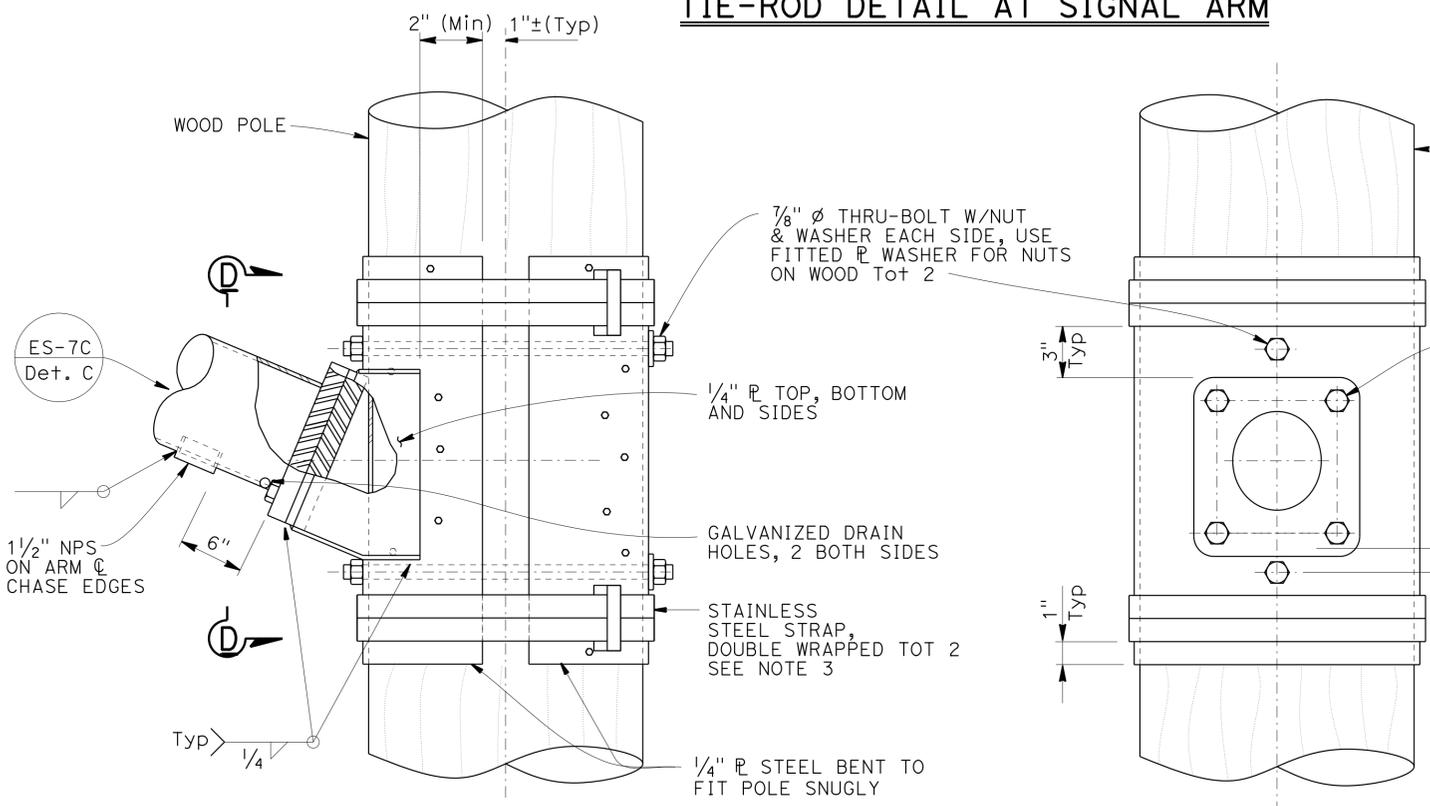
REGISTERED PROFESSIONAL ENGINEER
No. C73369
Exp. 12-31-2015
CIVIL
STATE OF CALIFORNIA

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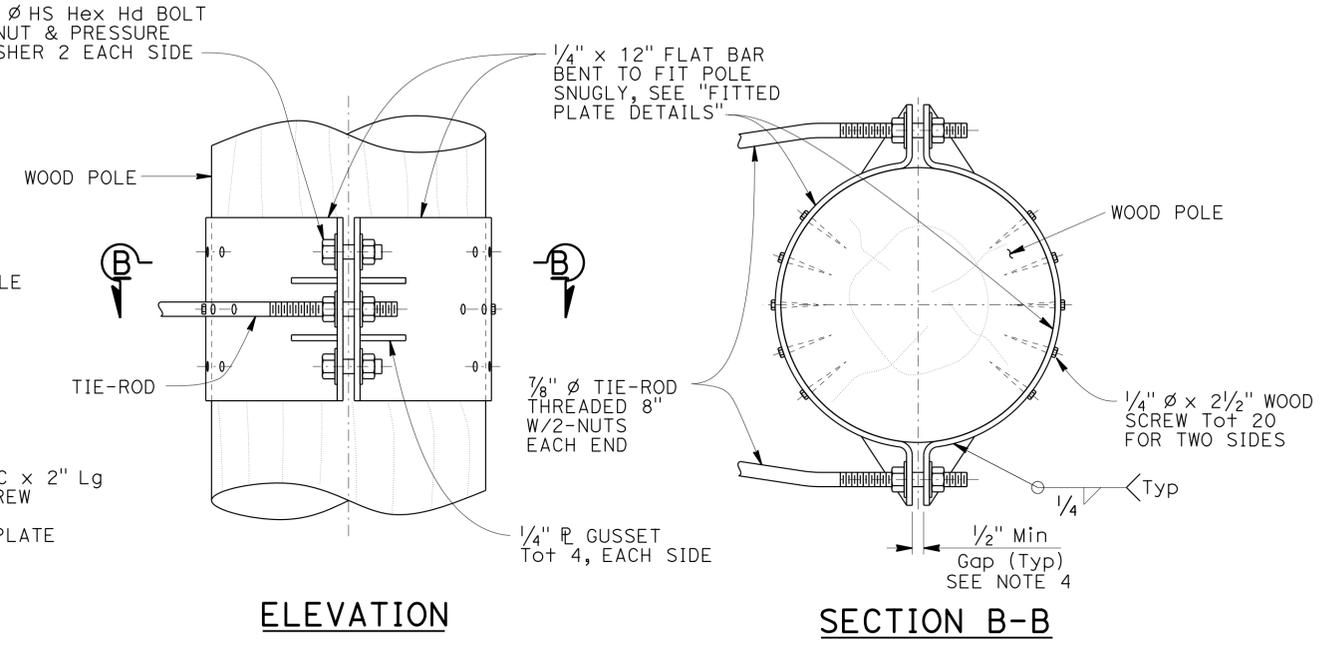


TIE-ROD DETAIL AT SIGNAL ARM

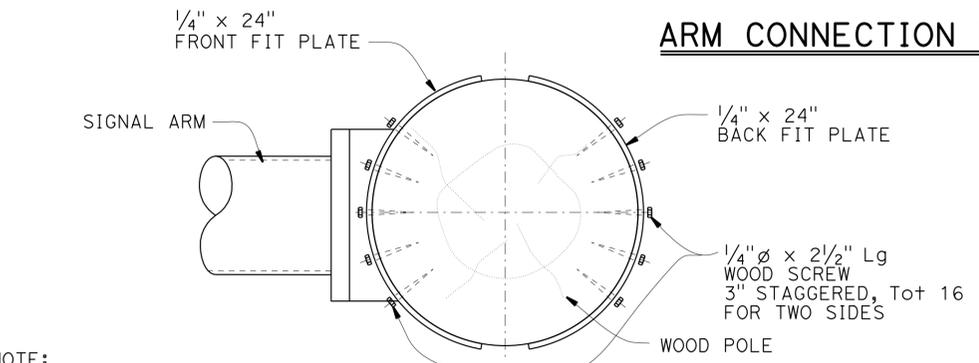
- NOTES:**
- All hardware and steel shall be galvanized after fabrication.
 - Arm Base connection details shall be in compliance with Standard Plans Detail Sheet SP ES-7C with noted modifications.
 - 5000 lb Min capacity strap system shall be used for top and bottom of plate.
 - The Contractor to verify pole dimensions at Tie-Rod attachment height. Fabricate 8" flat bar with "L" Dimension to maintain an open gap between flanges in finished installation.



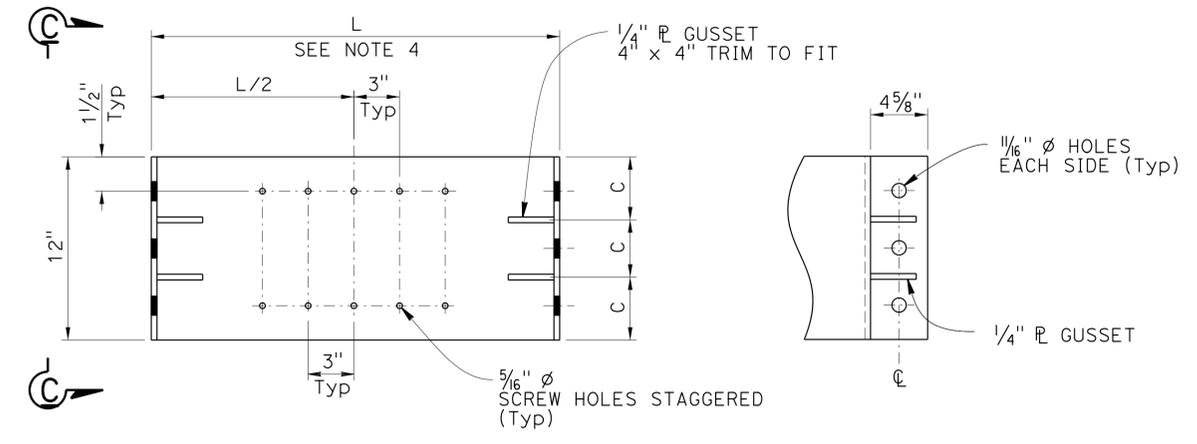
ARM CONNECTION DETAILS



TIE-ROD DETAIL AT POLE



SIGNAL MAST ARM MOUNTING DETAILS



FITTED PLATE DETAILS

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

BRANCH CHIEF	DAVID NEUMANN
--------------	---------------

DESIGN	BY A MALAK	CHECKED N KANEPATHIPILLAI
DETAILS	BY H NGUYEN	CHECKED A MALAK
QUANTITIES	BY	CHECKED

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
SPECIAL DESIGN BRANCH

BRIDGE NO.	N/A
POST MILE	3.6/11.4

TEMPORARY WOOD POLES
DETAILS No. 4

SES-7

USERNAME => s128787 DATE PLOTTED => 19-JUN-2015 TIME PLOTTED => 09:15

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

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	50	98

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 6-1-15

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

TABLE A

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

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

TABLE B

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

* For use on a sign panel only

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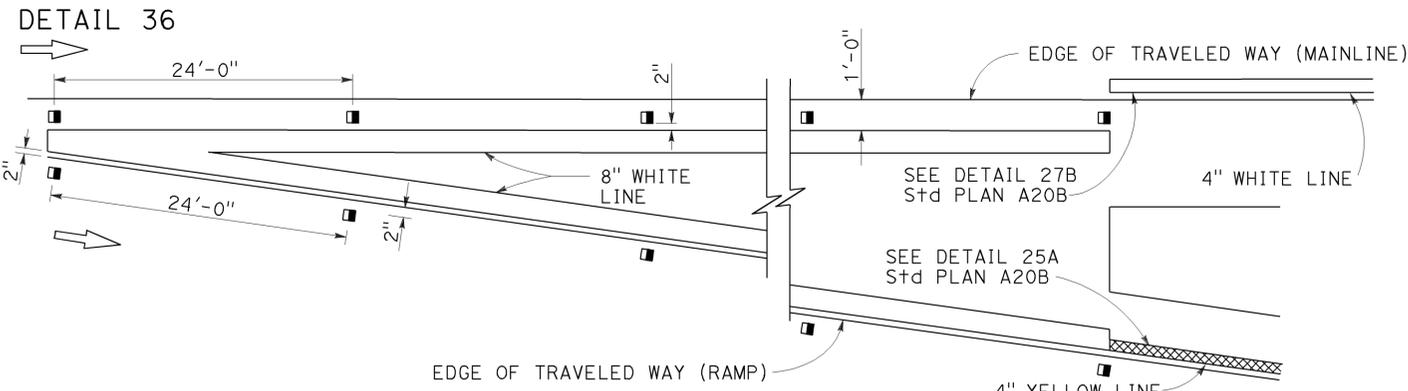
**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

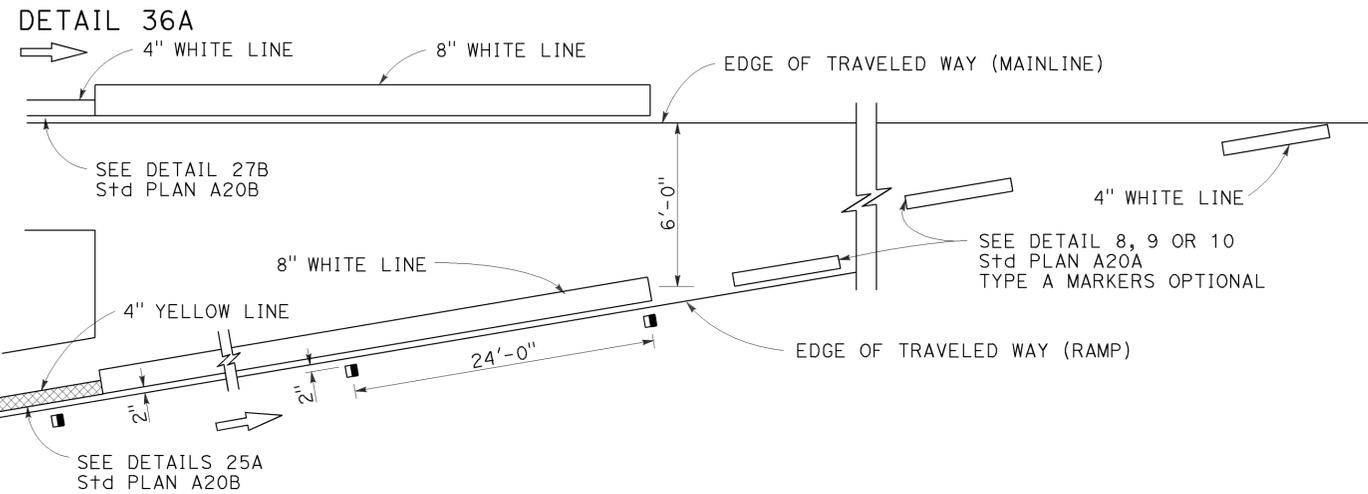
RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP A10B

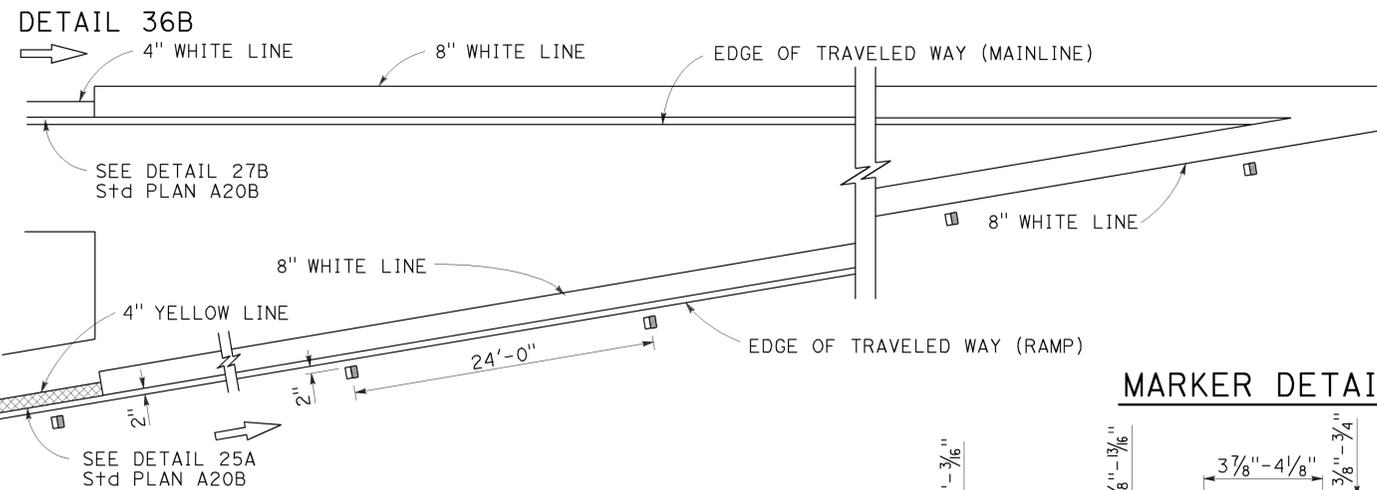
EXIT RAMP NEUTRAL AREA (GORE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (MERGE) TREATMENT



ENTRANCE RAMP NEUTRAL AREA (ACCELERATION LANE) TREATMENT

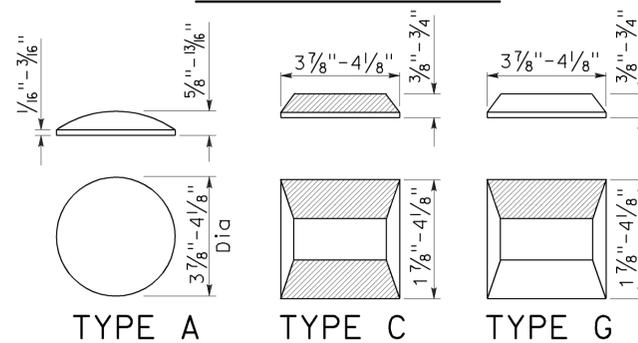


MARKER DETAILS

LEGEND:

MARKERS

- TYPE A WHITE NON-REFLECTIVE
- ◻ TYPE C RED-CLEAR RETROREFLECTIVE
- TYPE G ONE-WAY CLEAR RETROREFLECTIVE



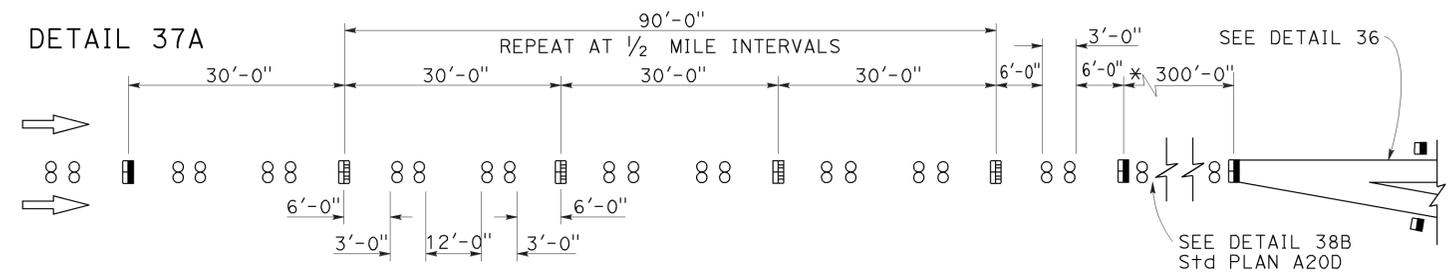
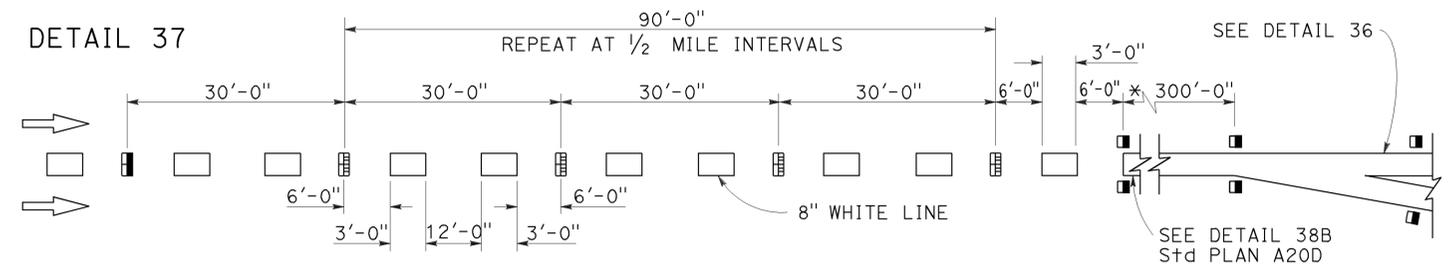
RETROREFLECTIVE FACE

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	51	98

REGISTERED CIVIL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
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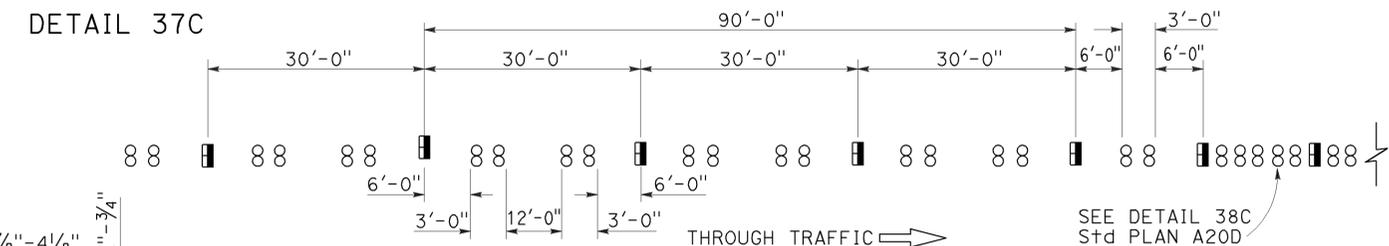
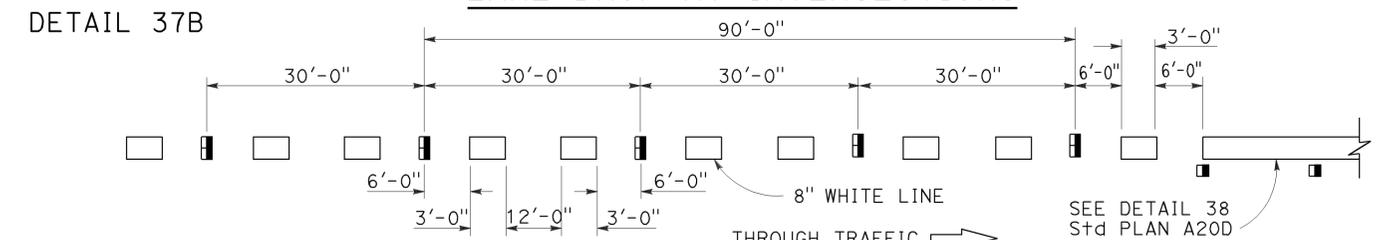
TO ACCOMPANY PLANS DATED 6-1-15

LANE DROP AT EXIT RAMP



* The solid channelizing line shown may be omitted on short auxiliary lanes where weaving length is critical.

LANE DROP AT INTERSECTIONS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

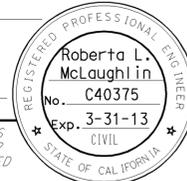
PAVEMENT MARKERS AND TRAFFIC LINE TYPICAL DETAILS

NO SCALE

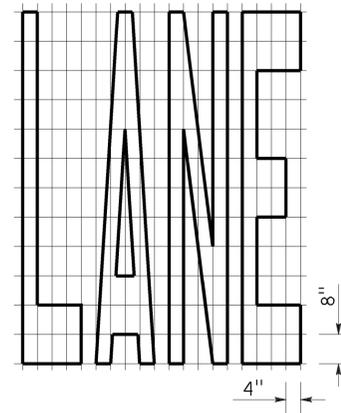
RSP A20C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A20C DATED MAY 20, 2011 - PAGE 11 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A20C

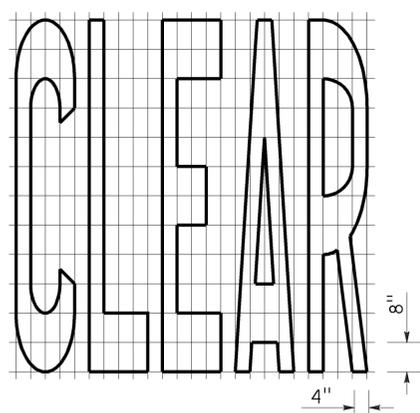
2010 REVISED STANDARD PLAN RSP A20C



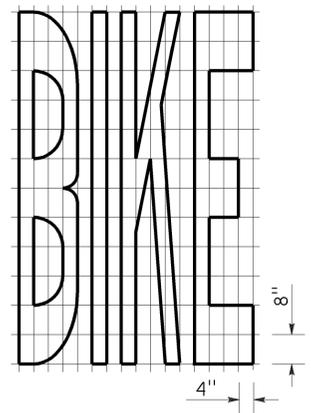
TO ACCOMPANY PLANS DATED 6-1-15



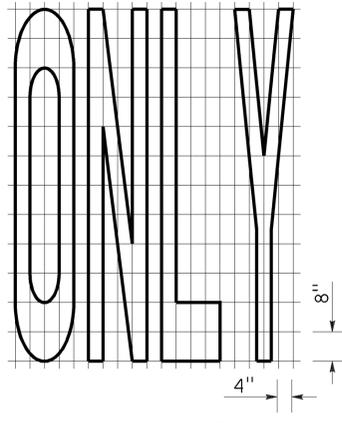
A=24 ft²



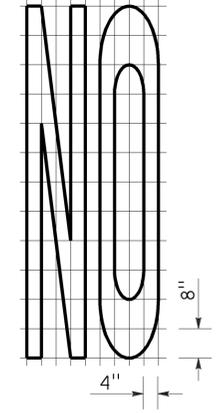
A=27 ft²



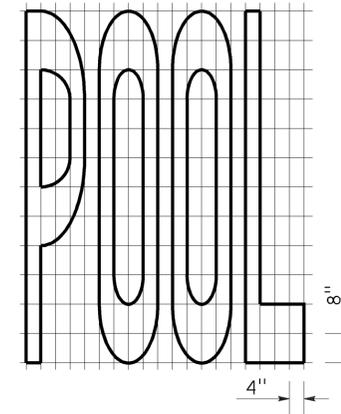
A=21 ft²



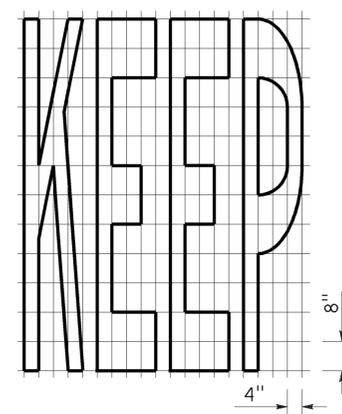
A=22 ft²



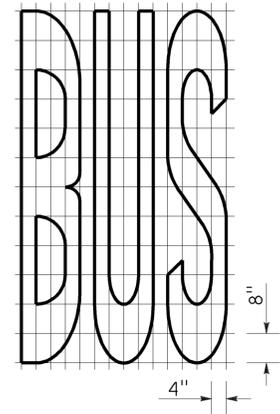
A=14 ft²



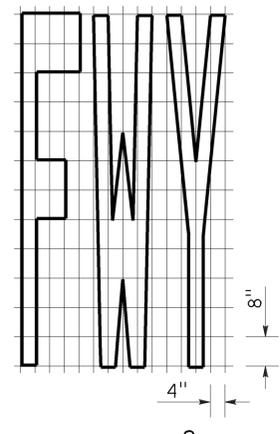
A=23 ft²



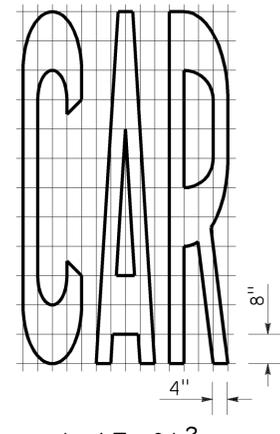
A=24 ft²



A=20 ft²

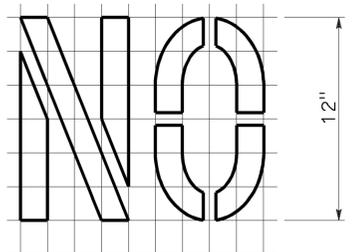


A=16 ft²



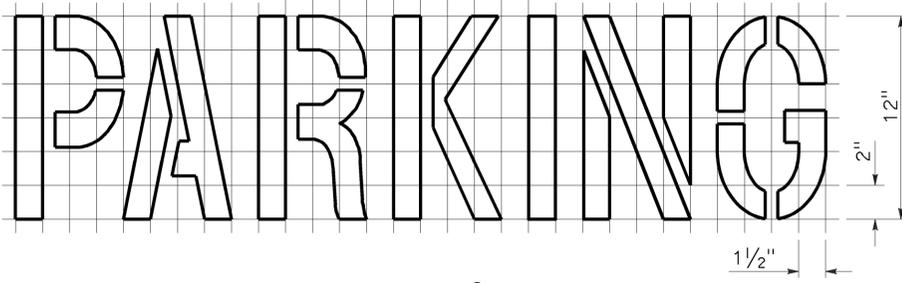
A=17 ft²

WORD MARKINGS			
ITEM	ft ²	ITEM	ft ²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



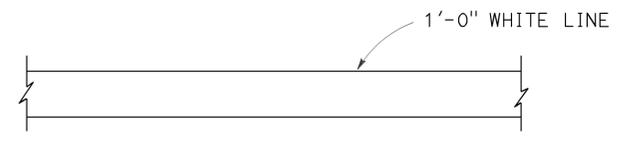
A=2 ft²

See Notes 6 and 7

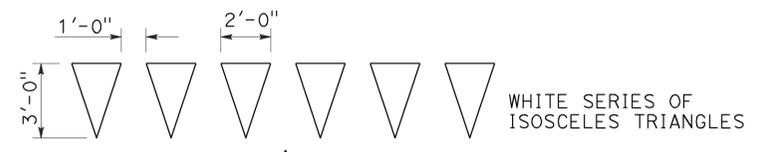


A=2 ft²

See Notes 6 and 7



LIMIT LINE (STOP LINE)



YIELD LINE

NOTES:

1. If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
2. The space between words should be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
5. The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
6. The words "NO PARKING", shall be painted in white letters no less than 1'-0" high on a contrasting background and located so that it is visible to traffic enforcement officials.

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DEPARTMENT OF TRANSPORTATION

**PAVEMENT MARKINGS
WORDS, LIMIT AND YIELD LINES**

NO SCALE

RSP A24E DATED JULY 20, 2012 SUPERSEDES STANDARD PLAN A24E
DATED MAY 20, 2011 - PAGE 17 OF THE STANDARD PLANS BOOK DATED 2010.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	53	98

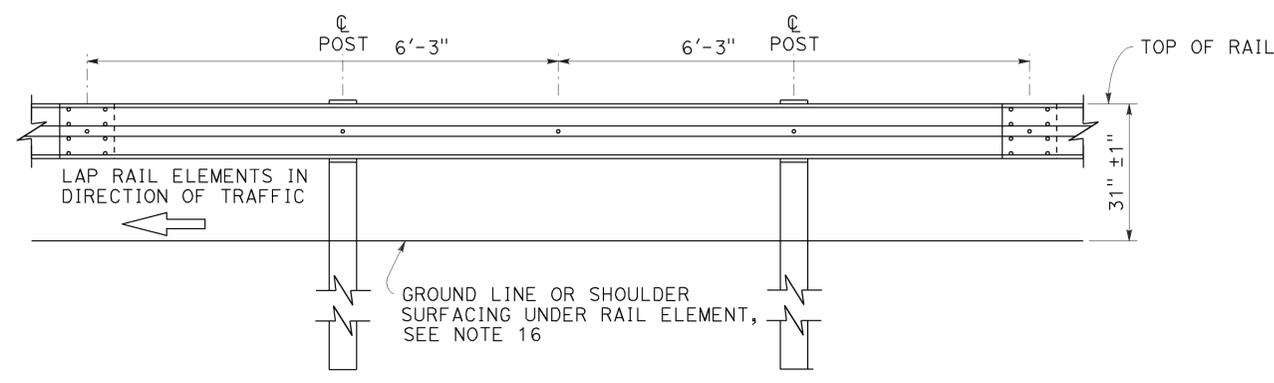
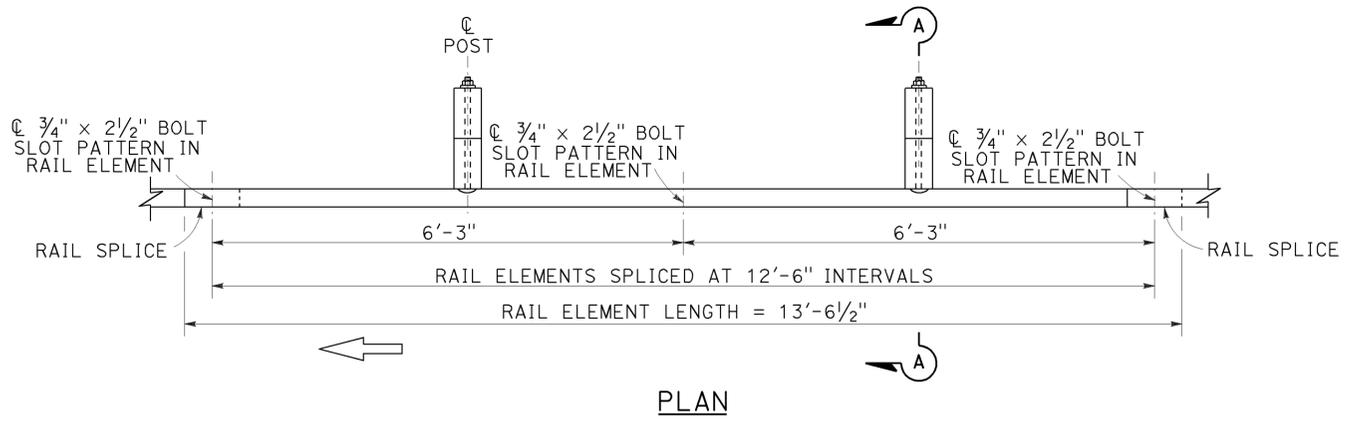
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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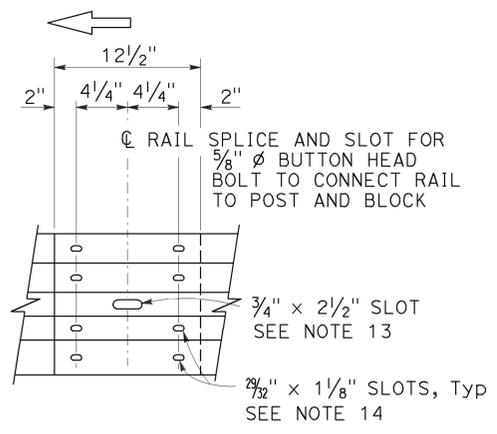
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-1-15



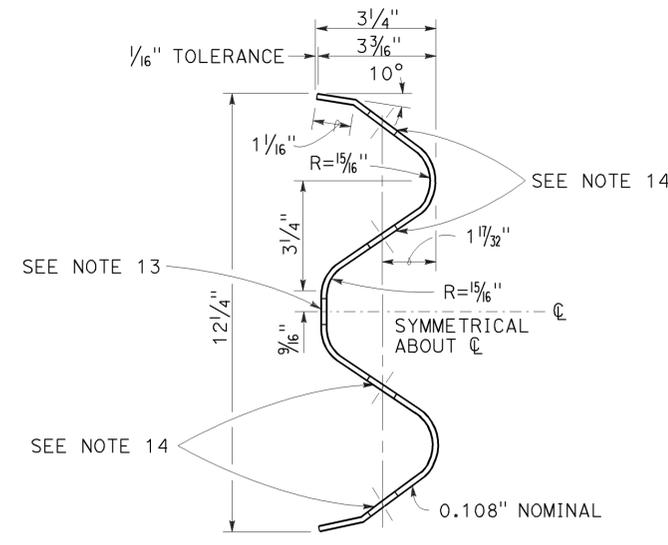
ELEVATION

MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS

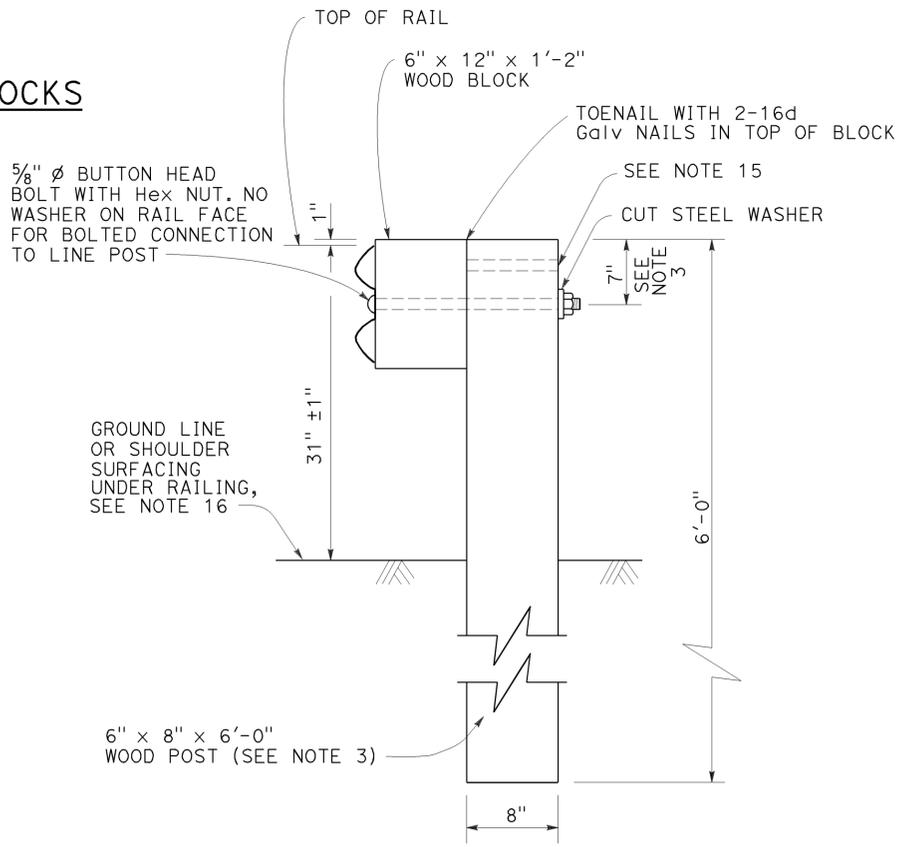


ELEVATION
RAIL ELEMENT SPLICE DETAIL

- Connect the over lapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{7}{32}$ " x $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " 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 Revised Standard Plan RSP A77L2.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railing, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For MGS connection details to abutments and walls, see Revised Standard Plan RSP A77U3.
- For typical MGS delineation and dike positioning details, see Revised Standard Plan RSP A77N4.
- 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 Revised Standard Plan RSP A77N1.
- Install posts in soil.

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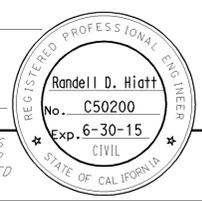
MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(WOOD POST WITH WOOD BLOCK)

NO SCALE

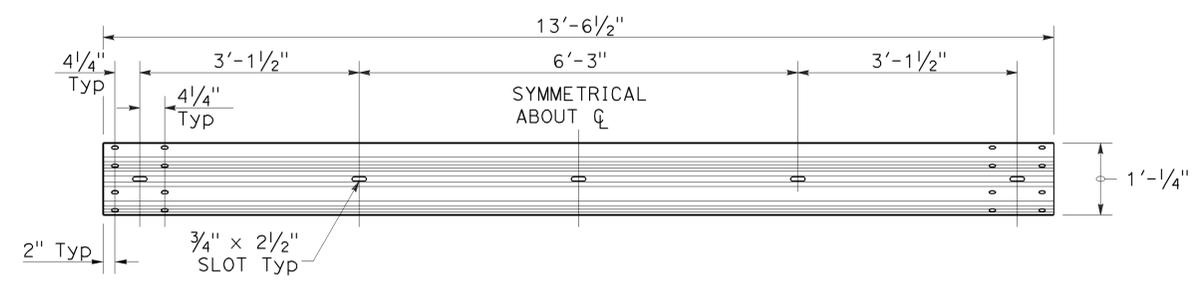
RSP A77L1 DATED JULY 19, 2013 SUPPLEMENTS STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1



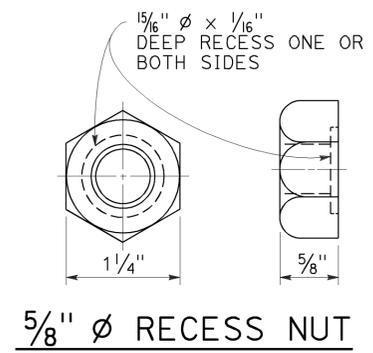
TO ACCOMPANY PLANS DATED 6-1-15



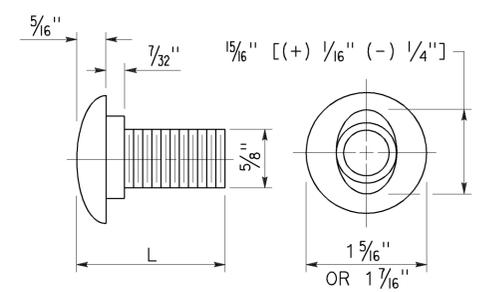
TYPICAL RAIL ELEMENT

NOTE:

1. Slotted holes for splice bolts to overlap ends of rail element.



5/8" Ø RECESS NUT

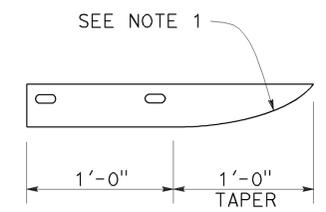


5/8" Ø BUTTON HEAD BOLT

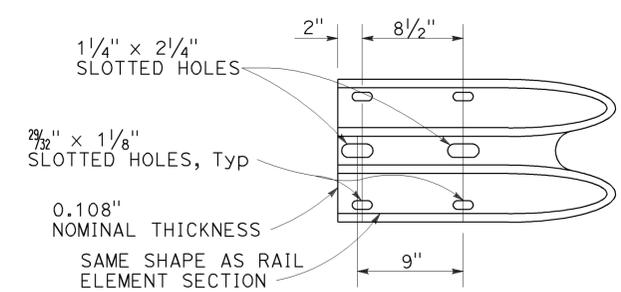
BUTTON HEAD BOLT

L	THREAD LENGTH
1 3/8"	FULL THREAD LENGTH
2"	FULL THREAD LENGTH
10"	4" Min THREAD LENGTH
18"	4" Min THREAD LENGTH
20"	4" Min THREAD LENGTH
22"	4" Min THREAD LENGTH
26"	4" Min THREAD LENGTH
36"	4" Min THREAD LENGTH
** 2 3/4"	2" Min THREAD LENGTH
** 19"	4" Min THREAD LENGTH

** For nested rail applications.



PLAN



**ELEVATION
END CAP
(TYPE A)**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD HARDWARE**

NO SCALE

RSP A77M1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77M1

2010 REVISED STANDARD PLAN RSP A77M1

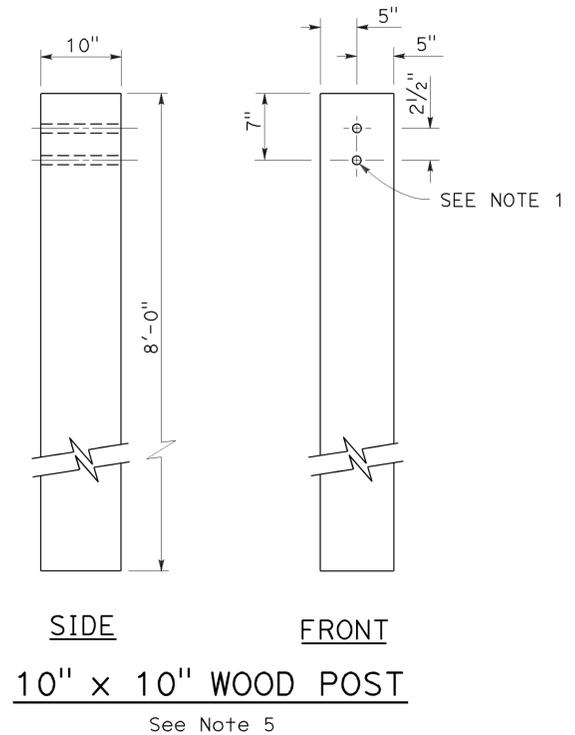
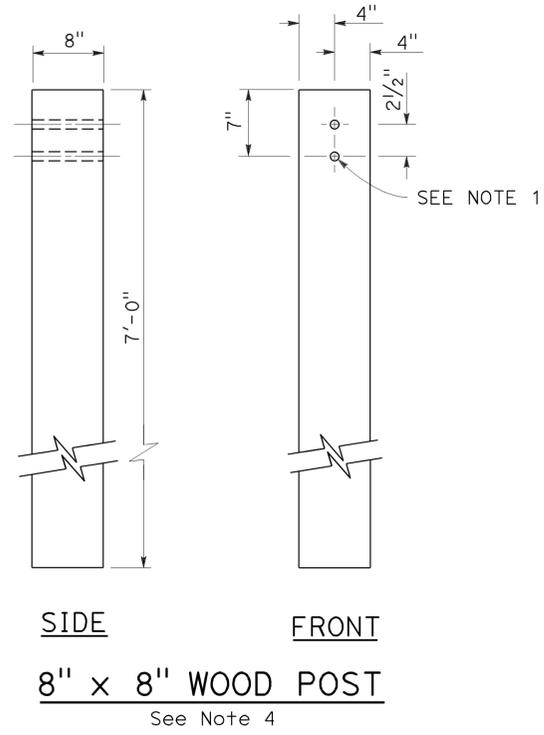
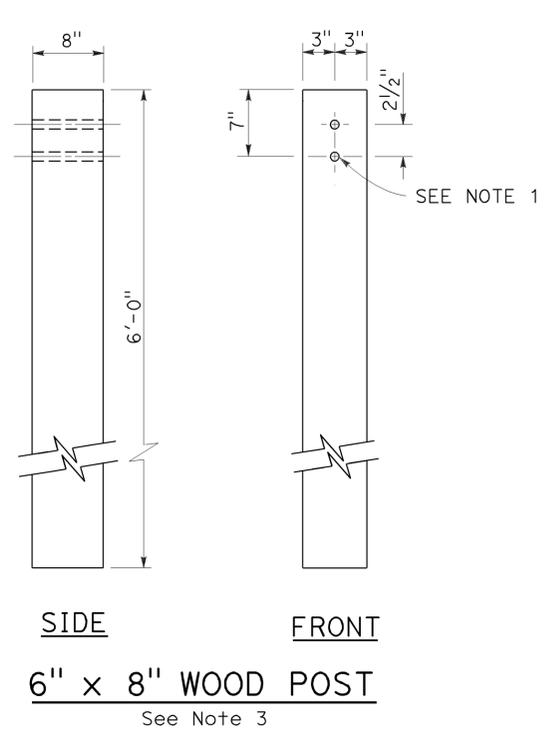
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SCI	9	3.6,11.4	55	98

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

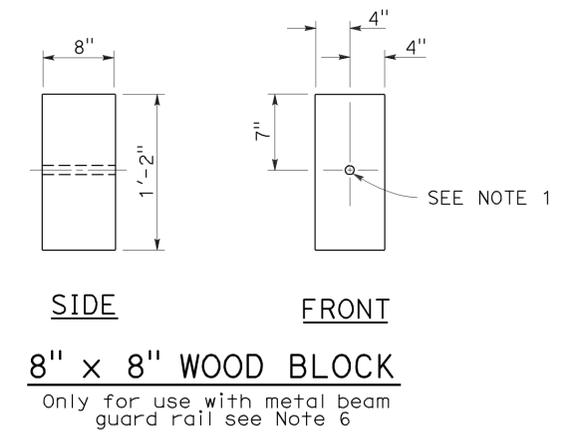
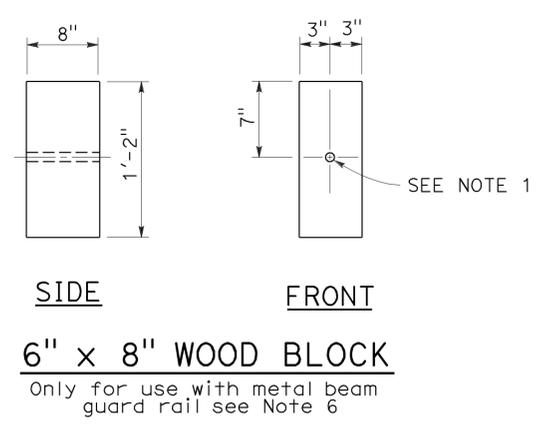
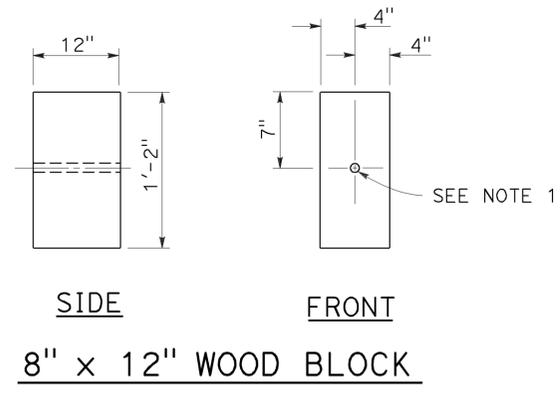
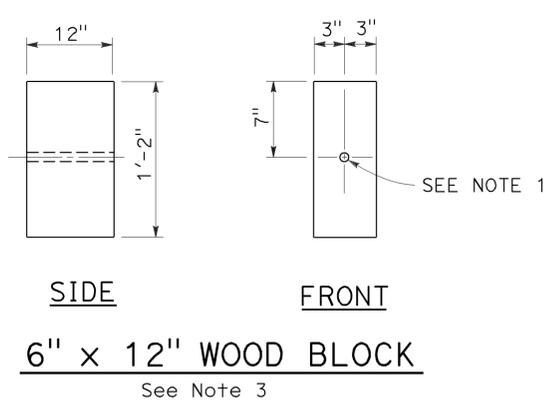
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TO ACCOMPANY PLANS DATED 6-1-15



NOTES:

1. All holes in wood posts and blocks shall be $\frac{3}{4}$ " Dia \pm $\frac{1}{16}$ ".
2. Dimensions shown for wood post are nominal.
3. This post and block combination used for standard line post sections of MGS.
4. This post and 8" x 12" block combination used for line post sections of MGS on narrow roadways.
5. This post and 8" x 12" block combination is typically used where strengthened line post sections of MGS are warranted to shield fixed objects.
6. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" wood blocks.



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**MIDWEST GUARDRAIL SYSTEM
WOOD POST AND
WOOD BLOCK DETAILS**

NO SCALE

RSP A77N1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N1

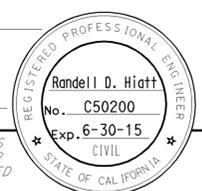
2010 REVISED STANDARD PLAN RSP A77N1

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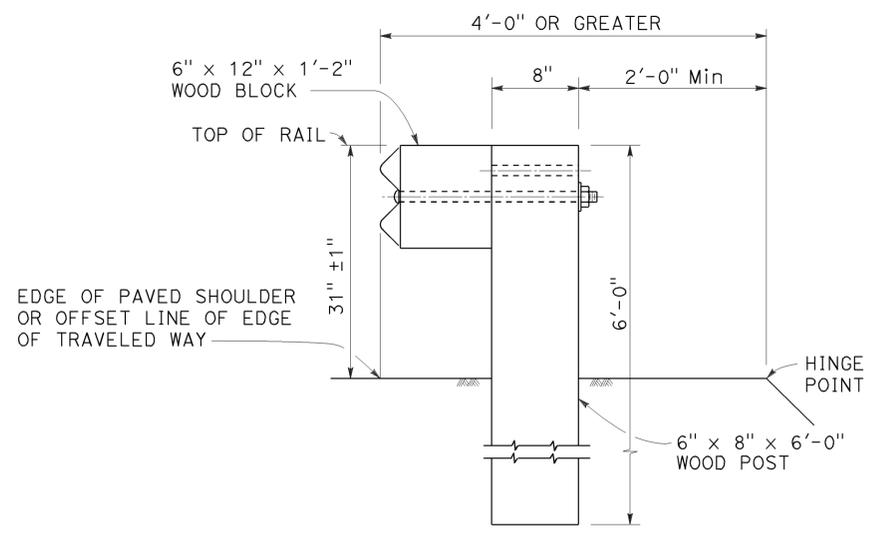
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

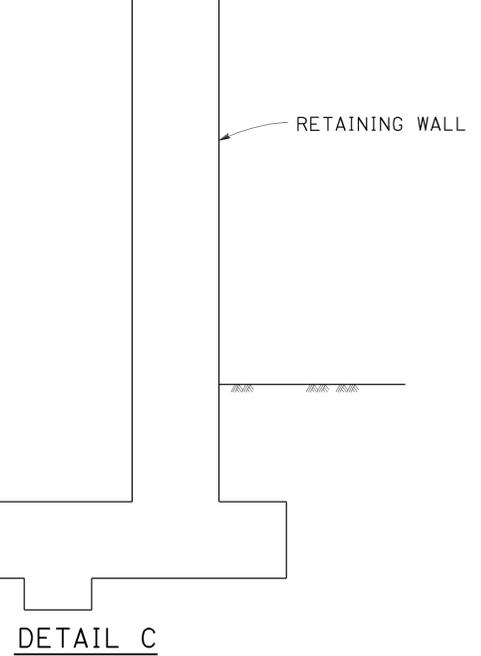
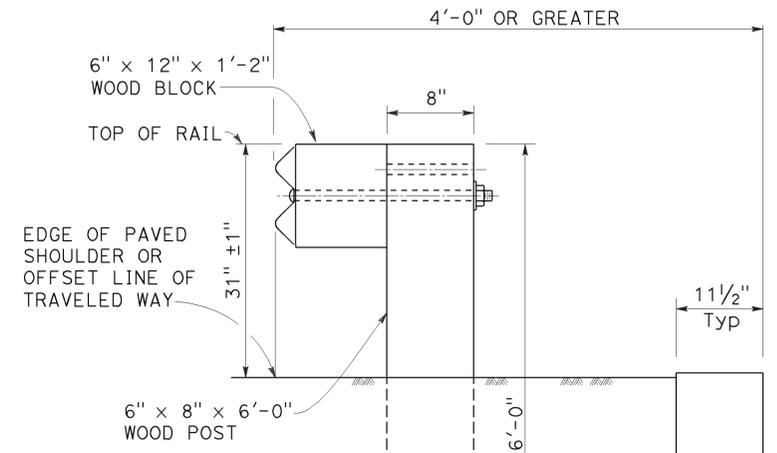
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



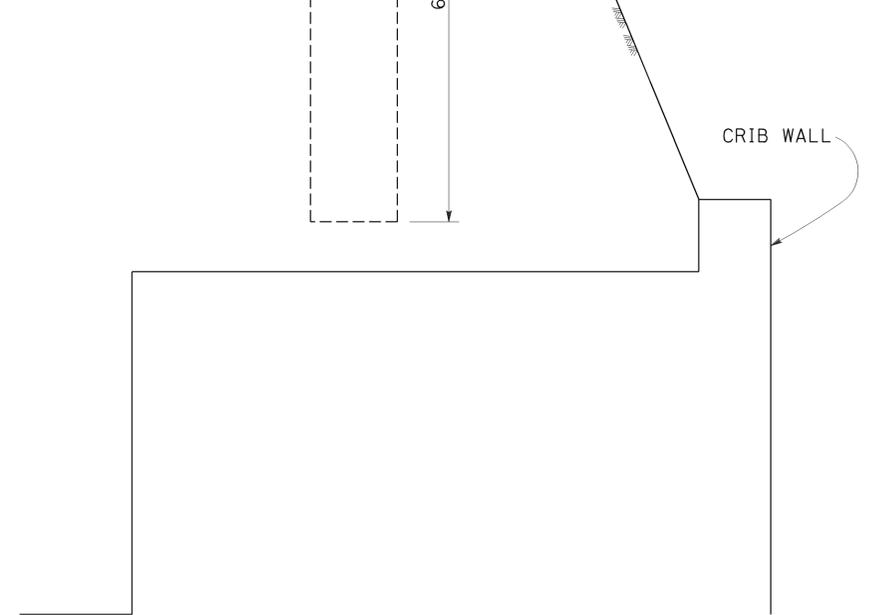
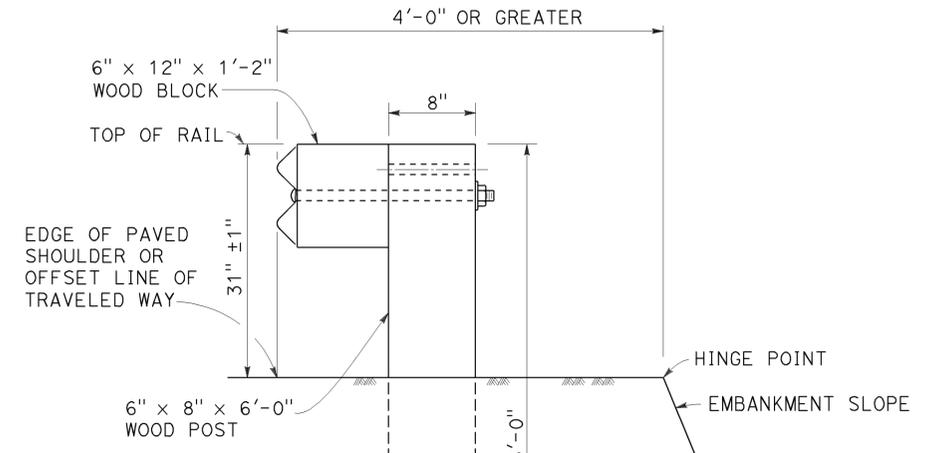
TO ACCOMPANY PLANS DATED 6-1-15



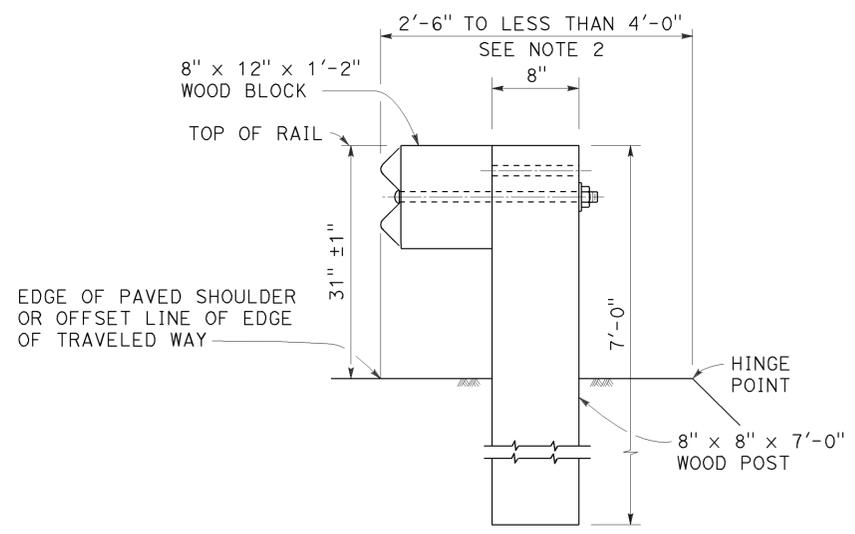
DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL C
INSTALLATION AT EARTH RETAINING WALLS



DETAIL D



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1

POST EMBEDMENT

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 8.5 or W6 x 9 steel post, 6'-0" in length, with 6" x 12" 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 15 steel post, 8'-0" in length, with 8" x 12" 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 Revised Standard Plan RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-6", see the Project Plans for special details.
3. For dike positioning with MGS installations, see Revised Standard Plan RSP A77N4.

STATE OF CALIFORNIA
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MIDWEST GUARDRAIL SYSTEM
TYPICAL LINE POST
EMBEDMENT AND
HINGE POINT OFFSET DETAILS

NO SCALE

RSP A77N3 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N3
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N3

2010 REVISED STANDARD PLAN RSP A77N3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	57	98

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

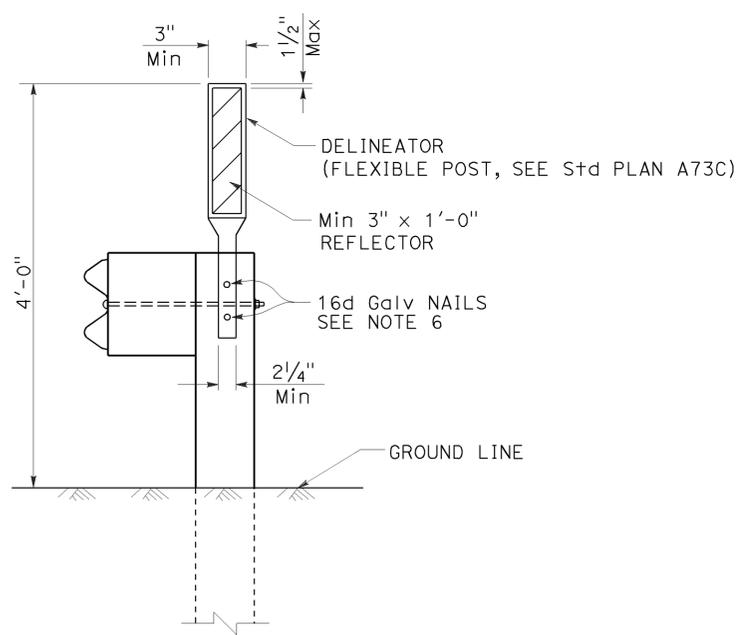
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No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

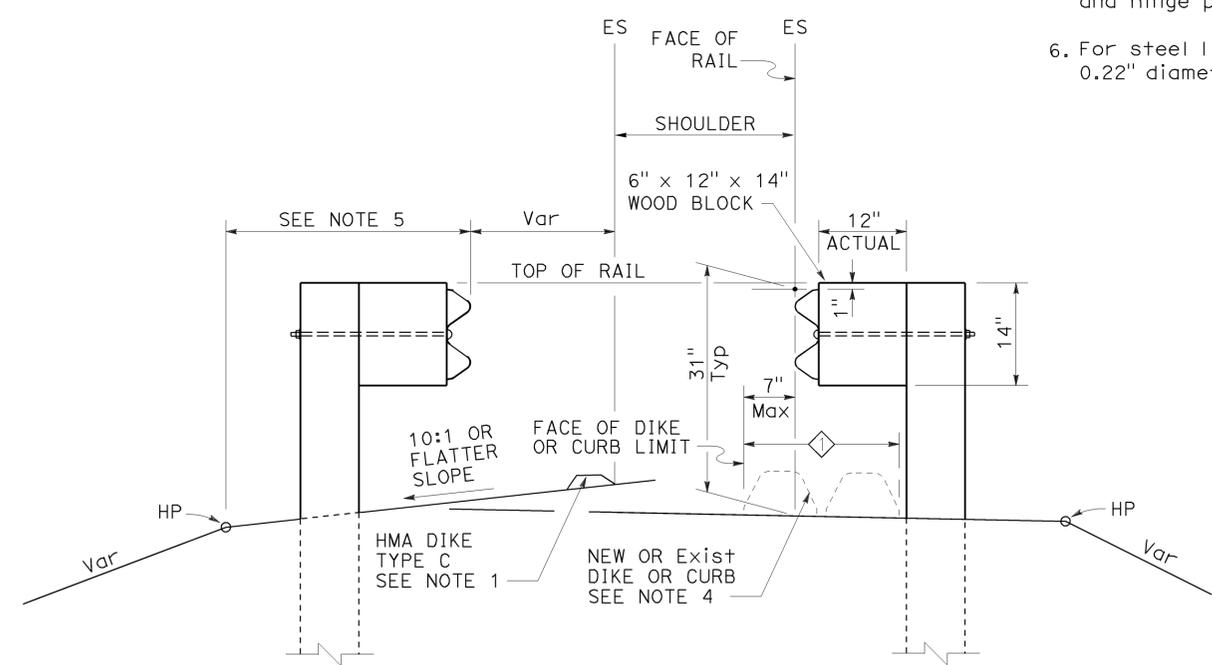
TO ACCOMPANY PLANS DATED 6-1-15

NOTES:

1. When necessary to place dike more than 7" in front of face of MGS, only Type C dike may be used. For dike details, see Revised Standard Plan RSP A87B.
2. For standard railing post embedment, see Revised Standard Plan RSP A77N3.
3. MGS delineation to be used where shown on the Project Plans.
4. When dike or curb is placed under MGS, the maximum height of the dike or curb shall be 6". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and RSP A87B.
5. For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
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.



MGS DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

◇ PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL RAILING DELINEATION
AND DIKE POSITIONING DETAILS**
NO SCALE

RSP A77N4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N4

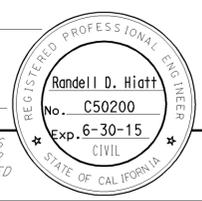
2010 REVISED STANDARD PLAN RSP A77N4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	58	98

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

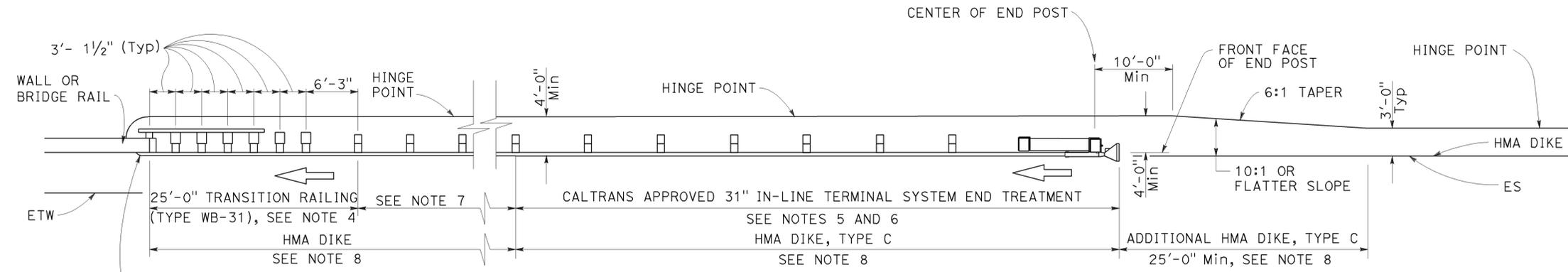
July 19, 2013
PLANS APPROVAL DATE

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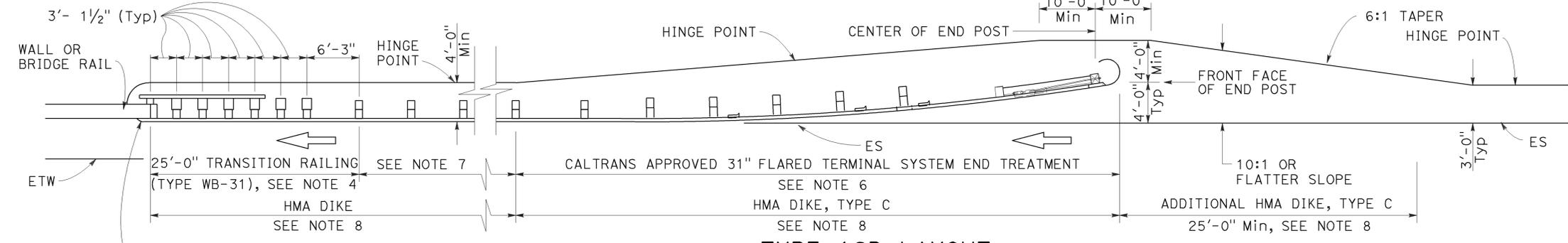
TO ACCOMPANY PLANS DATED 6-1-15

2010 REVISED STANDARD PLAN RSP A77Q1



TYPE 12A LAYOUT

(MGS installation at structure approach with 31" in-line end treatment at traffic approach end of railing)
See Notes 5 and 6
SEE NOTE 8



TYPE 12B LAYOUT

(MGS installation at structure approach with 31" Flared end treatment at traffic approach end of railing)
SEE NOTE 6
SEE NOTE 8

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS 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 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Types 12A and 12B Layouts, see Revised Standard Plan RSP A77U4.
- 31" in-line terminal system end treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type 31" 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. A 12.5 degree angle of departure can be drawn on the Project Plans from the edge of traveled way through the outer most point of the fixed object to determine the additional length of railing needed.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77N4 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 A77Q3 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 A77U1 and RSP A77U2 and Connection Detail FF on Revised Standard Plans RSP A77V1 and RSP A77V2.
- For additional details of a typical connection to walls or abutments, see Revised Standard Plan RSP A77U3.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH**

NO SCALE

RSP A77Q1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	59	98

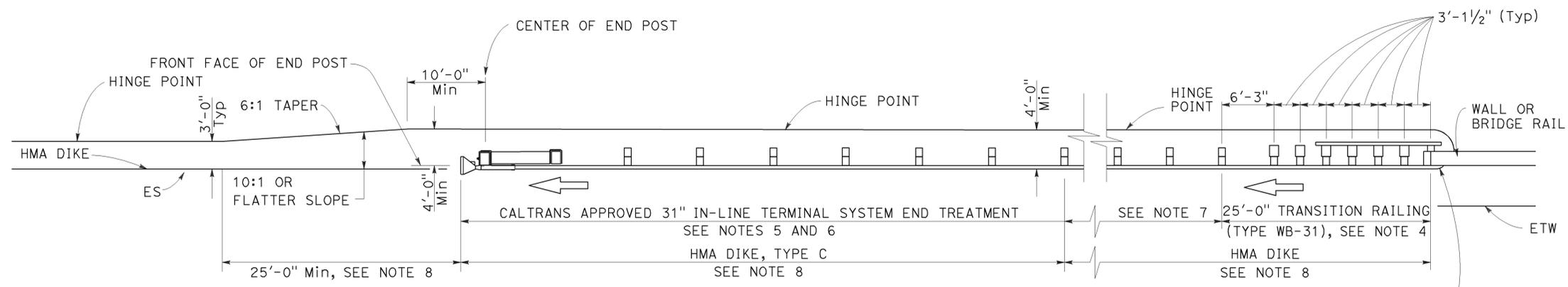
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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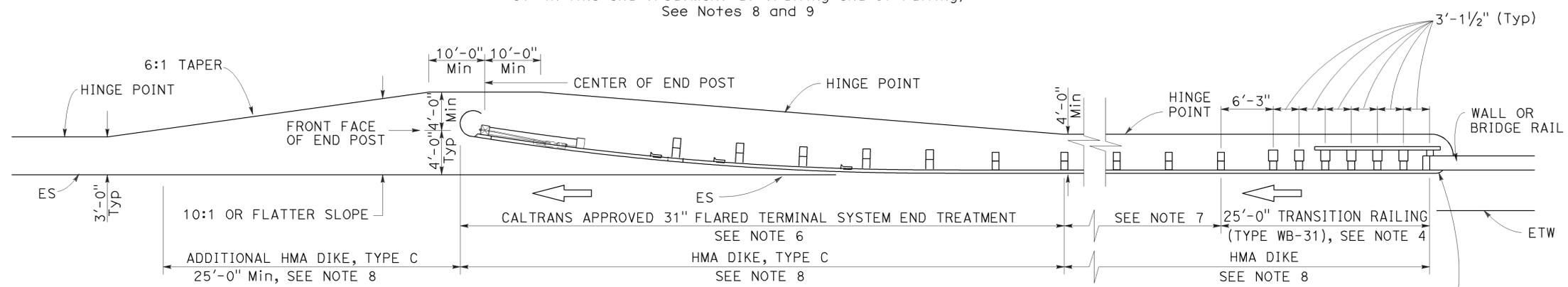
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-1-15



TYPE 12AA LAYOUT

(MGS installation at structure departure with 31" in-line end treatment at trailing end of railing)
See Notes 8 and 9



TYPE 12BB LAYOUT

(MGS installation at structure departure with 31" flared end treatment at trailing end of railing)
See Notes 8 and 9

NOTES:

- Line post, blocks and hardware to be used are shown on Revised Standard Plans RSP A77L1, RSP A77L2, RSP A77M1, RSP A77N1 and RSP A77N2.
- MGS 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 12" x 1'-2" wood blocks. W6 x 8.5 or W6 x 9 steel posts, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 12" x 1'-2" wood blocks where applicable and when specified.
- For Transition Railing (Type WB-31) details for Types 12AA and 12BB Layouts, see Revised Standard Plan RSP A77U4.
- 31" in-line terminal system treatments are used where site conditions will not accommodate a 31" flared end treatment.
- The type of 31" terminal system to be used will be shown on the Project Plans.
- Dependent on site conditions (embankment height, side slopes, other fixed objects), it may be advisable to construct additional MGS (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and 31" end treatments.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12AA or Type 12BB Layouts are typically used to the right of traffic departing a structure on two-way conventional highways where the roadbed width across the structure is less than 40 feet.
- For additional details of typical connections to bridge rail, see Connection Detail CC on Revised Standard Plan RSP A77U2 and Connection Detail HH on Revised Standard Plan RSP A77V2.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE DEPARTURE**
NO SCALE

RSP A77Q4 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77Q4

2010 REVISED STANDARD PLAN RSP A77Q4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	60	98

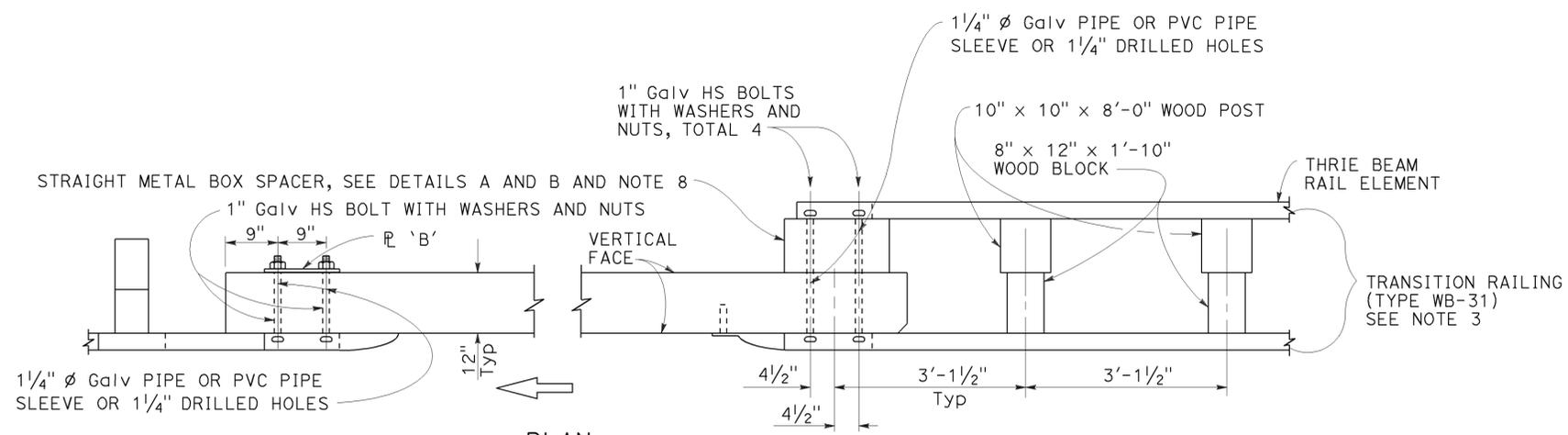
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

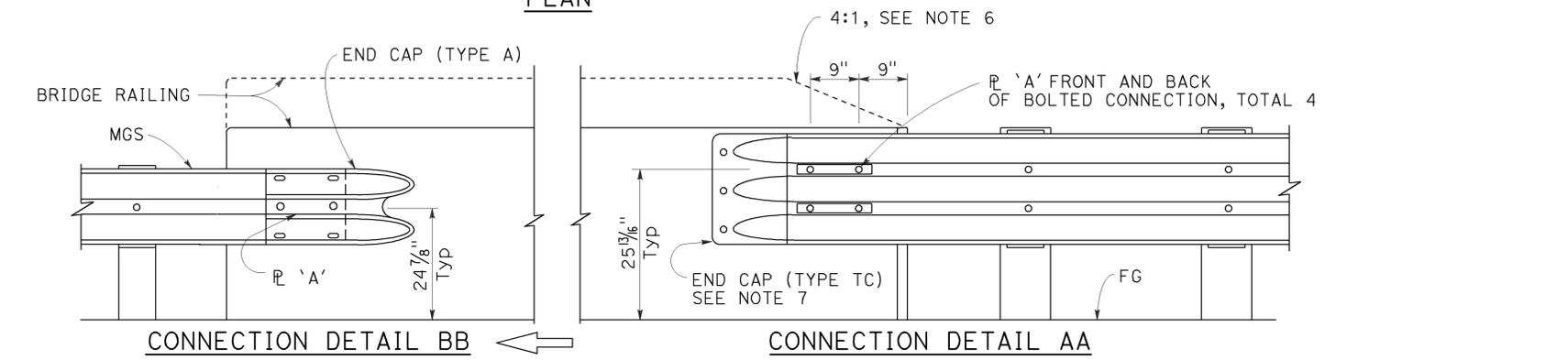
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Randell D. Hiatt
No. C50200
Exp. 6-30-15
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STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-1-15



PLAN

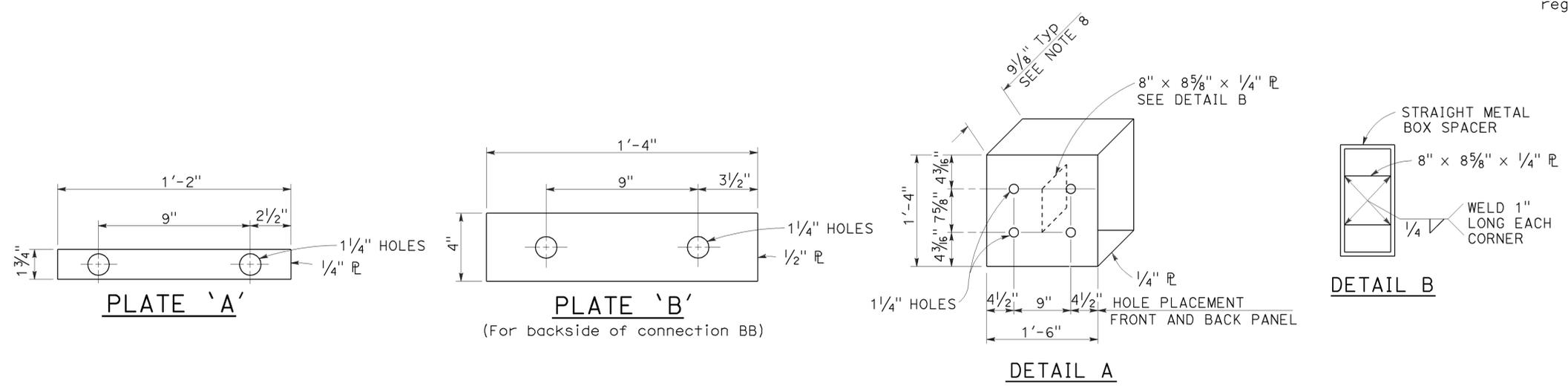


ELEVATION

MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77U2 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
4. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1, Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2, and Layout Type 12E on Revised Standard Plan RSP A77Q3.
5. For typical use of Connection Detail BB, see Layout Type 12D (structure departure railing connection) on Revised Standard Plan RSP A77Q2 and Layout Type 12DD on Revised Standard Plan RSP A77Q5.
6. 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.
7. For details of End Cap (Type TC), see Revised Standard Plan RSP A77U4.
8. See Revised Standard Plan RSP A77U4 for additional details regarding depth dimension for straight metal box spacer.



STRAIGHT METAL BOX SPACER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS
DETAILS No. 1

NO SCALE

RSP A77U1 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U1

2010 REVISED STANDARD PLAN RSP A77U1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	61	98

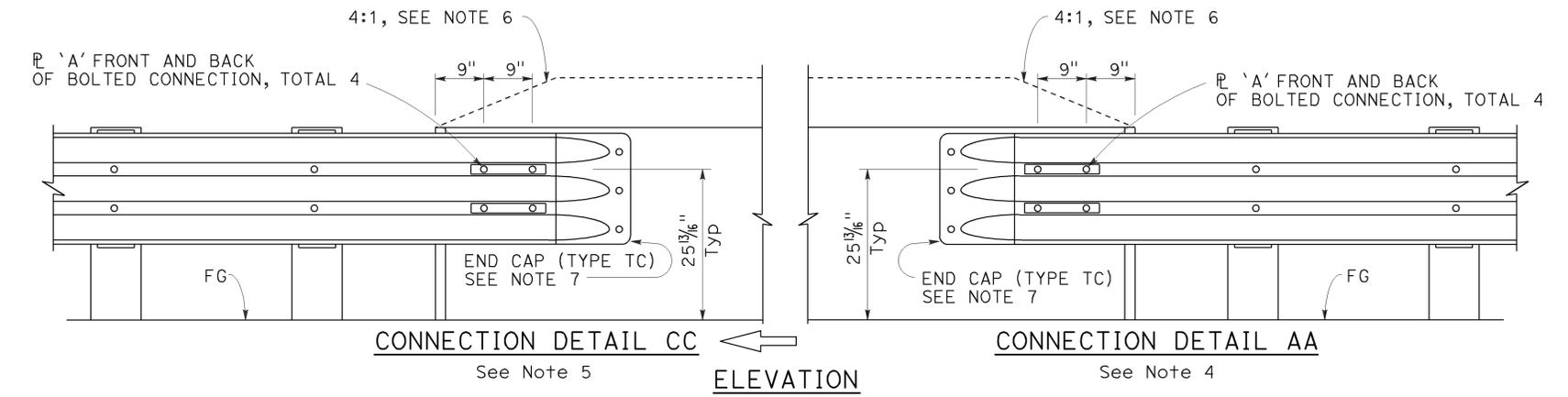
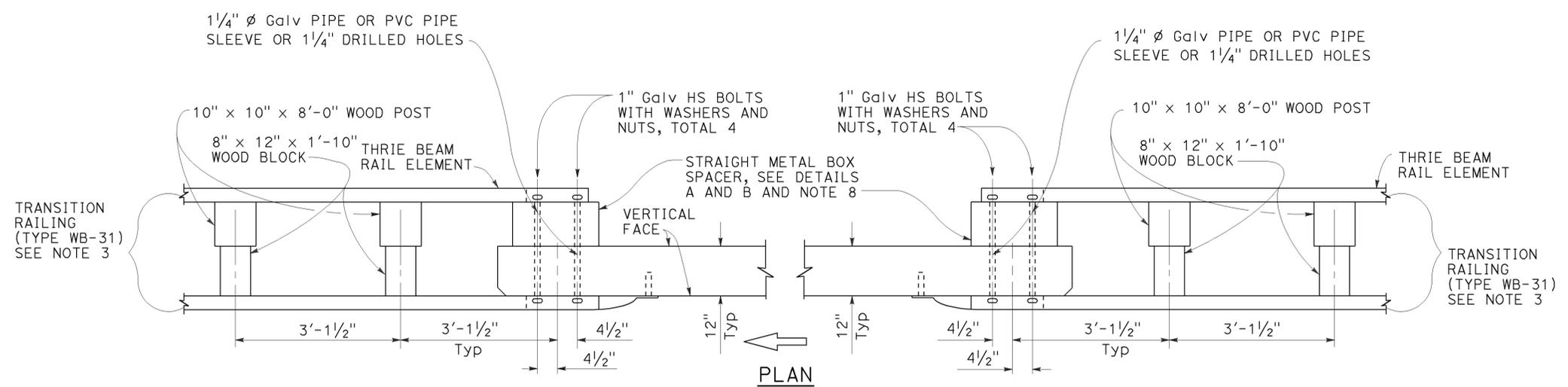
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

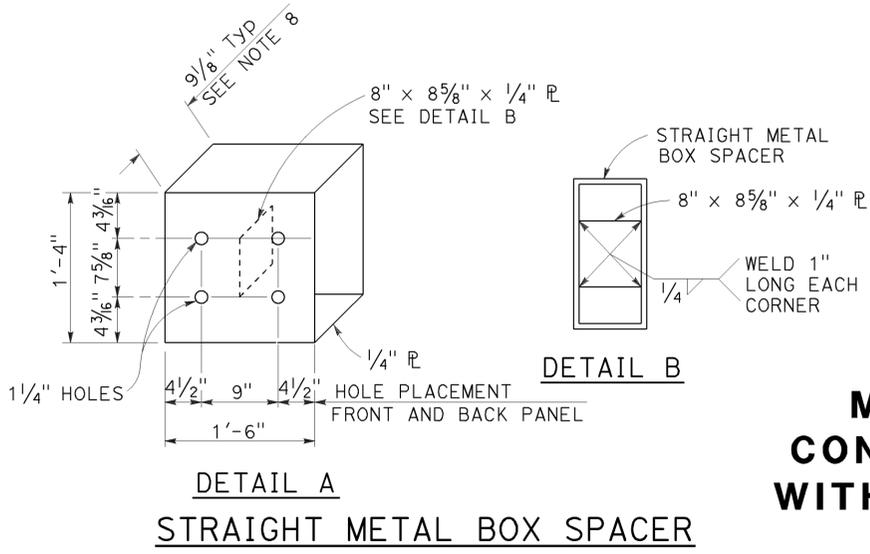
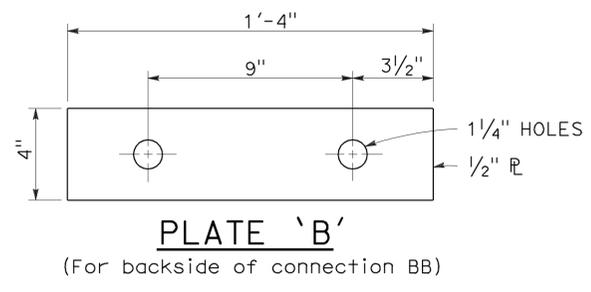
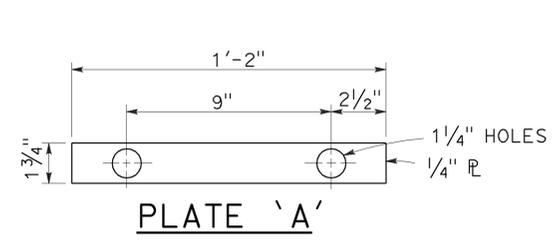
TO ACCOMPANY PLANS DATED 6-1-15



MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77U1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
4. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1, Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2, and Layout Type 12E on Revised Standard Plan RSP A77Q3.
5. For typical use of Connection Detail CC, see Layout Types 12AA and 12BB on Revised Standard Plan RSP A77Q4 and Layout Type 12CC on Revised Standard Plan RSP A77Q5.
6. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA and connection Detail CC, taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam railing.
7. For details of End Cap (Type TC), see Revised Standard Plan RSP A77U4.
8. See Revised Standard Plan RSP A77U4 for additional details regarding depth dimension for straight metal box spacer.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
CONNECTIONS TO BRIDGE RAILINGS
WITHOUT SIDEWALKS DETAILS No. 2**

NO SCALE

RSP A77U2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U2

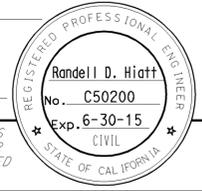
2010 REVISED STANDARD PLAN RSP A77U2

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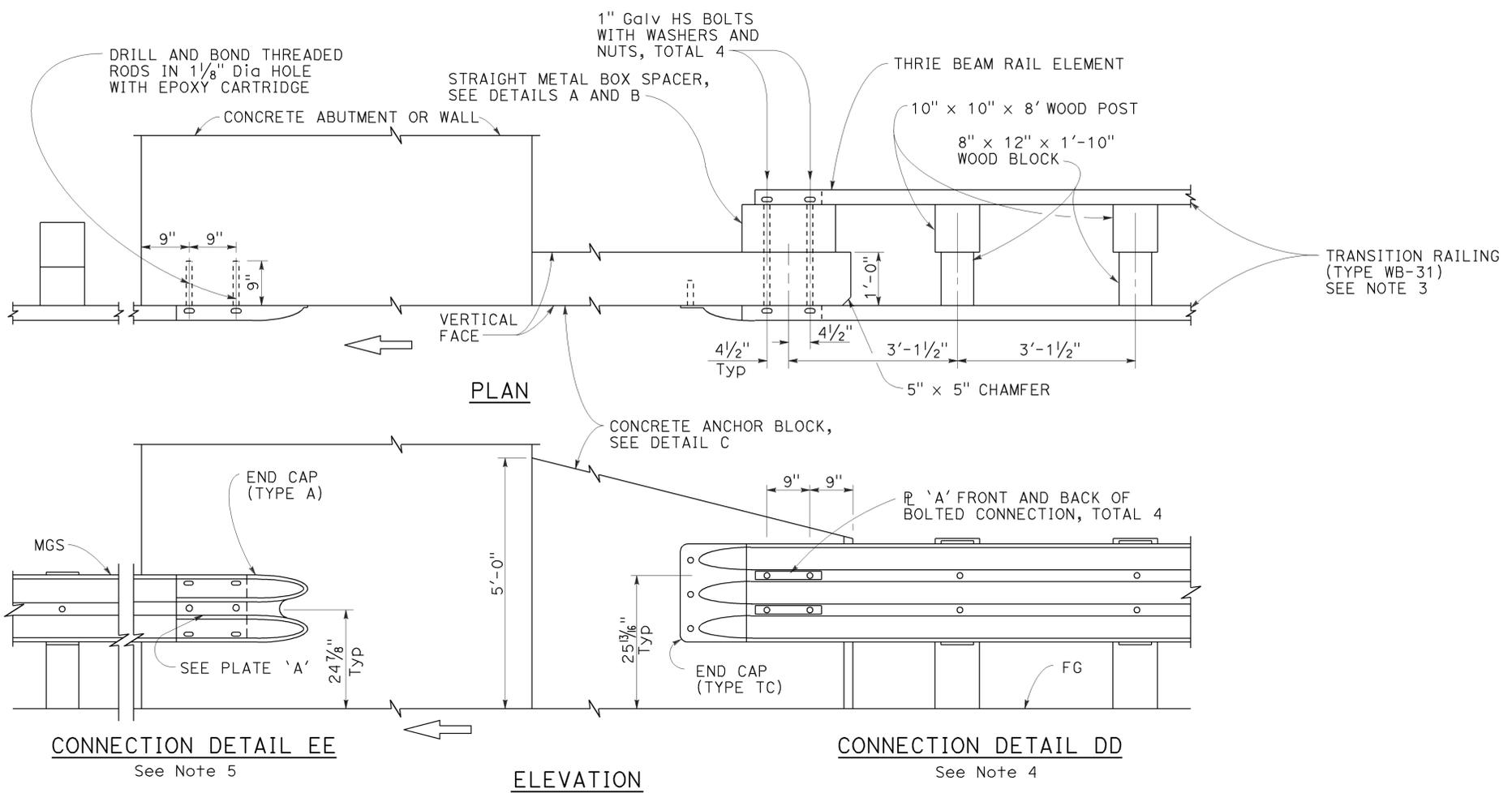
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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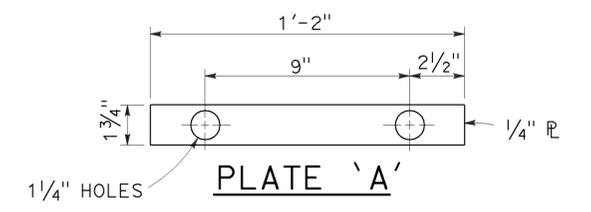
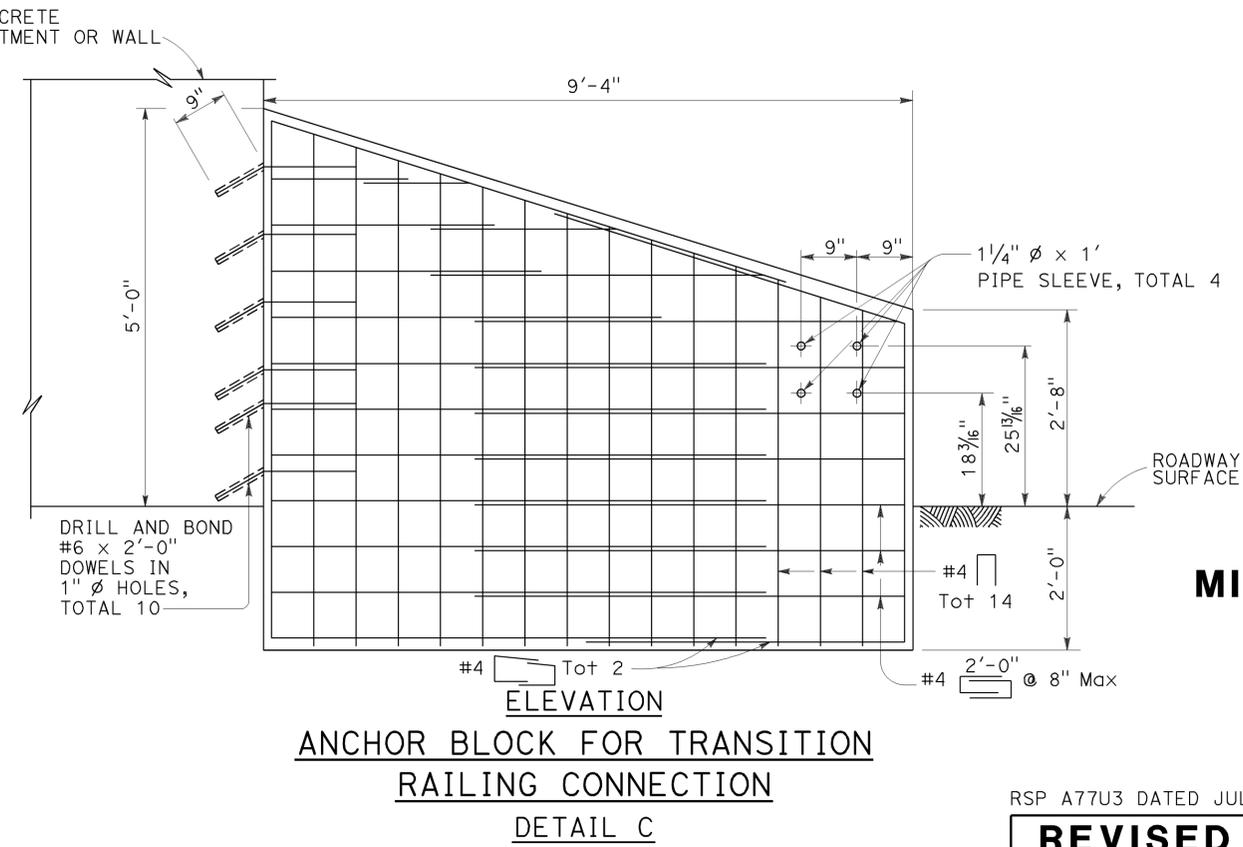
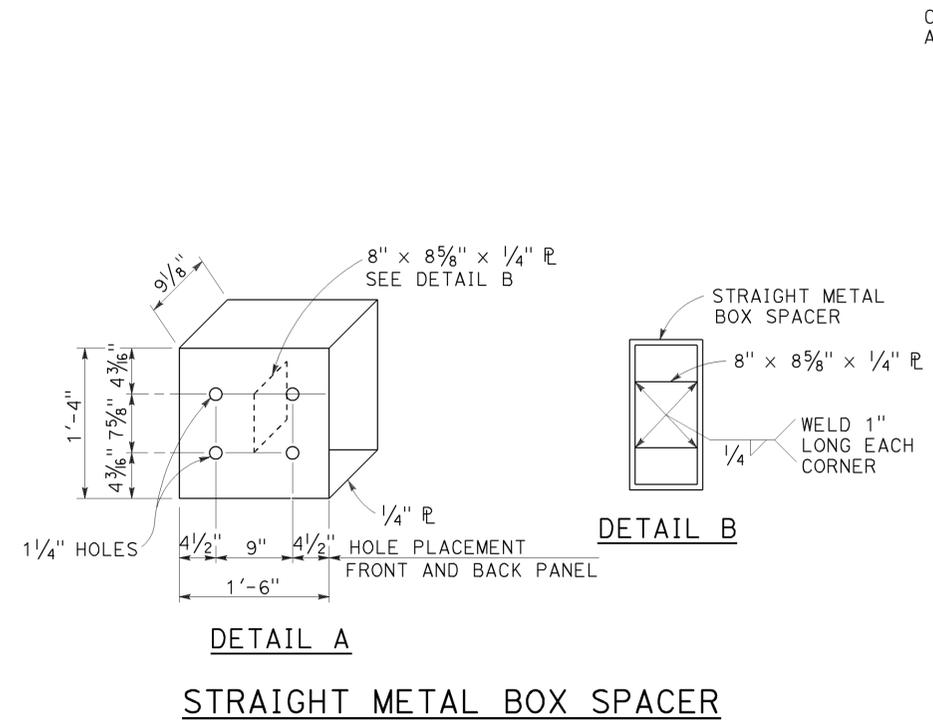
TO ACCOMPANY PLANS DATED 6-1-15



NOTES:

1. These connection details apply to abutments and walls.
2. Additional details of posts, blocks and hardware are shown on Revised Standard Plans RSP A77M1, RSP A77N1 and RSP A77N2.
3. For additional details of Transition Railing (Type WB-31), see Revised Standard Plan RSP A77U4. Transition Railing (Type WB-31) transitions the 12 gauge MGS railing section to a heavier gage nested thrie beam railing section which is connected to the concrete anchor block.
4. For typical use of Connection Details DD, see Layout Types 12A and 12B on Revised Standard Plan RSP A77Q1 and Layout Types 12C and 12D on Revised Standard Plan RSP A77Q2.
5. For typical use of Connection Detail EE, see Layout Type 12D on Revised Standard Plan RSP A77Q2 and Layout Type 12DD on Revised Standard Plan RSP A77Q5.

MIDWEST GUARDRAIL SYSTEM CONNECTION TO ABUTMENT OR WALL



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM CONNECTIONS TO ABUTMENTS AND WALLS

NO SCALE

RSP A77U3 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U3

2010 REVISED STANDARD PLAN RSP A77U3

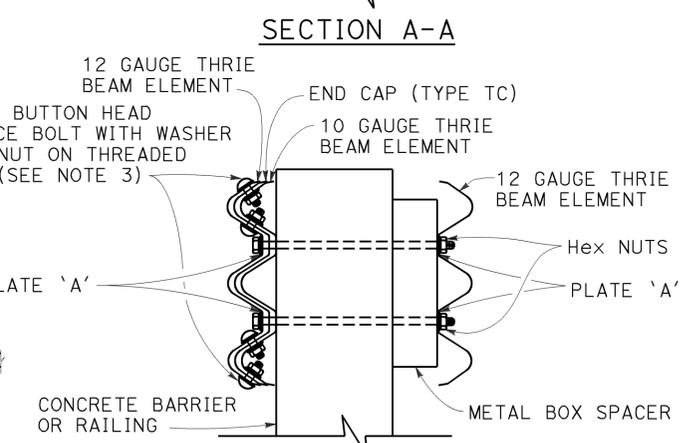
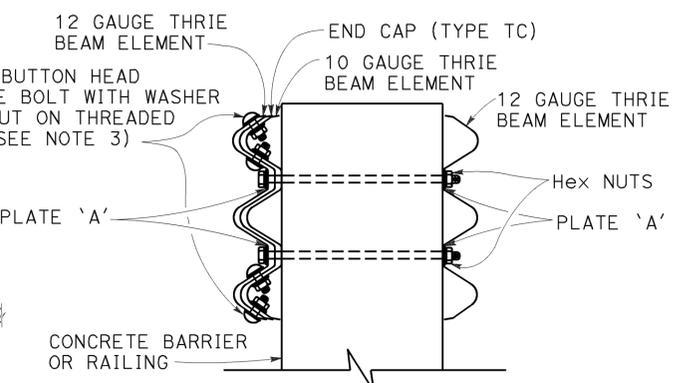
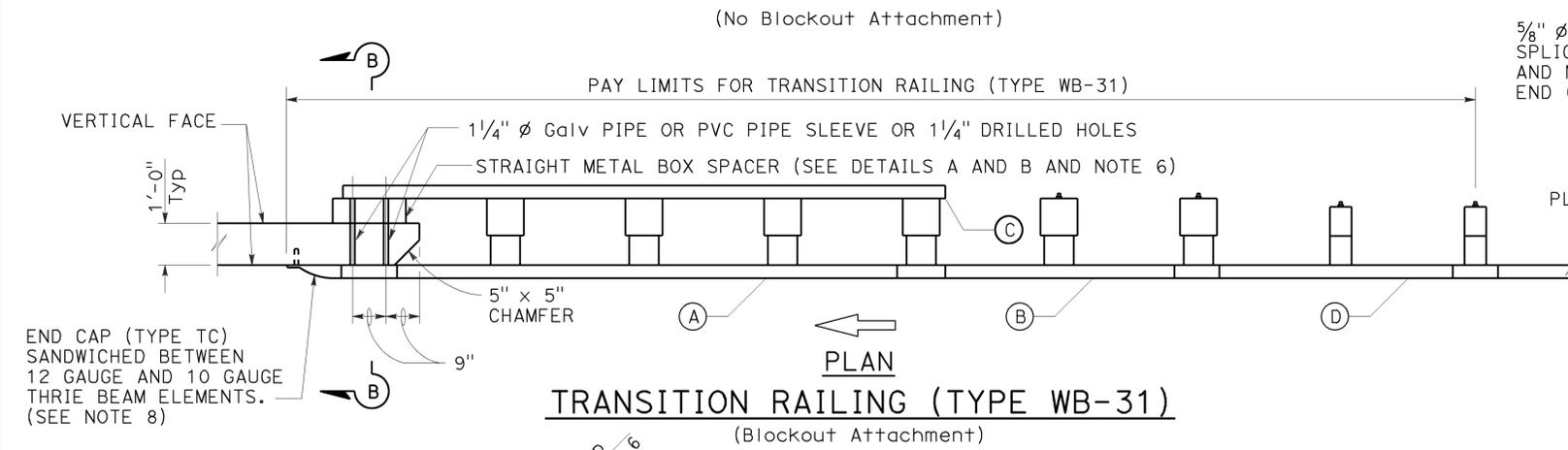
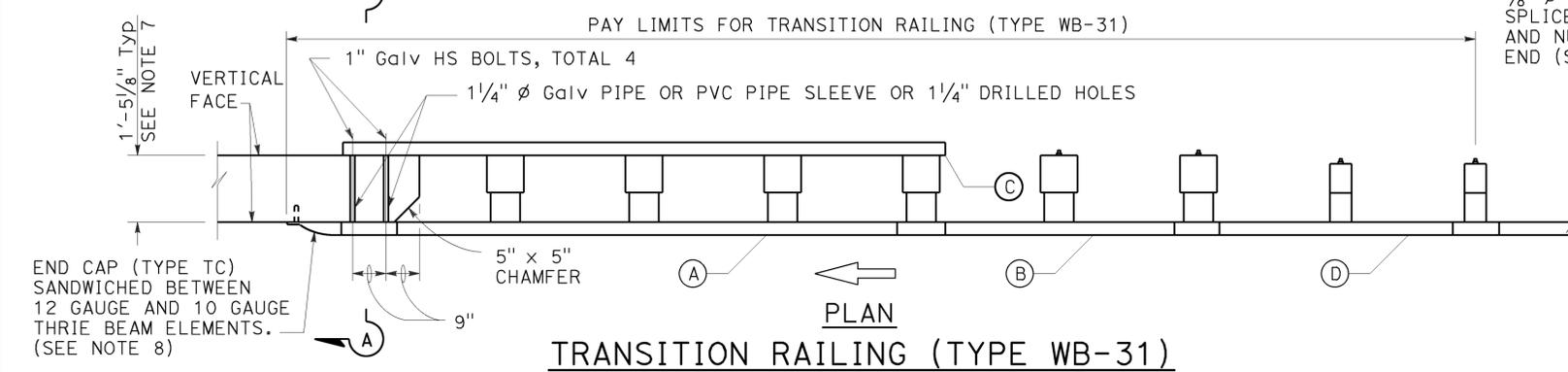
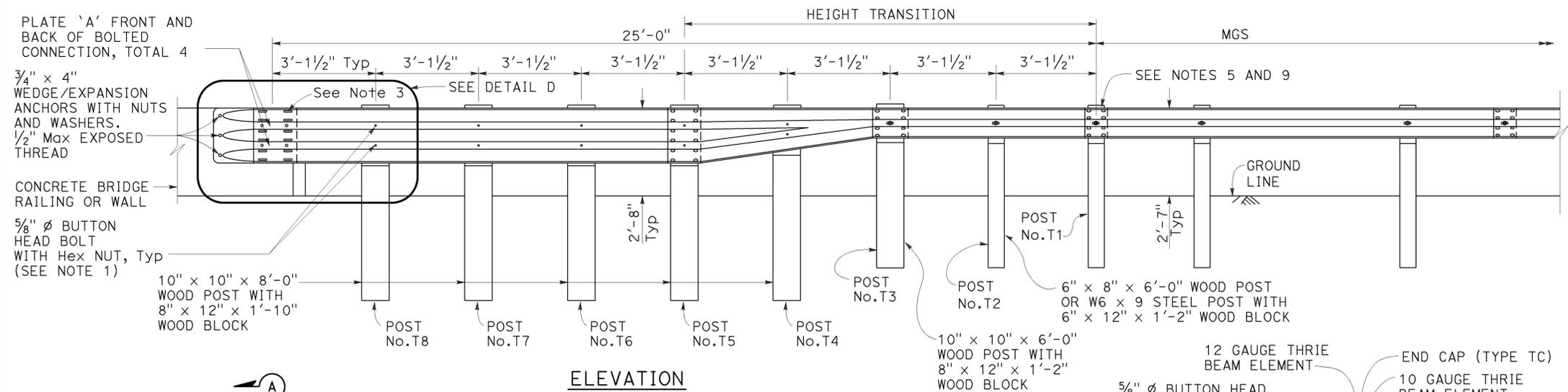
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	63	98

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

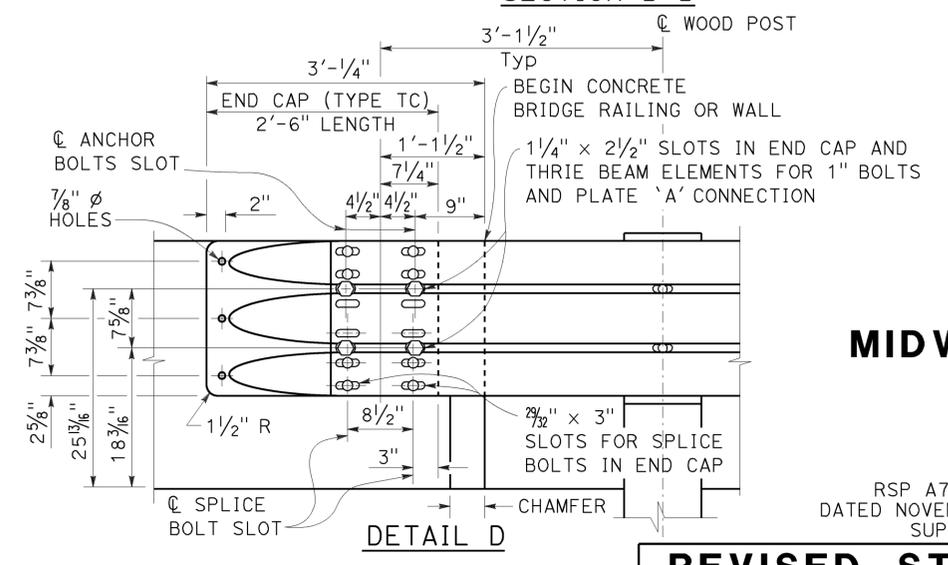
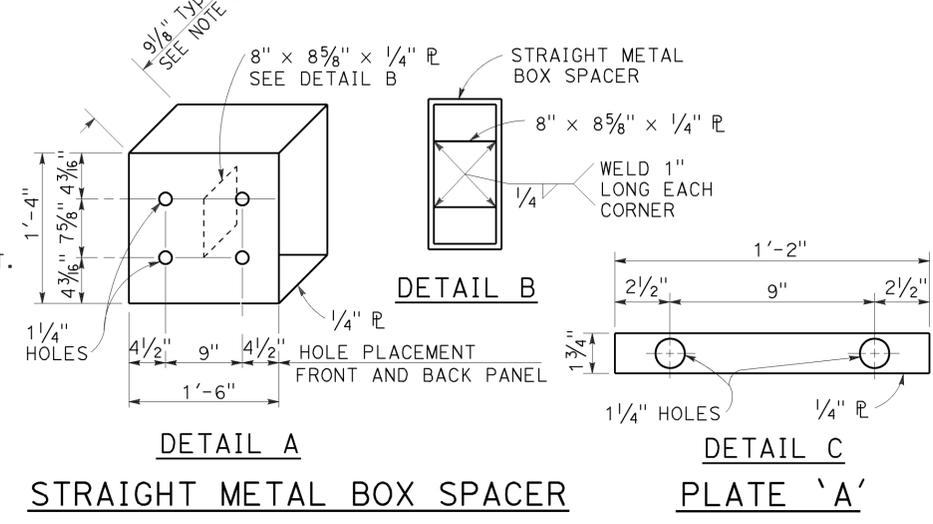
January 23, 2015
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA



- LEGEND:**
- (A) NESTED THRIE BEAM ELEMENTS (ONE 12 GAUGE ELEMENT NESTED OVER ONE 10 GAUGE ELEMENT).
 - (B) ONE ASYMMETRICAL 10 GAUGE "W" BEAM TO THRIE BEAM ELEMENT.
 - (C) ONE 12 GAUGE THRIE BEAM ELEMENT.
 - (D) ONE 10 GAUGE "W" BEAM RAIL ELEMENT (7'-3/2" LENGTH)
- 10 GAUGE = 0.138" THICK
12 GAUGE = 0.108" THICK



- NOTES:** TO ACCOMPANY PLANS DATED 6-1-15
1. Use 5/8" ϕ Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 2. 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.
 3. Exterior splice bolt holes for rail element splices at Post No. T5 and the connection to the concrete barrier or railing shall be the standard 29/32" x 1 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4" ϕ . Only the top 4 and the bottom 4 splice bolts with washers and nuts are required for rail splices at Post No. T5 and the connection to the concrete barrier or railing.
 4. The top elevation of Posts No. T2 through No. T7 shall not project more than 1" above the top elevation of the rail element.
 5. Typically, the railing connected to Transition Railing (Type WB-31) will be either standard railing section of MGS with height transition ratio of 150:1 or a Caltrans approved 31" end treatment attached to Post No. T1.
 6. The depth of the metal box spacer varies from the 9/8" to 1 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 21 1/8". Where the space between the backside of the concrete railing or wall and the rear thrie beam element is less than 1 1/2", metal plates similar to Plate 'A' are to be used as spacers.
 7. Where the width of the concrete railing or wall is greater than 17 1/8", wood blocks are to be used to fill the space created between the backside of Posts No. T5 through No. T8 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.
 8. End cap may be installed over 12 gauge and 10 gauge thrie beam elements where transition railing is installed on the departure end of bridge railing.
 9. Conform standard railing section height to 31" at Post No. T1 using height transition ratio of 150:1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TRANSITION RAILING
(TYPE WB-31)**

NO SCALE

RSP A77U4 DATED JANUARY 23, 2015 SUPERSEDES RSP A77U4 DATED NOVEMBER 15, 2013 AND RSP A77U4 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77U4

2010 REVISED STANDARD PLAN RSP A77U4

TO ACCOMPANY PLANS DATED 6-1-15

TABLE 1

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

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

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

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

TABLE 2

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

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

** - Longitudinal buffer space or flagger station spacing

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

TABLE 3

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

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T9

2010 REVISED STANDARD PLAN RSP T9

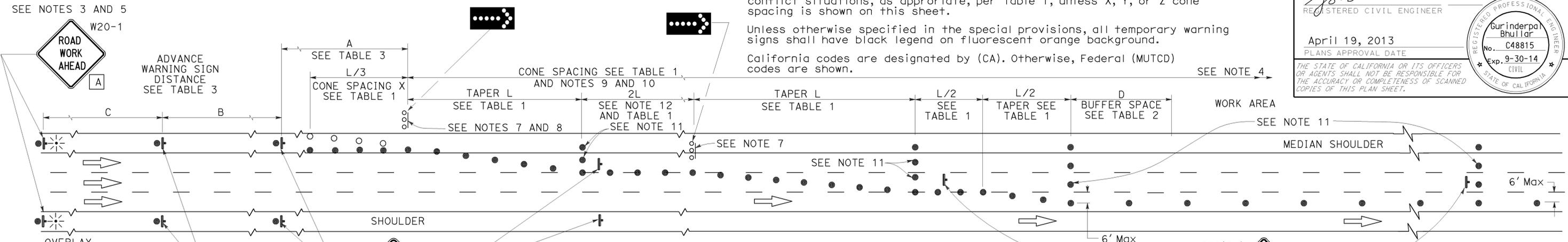
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SCI	9	3.6,11.4	65	98

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

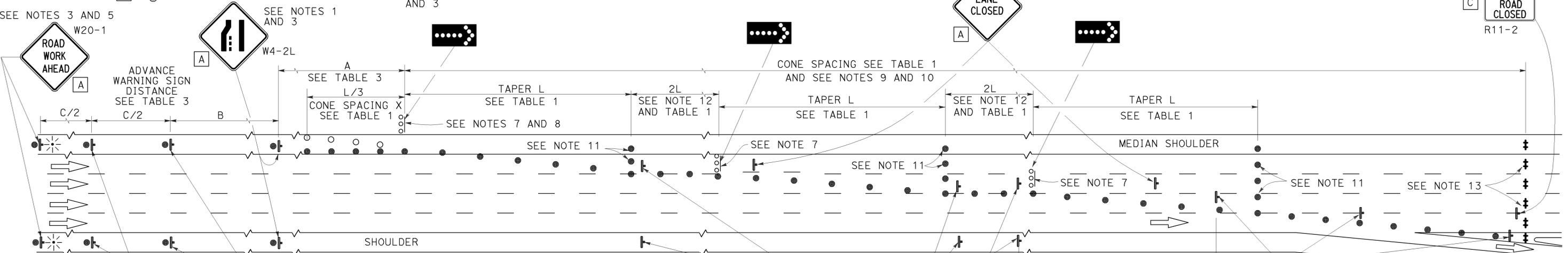
April 19, 2013
 PLANS APPROVAL DATE

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

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



LANE CLOSURE WITH PARTIAL SHOULDER USE



COMPLETE CLOSURE

NOTES:

- Lane closures on the right side using partial median shoulder as a traffic lane shall conform to the details as shown except that C20(CA)R and W4-2R signs shall be used.
- At least one person shall be assigned to provide full time maintenance of traffic control devices for lane closures.
- Each advance warning sign on each side of the roadway shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" X 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
- A G20-2 "END ROAD WORK" sign, with minimum size of 48" x 24" as appropriate, shall be placed at the end of the lane closure unless the end of work area is obvious or ends within a larger project's limits.
- If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT ___ MILES", use a C20(CA) sign for the first advance warning sign.
- Place a C30(CA) sign every 2000' throughout length of lane closure.
- One flashing arrow sign for each lane closed. The flashing arrow signs shall be Type I.
- A minimum 1500' of sight distance shall be provided where possible for vehicles approaching the first flashing arrow sign. Lane closures shall not begin at the top of crest vertical curve or on a horizontal curve.
- All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
- Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
- Unless otherwise specified in the special provisions, a minimum of 3 cones shall be placed transversely across each closed lane and shoulder at each location where a taper across a traffic lane ends and every 2000' as shown on the "Lane Closure With Partial Shoulder Use" detail. Two Type II barricades may be used instead of the 3 cones. The transverse alignment of the cones or barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.

- Unless otherwise specified in the special provisions, the 2L tangent shown along lane lines shall be used between the L tapers required for each closed traffic lane.
- A minimum of Two Type II or III barricades shall be placed across each closed lane and shoulder at the location shown and every 2000' within the complete closure area. Within the complete closure area, the transverse alignment of the barricades on the closed shoulder may be shifted from the transverse alignment to provide access to the work.
- When specified in the special provisions, a W20-2 "DETOUR AHEAD" sign is to be used in place of the W20-3 "FREEWAY CLOSED AHEAD" sign.

SIGN PANEL SIZE (Min)

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

LEGEND

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

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**TRAFFIC CONTROL SYSTEM
 FOR LANE CLOSURES ON
 FREEWAYS AND EXPRESSWAYS**
 NO SCALE

RSP T10A DATED APRIL 19, 2013 SUPERSEDES STANDARD PLAN T10A DATED MAY 20, 2011 - PAGE 238 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP T10A

2010 REVISED STANDARD PLAN RSP T10A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	66	98

Devinder Singh
 REGISTERED CIVIL ENGINEER
 October 17, 2014
 PLANS APPROVAL DATE
 No. C50470
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER

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NOTES:

See Revised Standard Plan RSP T9 for tables.

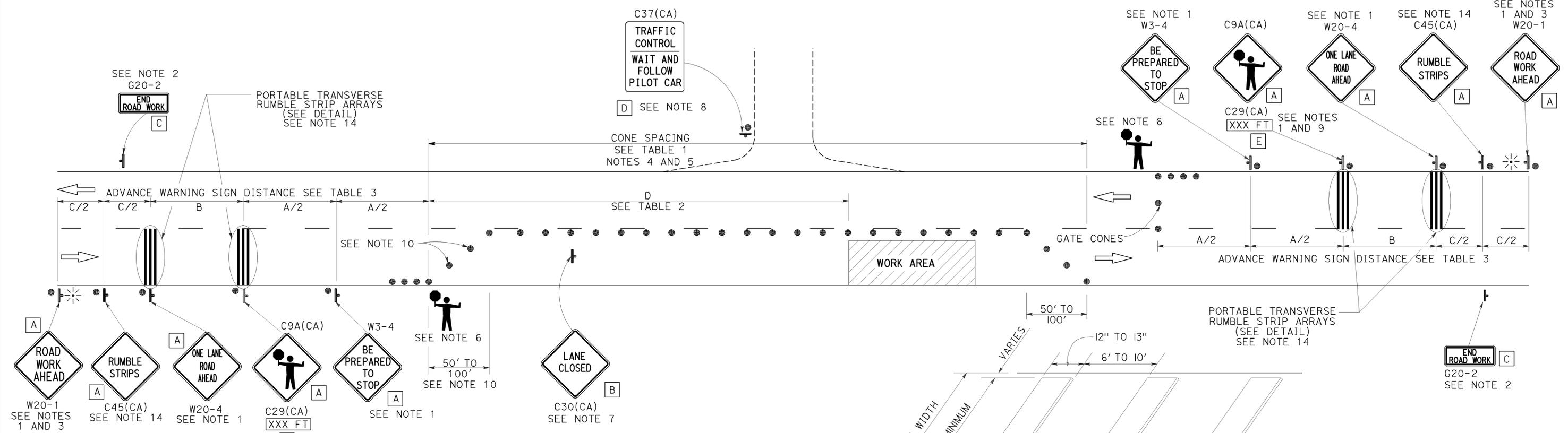
Use cone spacing X for taper segment, Y for tangent segment or Z for conflict situations, as appropriate, per Table 1, unless X, Y, or Z cone spacing is shown on this sheet.

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

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

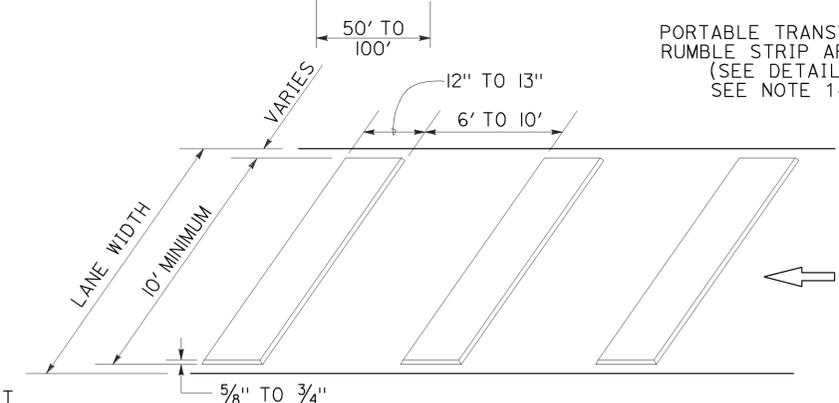
TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL

TO ACCOMPANY PLANS DATED 6-1-15



- NOTES:**
- Each advance warning sign in each direction of travel shall be equipped with at least two flags for daytime closure. Each flag shall be at least 16" x 16" in size and shall be orange or fluorescent red-orange in color. Flashing beacons shall be placed at the locations indicated for lane closure during hours of darkness.
 - A G20-2 "END ROAD WORK" sign, as appropriate, shall be placed at the end of the lane control unless the end of work area is obvious, or ends within a larger project's limits.
 - If the W20-1 sign would follow within 2000' of a stationary W20-1 or G20-1 "ROAD WORK NEXT _____ MILES", use a W20-4 sign for the first advance warning sign.
 - All cones used for lane closures during the hours of darkness shall be fitted with retroreflective bands (or sleeves) as specified in the specifications.
 - Portable delineators, placed at one-half the spacing indicated for traffic cones, may be used instead of cones for daytime closures only.
 - Additional advance flaggers may be required. Flagger should stand in a conspicuous place, be visible to approaching traffic as well as approaching vehicles after the first vehicle has stopped. During the hours of darkness, the flagging-station and flagger shall be illuminated and clearly visible to approaching traffic. The illumination footprint of the lighting on the ground shall be at least 20' in diameter. Place a minimum of four cones at 50' intervals in advance of flagger station as shown.

- Place C30(CA) "LANE CLOSED" sign at 500' to 1000' intervals throughout extended work areas. They are optional if the work area is visible from the flagger station.
- When a pilot car is used, place a C37(CA) "TRAFFIC CONTROL-WAIT AND FOLLOW PILOT CAR" sign with black legend on white background at all intersections, driveways and alleys without a flagger within traffic control area. Signs shall be clean and visible at all times. Where traffic can not be effectively self-regulated, at least one flagger shall be used at each intersection within traffic control area.
- An optional C29(CA) sign may be placed below the C9A(CA) sign.
- Either traffic cones or barricades shall be placed on the taper. Barricades shall be Type I, II, or III.
- The color of the portable transverse rumble strips shall be black or orange. Use 2 arrays, each array shall consist of 3 rumble strips.
- Portable transverse rumble strips shall not be placed on sharp horizontal or vertical curves nor shall they be placed through pedestrian crossings.
- If the portable transverse rumble strips become out of alignment (skewed) by more than 6 inches, measured from one end to the other, they shall be readjusted to bring the placement back to the original location.
- Portable transverse rumble strips are not required if any one of the following conditions is satisfied:
 - Work duration occupies a location for four hours or less
 - Posted speed limit is below 45 MPH
 - Work is of emergency nature
 - Work zone is in snow or icy weather conditions



SIGN PANEL SIZE (Min)

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

LEGEND

- TRAFFIC CONE
- † TEMPORARY TRAFFIC CONTROL SIGN
- ⚡ PORTABLE FLASHING BEACON
- 🚧 FLAGGER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**TRAFFIC CONTROL SYSTEM
FOR LANE CLOSURE ON
TWO LANE CONVENTIONAL
HIGHWAYS**

NO SCALE

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

2010 REVISED STANDARD PLAN RSP T13

TYPICAL RAMP CLOSURES

SIGN PANEL SIZE (Min)

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

LEGEND

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	67	98

Gurinderpal Bhullar
 REGISTERED CIVIL ENGINEER
 April 19, 2013
 PLANS APPROVAL DATE

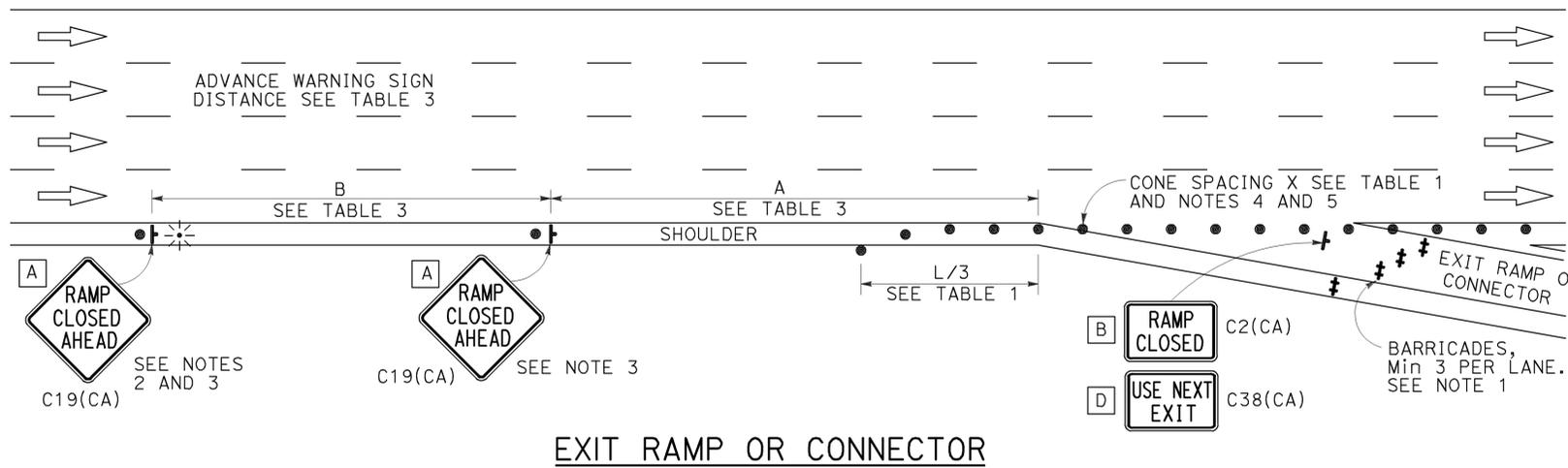
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REGISTERED PROFESSIONAL ENGINEER
 Gurinderpal Bhullar
 No. C48815
 Exp. 9-30-14
 CIVIL
 STATE OF CALIFORNIA

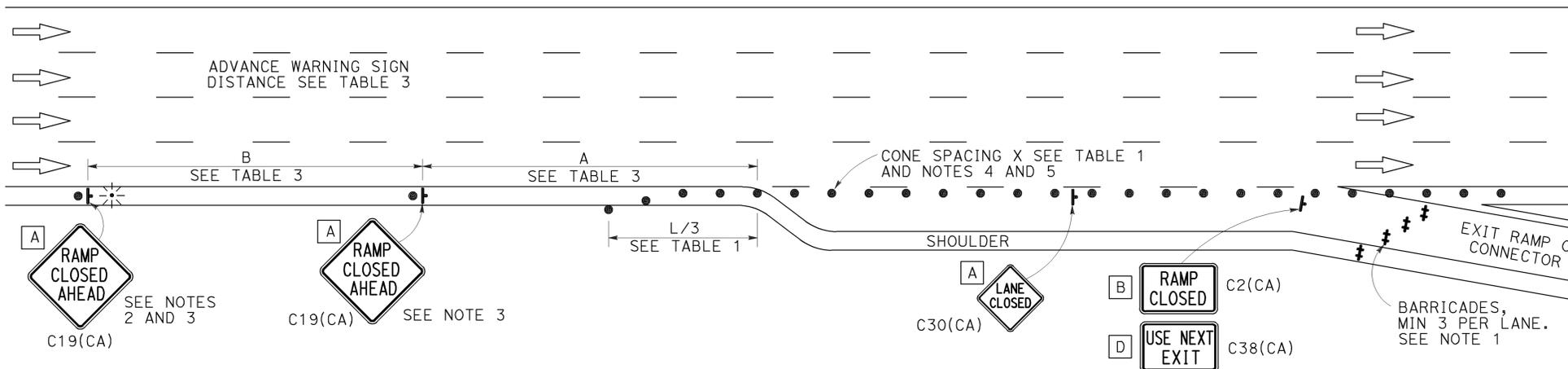
TO ACCOMPANY PLANS DATED 6-1-15

NOTES:

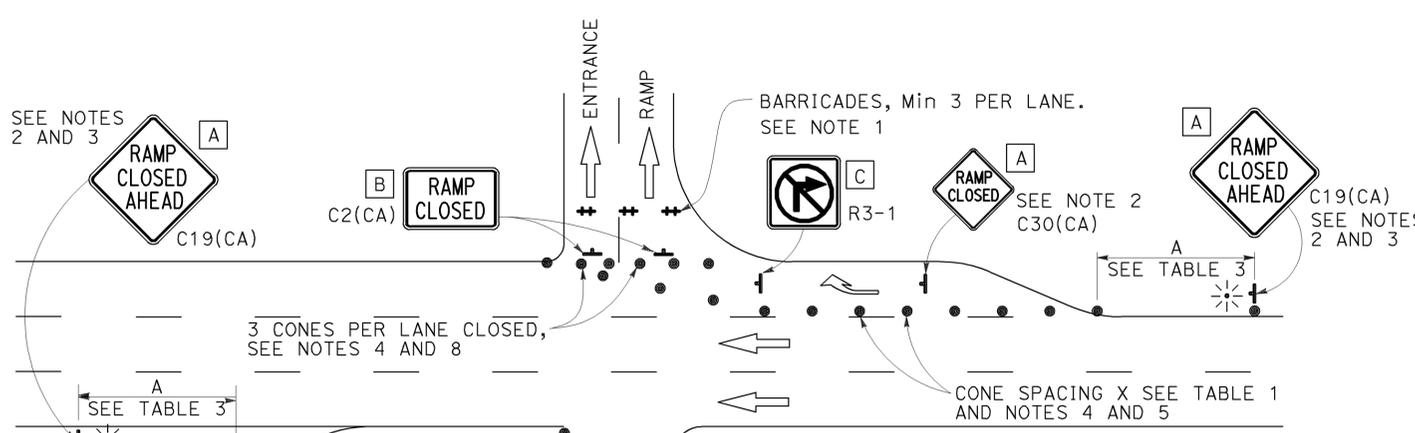
- Barricades shall be Type I, II, or III for closures lasting one week or less and Type III for closures lasting longer than one week.
- In addition to placing the C19(CA) "RAMP CLOSED AHEAD" and C30(CA) "RAMP CLOSED" signs, black on orange overlay plates with the word "CLOSED" may be mounted, as directed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



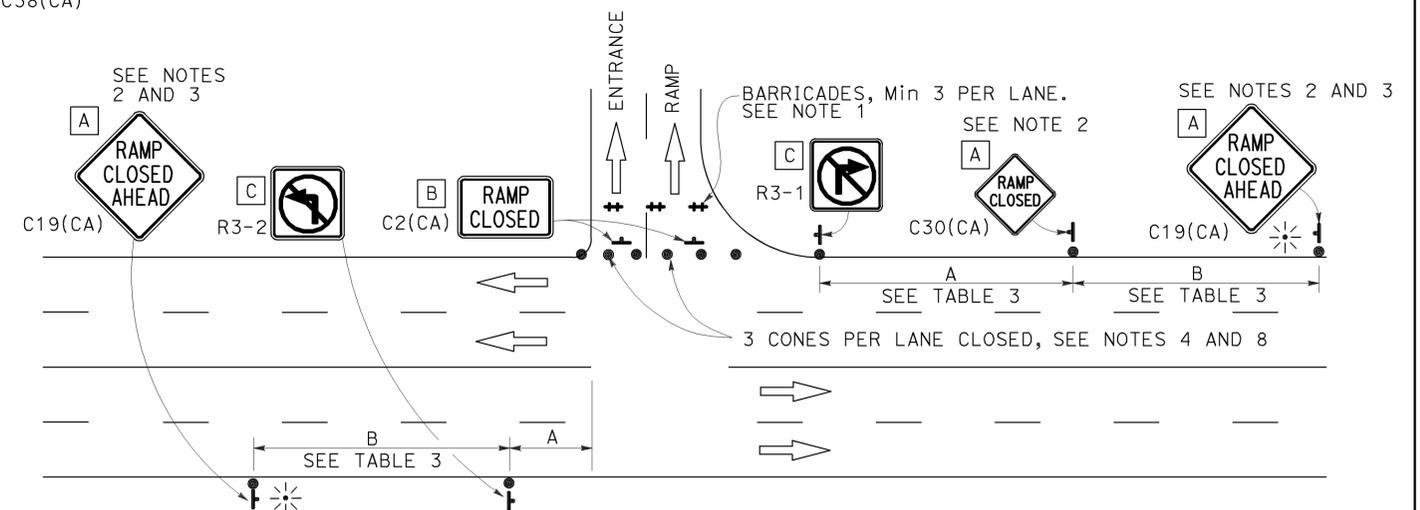
EXIT RAMP OR CONNECTOR



EXIT RAMP OR CONNECTOR WITH ADDITIONAL LANE



ENTRANCE RAMP WITH TURNING POCKETS



ENTRANCE RAMP WITHOUT TURNING POCKETS

NOTES:

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

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

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

REVISED STANDARD PLAN RSP T14

2010 REVISED STANDARD PLAN RSP T14

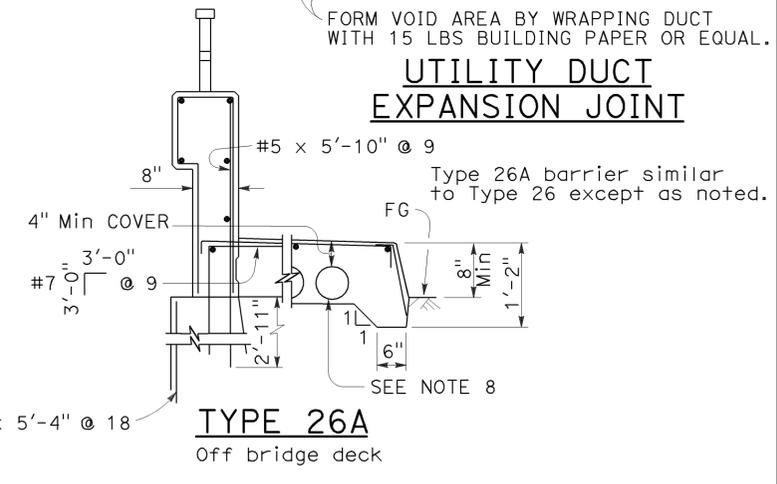
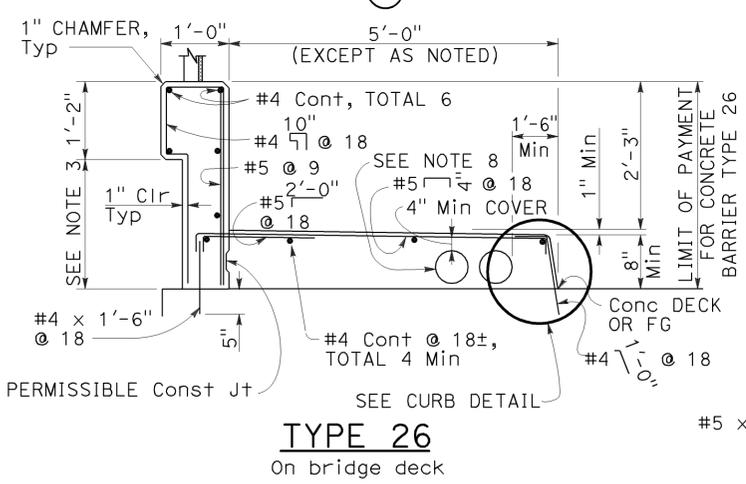
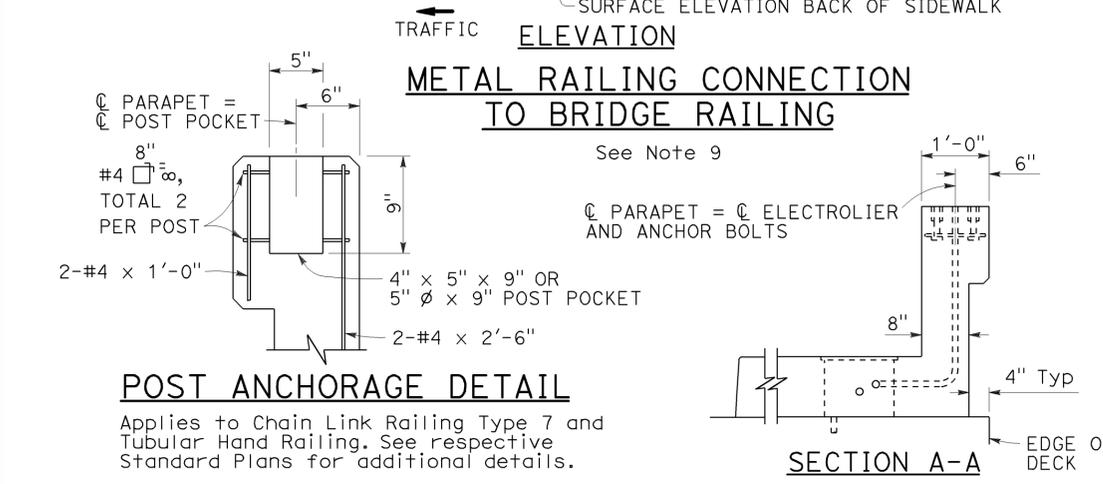
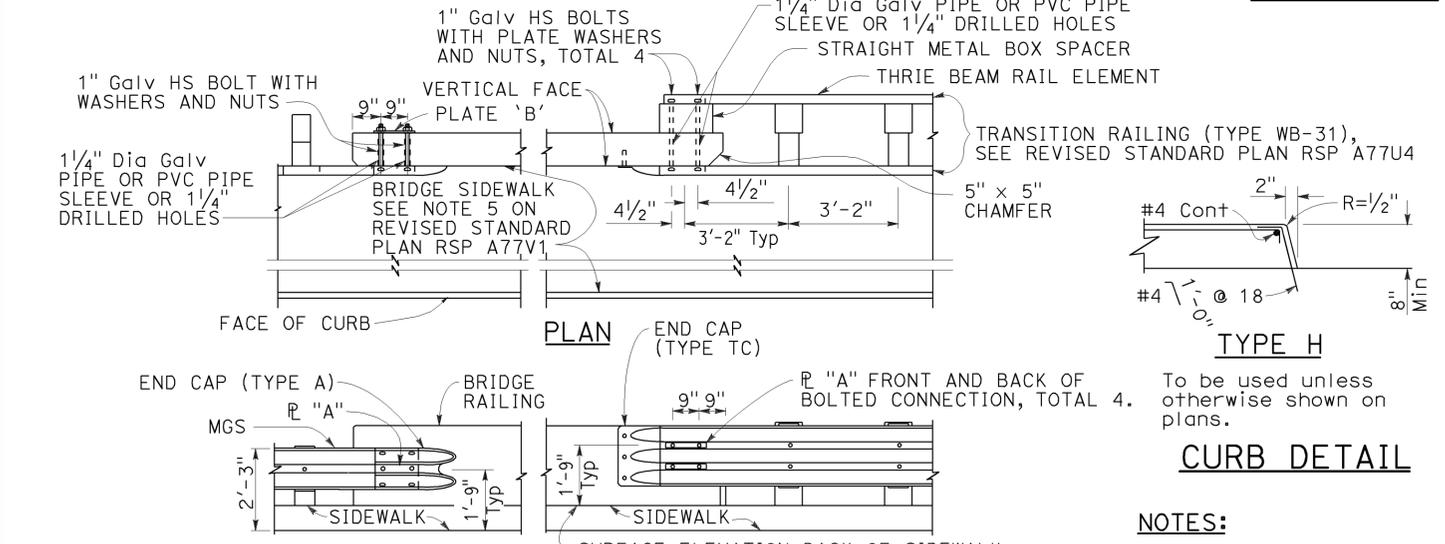
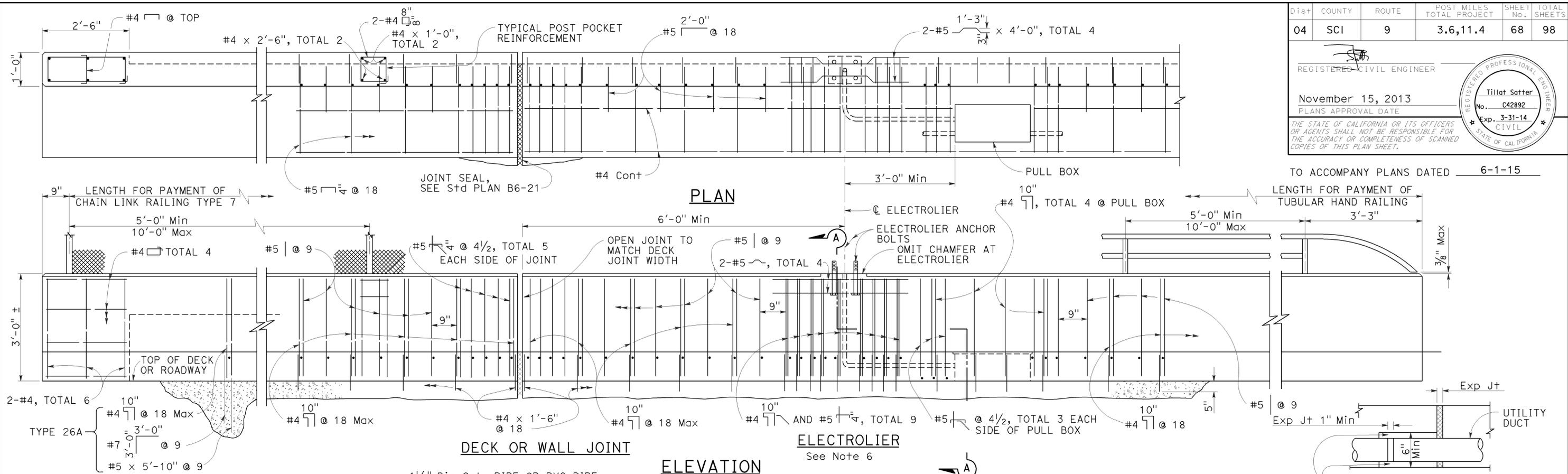
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	68	98

REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Tillot Satter
No. C42892
Exp. 3-31-14
CIVIL
STATE OF CALIFORNIA



NOTES:

1. For Chain Link Railing notes and details not shown, see Standard Plan B11-52.
2. For Hand Railing notes and details not shown, see Standard Plan B11-51.
3. Dimensions will vary with cross slope and with certain thicknesses of surfacing. See Project Plans.
4. Walls are to be backfilled before railing is placed.
5. Clearance to reinforcing steel in curb and railing to be 1" except as noted. Longitudinal reinforcement to stop at all expansion joints.
6. See Project Plans for electrolier locations and pull box type.
7. For electrical details, see Standard Plans ES-9A, ES-9B, ES-9C, ES-9D, and ES-9E.
8. A maximum of five - 4" and a minimum of two - 4" round openings for future utilities. Openings are to be sealed at ends and extended 8" minimum past end of sidewalk if not used. Duct forms are to be tied down. Minimum of 6" from face of rail to utility opening.
9. For typical metal railing connection details not shown, see Revised Standard Plans RSP A77V1 and RSP A77V2.
10. This barrier is to be used only for speeds of 45 MPH or less. For speeds greater than 45 MPH, pedestrians should be protected by a separation traffic barrier.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CONCRETE BARRIER TYPE 26
NO SCALE

RSP B11-54 DATED NOVEMBER 15, 2013 SUPERSEDES RSP B11-54 DATED JULY 19, 2013 AND STANDARD PLAN B11-54 DATED MAY 20, 2011 - PAGE 296 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B11-54

2010 REVISED STANDARD PLAN RSP B11-54

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	69	98

REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
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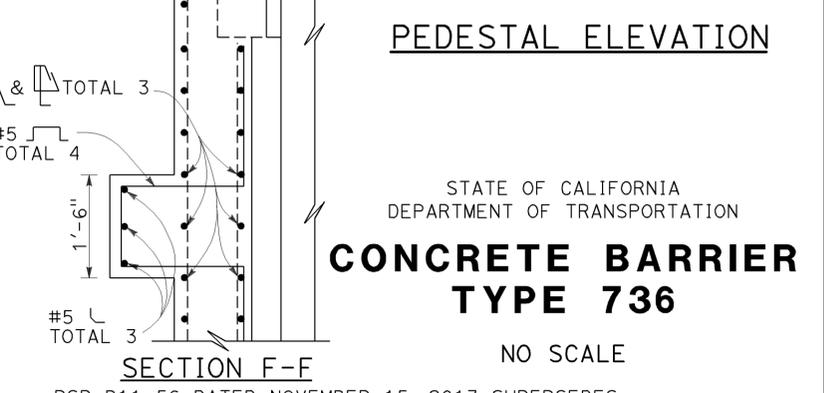
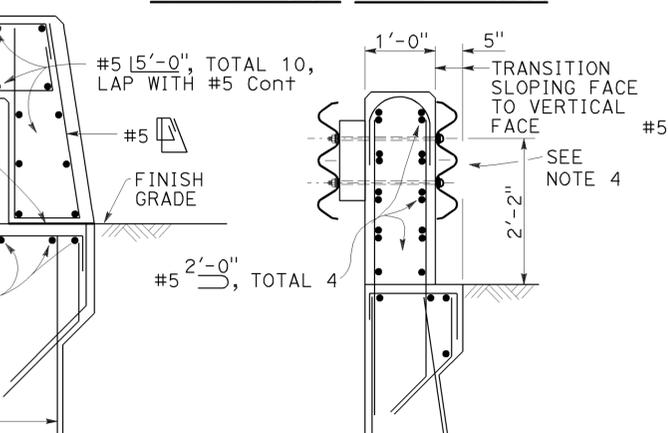
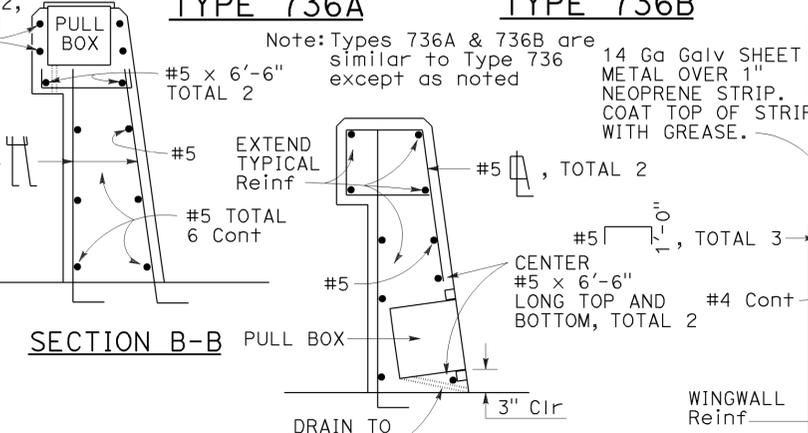
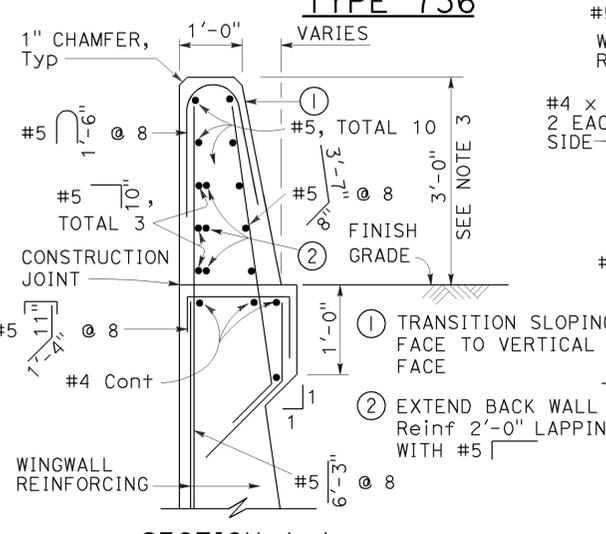
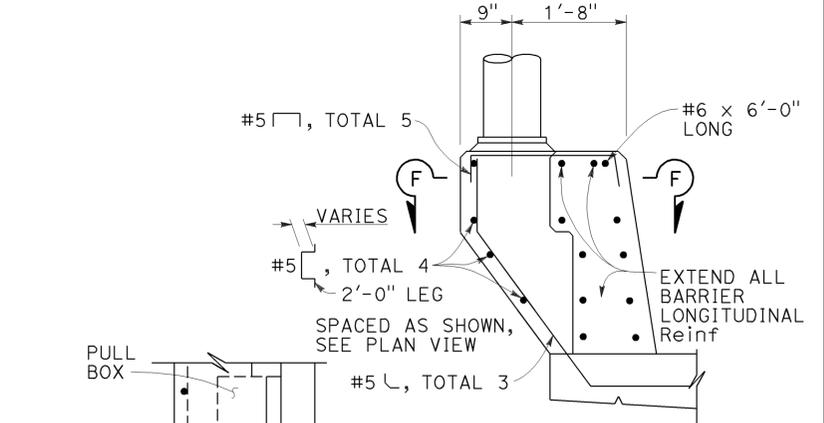
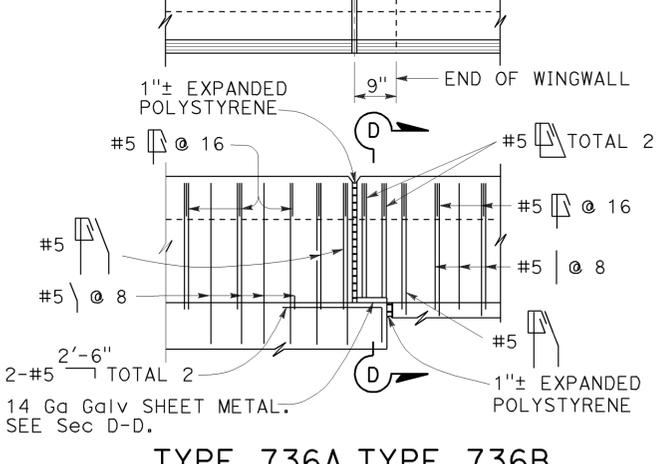
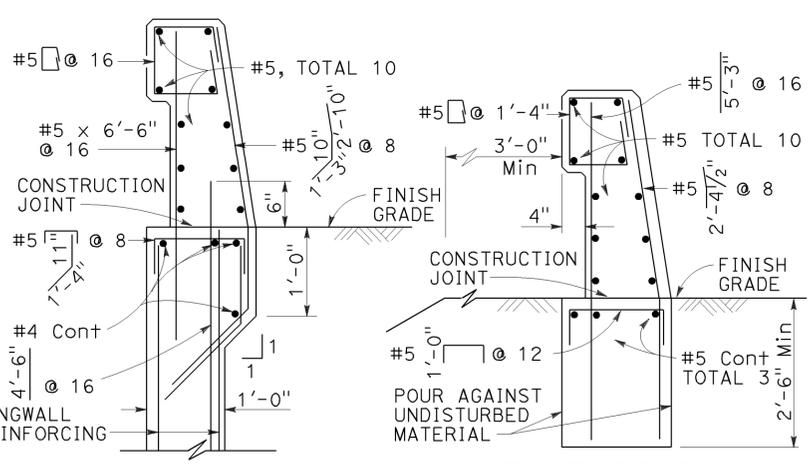
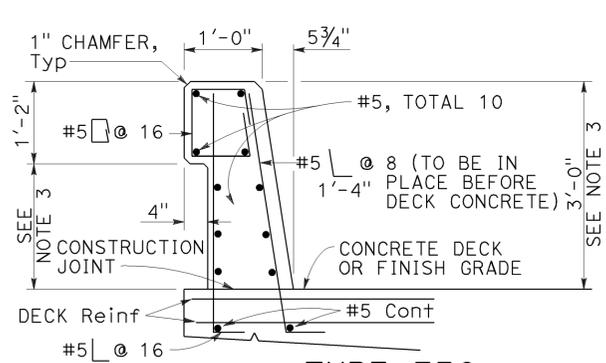
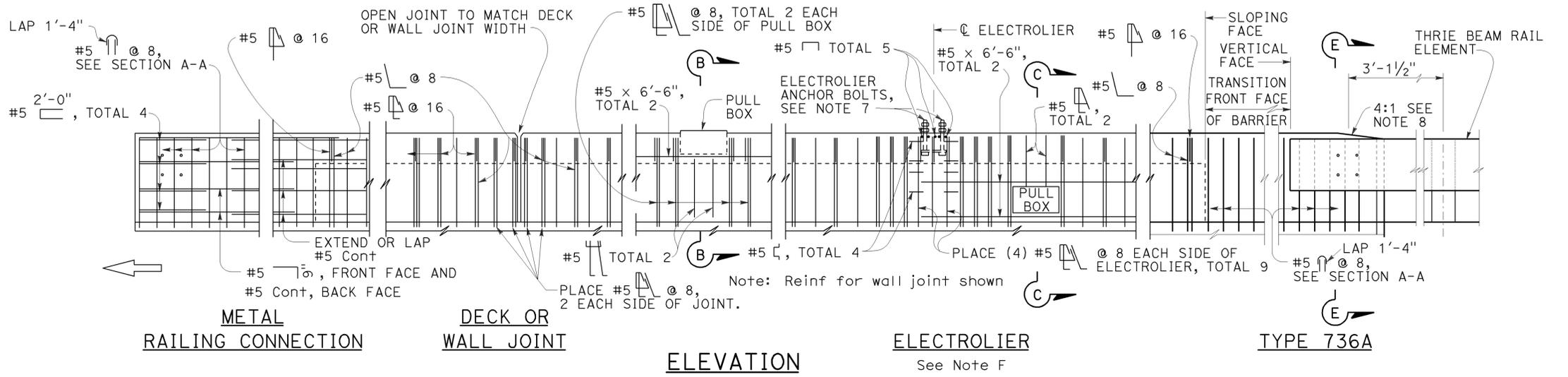
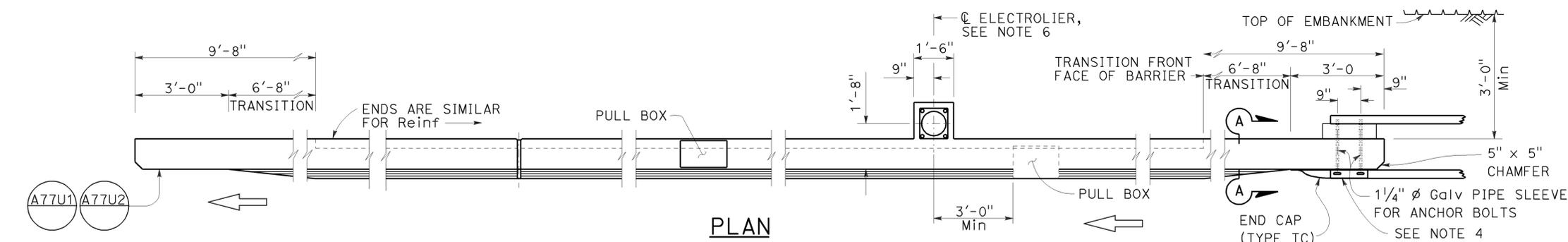
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TO ACCOMPANY PLANS DATED 6-1-15

NOTES:

1. Walls are to be backfilled before barrier is placed.
2. Clearance to reinforcing steel in barrier to be 1", except as noted. Longitudinal reinforcement to stop at all expansion joints.
3. Dimensions may vary with roadway cross slope and with certain thickness of surfacing. See Project Plans.
4. For typical metal railing connection details not shown, see Revised Standard Plans RSP A77U1 and RSP A77U2.
5. See Standard Plans ES-9A, ES-9B, ES-9C, ES-9D and ES-9E for electrical details. The maximum number of conduits in the barrier is limited to two 2" conduits along with one 3" conduit. When a 3" conduit is used, it is restricted to the base of the barrier.
6. For electrolier mounting details, See Standard Plans ES-6A and ES-6B.
7. Minimum concrete edge distance, to the reinforcing shown, shall be maintained. Edge distance may be adjusted to accommodate increase in concrete cover for architectural treatment.
8. Taper the top of the end of the bridge railing at 4:1 to match the top elevation of the thrie beam rail element.

2010 REVISED STANDARD PLAN RSP B11-56



Details shown for barrier anchorage to Type 736A. Anchorage for barrier Types 736 and 736B are similar to their respective details.

Note: Types 736A & 736B are similar to Type 736 except as noted.

14 Ga Galv SHEET METAL OVER 1" NEOPRENE STRIP. COAT TOP OF STRIP WITH GREASE.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**CONCRETE BARRIER
TYPE 736**
NO SCALE

RSP B11-56 DATED NOVEMBER 15, 2013 SUPERSEDES RSP B11-56 DATED JULY 19, 2013 AND STANDARD PLAN B11-56 DATED MAY 20, 2011 - PAGE 298 OF THE STANDARD PLANS BOOK DATED 2010.
REVISED STANDARD PLAN RSP B11-56

LEGEND:

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

ABBREVIATIONS

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	70	98

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Theresa
Aziz Gabriel
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 6-1-15

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.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL USED	DEFINITIONS
Ω	OHMS
min	MINUTE
s	SECOND
bps	BITS PER SECOND
Bps	BYTES PER SECOND
A	AMPERE
V	VOLT
V(dc)	VOLT (DIRECT CURRENT)
V(ac)	VOLT (ALTERNATING CURRENT)
FC	FOOT - CANDLE
W	WATTS
VA	VOLT-AMPERE
M	MEGA
k	KILO
m	MILLI
μ	MICRO
P	PICO
HZ	HERTZ

MISCELLANEOUS ELECTROLIERS

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

NOTES:

- HPS luminaires shall be 310 W HPS when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. HPS luminaires shall be 200 W when installed on other type standards or poles, unless otherwise specified.
- LED luminaires shall be 235 W when installed on Type 21, 21D, 30, 31 and 32 Standards, unless otherwise specified. LED luminaires shall be 165 W when installed on other type standards or poles, unless otherwise specified.
- Luminaires shall be the cutoff type, ANSI Type III medium cutoff lighting distribution, unless otherwise specified.

STANDARD ELECTROLIER

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1A

2010 REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	71	98

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

Theresa Aziz Gabriel
REGISTERED PROFESSIONAL ENGINEER
No. E15129
Exp. 6-30-14
ELECTRICAL
STATE OF CALIFORNIA

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TO ACCOMPANY PLANS DATED 6-1-15

CONDUIT

SIGNAL EQUIPMENT

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

NEW	EXISTING	
		PEDESTRIAN SIGNAL HEAD "C" INDICATES COUNTDOWN PEDESTRIAN HEAD
		PUSH BUTTON ASSEMBLY POST
		PEDESTRIAN BARRICADE
		VEHICLE SIGNAL HEAD (WITH BACKPLATE AND 3-SECTIONS: RED, YELLOW AND GREEN)
		VEHICLE SIGNAL HEAD WITH ANGLE VISOR
		MODIFICATIONS OF BASIC SYMBOL: "L" INDICATES ALL NON-ARROW SECTIONS LOUVERED "LG" INDICATES LOUVERED GREEN SECTION ONLY "PV" INDICATES ALL 12" SECTIONS PROGRAMMED VISIBILITY "8" INDICATES ALL 8" SECTIONS (ONLY WHEN SPECIFIED)

SIGNAL EQUIPMENT Cont

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

SERVICE EQUIPMENT

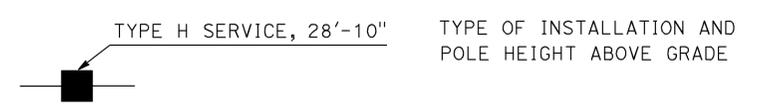
NEW	EXISTING	
---OH---	---oh---	OVERHEAD LINES
		WOOD POLE, "U" INDICATES UTILITY OWNED
		POLE GUY WITH ANCHOR
		UTILITY TRANSFORMER - GROUND MOUNTED
		SERVICE EQUIPMENT ENCLOSURE TYPE. DOOR INDICATES FRONT OF ENCLOSURE
		TELEPHONE DEMARCATION CABINET

		VEHICLE SIGNAL HEAD CONSISTING OF RED, YELLOW AND GREEN LEFT ARROW SECTIONS
		VEHICLE SIGNAL HEAD CONSISTING OF RED AND YELLOW SECTIONS WITH AN UP GREEN ARROW SECTION
		VEHICLE SIGNAL HEAD (5 SECTION) CONSISTING OF RED, YELLOW AND GREEN SECTIONS WITH YELLOW AND GREEN RIGHT ARROW SECTIONS
		TYPE 15TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		TYPE 21TS STANDARD WITH VEHICLE SIGNAL HEAD AND LUMINAIRE
		STANDARD WITH LUMINAIRE AND SIGNAL MAST ARMS AND ATTACHED VEHICLE SIGNAL HEADS
		TYPE 1 STANDARD WITH ATTACHED VEHICLE SIGNAL HEADS
		STANDARD WITH A SIGNAL MAST ARM, ATTACHED VEHICLE SIGNAL HEADS AND INTERNALLY ILLUMINATED STREET NAME SIGN
		CONTROLLER ASSEMBLY. DOOR INDICATES FRONT OF CABINET

NOTES:

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

POLE-MOUNTED SERVICE DESIGNATION



FLASHING BEACON

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

ILLUMINATED OVERHEAD SIGN

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

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

NO SCALE

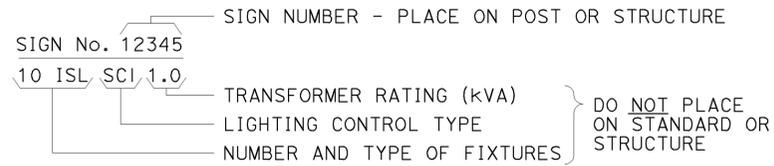
RSP ES-1B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-1B DATED MAY 20, 2011 - PAGE 426 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-1B

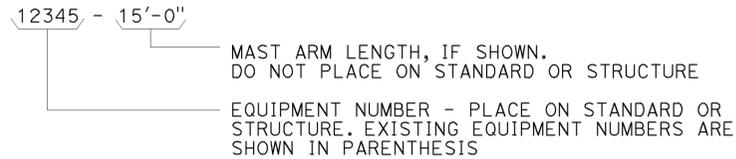
2010 REVISED STANDARD PLAN RSP ES-1B

EQUIPMENT IDENTIFICATION

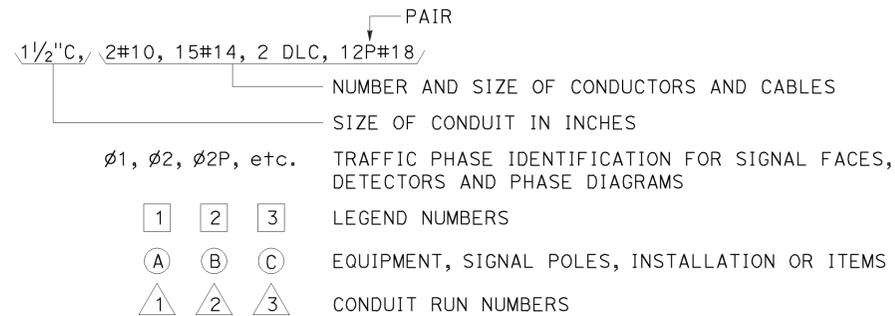
ILLUMINATED SIGN IDENTIFICATION NUMBER:



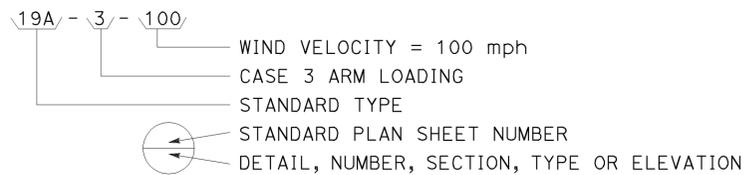
ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



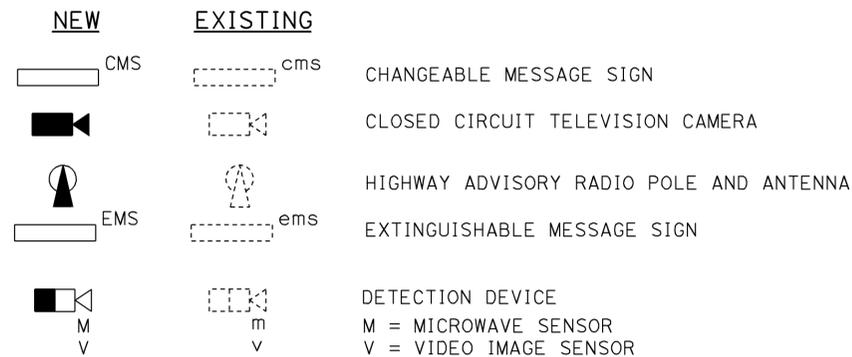
CONDUIT AND CONDUCTOR IDENTIFICATION:



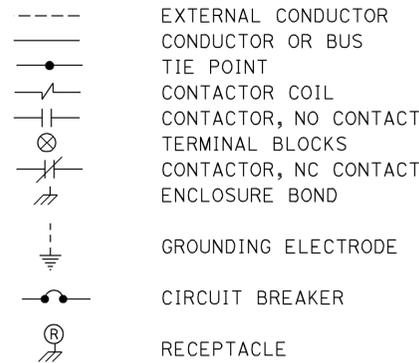
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



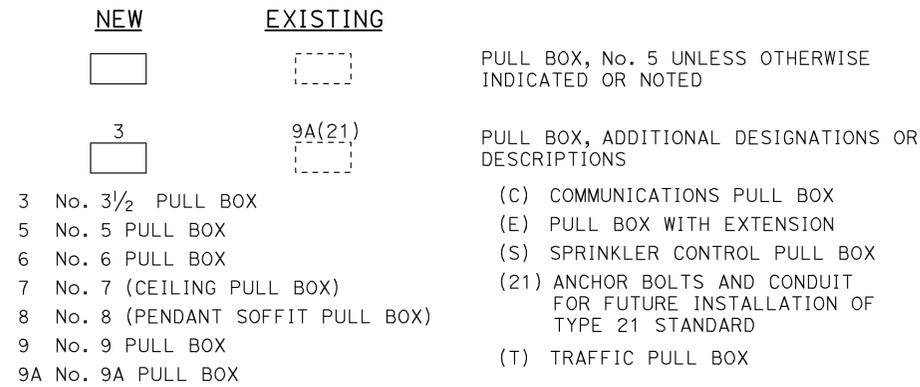
MISCELLANEOUS EQUIPMENT



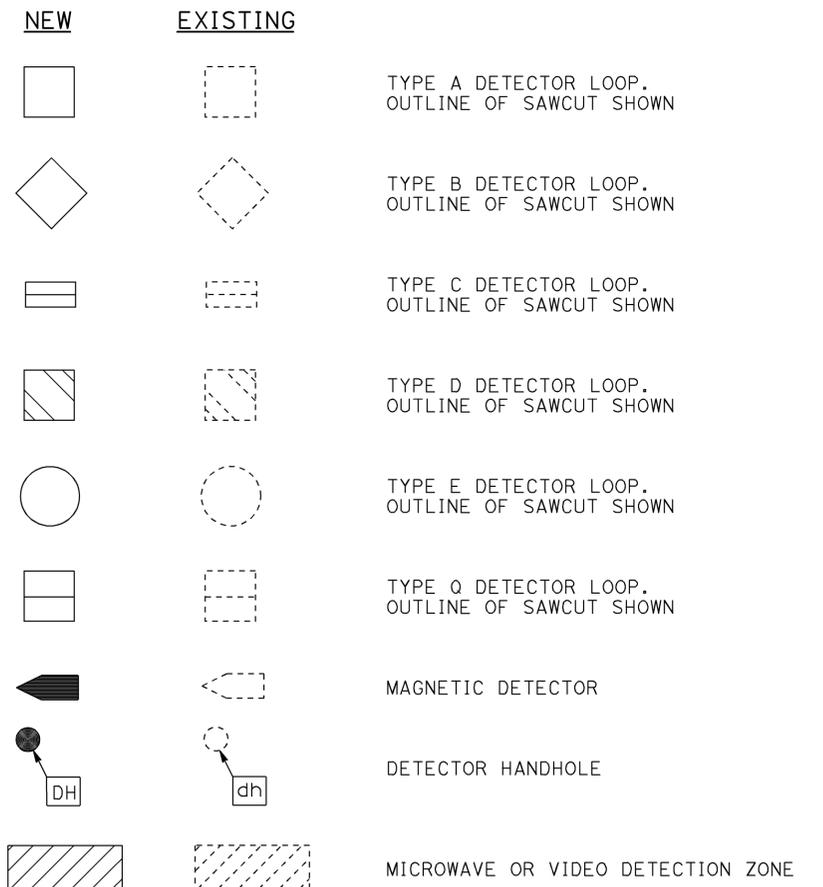
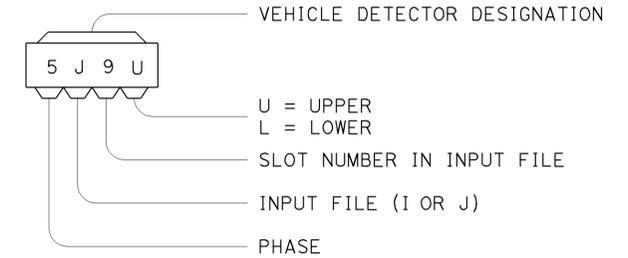
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1C

2010 REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	73	98

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 6-1-15

PLAN VIEW OF OTHER
SIDE MOUNTINGS

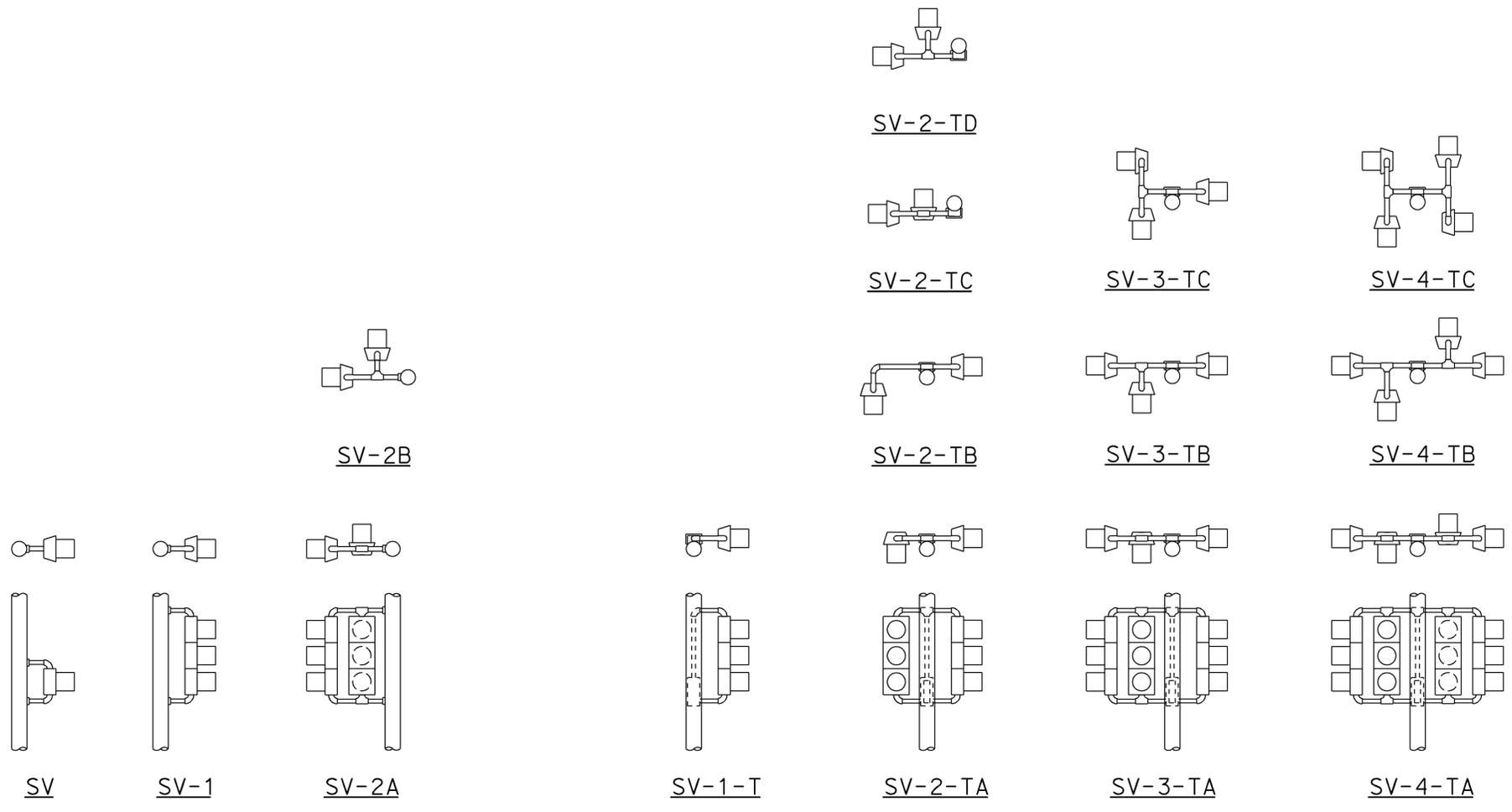
ABBREVIATIONS:

- SV SIDE MOUNTED VEHICLE SIGNALS
- T TERMINAL COMPARTMENT
- TV TOP MOUNTED VEHICLE SIGNALS
- 1, 2, 3, 4 NUMBER OF SIGNAL FACES
(3 - SECTION, UNLESS OTHERWISE INDICATED)
- A, B, C, D CONFIGURATION OF SIGNALS

NOTES:

1. Mountings shall be oriented to provide maximum horizontal clearance to adjacent roadway.
2. Bracket arms shall be long enough to permit proper alignment of signals and backplate installation.
3. See Standard Plans ES-4D and ES-4E for attachment fitting details.

PLAN VIEW OF
TOP MOUNTINGS



SIDE MOUNTINGS

TOP MOUNTINGS

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
(VEHICULAR SIGNAL HEADS
AND MOUNTINGS)**

NO SCALE

RSP ES-4A DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-4A
DATED MAY 20, 2011 - PAGE 443 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4A

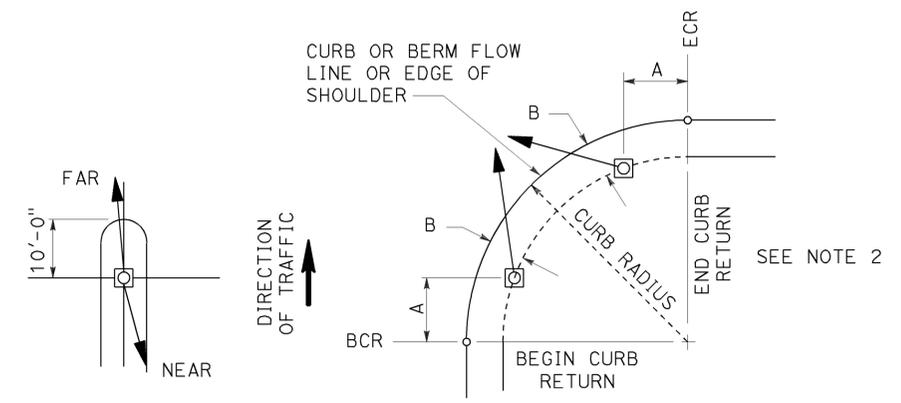
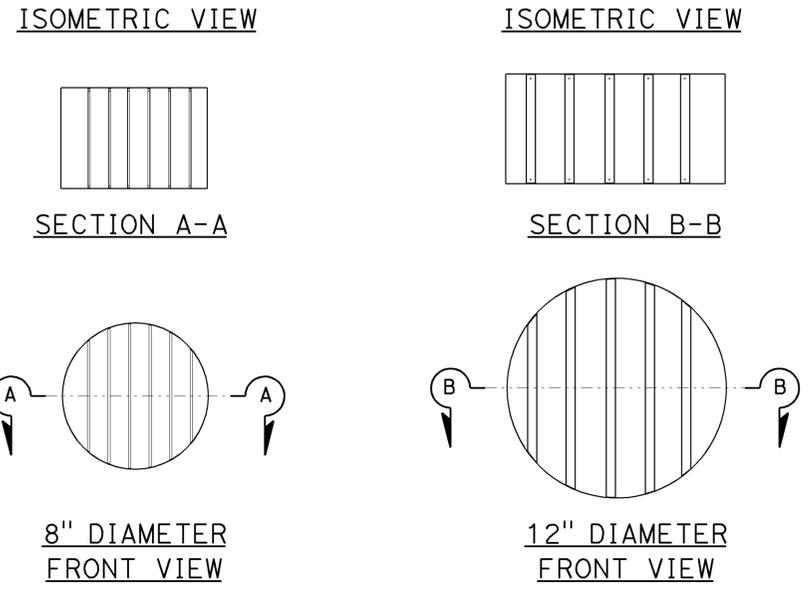
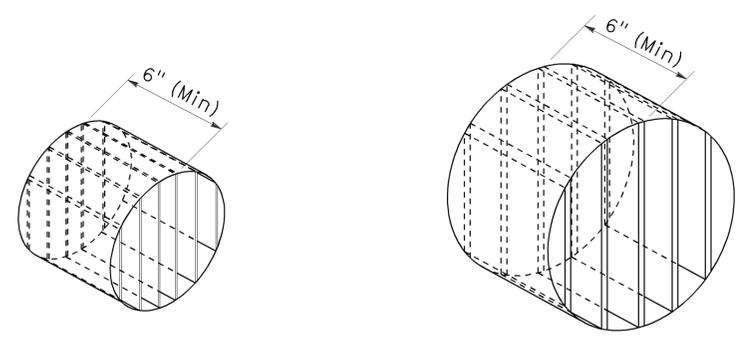
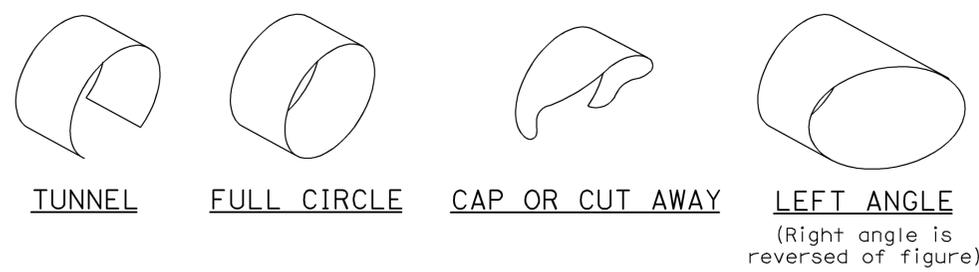
2010 REVISED STANDARD PLAN RSP ES-4A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	74	98

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
 Theresa Aziz Gabriel
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

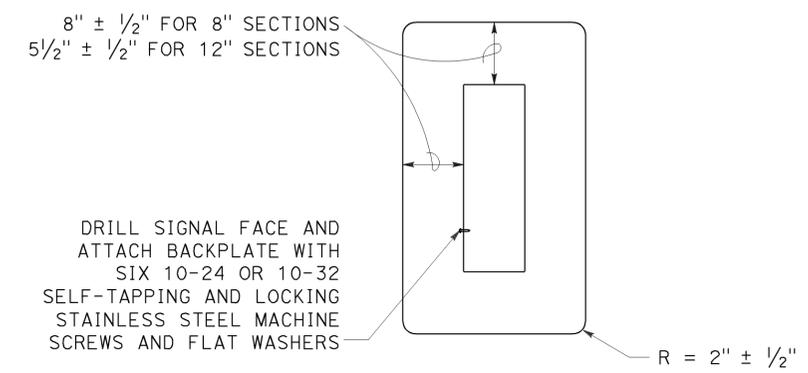
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TO ACCOMPANY PLANS DATED 6-1-15



- NOTES:**
1. Typical signal pole placement unless dimensioned on plans.
 2. For A and B dimensions, see Pole Schedule, or as directed by the Engineer.

VISORS



8" AND 12" SECTIONS

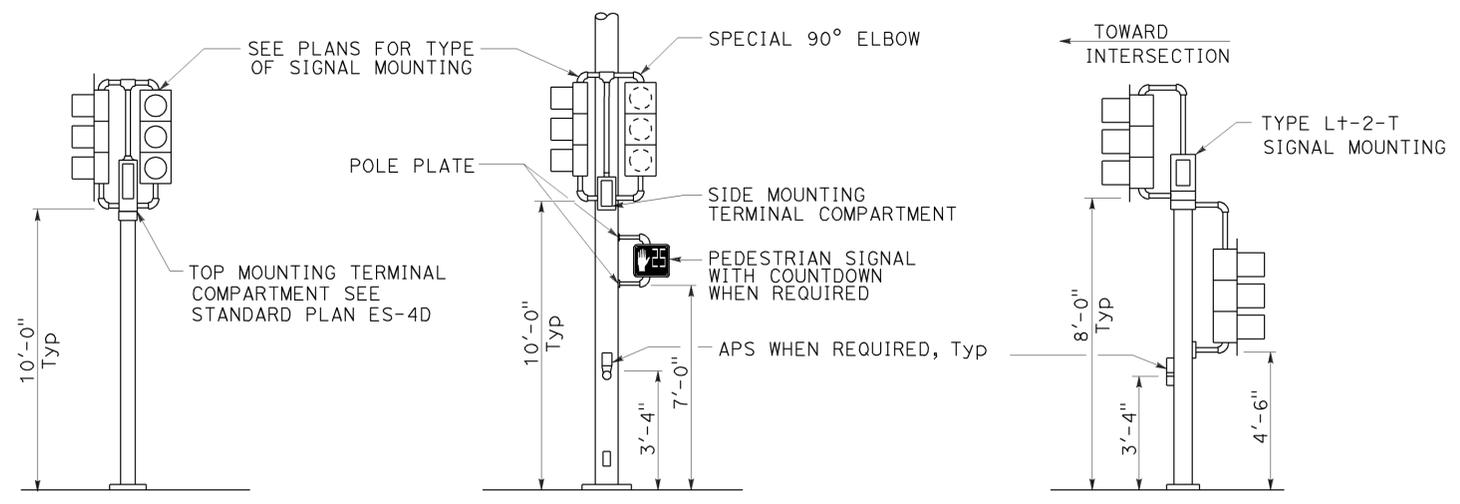
BACKPLATE

1/16" minimum thickness
 3001-14 aluminum or plastic when specified

DIRECTIONAL LOUVER

Directional louvers shall be oriented as directed by the Engineer and secured in place with one plated brass machine screw and nut.

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



TOP MOUNTED SIGNALS (TV)

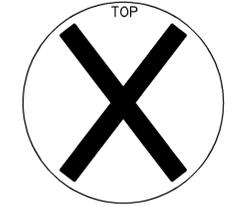
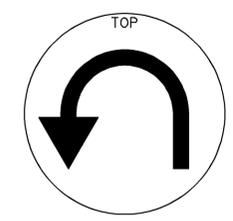
Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

SIDE MOUNTED SIGNALS (SV AND SP)

Normally used on standards with luminaire or signal mast arm

LEFT TURN LANE SIGNAL

Type 1-A, 1-B, 1-C and 1-D standard as indicated on plans



SIGNAL FACES

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (VEHICULAR SIGNAL HEADS AND MOUNTINGS)

NO SCALE

RSP ES-4C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-04C DATED MAY 20, 2011 - PAGE 445 OF THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-4C

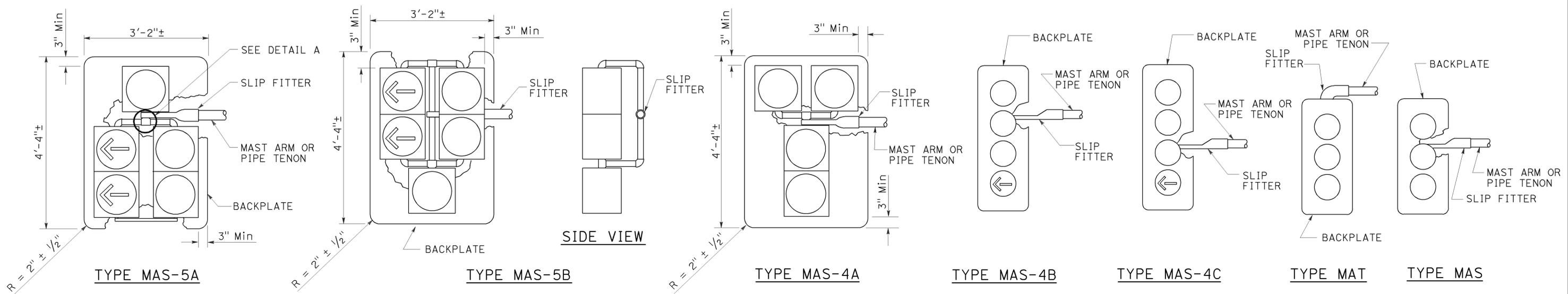
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	75	98

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE

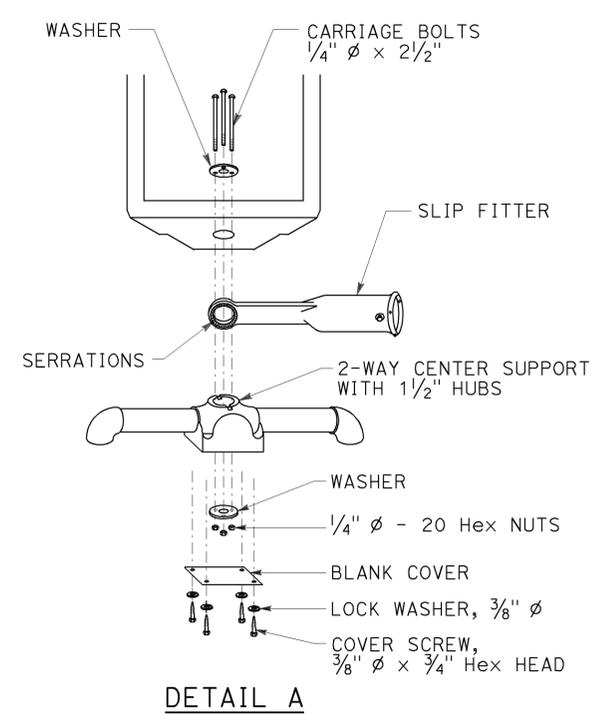
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REGISTERED PROFESSIONAL ENGINEER
 Theresa
 Aziz Gabriel
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

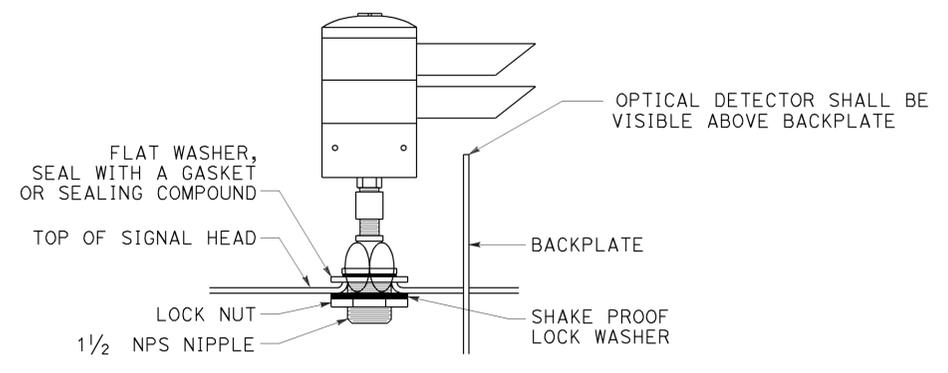
TO ACCOMPANY PLANS DATED 6-1-15



MAST ARM MOUNTINGS



DETAIL A



DETAIL B

**OPTICAL DETECTOR MOUNTING FOR
EMERGENCY VEHICLE DETECTION SYSTEM**

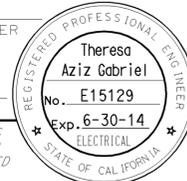
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (VEHICULAR SIGNAL HEADS AND
 OPTICAL DETECTOR MOUNTING)**

NO SCALE

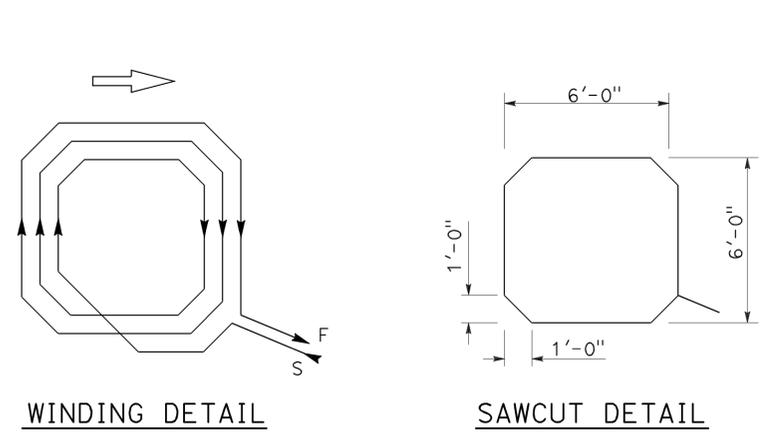
RSP ES-4E DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-4E DATED MAY 20, 2011 - 447 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-4E

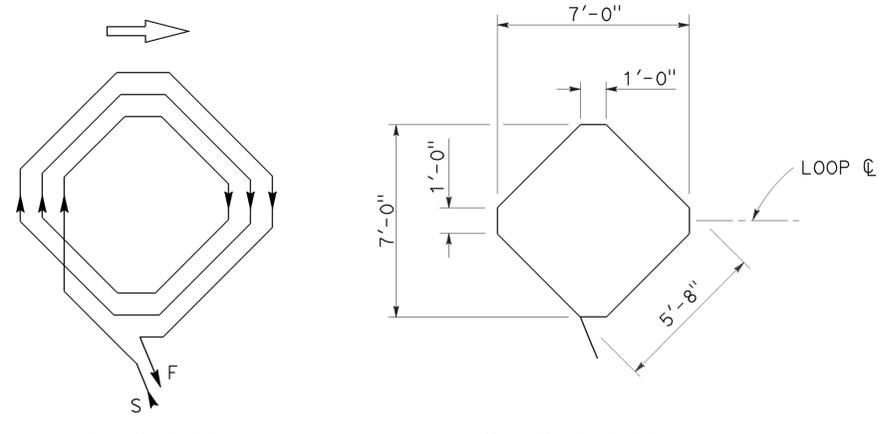
2010 REVISED STANDARD PLAN RSP ES-4E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	76	98
<i>Theresa Gabriel</i> REGISTERED ELECTRICAL ENGINEER July 19, 2013 PLANS APPROVAL DATE <small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					
					

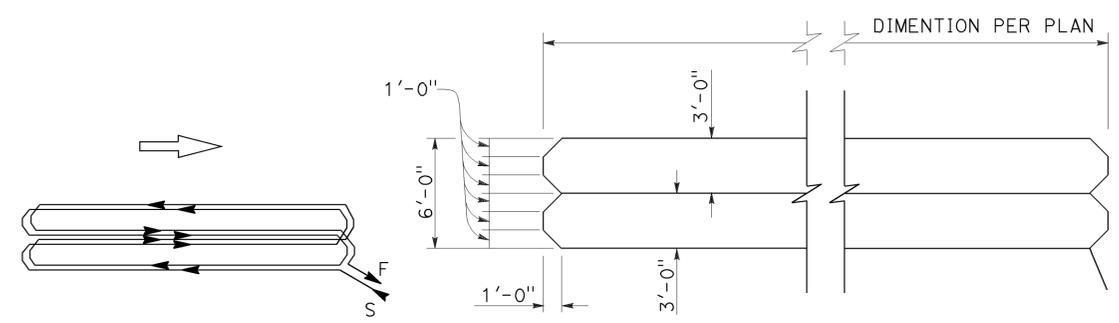
TO ACCOMPANY PLANS DATED 6-1-15



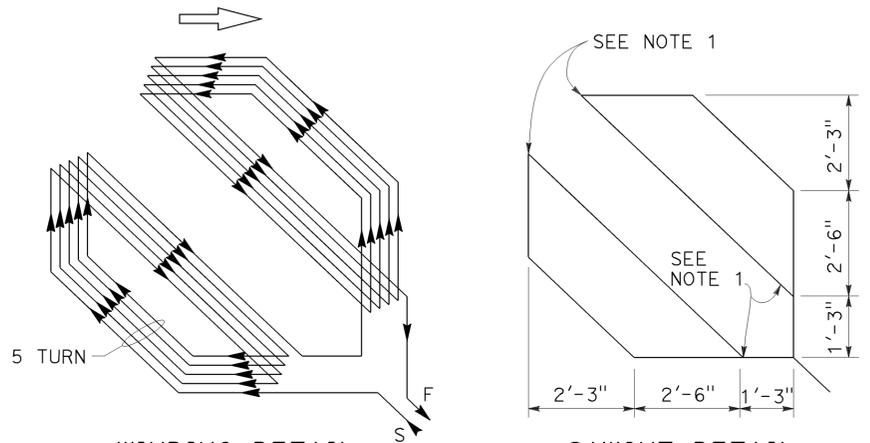
WINDING DETAIL
SAWCUT DETAIL
TYPE A LOOP DETECTOR CONFIGURATION



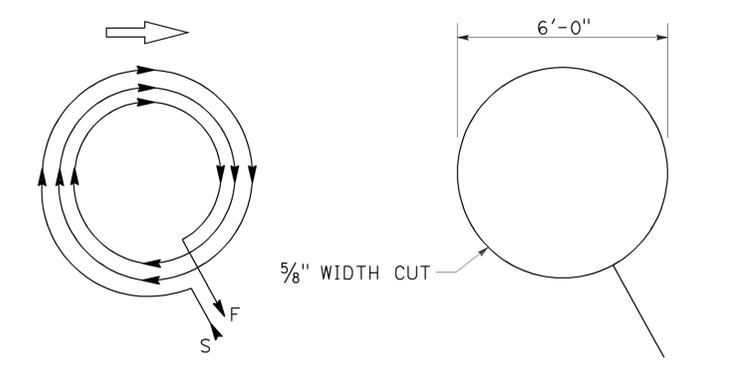
WINDING DETAIL
SAWCUT DETAIL
TYPE B LOOP DETECTOR CONFIGURATION



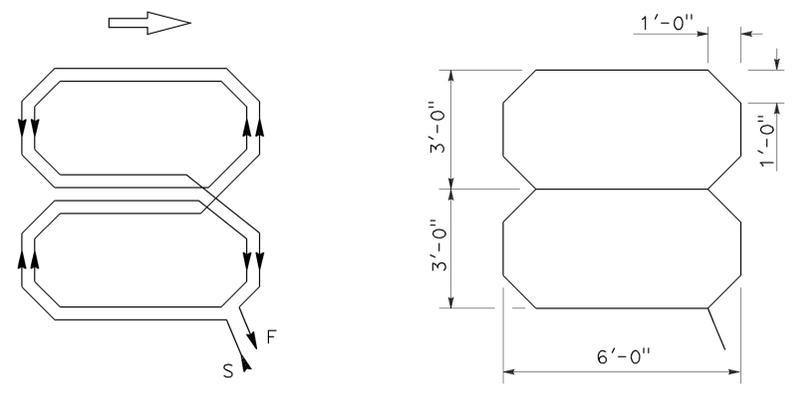
WINDING DETAIL
SAWCUT DETAIL
TYPE C LOOP DETECTOR CONFIGURATION



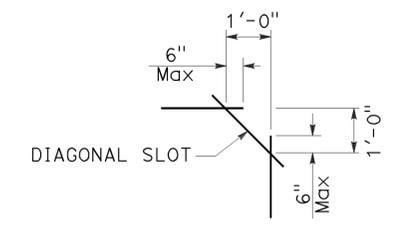
WINDING DETAIL
SAWCUT DETAIL
TYPE D LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL
SAWCUT DETAIL
TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

- NOTES:**
1. Round corners of acute angle sawcuts to prevent damage to conductors.
 2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.

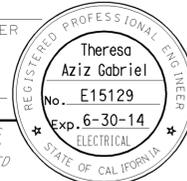
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS (DETECTORS)
NO SCALE

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

2010 REVISED STANDARD PLAN RSP ES-5B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	77	98

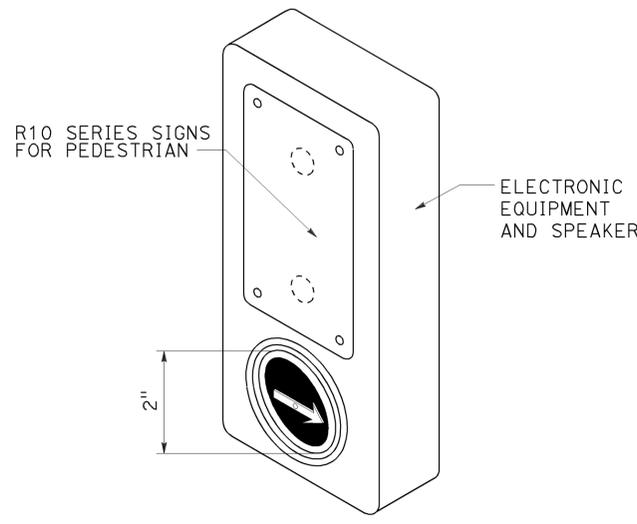
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



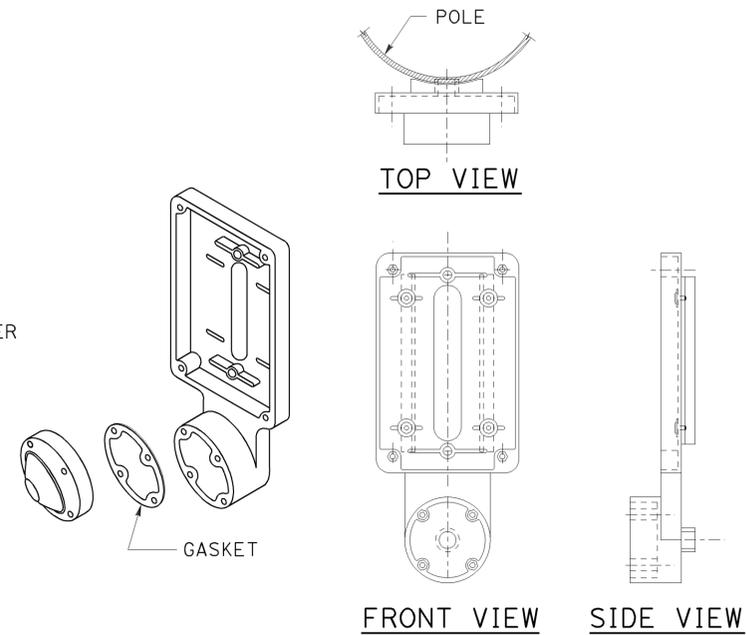
TO ACCOMPANY PLANS DATED 6-1-15

NOTES:

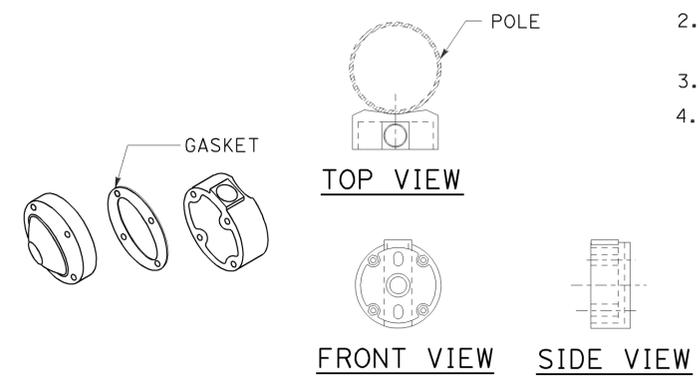
1. Back casting shape to fit curvature of pole.
2. Provide cover fitting for top of post, when PBA is mounted on push button assembly post.
3. Install push button on crosswalk side of standard.
4. Use R10 series regulatory signs and plaques for pedestrian and bicycle facilities.



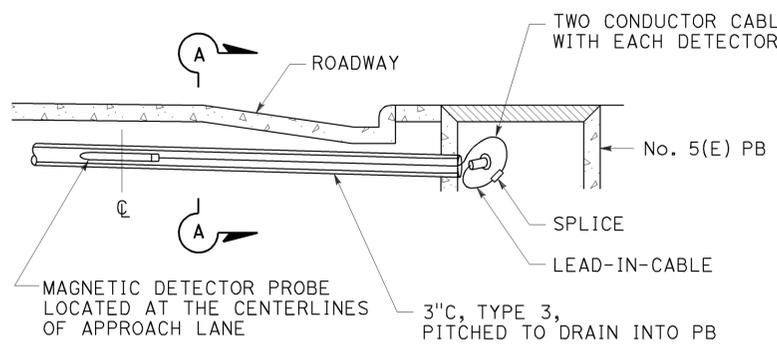
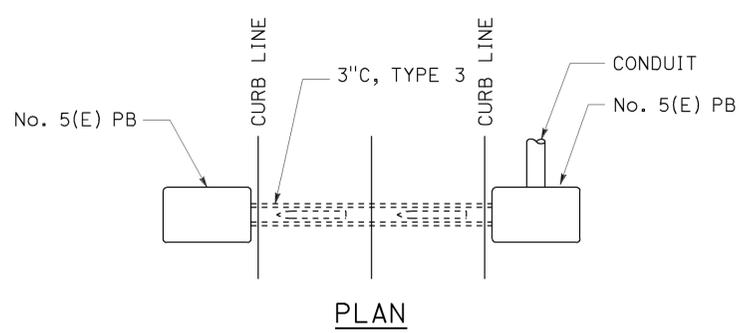
ACCESSIBLE PEDESTRIAN SIGNAL
DETAIL A
 (See note 1 to 4)



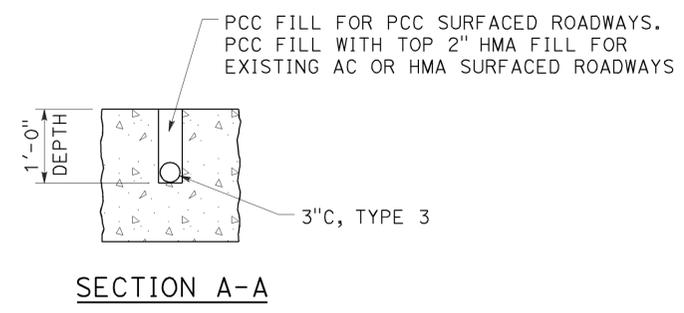
TYPE B PUSH BUTTON ASSEMBLY
DETAIL B
 (See note 1 to 4)



TYPE C PUSH BUTTON ASSEMBLY
DETAIL C
 (See note 1 to 4)



MAGNETIC VEHICLE DETECTOR
INSTALLATION DETAILS
DETAIL D



STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(ACCESSIBLE PEDESTRIAN SIGNAL,
PUSH BUTTON ASSEMBLIES AND
MAGNETIC VEHICLE DETECTOR)
 NO SCALE

RSP ES-5C DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-5C DATED MAY 20, 2011 - PAGE 450 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-5C

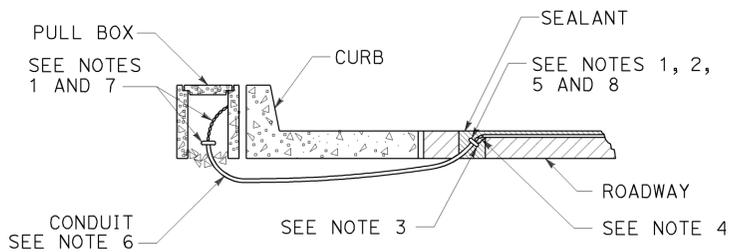
2010 REVISED STANDARD PLAN RSP ES-5C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	78	98

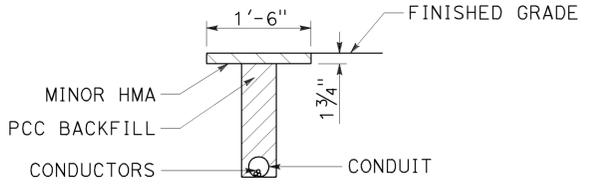
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 July 19, 2013
 PLANS APPROVAL DATE
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.



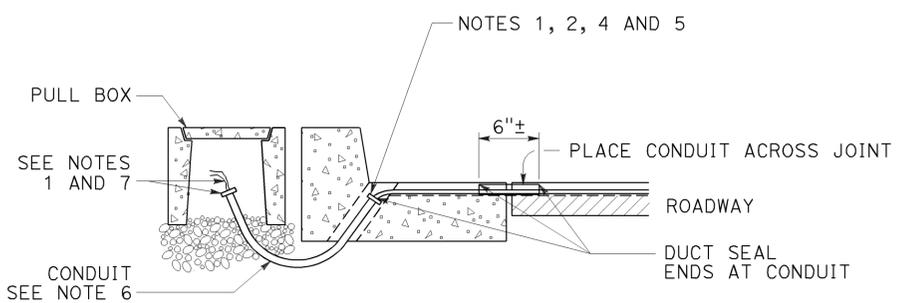
TO ACCOMPANY PLANS DATED 6-1-15



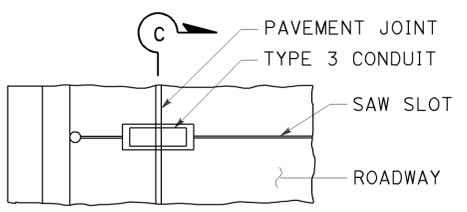
TYPE A
CURB TERMINATION DETAIL



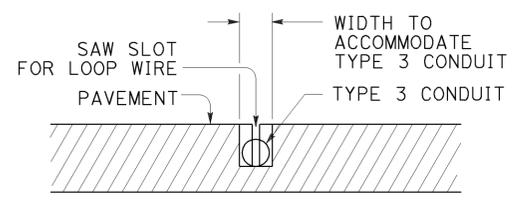
"T" TRENCH
DETAIL T



CROSS SECTION

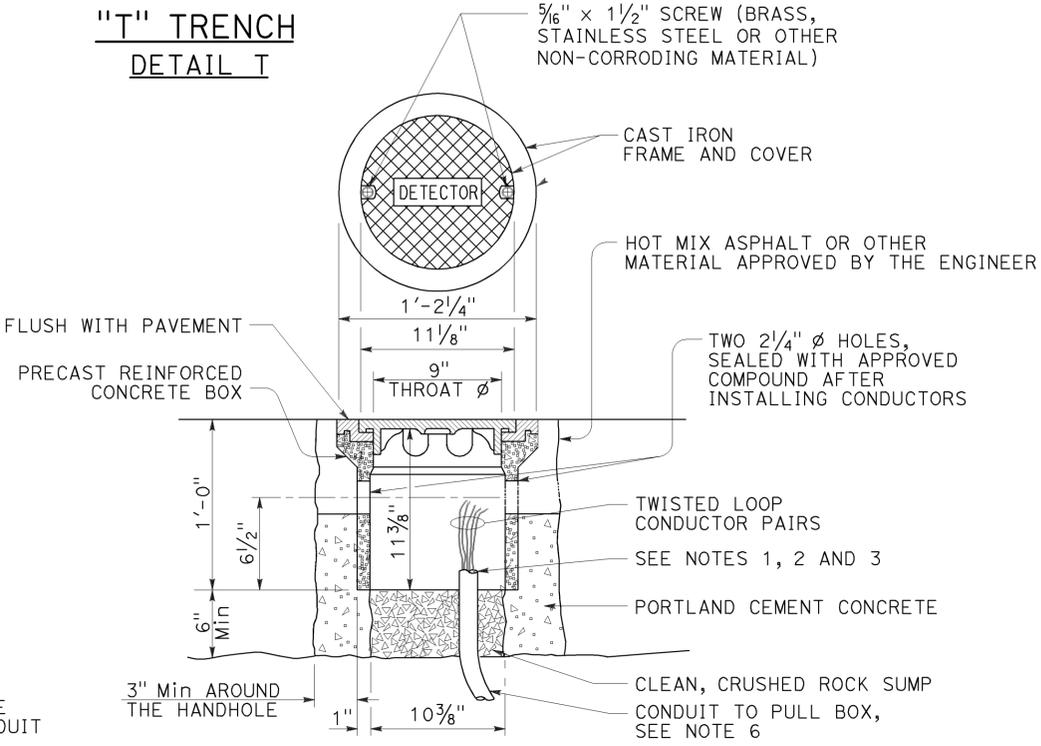


PLAN VIEW

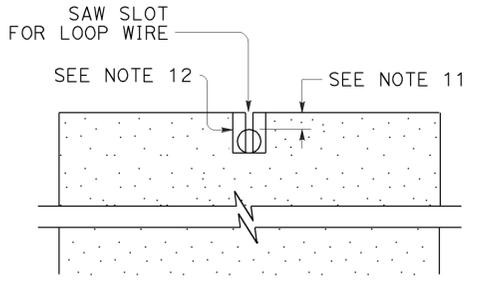


SECTION C-C

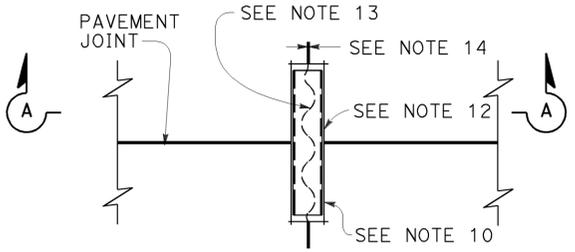
TYPE B
CURB TERMINATION DETAIL



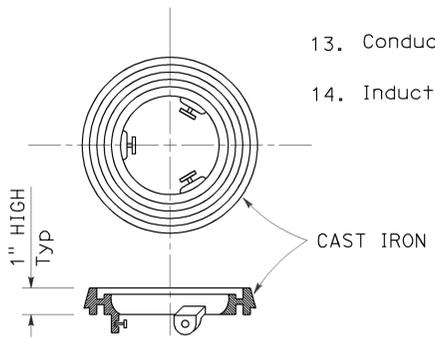
DETECTOR HANDHOLE DETAIL



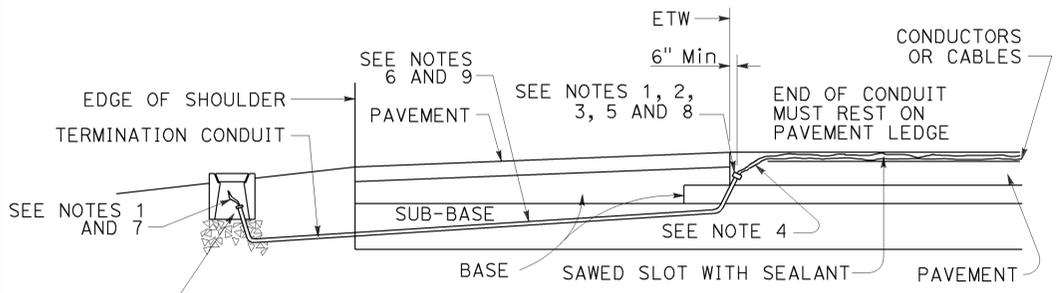
SECTION A-A



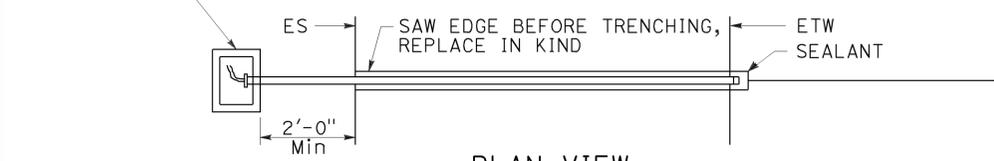
PLAN VIEW
TYPICAL LOOP LEAD-IN DETAIL
AT PAVEMENT JOINT



LOCKING GRADE RING



CROSS SECTION



PLAN VIEW
SHOULDER TERMINATION DETAILS

NOTES:

- Bushing shall be used at end of conduit.
- Tape detector conductors or cables 3" each side of bushings.
- Install duct seal compound to each end of termination conduit before installing sealant.
- Round all sharp edges where detector conductors or cables have to pass.
- End of conduit shall be 3/8" below roadway surface.
- Conduit size Loop conductors
 1"C minimum 1 to 2 pairs
 1 1/2"C minimum 3 to 4 pairs
 2"C minimum 5 or more pairs
- Splice detector conductors or cables to detector lead-in-cable.
- Location of detector handhole when shown on plans.
- When the shoulder and traveled way are paved with the same material and there is no joint between them, the conduit shall extend only 2'-0" into the shoulder pavement.
- 3/4"C, Type 3 conduit 6" long minimum, plug both ends with duct compound to keep out sealant.
- 1/2" Minimum between top of conduit and pavement surface.
- Sawcut shall not exceed 1" in width and 1/8" longer than conduit to be installed.
- Conductors with 1/2" minimum slack inside conduit.
- Inductive loop detector saw slot.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(CURB TERMINATION
AND HANDHOLE)
NO SCALE

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

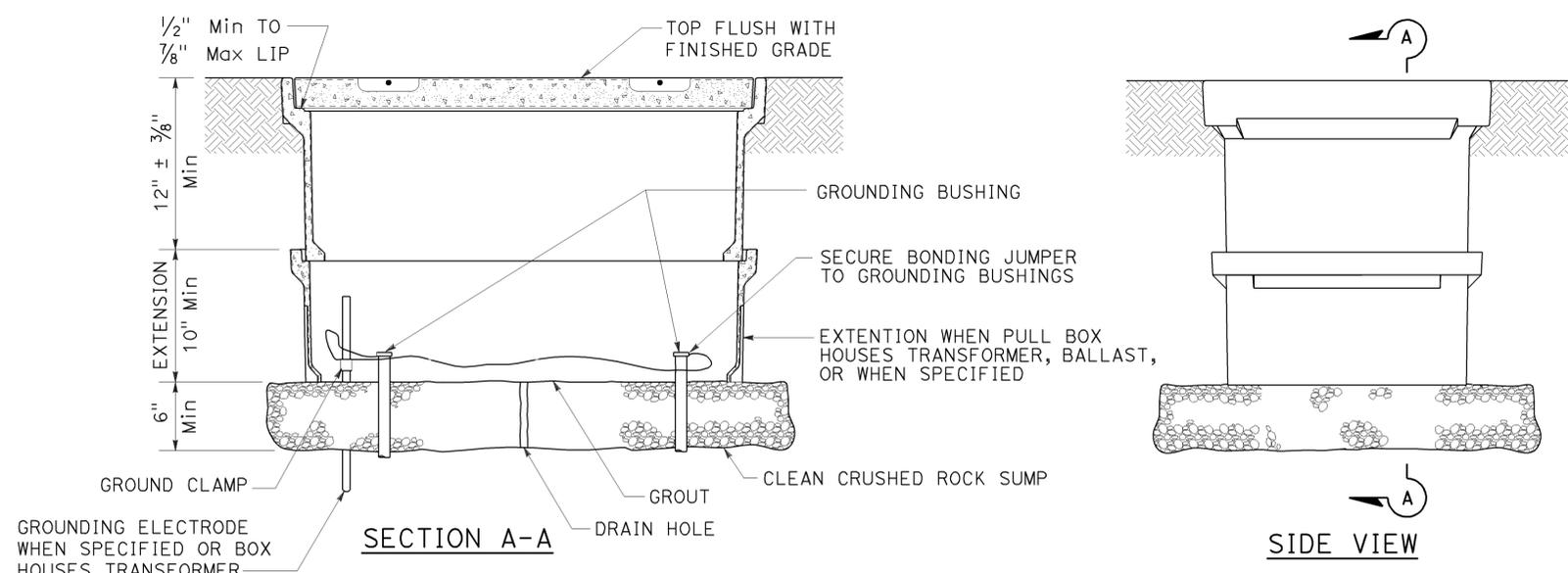
REVISED STANDARD PLAN RSP ES-5D

2010 REVISED STANDARD PLAN RSP ES-5D

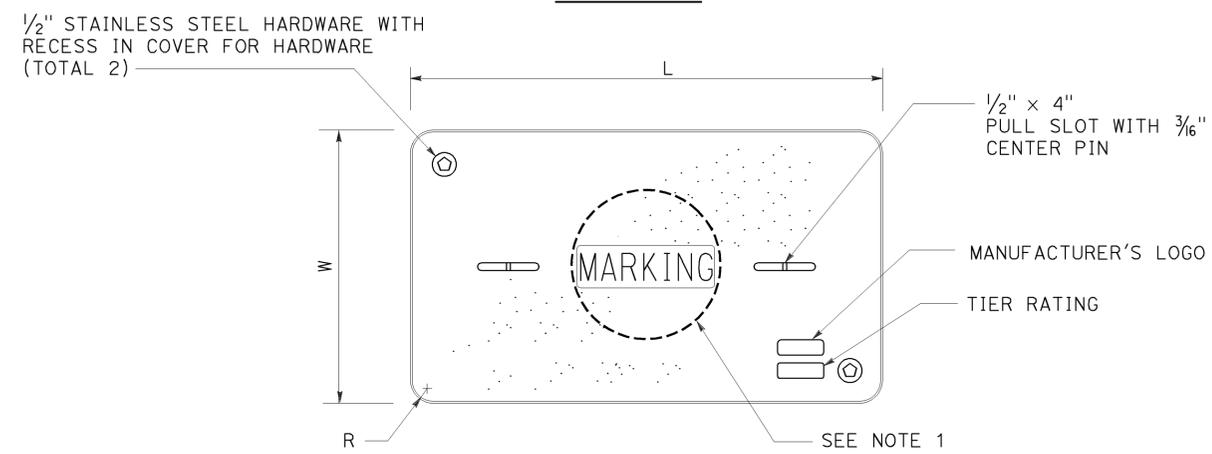
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SCI	9	3.6,11.4	79	98

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

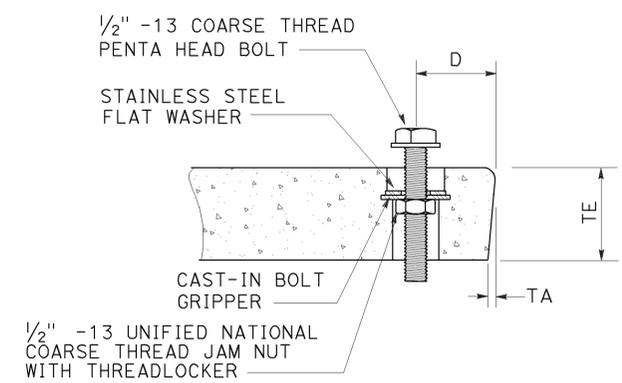
TO ACCOMPANY PLANS DATED 6-1-15



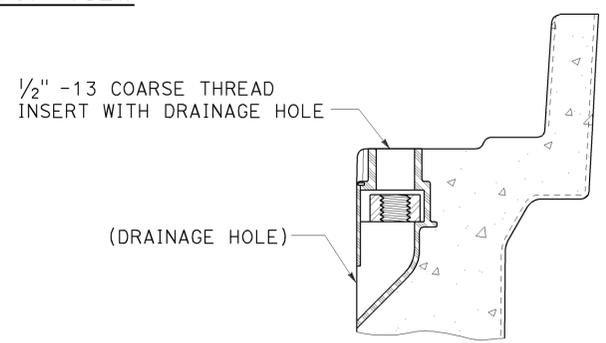
INSTALLATION DETAILS
DETAIL A



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

NOTES:

- Pull box covers shall be marked as follows: "SERVICE" Service circuits between service point and service disconnect; "SPRINKLER-CONTROL" sprinkler control circuits, 50 V or less; "CALTRANS" on all pull boxes, except pull boxes marked "SPRINKLER-CONTROL"; and "TELEPHONE" Telephone service;
 - No. 3½ pull box.
 - "SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - No. 5, 6, 9 or 9A pull box.
 - "TRAFFIC SIGNAL" - Traffic signal circuits with or without lighting or sign lighting circuits.
 - "LIGHTING" - Lighting or sign lighting circuits where voltage is under 600 V.
 - "LIGHTING-HIGH VOLTAGE" - Lighting or sign lighting circuits where voltage is above 600 V.
 - "IRRIGATION" - Circuits to irrigation controller 120 V or more.
 - "RAMP METER" - Ramp meter circuits.
 - "COUNT STATION" - Count or speed monitor circuits.
 - "COMMUNICATIONS" - Communication circuits.
 - "TOS COMMUNICATIONS" - TOS communication line.
 - "TOS POWER" - TOS power.
 - "TDC POWER" - Telephone demarcation cabinet power.
 - "CCTV" - Closed circuit television circuits.
 - "TMS" - Traffic monitoring station circuits.
 - "CMS" - Changeable message sign circuits.
 - "HAR" - Highway advisory radio circuits.
 - "BOOSTER PUMP" - Booster pump circuit.
- The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
- Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male or female gage, the top surfaces shall be flush within 1/8". Top outside radius of covers and pull boxes shall have a 1/8" radius.
- Pull box extension may be another pull box as long as the bottom edge of the pull box can fit into the cover opening.
- All dimensions for the cover for non-traffic pull box are nominal values.

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MAXIMUM WEIGHT	L	W	R	TE	TA	D	MAXIMUM WEIGHT
No. 3½	12"	N/A	40 lb	1' - 3¾"	10 1/8"	1 3/8"	2"	1/8"	1 3/4"	30 lb
No. 5	12"	10"	55 lb	1' - 11¼"	1' - 1¾"	1 3/8"	2"	1/8"	1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 6½"	1' - 5½"	1 3/8"	2"	1/8"	2"	85 lb

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

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

REVISED STANDARD PLAN RSP ES-8A

2010 REVISED STANDARD PLAN RSP ES-8A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	80	98

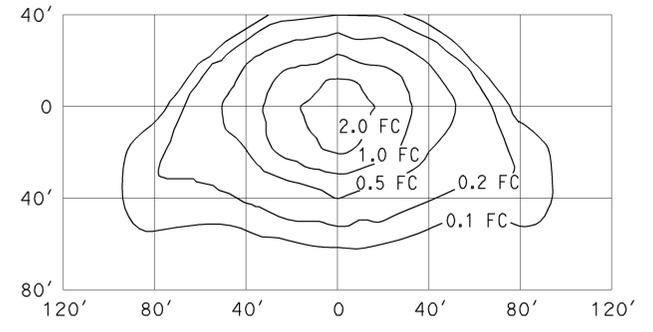
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 No. E15129
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

July 19, 2013
 PLANS APPROVAL DATE

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

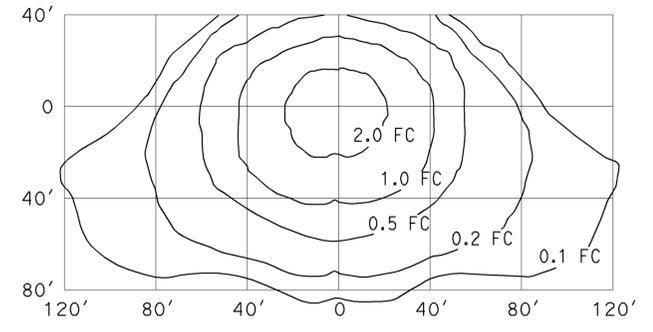
TO ACCOMPANY PLANS DATED 6-1-15

ISOFOOTCANDLE CURVE - MINIMUM



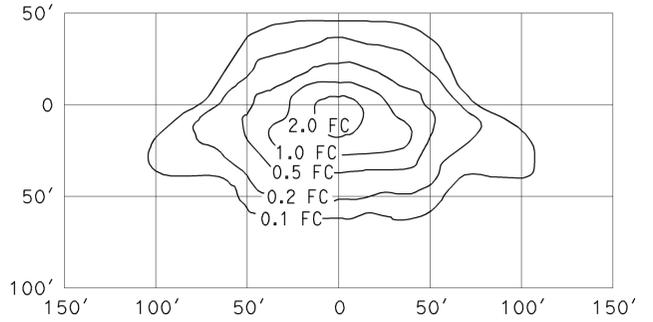
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 34' Mounting Height
 Lamp operated at 22,000 lm
 200-W high pressure sodium lamp
 ANSI Designation S66

ISOFOOTCANDLE CURVE - MINIMUM



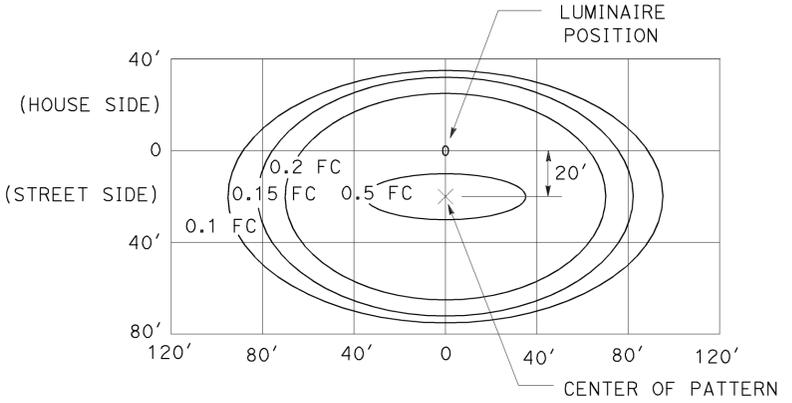
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 40' Mounting Height
 Lamp operated at 37,000 lm
 310-W high pressure sodium lamp
 ANSI Designation S67

ISOFOOTCANDLE CURVE - MINIMUM



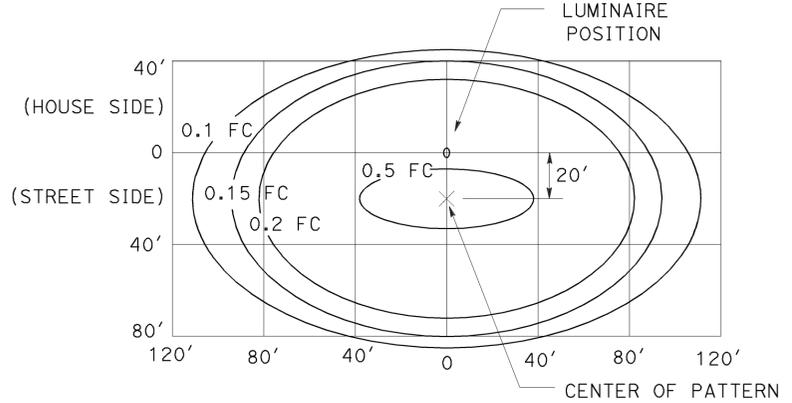
TYPE III MEDIUM CUTOFF
 Cutoff Luminaire
 30' Mounting Height
 Lamp operated at 16,000 lm
 150-W high pressure sodium lamp
 ANSI Designation S55

ISOFOOTCANDLE CURVE - MINIMUM



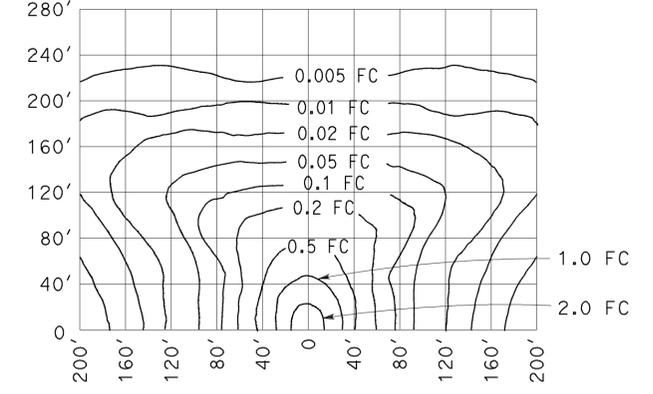
LED LUMINAIRE ROADWAY 1
 165-W at 34' Mounting Height

ISOFOOTCANDLE CURVE - MINIMUM



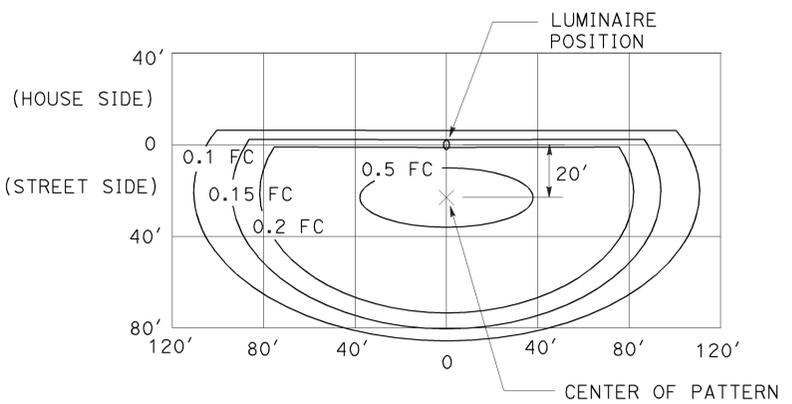
LED LUMINAIRE ROADWAY 2
 235-W at 40' Mounting Height

ISOFOOTCANDLE CURVE - MINIMUM



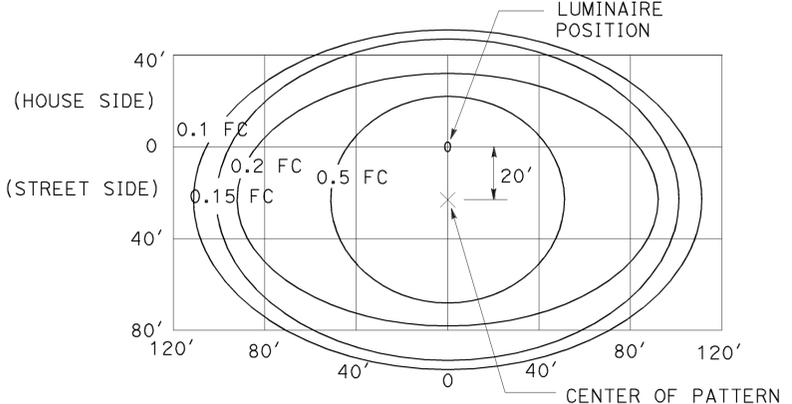
LOW PRESSURE SODIUM LUMINAIRE
 40' Mounting Height
 Lamp operated at 33,000 lm
 180-W low pressure sodium lamp

ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 3
 235-W at 40' Mounting Height
 with back side control

ISOFOOTCANDLE CURVE - MINIMUM



LED LUMINAIRE ROADWAY 4
 300-W at 40' Mounting Height

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
**ELECTRICAL SYSTEMS
 (ISOFOOTCANDLE DIAGRAMS)**

NO SCALE
 RSP ES-10A DATED JULY 19, 2013 SUPERSEDES RSP ES-10A DATED JULY 20, 2012
 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-10A

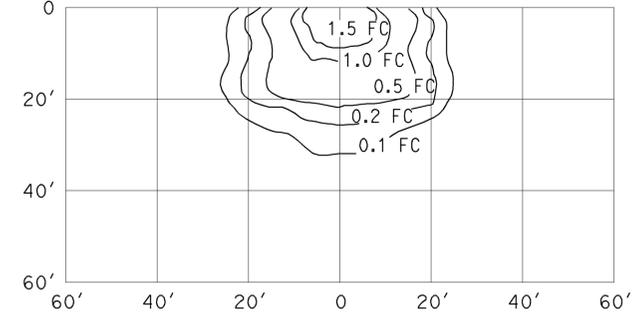
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6,11.4	81	98

Jeffery G. McRae
 REGISTERED ELECTRICAL ENGINEER
 July 20, 2012
 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
 Jeffery G. McRae
 No. E14512
 Exp. 6-30-14
 ELECTRICAL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 6-1-15

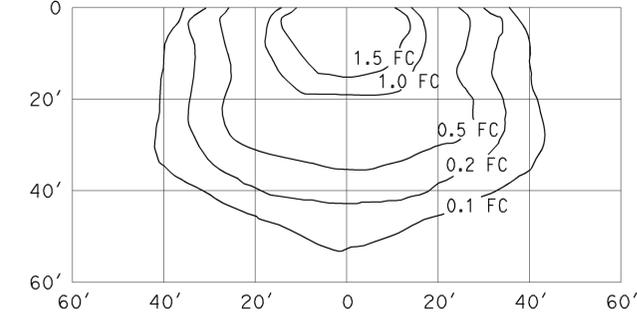
ISOFOOTCANDLE CURVE - MINIMUM



WALL LUMINAIRE

15' Mounting Height
 Lamp operated at 5,800 lm
 70-W high pressure sodium lamp
 ANSI Designation S62

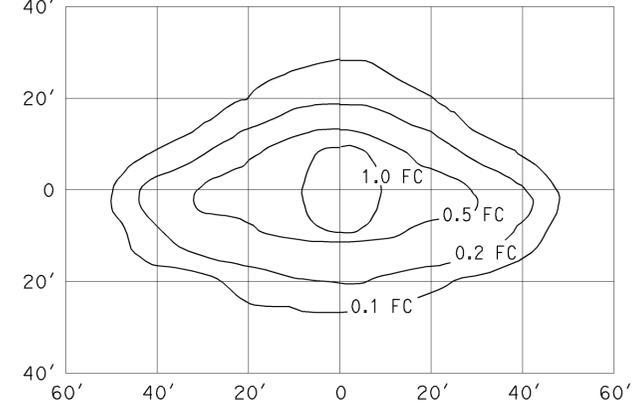
ISOFOOTCANDLE CURVE - MINIMUM



WALL LUMINAIRE

15' Mounting Height
 Lamp operated at 9,500 lm
 100-W high pressure sodium lamp
 ANSI Designation S54

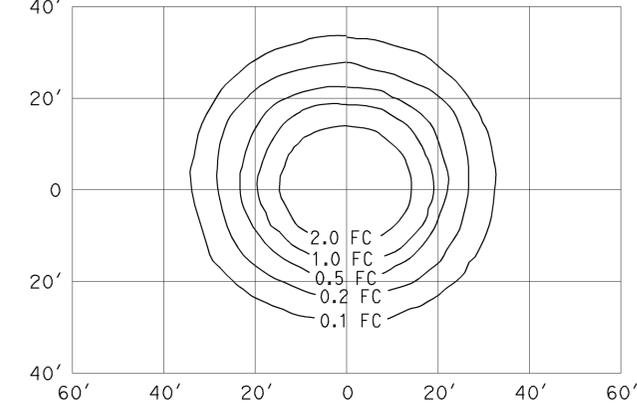
ISOFOOTCANDLE CURVE - MINIMUM



**PENDANT SOFFIT LUMINAIRE
 TYPE III SHORT**

17' Mounting Height
 Lamp operated at 5,800 lm
 70-W high pressure sodium lamp
 ANSI Designation S62

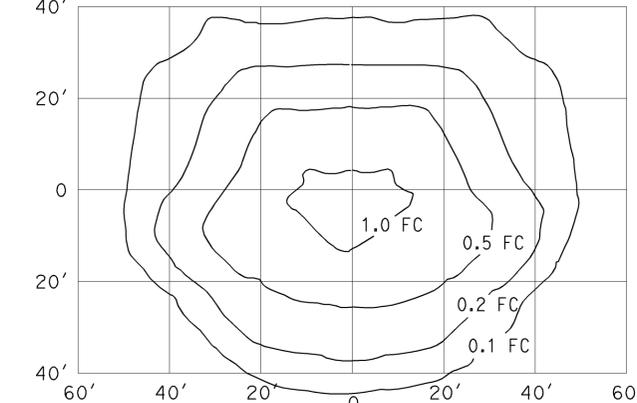
ISOFOOTCANDLE CURVE - MINIMUM



PENDANT SOFFIT LUMINAIRE

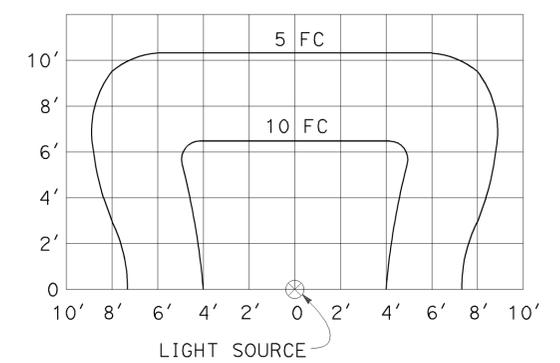
17' Mounting Height
 Lamp operated at 5,800 lm
 70-W high pressure sodium lamp
 ANSI Designation S62

ISOFOOTCANDLE CURVE - MINIMUM



FLUSH SOFFIT LUMINAIRE

17' Mounting Height
 Lamp operated at 5,800 lm
 70-W high pressure sodium lamp
 ANSI Designation S62



**SIGN LIGHTING FIXTURE
 ISOFOOTCANDLE DIAGRAM**

NOTES:

- Curves represent the minimum footcandle (FC) of initial illumination on a 10'-0" x 20'-0" panel.
- The FC shown are with the fixture attached to the light fixture mounting channel which places the center of the source 4'-8" in front of panel and 1'-0" below the bottom edge.
- Applicable lamp: 85-W fluorescent phosphor coated induction lamp.

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
 (ISOFOOTCANDLE DIAGRAMS)**

NO SCALE

RSP ES-10B DATED JULY 20, 2012 SUPPLEMENTS THE
 STANDARD PLANS BOOK DATED 2010.

2010 REVISED STANDARD PLAN RSP ES-10B

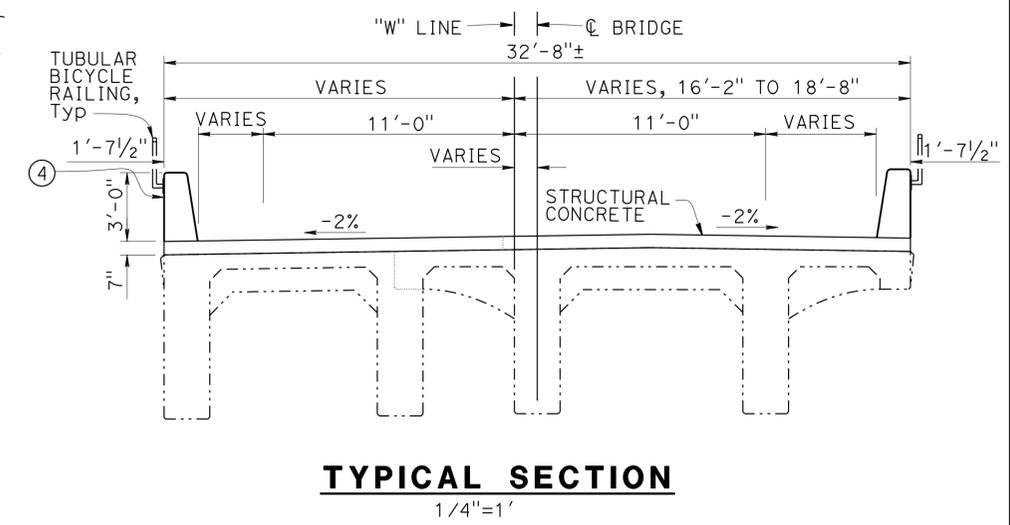
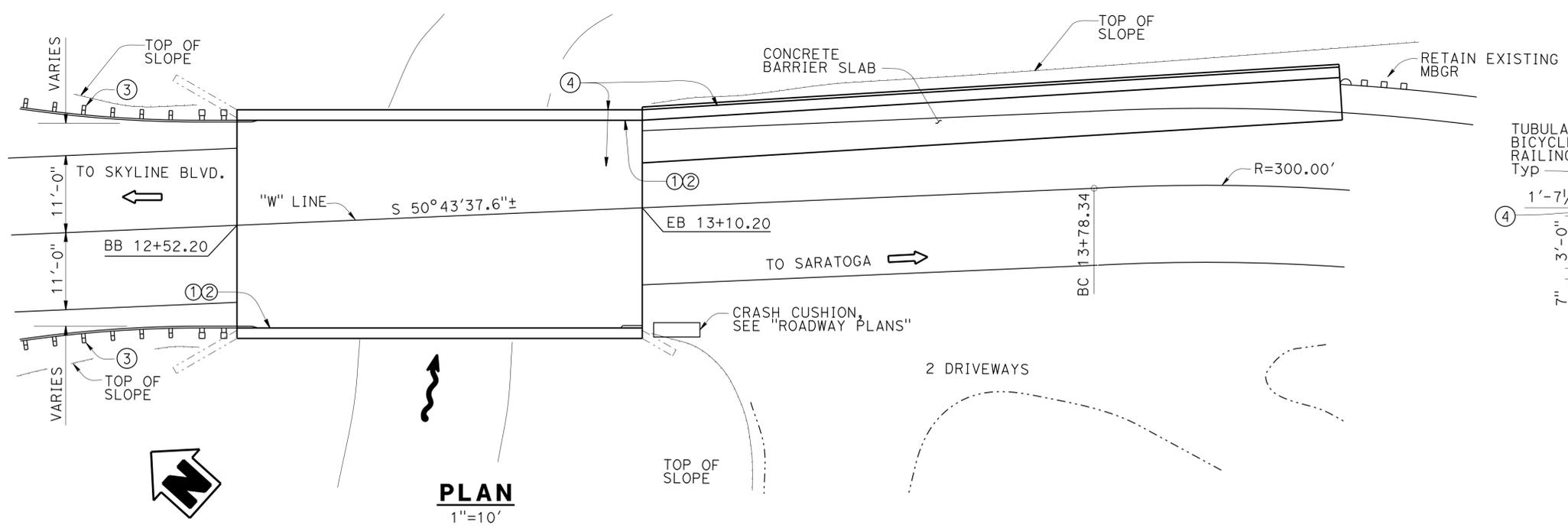
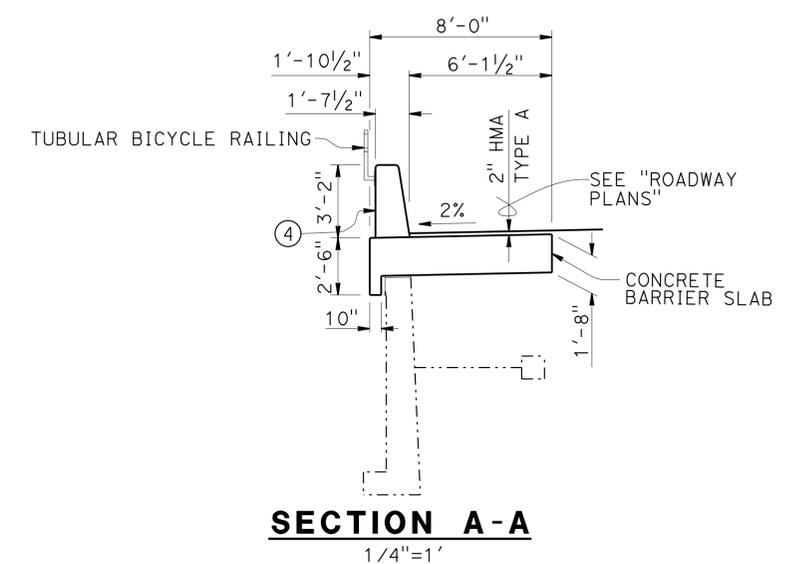
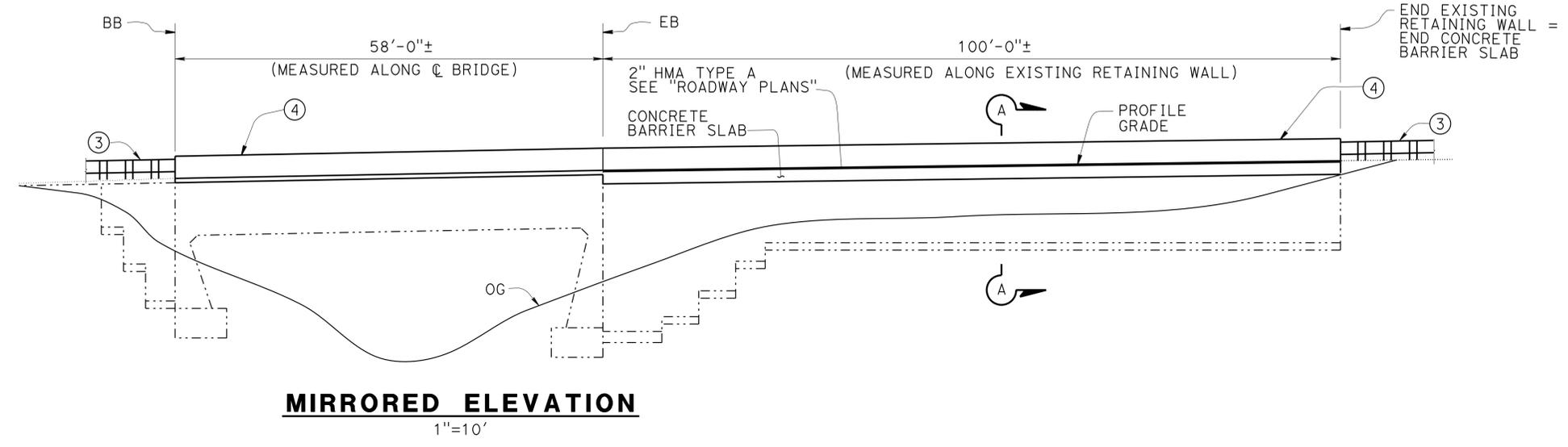
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	82	98

04-01-15
 REGISTERED CIVIL ENGINEER DATE
 Philip E. Lutz
 6-1-15
 PLANS APPROVAL DATE
 Philip E. Lutz
 No. C55839
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA
 REGISTERED PROFESSIONAL ENGINEER
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QUANTITIES

LEAD COMPLIANCE PLAN	LUMP	SUM
WORK AREA MONITORING (BRIDGE)	LUMP	SUM
REMOVE ASPHALT CONCRETE SURFACING	1,760	SQFT
PREPARE CONCRETE BRIDGE DECK SURFACE	1,895	SQFT
BRIDGE REMOVAL (PORTION), LOCATION B	LUMP	SUM
STRUCTURAL CONCRETE, BRIDGE	41	CY
STRUCTURAL CONCRETE, BARRIER SLAB	52	CY
DRILL AND BOND DOWEL	122	LF
BAR REINFORCING STEEL (BRIDGE)	6,200	LB
STAIN GALVANIZED SURFACES	LUMP	SUM
PREPARE AND STAIN CONCRETE	1,765	SQFT
ANTI-GRAFFITI COATING	1,582	SQFT
TUBULAR BICYCLE RAILING	200	LF
CONCRETE BARRIER (TYPE 736 MODIFIED)	216	LF

- LEGEND:
- Indicates existing structure
 - Indicates new structure
- NOTES:
- PAINT "WEST BRANCH SARATOGA CREEK BR."
 - PAINT "BR. NO. 37-0073"
 - SEE "ROADWAY PLANS"
 - TOP OF CONCRETE BARRIER TYPE 736 (MOD), LIMESTONE TEXTURE AND TUBULAR BICYCLE RAILING NOT SHOWN
 - APPLY ANTI-GRAFFITI COATING TO ALL CONCRETE BARRIER SURFACES, SEE "CONCRETE BARRIER SLAB DETAILS" AND "TYPICAL SECTION" SHEETS.



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

Gordon Danke DESIGN ENGINEER	DESIGN	BY P. Lutz	CHECKED J. Railey	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 9	BRIDGE NO.	37-0073
	DETAILS	BY P. Lutz	CHECKED J. Railey	LAYOUT	BY P. Lutz			POST MILE	3.6
	QUANTITIES	BY P. Lutz	CHECKED E. Franciliso	SPECIFICATIONS	BY S. Nelapatla			PLANS AND SPECS COMPARED	P. Lutz

WEST BRANCH SARATOGA CREEK
BRIDGE RAIL REPLACEMENT
GENERAL PLAN

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	83	98

 04-01-15
 REGISTERED CIVIL ENGINEER DATE

6-1-15
 PLANS APPROVAL DATE

Philip E. Lutz
 No. C55839
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA

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INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	REMOVAL
4	STAGE CONSTRUCTION
5	TYPICAL SECTION
6	TUBULAR BICYCLE RAILING DETAILS
7	CONCRETE BARRIER SLAB DETAILS
8	ARCHITECTURAL TREATMENT DETAILS

GENERAL NOTES

LOAD AND RESISTANCE FACTOR DESIGN

DESIGN : AASHTO LFD BRIDGE DESIGN SPECIFICATIONS, and the Caltrans Amendments, dated November 2011.

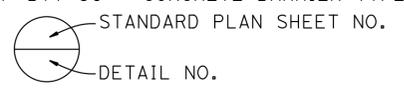
DEAD LOAD : Includes 9 psf for future 3/4" thick polyester concrete overlay.

LIVE LOADING : HS20-44

CONCRETE : fy = 60 ksi
f'c = 3.6 ksi
n = 8

STANDARD PLANS DATED 2010

DETAIL	DESCRIPTION
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
RSP A77U4	MIDWEST GUARDRAIL SYSTEM TRANSITION RAILING
RSP B11-56	CONCRETE BARRIER TYPE 736



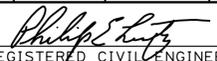
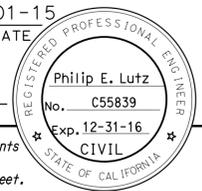
NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

			STATE OF CALIFORNIA		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN		BRIDGE NO. 37-0073		BRIDGE RAIL REPLACEMENT							
			DEPARTMENT OF TRANSPORTATION		DESIGN BRANCH 9		POST MILE 3.6		WEST BRANCH SARATOGA CREEK							
									INDEX TO PLANS							
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3594		PROJECT NUMBER & PHASE: 0412000162 1		CONTRACT NO.: 04-1A3404		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES		SHEET OF	
			0 1 2 3								01-05-14 11-06-14 01-09-15		2 8			

FILE => 37-0073-b-1+p.dgn

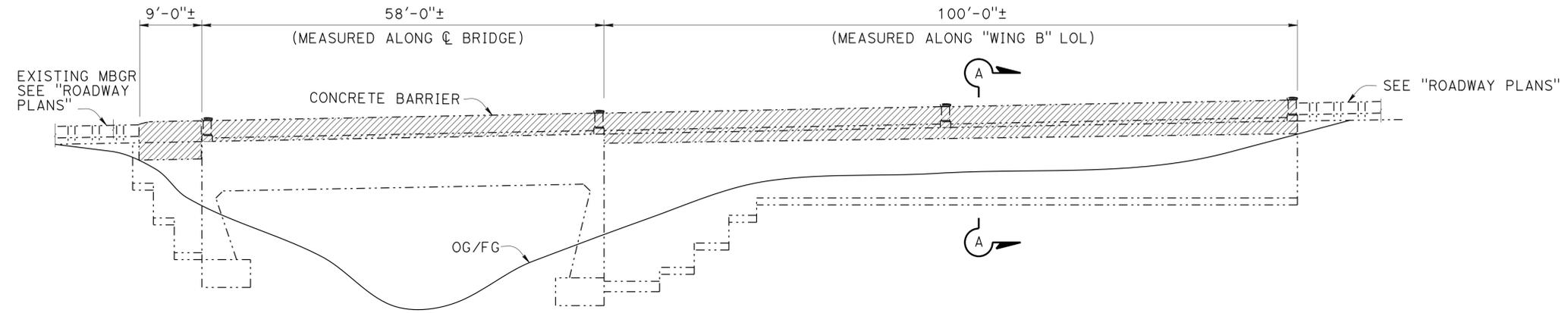
USERNAME => s128787 DATE PLOTTED => 19-JUN-2015 TIME PLOTTED => 09:17

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	84	98

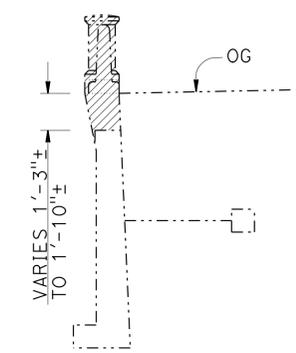
 04-01-15
 REGISTERED CIVIL ENGINEER DATE
 PLANS APPROVAL DATE 6-1-15


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

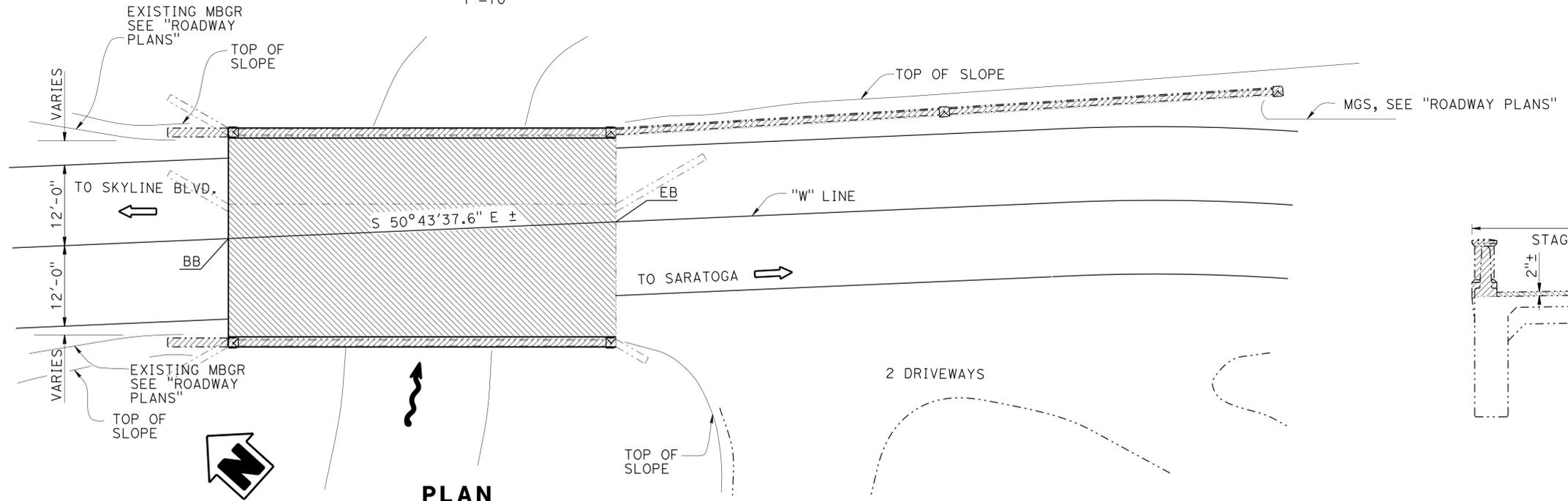
- LEGEND:
-  Indicates bridge removal (portion)
 -  Indicates 2" ac overlay removal
 -  Indicates existing structure
 -  Indicates new structure



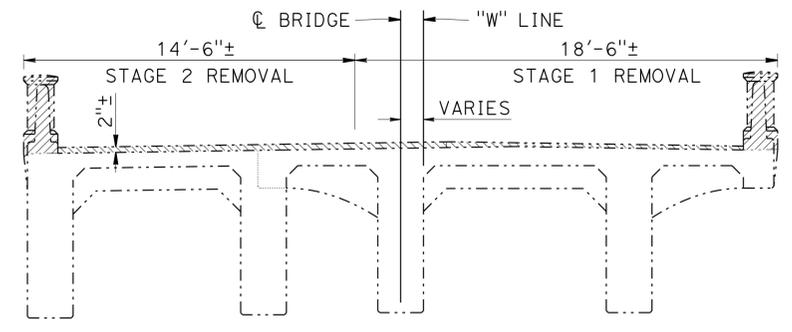
MIRRORED ELEVATION
1"=10'



SECTION A-A
1/4"=1'



PLAN
1"=10'



TYPICAL SECTION
1/4"=1'

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

DESIGN	BY P. Lutz	CHECKED J. Railey
DETAILS	BY P. Lutz	CHECKED J. Railey
QUANTITIES	BY P. Lutz	CHECKED E. Franciliso

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 9

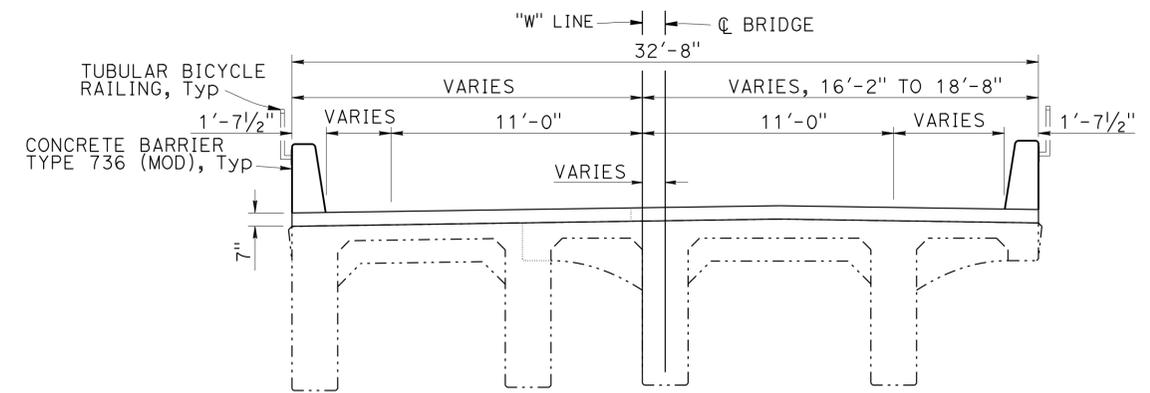
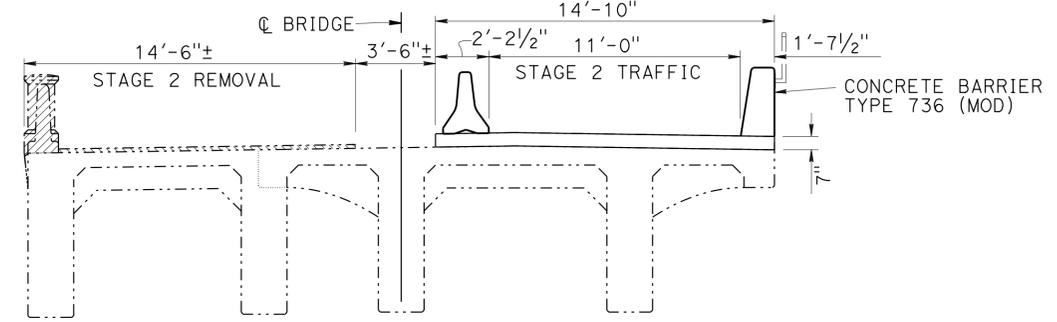
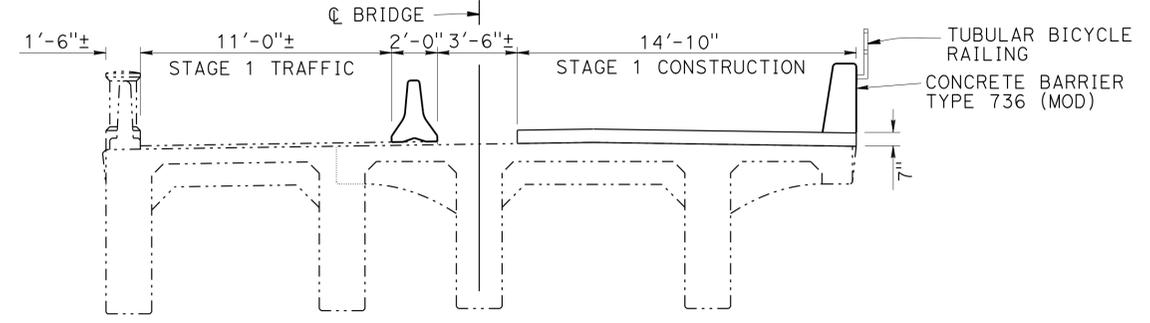
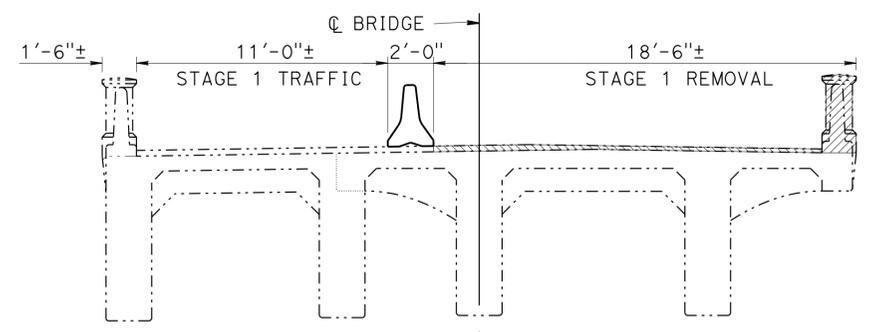
BRIDGE NO.	37-0073
POST MILE	3.6

**WEST BRANCH SARATOGA CREEK
BRIDGE RAIL REPLACEMENT
REMOVAL**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	85	98

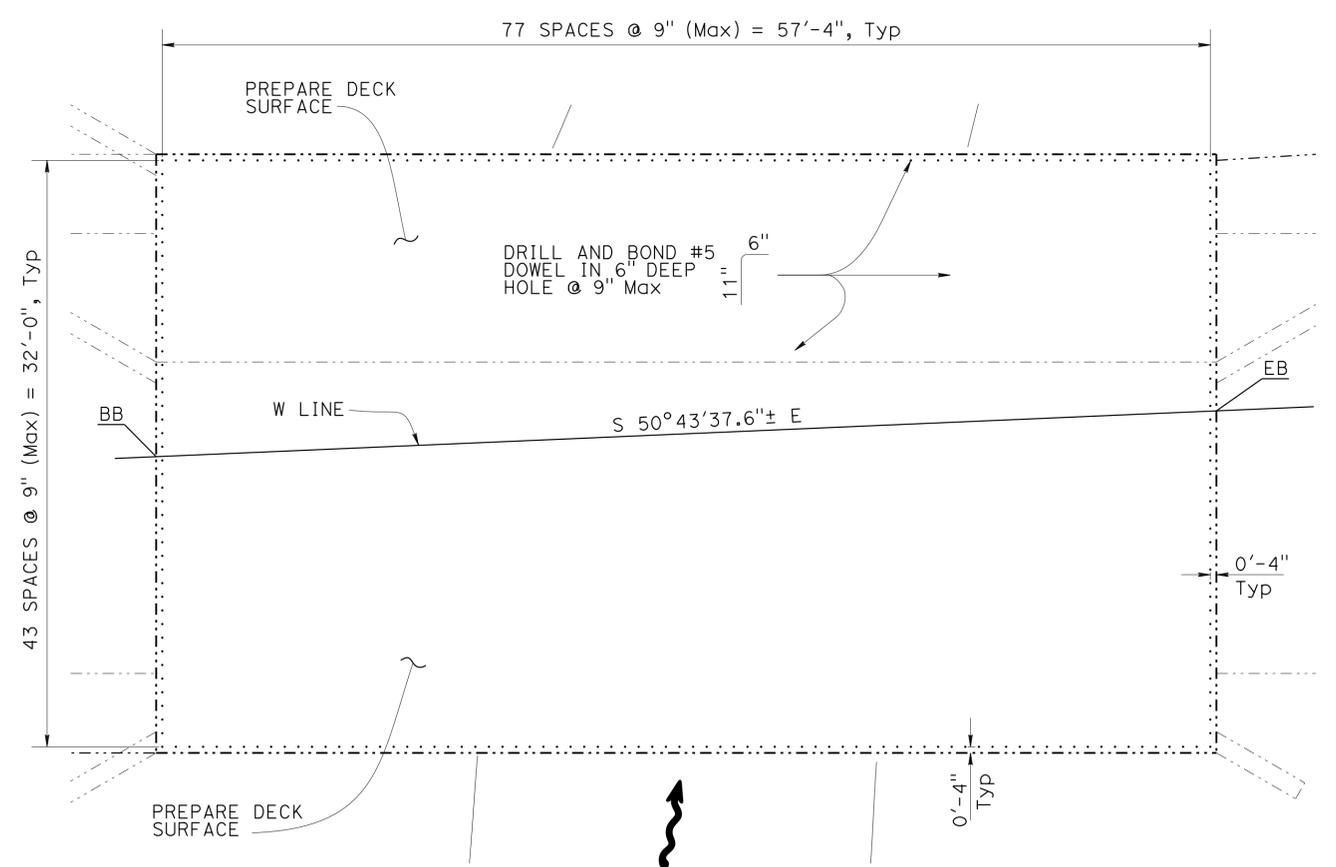
REGISTERED CIVIL ENGINEER *Philip E. Lutz* DATE 04-01-15
 PLANS APPROVAL DATE 6-1-15
 Philip E. Lutz
 No. C55839
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA
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- LEGEND:
- Indicates bridge removal (portion)
 - Indicates 2" ac overlay removal
 - Indicates existing structure
 - Indicates new structure



TYPICAL SECTION
1/4"=1'

NOTE:
BARRIER SLAB AND RETAINING WALL SECTION OF BARRIER TO BE CONSTRUCTED DURING STAGE 2 CONSTRUCTION.



DRILL & BOND
1"=10'

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

DESIGN BY P. Lutz CHECKED J. Railey DETAILS BY P. Lutz CHECKED J. Railey QUANTITIES BY P. Lutz CHECKED E. Franciliso	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 9	BRIDGE NO. 37-0073	WEST BRANCH SARATOGA CREEK	
			POST MILE 3.6	BRIDGE RAIL REPLACEMENT	
			STAGE CONSTRUCTION		
UNIT: 3594 PROJECT NUMBER & PHASE: 0412000162 1 CONTRACT NO.: 04-1A3404			DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 01-05-14 11-06-14	SHEET 4 OF 8

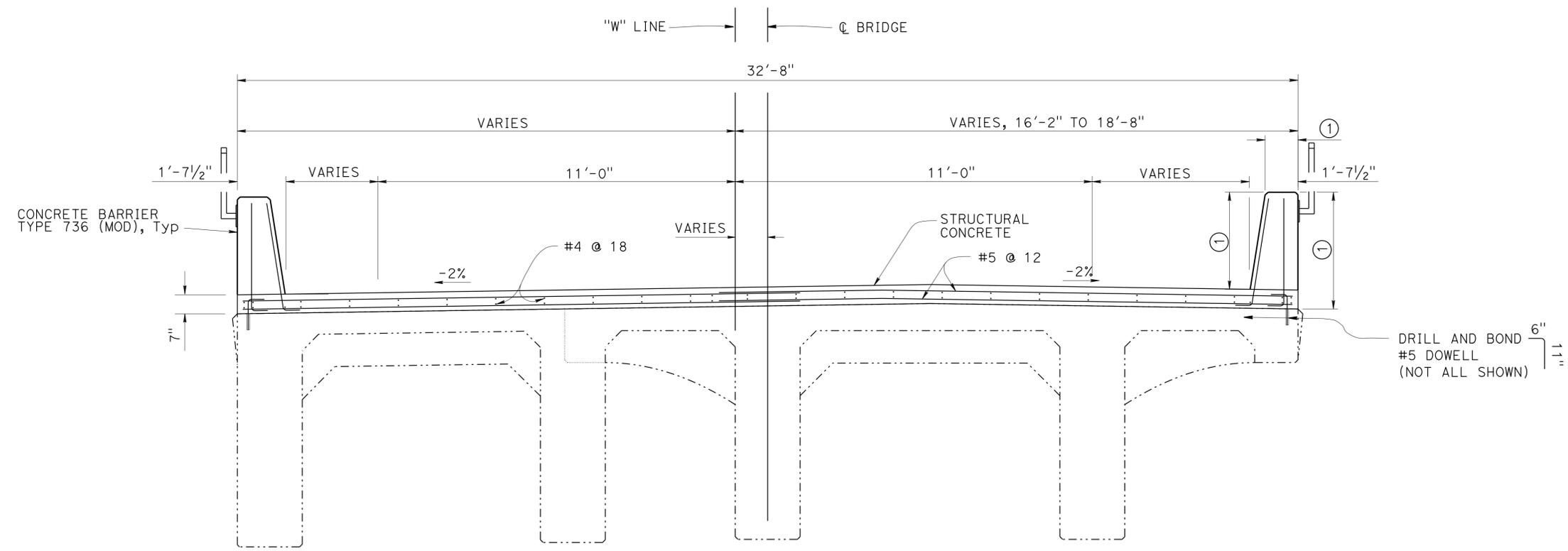
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	86	98

 04-01-15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE

Philip E. Lutz
 No. C55839
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA

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LEGEND:
 - - - - - Indicates existing structure
 ——— Indicates new structure



TYPICAL SECTION
 1/2"=1'

NOTE:
 ① LIMITS OF ANTI-GRAFFITI COATING.

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

DESIGN	BY P. Lutz	CHECKED J. Railey
DETAILS	BY P. Lutz	CHECKED J. Railey
QUANTITIES	BY P. Lutz	CHECKED E. Franciliso

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
DESIGN BRANCH 9

BRIDGE NO.	37-0073
POST MILE	3.6

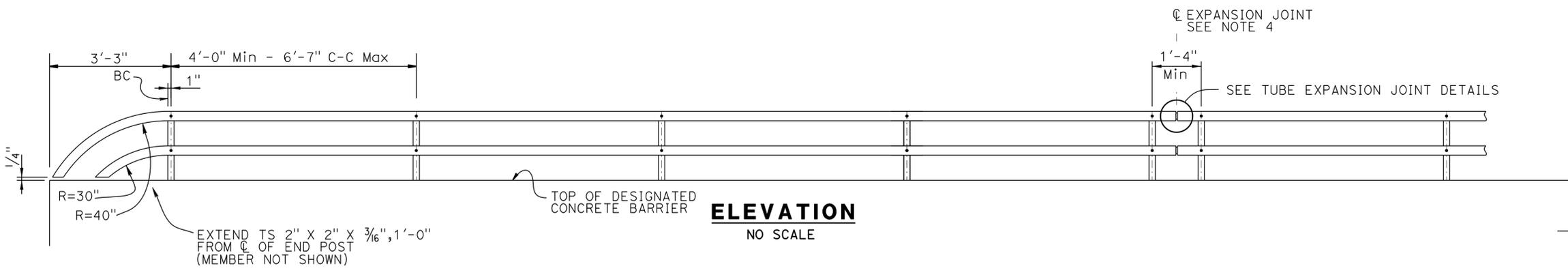
WEST BRANCH SARATOGA CREEK
BRIDGE RAIL REPLACEMENT
TYPICAL SECTION

USERNAME => s128787 DATE PLOTTED => 19-JUN-2015 TIME PLOTTED => 09:17

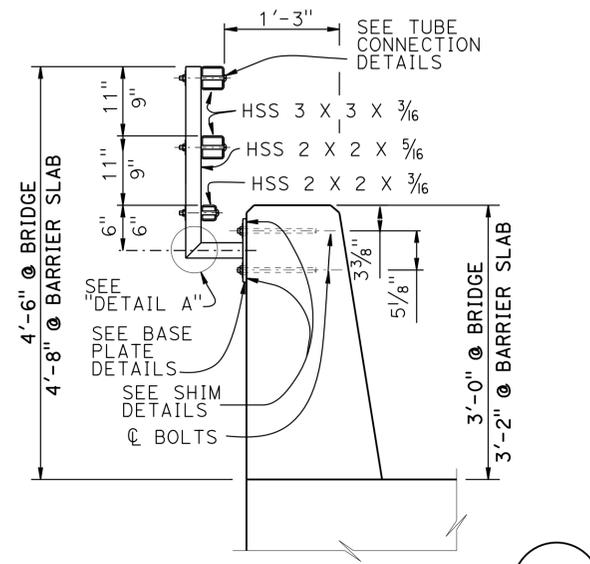
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	87	98

REGISTERED CIVIL ENGINEER *Philip E. Lutz* DATE 04-01-15
 PLANS APPROVAL DATE 6-1-15
 Philip E. Lutz
 No. C55839
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA

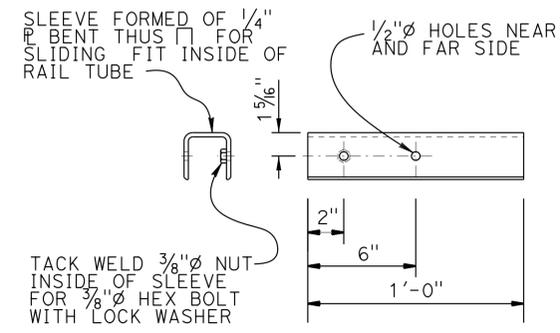
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.



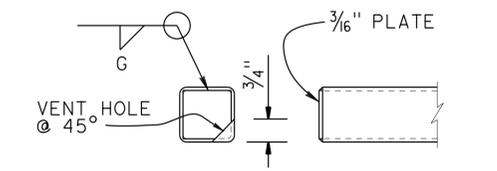
ELEVATION
NO SCALE



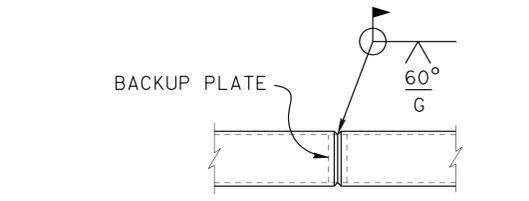
TYPE 736 (MOD)
1" = 1'-0"



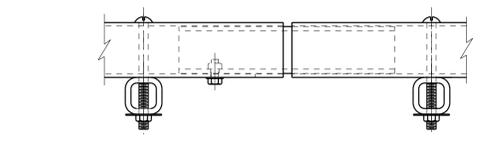
SLEEVE DETAIL
NO SCALE



RAIL CAP DETAIL
NO SCALE

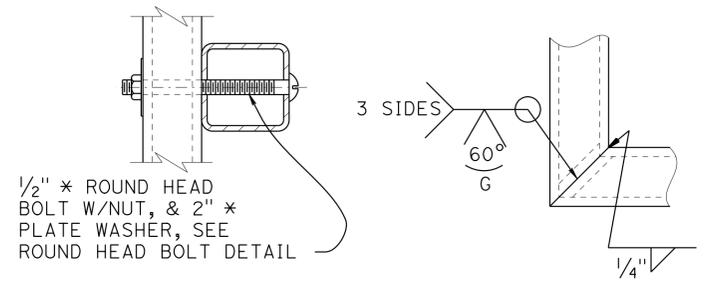


WELDED SPLICE DETAIL
NO SCALE



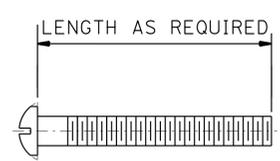
SECTION B-B
NO SCALE

TUBE EXPANSION JOINT DETAILS
NO SCALE

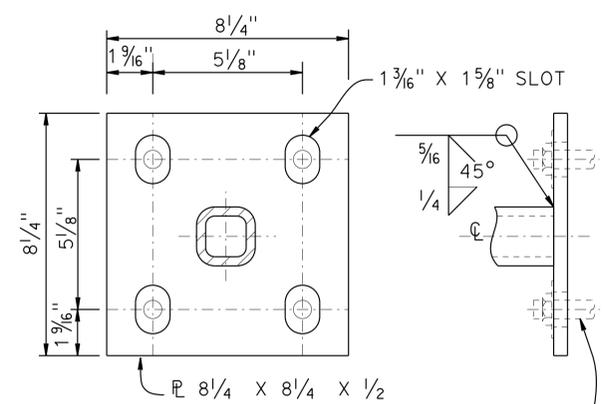


TUBE CONNECTION DETAIL
NO SCALE

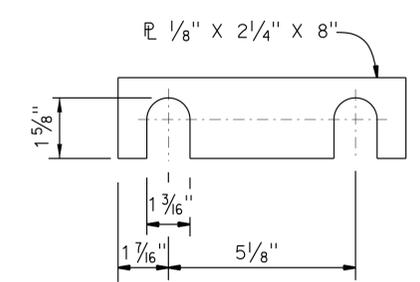
DETAIL A
NO SCALE



ROUND HEAD BOLT DETAIL
NO SCALE



BASE PLATE DETAIL
NO SCALE



SHIM DETAILS
NO SCALE

NOTES:

1. Post must be normal to railing.
2. Rail tubes must be shop bent or fabricated to fit horizontal curve when radius is less than 12".
3. Tube expansion joints must be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length correspondingly.
4. Top rail tube must be continuous over not less than two posts except a short post spacing is permitted near deck or wall joints, electroliers, or other rail discontinuities as noted.

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

DESIGN BY P. Lutz CHECKED J. Railey		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 9	BRIDGE NO. 37-0073	WEST BRANCH SARATOGA CREEK		
DETAILS BY P. Lutz CHECKED J. Railey				POST MILE 3.6	BRIDGE RAIL REPLACEMENT		
QUANTITIES BY P. Lutz CHECKED E. Franciliso				TUBULAR BICYCLE RAILING DETAILS			

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 UNIT: 3594 PROJECT NUMBER & PHASE: 0412000162 1 CONTRACT NO.: 04-1A3404 DISREGARD PRINTS BEARING EARLIER REVISION DATES 01-05-14 11-06-14 SHEET 6 OF 8

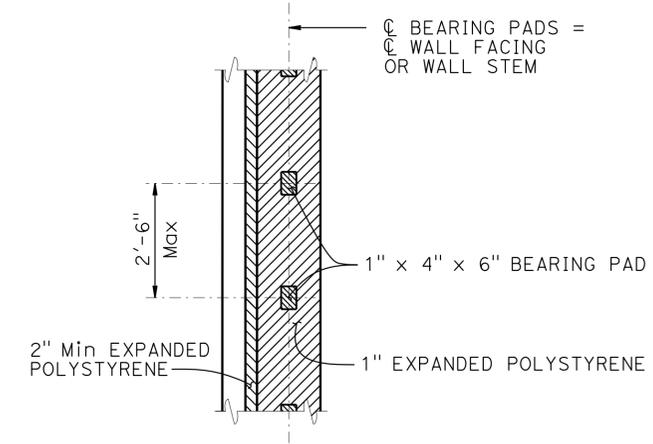
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	88	98

REGISTERED CIVIL ENGINEER *Philip E. Lutz* DATE 04-01-15
 PLANS APPROVAL DATE 6-1-15
 Philip E. Lutz
 No. C55839
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA
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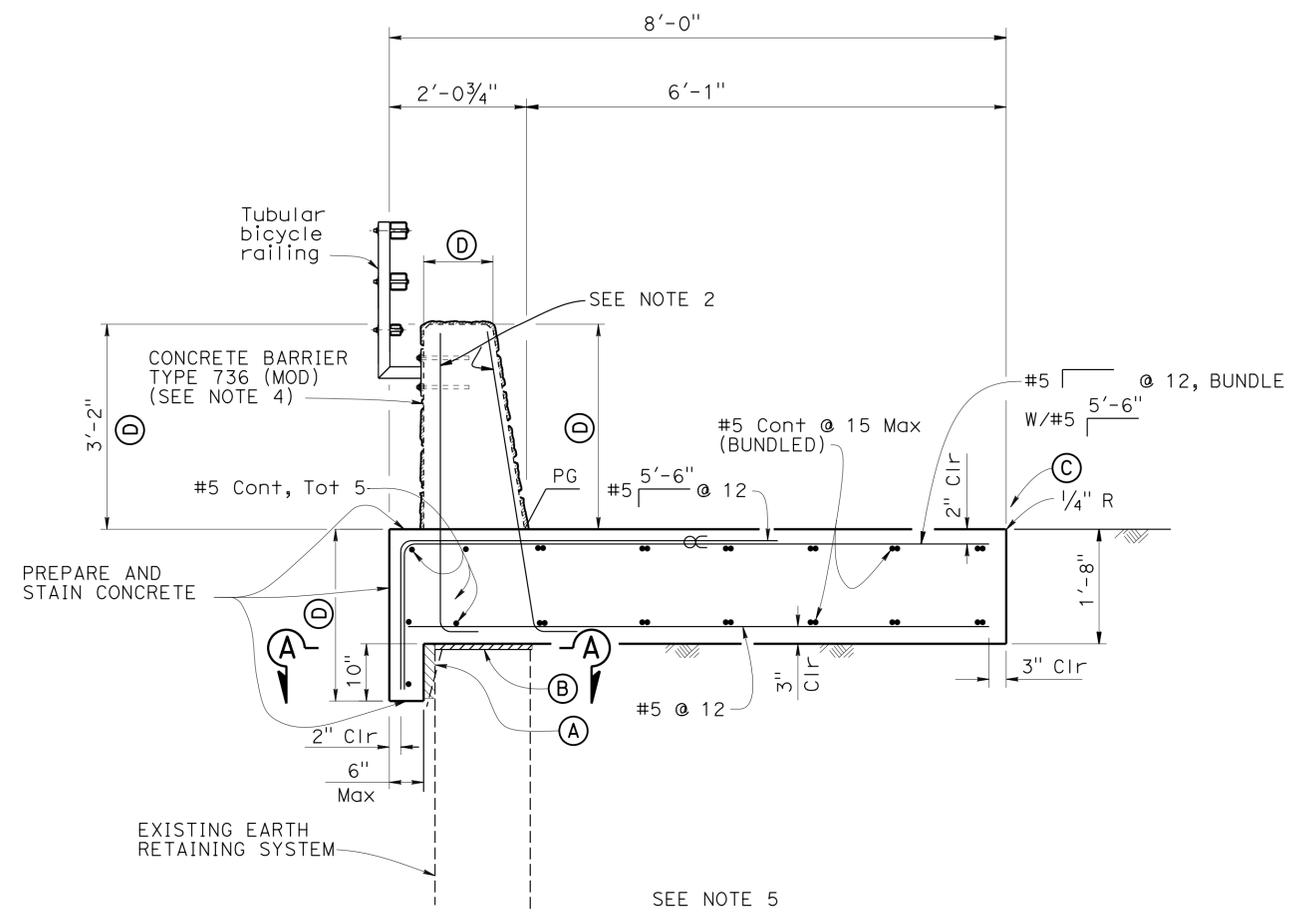
DESIGN DATA

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments.
 WS: 33 psf on sound wall
 F_t : 54 kips on barrier
 EQE: k_h = 0.2
 k_v = 0.0
 REINFORCED CONCRETE: f'_c = 3600 psi
 f_y = 60 ksi
 n = 8

- NOTES:
1. Clearance to reinforcing steel in concrete barrier to be 1".
 2. Not all barrier reinforcement shown.
 3. No expansion joints in concrete barrier or barrier slab within wall limits.
 4. Limestone Texture to cover all surfaces of the concrete barrier.
 5. Excavation for placement of barrier slab is (Type Z-2), (Aerially Deposited Lead).



SECTION A-A
 1/2" = 1'-0"
 (For all other Earth Retaining Systems)



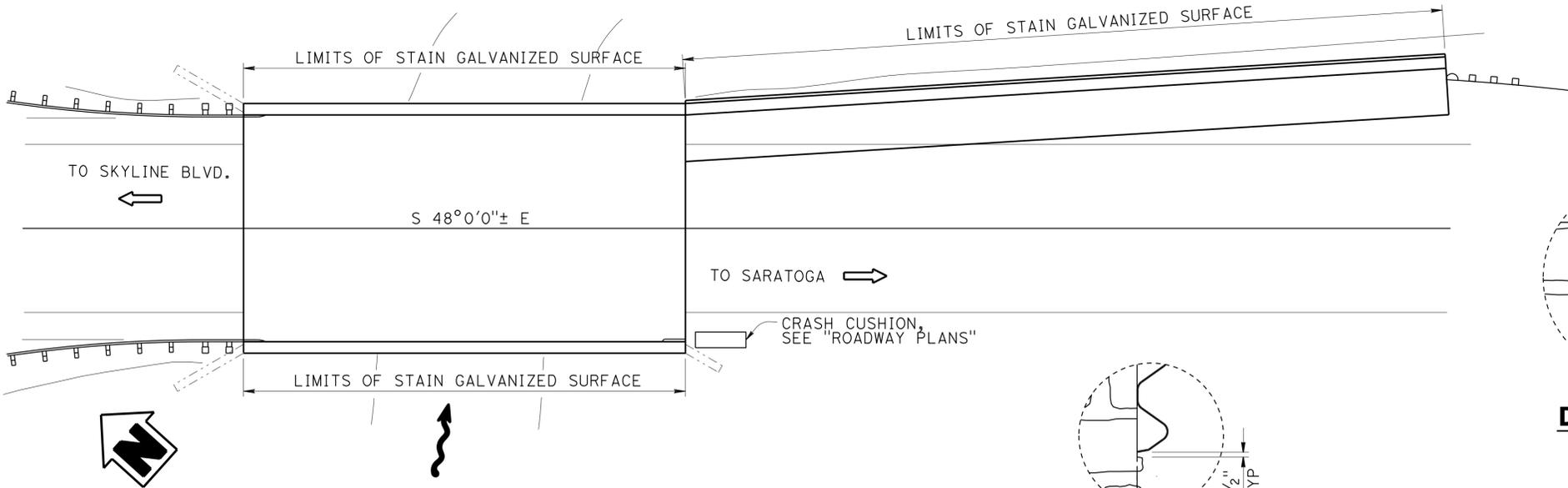
CONCRETE BARRIER SLAB
 3/4" = 1'-0"

- NOTES:
- (A) 2" Min Expanded polystyrene
 - (B) 1" Expanded Polystyrene on MSE and concrete stem walls
 - (C) 4'-0" wide pavement reinforcing fabric, see "ROADWAY PLANS"
 - (D) Limits of Anti-Graffiti coating
 - ⊗ Indicates bundled bars

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

DESIGN BY P. Lutz CHECKED J. Railey DETAILS BY P. Lutz CHECKED J. Railey QUANTITIES BY P. Lutz CHECKED E. Franciliso			STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 9	BRIDGE NO. 37-0073 POST MILE 3.6	WEST BRANCH SARATOGA CREEK BRIDGE RAIL REPLACEMENT CONCRETE BARRIER SLAB DETAILS
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3594	PROJECT NUMBER & PHASE: 0412000162 1	CONTRACT NO.: 04-1A3404
					DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES: 01-03-14, 11-06-14, 01-09-15 SHEET 7 OF 8

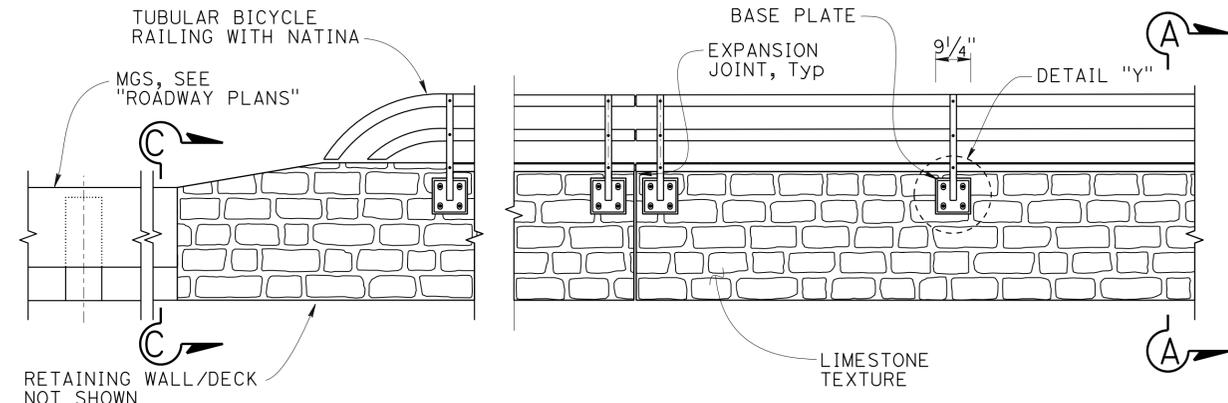
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	89	98
 REGISTERED CIVIL ENGINEER			04-01-15	DATE	
6-1-15 PLANS APPROVAL DATE					
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					



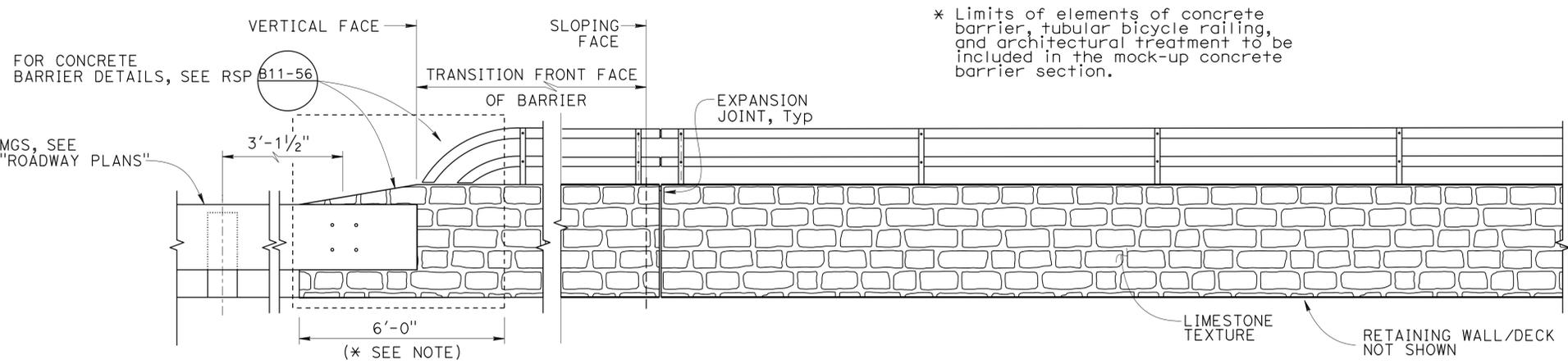
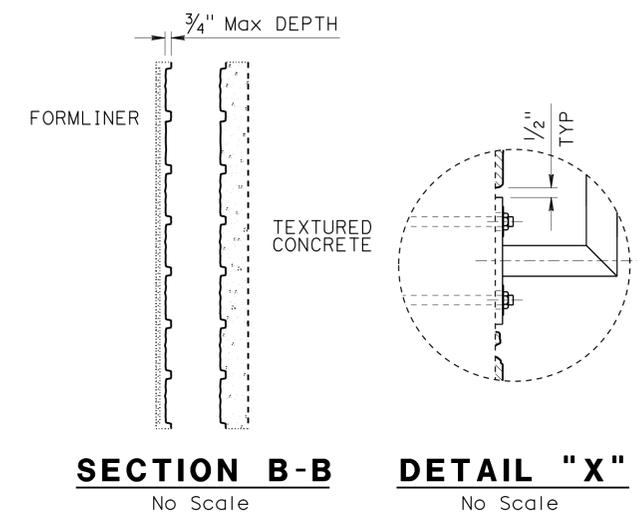
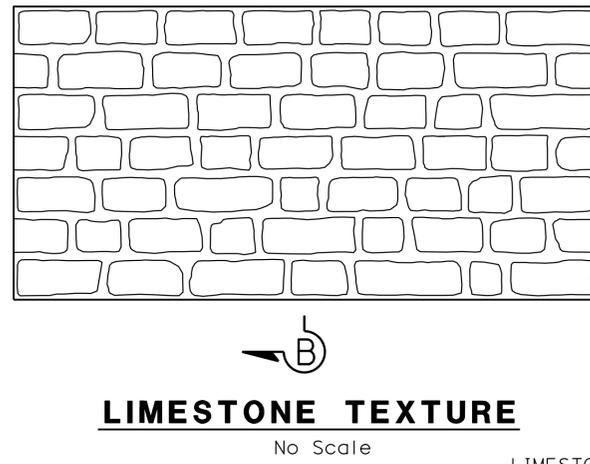
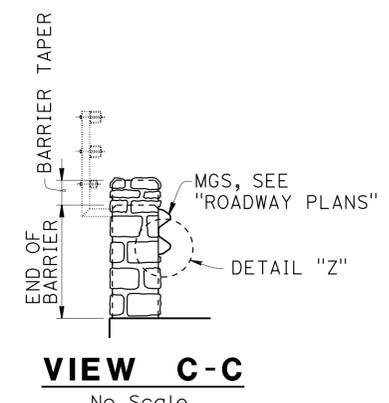
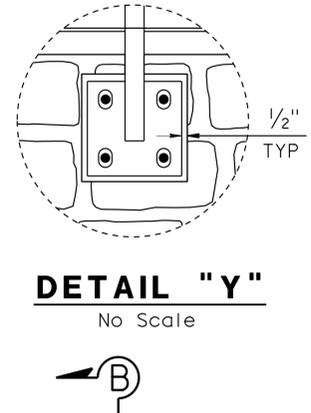
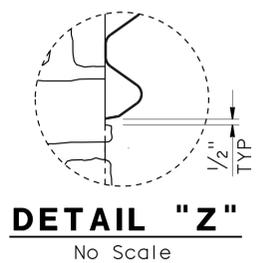
NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

- NOTES:
1. Prepare and stain concrete.
 2. Apply anti-graffiti coating on concrete barrier surfaces and vertical faces of concrete barrier slab and deck overlay.

LIMITS OF STAIN GALVANIZED SURFACE
No Scale



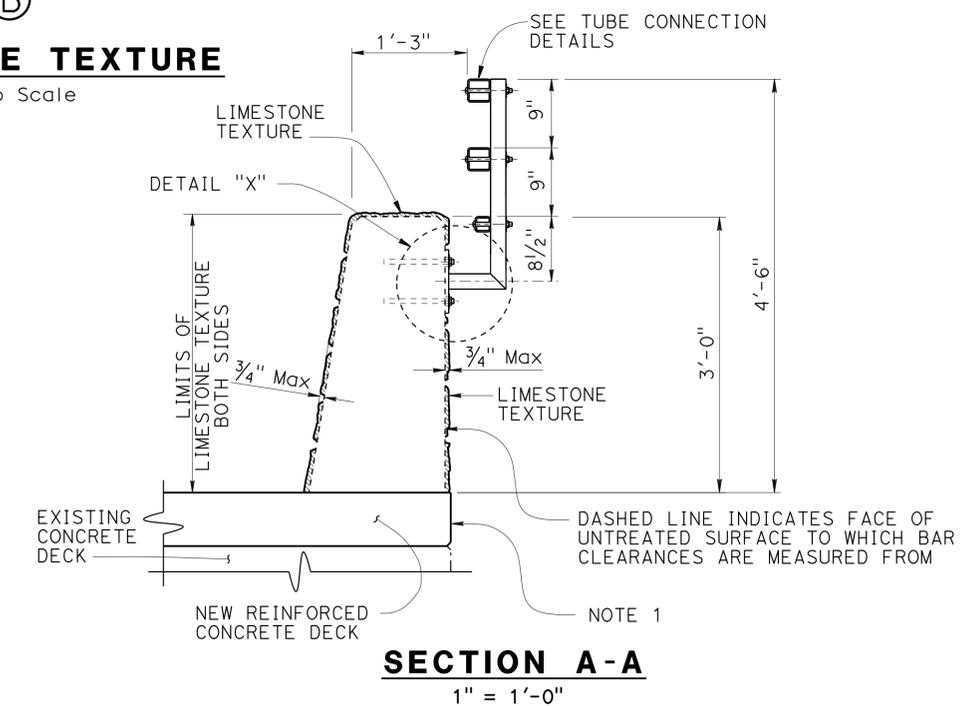
TYPE 736 - TYPICAL ELEVATION (BACK)
No Scale



TYPE 736 - TYPICAL ELEVATION (FRONT OR TRAVELWAY)
No Scale

* Limits of elements of concrete barrier, tubular bicycle railing, and architectural treatment to be included in the mock-up concrete barrier section.

NOTE:
Include one tubular bicycle railing anchor plate



WEST BRANCH SARATOGA CREEK
BRIDGE RAIL REPLACEMENT
ARCHITECTURAL TREATMENT DETAILS

DESIGN	BY P. Lutz	CHECKED J. Railey	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 9	BRIDGE NO.	37-0073
DETAILS	BY E. Hallstrom	CHECKED J. Railey			POST MILE	3.6
QUANTITIES	BY P. Lutz	CHECKED E. Franciliso				

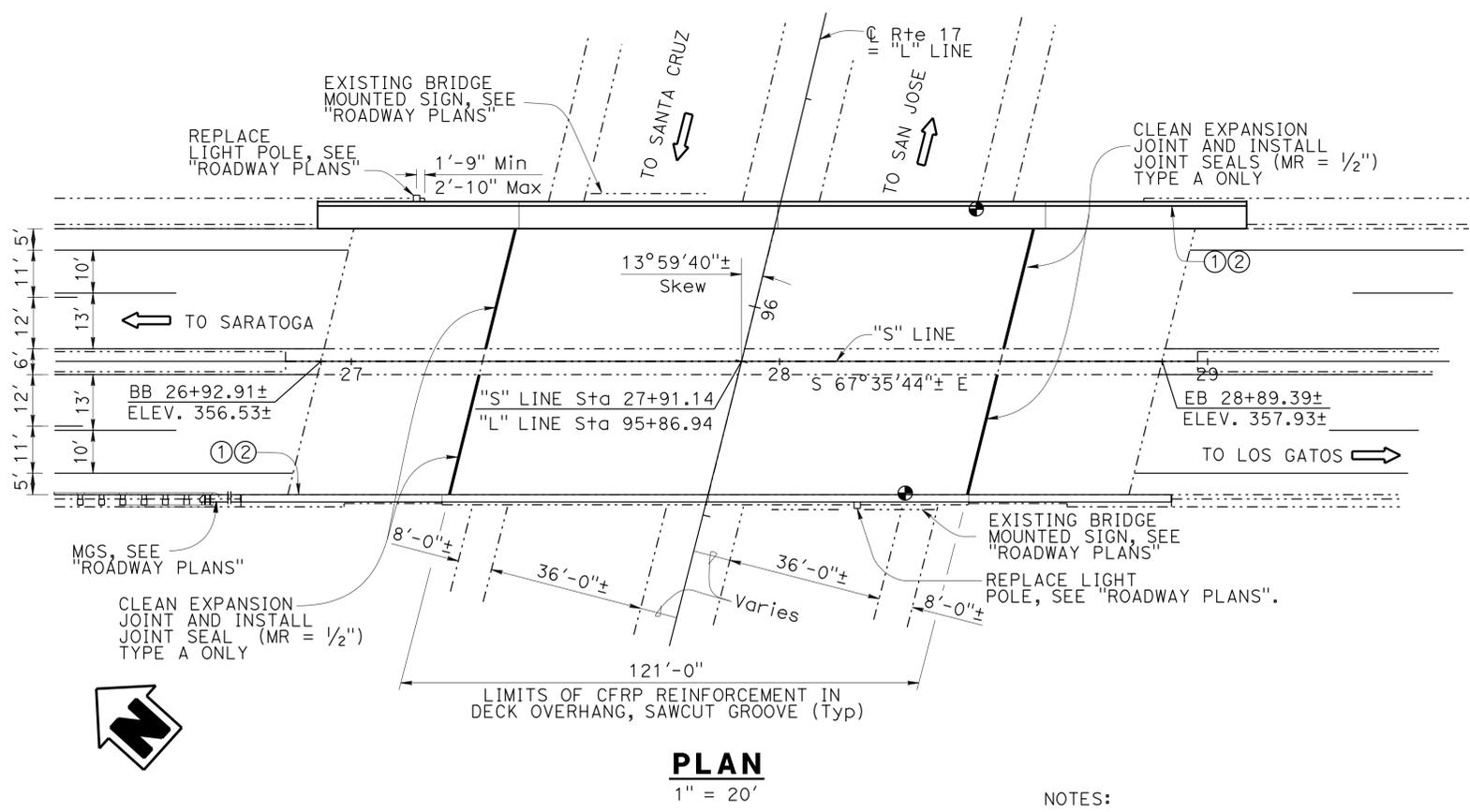
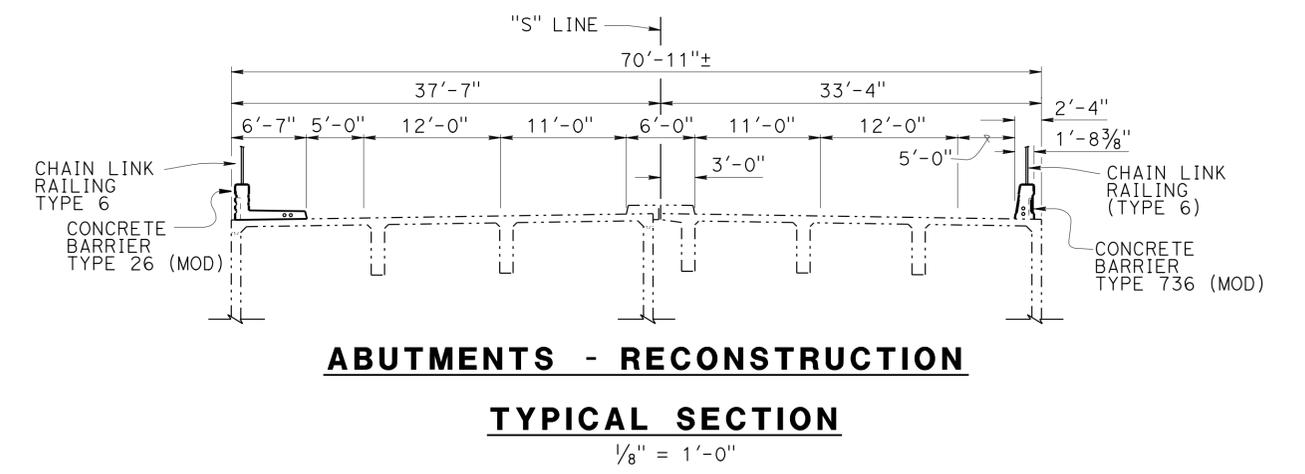
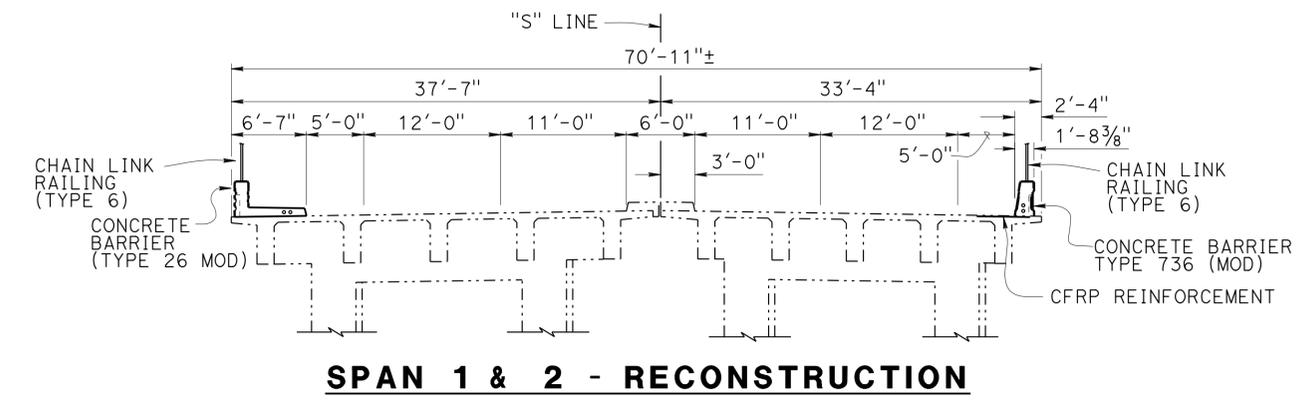
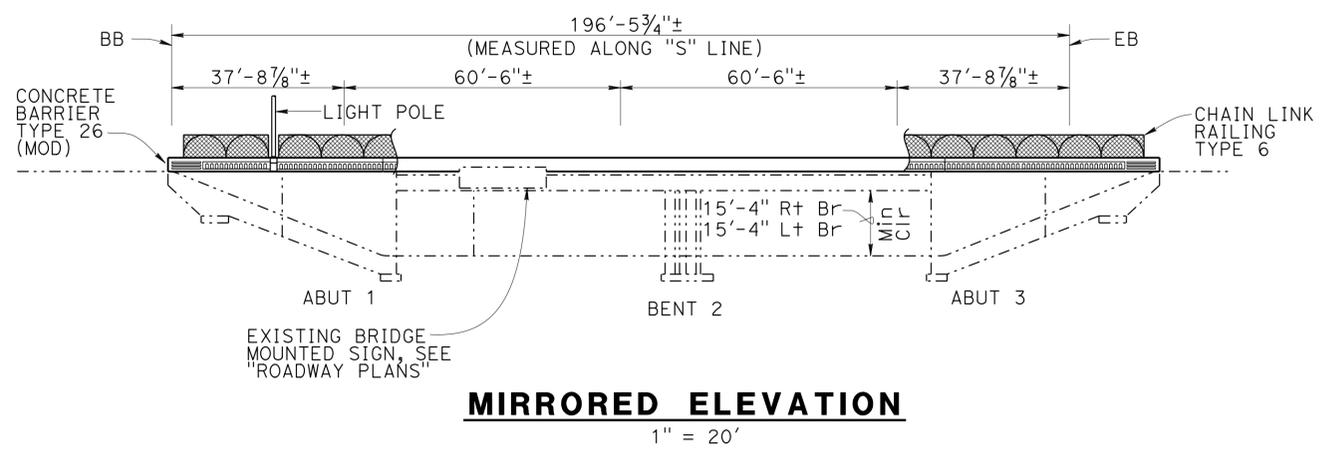
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	90	98

 REGISTERED CIVIL ENGINEER		04-01-15 DATE
6-1-15 PLANS APPROVAL DATE		

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QUANTITIES

LEAD COMPLIANCE PLAN	LUMP	SUM
WORK AREA MONITORING (BRIDGE)	5	LF
REFINISH BRIDGE DECK	215	SOFT
CARBON FIBER REINFORCED POLYMER STRIPS	565	LF
BRIDGE REMOVAL (PORTION), LOCATION A	LUMP	SUM
STRUCTURE EXCAVATION (TYPE Z-2)	9	CY
(AERIALY DEPOSITED LEAD)		
STRUCTURE BACKFILL (BRIDGE)	6	CY
STRUCTURAL CONCRETE, BRIDGE	5	CY
DRILL AND BOND DOWEL	78	LF
CLEAN EXPANSION JOINT	118	LF
JOINT SEAL (MR 1/2")	118	LF
BAR REINFORCING STEEL (BRIDGE)	380	LB
ANTI-GRAFFITI COATING	2,980	SOFT
CHAIN LINK RAILING (TYPE 6)	430	LF
CONCRETE BARRIER (TYPE 26 MODIFIED)	217	LF
CONCRETE BARRIER (TYPE 736 MODIFIED)	217	LF



- LEGEND:
- Indicates existing structure
 - Indicates new structure
 - Indicates point of minimum vertical clearance

- NOTES:
- For placement of temporary railing Type K, see "ROADWAY PLANS".
 - Near Surface Mounted Carbon Fiber Reinforced Polymer Strips (CFRP).
 - Lightpole pedestal to be placed symmetrically within Architectural Treatment.
 - Apply anti-graffiti coating to all concrete barrier surfaces, see "CFRP DETAILS" sheet.

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

Gordon Danke DESIGN ENGINEER	DESIGN	BY P. Lutz	CHECKED J. Railey	LOAD & RESISTANCE FACTOR DESIGN	LIVE LOADING: HL93 W/"LOW-BOY"; PERMIT DESIGN VEHICLE	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 9	BRIDGE NO.	37-0144
	DETAILS	BY P. Lutz / C. Cancino	CHECKED J. Railey	LAYOUT	BY P. Lutz			POST MILE	11.4
	QUANTITIES	BY P. Lutz	CHECKED E. Franciliso	SPECIFICATIONS	BY S. Nelapatla			PLANS AND SPECS COMPARED	P. Lutz

**SARATOGA AVENUE SEPARATION
BARRIER REPLACEMENT
GENERAL PLAN**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	91	98

04-01-15
 REGISTERED CIVIL ENGINEER DATE
 6-1-15
 PLANS APPROVAL DATE

Philip E. Lutz
 REGISTERED PROFESSIONAL ENGINEER
 No. C55839
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA

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INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN
2	INDEX TO PLANS
3	REMOVAL
4	CFRP DETAILS
5	CHAIN LINK RAILING TYPE 6
6	BARRIER DETAILS
7	CONCRETE BARRIER TYPE 736 RETROFIT ON EXISTING BRIDGE DECK AND WING WALL
8	ARCHITECTURAL TREATMENT DETAILS NO. 1
9	ARCHITECTURAL TREATMENT DETAILS NO. 2

GENERAL NOTES

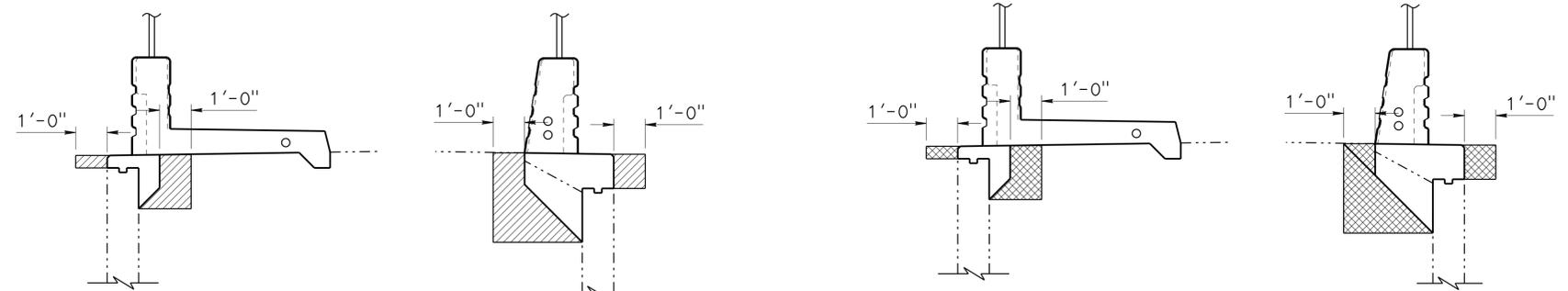
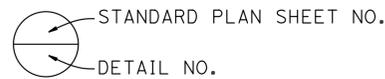
LOAD AND RESISTANCE FACTOR DESIGN

DESIGN : AASHTO LFD BRIDGE DESIGN SPECIFICATIONS, and the Caltrans Amendments, dated November 2011.
 LIVE LOADING : HL93 AND PERMIT DESIGN LOAD
 CONCRETE : $f_y = 60,000$ psi
 $f'_c = 3,600$ psi
 $n = 8$

CARBON FIBER REINFORCED POLYMERS (CFRP) STRIPS : Minimum Tensile Strength = 285,000 psi
 Tensile Modulus of Elasticity = 18,000,000 psi
 Effective Cross-Sectional Area = 0.11 in²

STANDARD PLANS DATED 2010

DETAIL	DESCRIPTION
A10A	ABBREVIATIONS (SHEET 1 OF 2)
RSP A10B	ABBREVIATIONS (SHEET 2 OF 2)
A10C	LINES AND SYMBOLS (SHEET 1 OF 3)
A10D	LINES AND SYMBOLS (SHEET 2 OF 3)
A10E	LINES AND SYMBOLS (SHEET 3 OF 3)
B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")
B11-7	CHAIN LINK RAILING
RSP B11-54	CONCRETE BARRIER TYPE 26
RSP B11-56	CONCRETE BARRIER TYPE 736



**STRUCTURE EXCAVATION (TYPE Z-2)
(AERIALY DEPOSITED LEAD)
(SECTION F-F)**

**STRUCTURE BACKFILL (BRIDGE)
(SECTION F-F)**

LIMITS OF PAYMENT FOR STRUCTURE EXCAVATION AND BACKFILL

No Scale

LEGEND:

- Indicates structure excavation (Type Z-2) (Aerially Deposited Lead)
- Indicates structure backfill (Bridge)

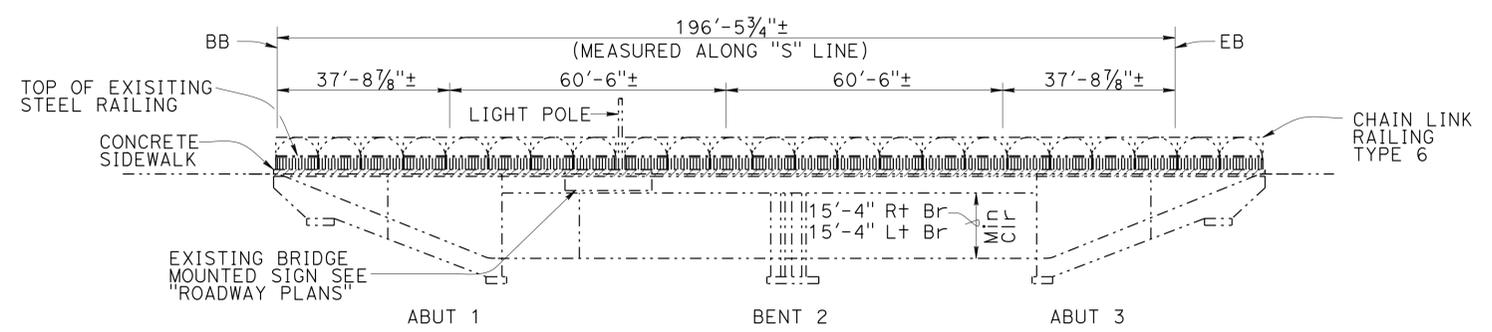
NOTE:
For "SECTION F-F", see "BARRIER DETAILS" sheet.

DESIGN BY P. Lutz		CHECKED J. Railey	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 9	BRIDGE NO. 37-0144	SARATOGA AVENUE SEPARATION BARRIER REPLACEMENT INDEX TO PLANS
DETAILS BY P. Lutz / C. Cancino		CHECKED J. Railey			POST MILE 11.4	
QUANTITIES BY P. Lutz		CHECKED E. Franciliso				
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	UNIT: 3594 PROJECT NUMBER & PHASE: 0412000162 1	CONTRACT NO.: 04-1A3404	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 01-05-14, 11-06-14, 01-05-15 SHEET 2 OF 9

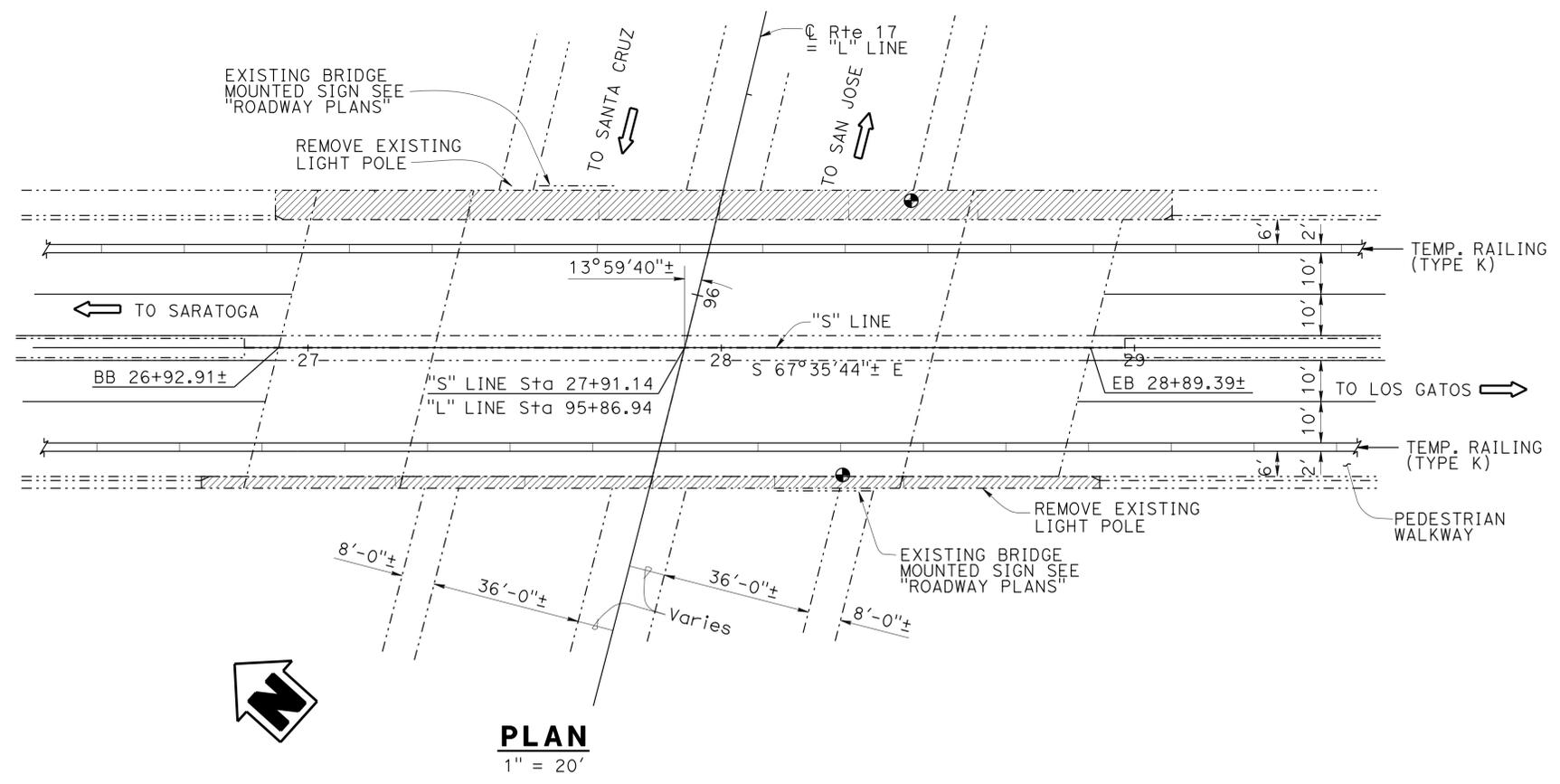
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	92	98
 REGISTERED CIVIL ENGINEER			04-01-15 DATE		
6-1-15 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

- NOTES:
- Existing steel railing and chain link railing, Type 6 to be removed from both sides of bridge.
 - Remove and replace light pole, one light pole on each side of bridge. See "ROADWAY PLANS".

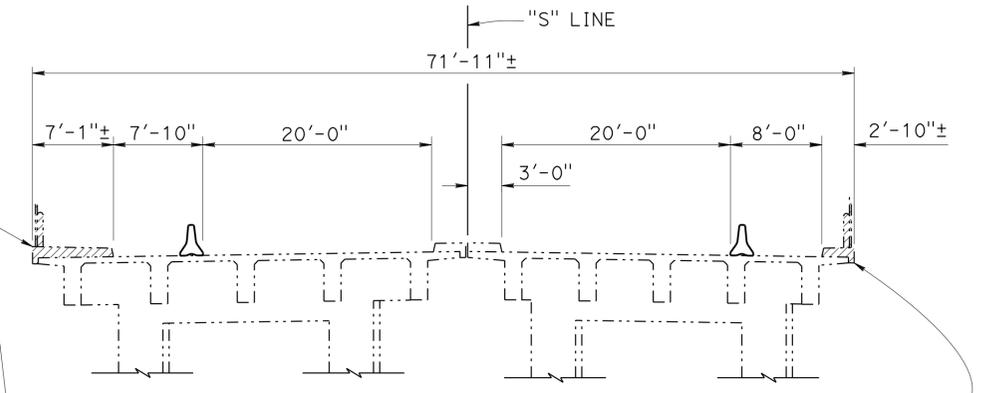
- LEGEND:
- Indicates existing structure
 - ▨ Indicates bridge removal (portion)
 - Indicates point of minimum vertical clearance



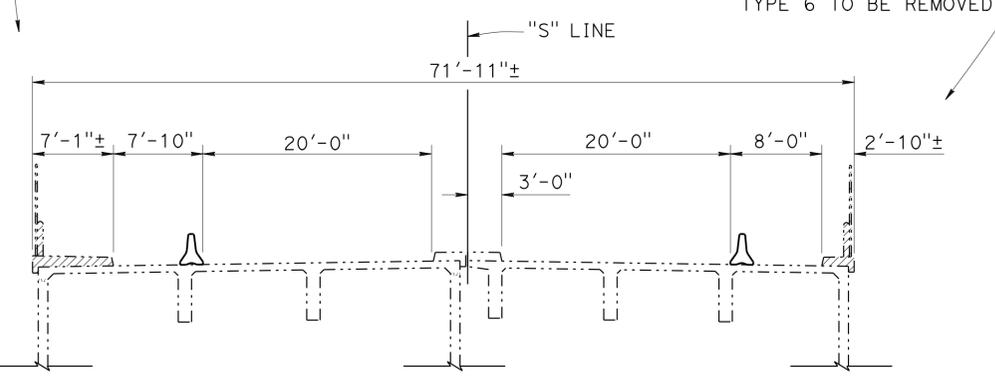
MIRRORED ELEVATION
1" = 20'



PLAN
1" = 20'



SPAN 1 & 2 - REMOVAL



ABUTMENTS - REMOVAL

TYPICAL SECTION
1/8" = 1'-0"

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

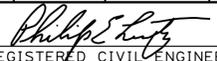
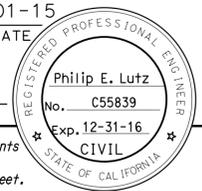
DESIGN	BY P. Lutz	CHECKED J. Railey
DETAILS	BY P. Lutz / C. Cancino	CHECKED E. Franciliso
QUANTITIES	BY P. Lutz	CHECKED E. Franciliso

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

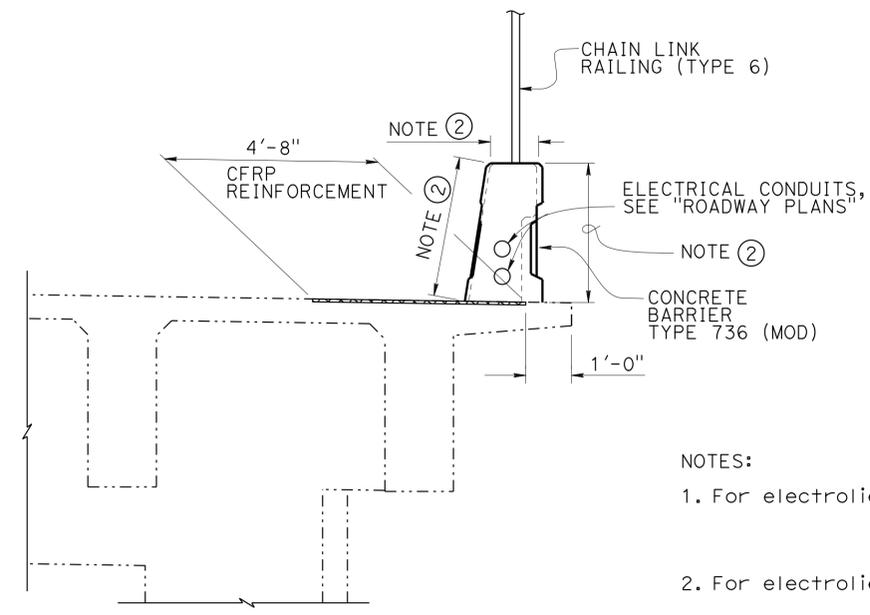
DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 9

BRIDGE NO.	37-0144
POST MILE	11.4

**SARATOGA AVENUE SEPARATION
BARRIER REPLACEMENT
REMOVAL**

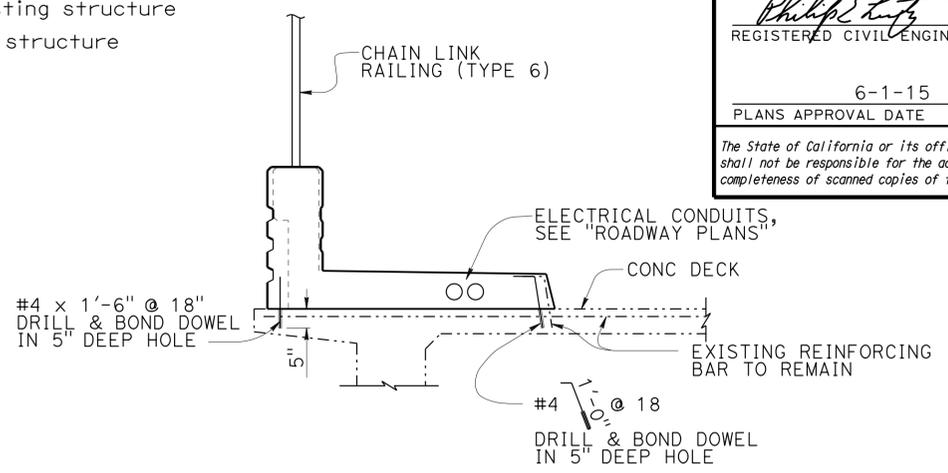
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	93	98
 REGISTERED CIVIL ENGINEER			04-01-15 DATE		
PLANS APPROVAL DATE			6-1-15		
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

LEGEND:
 - - - - - Indicates existing structure
 ———— Indicates new structure

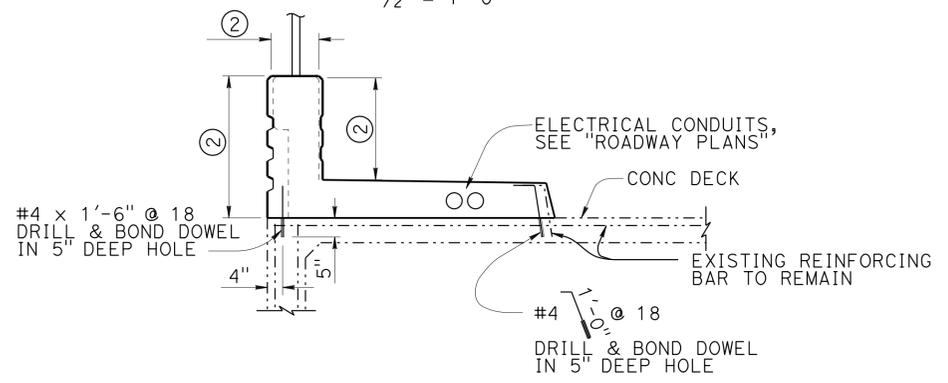


CFRP PARTIAL TYPICAL SECTION
 1/2" = 1'-0"

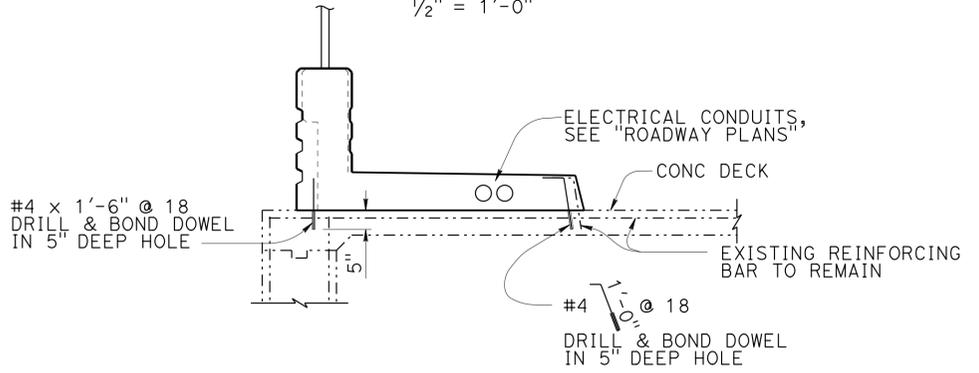
- NOTES:
1. For electrolier on type 736 barrier, see 
 2. For electrolier on type 26 barrier, see 
 3. "CFRP" Indicates carbon fiber reinforced polymer



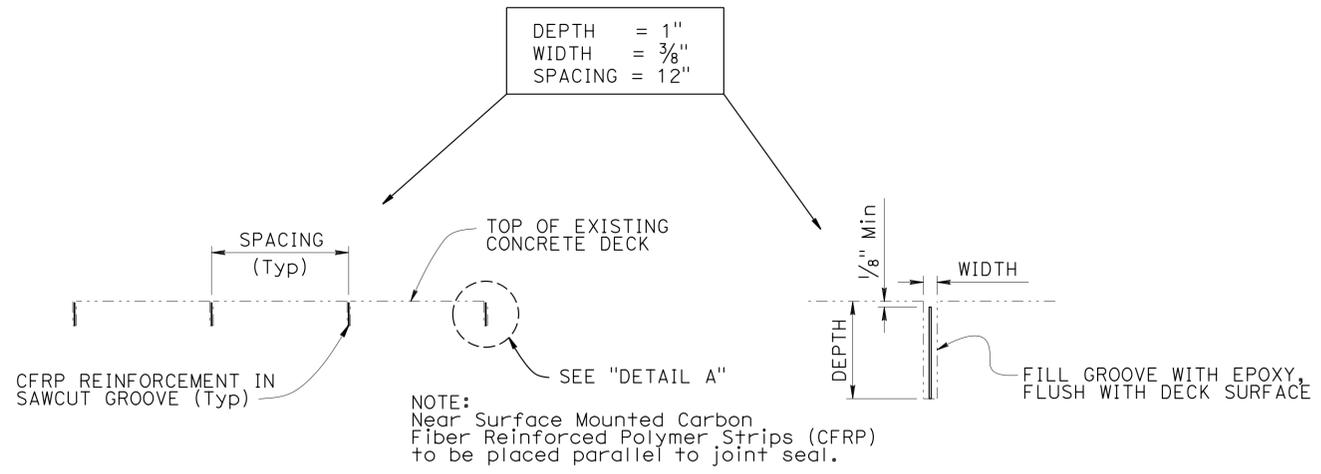
**CONCRETE BARRIER TYPE 26 (MOD)
 DRILL & BOND DOWEL ON BRIDGE DECK**
 1/2" = 1'-0"



**CONCRETE BARRIER TYPE 26 (MOD)
 DRILL & BOND DOWEL FOR "SECTION D-D"**
 1/2" = 1'-0"



**CONCRETE BARRIER TYPE 26 (MOD)
 DRILL & BOND DOWEL FOR "SECTION E-E"**
 1/2" = 1'-0"



CFRP DETAIL
 No Scale

DETAIL A
 No Scale

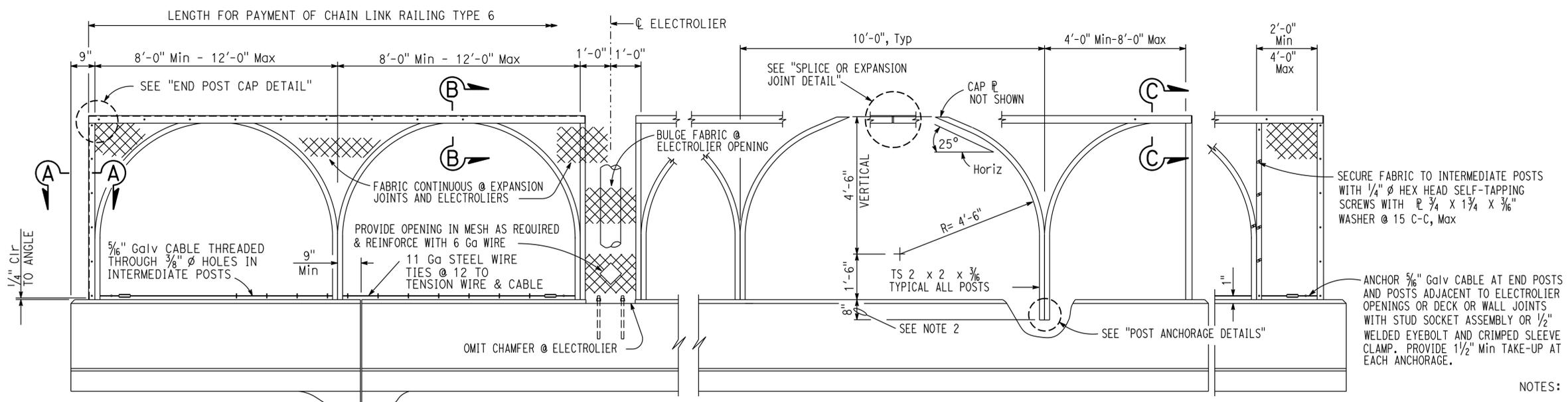
- NOTES:
- ① FOR "SECTION D-D" AND "SECTION E-E", SEE "BARRIER DETAILS" SHEET
 - ② LIMITS OF ANTI-GRAFFITI COATING.

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

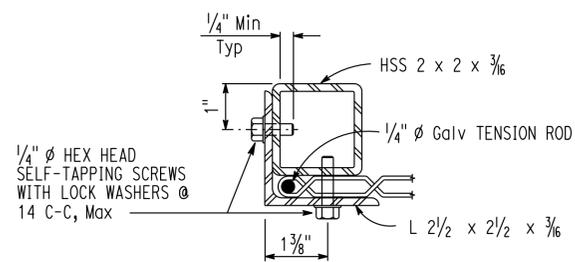
DESIGN BY P. Lutz CHECKED J. Railey			STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 9	BRIDGE NO. 37-0144	SARATOGA AVENUE SEPARATION BARRIER REPLACEMENT CFRP DETAILS		
DETAILS BY P. Lutz / C. Cancino CHECKED E. Franciliso					POST MILE 11.4			
QUANTITIES BY P. Lutz CHECKED E. Franciliso								
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	UNIT: 3594 PROJECT NUMBER & PHASE: 0412000162 1	CONTRACT NO.: 04-1A3404	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 4 OF 9

USERNAME => s128787 DATE PLOTTED => 19-JUN-2015 TIME PLOTTED => 09:17

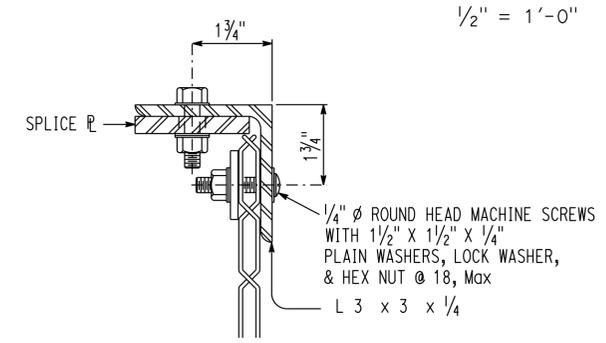
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	94	98
Philip E. Lutz			04-01-15	REGISTERED CIVIL ENGINEER DATE	
6-1-15			PLANS APPROVAL DATE		
Philip E. Lutz			REGISTERED PROFESSIONAL ENGINEER		
No. C55839			Exp. 12-31-16		
CIVIL			STATE OF CALIFORNIA		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.					



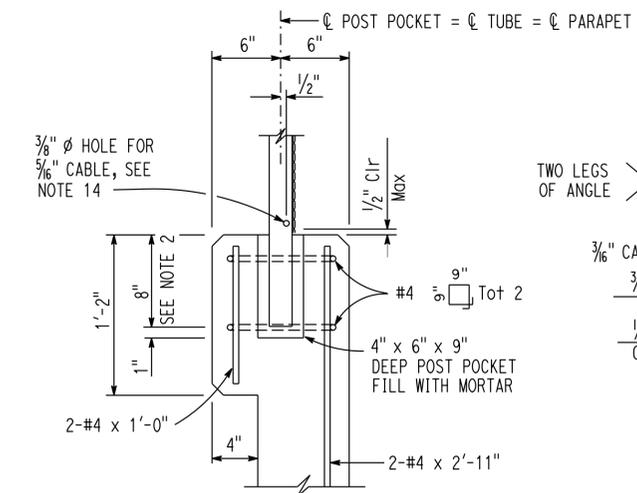
END PANEL 8'-0" - 12'-0" EXPANSION PANEL AT ELECTROLIER TYPICAL INTERIOR PANEL 10'-0", Typ END PANEL 4'-0" - 8'-0" END PANEL 2'-0" - 4'-0"



SECTION A-A
6" = 1'-0"



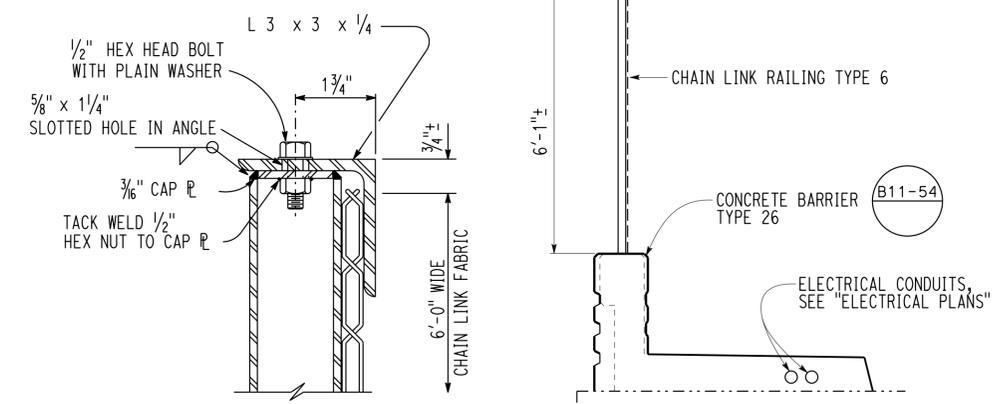
SECTION B-B
6" = 1'-0"



POST ANCHORAGE DETAIL
1 1/2" = 1'-0"

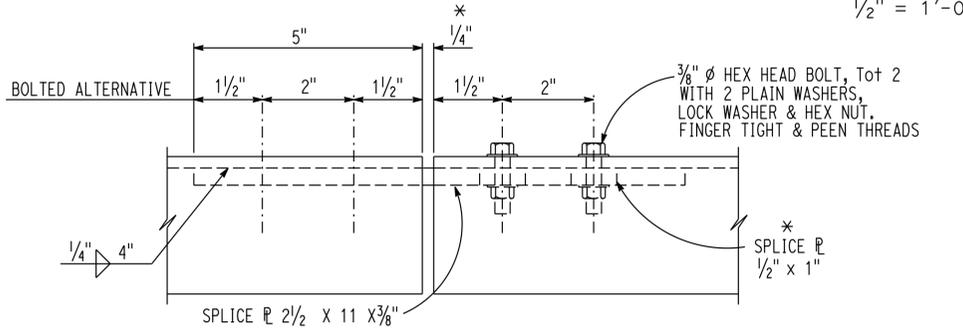
NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

ELEVATION
1/2" = 1'-0"



SECTION C-C
6" = 1'-0"

1 TYPICAL SECTION
1/2" = 1'-0"



SPLICE OR EXPANSION JOINT DETAIL
6" = 1'-0"

* Expansion joint same dimension as expansion joint in deck or wall. Increase slotted hole length and splice @ length correspondingly.

- NOTES:
- Horizontal angle must be continuous over not less than two intermediate posts except that a shorter length is permitted at expansion joints, electroliers and other rail discontinuities.
 - One post may be embedded 6" minimum to accommodate grade changes, otherwise fabricate post lengths as required.
 - Curved posts may be rotated in plane within post pockets to accommodate curved horizontal alignment.
 - Straight posts and straight portions of curved posts must be installed normal to bridge profile grade.
 - Top horizontal angle must be parallel to bridge profile grade and must be shop bent to fit horizontal curves.
 - When railing is on slope, fabric must be placed parallel to slope.
 - Alternative details may be submitted by Contractor for Engineer's approval.
 - For details and reinforcement not shown, see "CONCRETE BARRIER TYPE 26" sheet. (RSP B11-54)
 - See Bridge Plans for limits of Chain Link Railing Type 6.
 - Provide thimbles at all cable loops.
 - Chain link fabric to be 6'-0" wide with 1" mesh and with knuckled selvage top and bottom.
 - When railing is placed on a horizontal alignment with a radius of 150'-0" or less, thread 5/16" cable through 3/8" * welded eye rods embedded 4" into the top of the concrete parapet and equally spaced to limit the middle ordinate distance between 5/16" cable and the curve to 1" maximum.
 - Splices and expansion joints must be located at @ panel.
 - Holes in posts for 5/16" cable and its anchorage may be field drilled and painted with zinc rich paint.

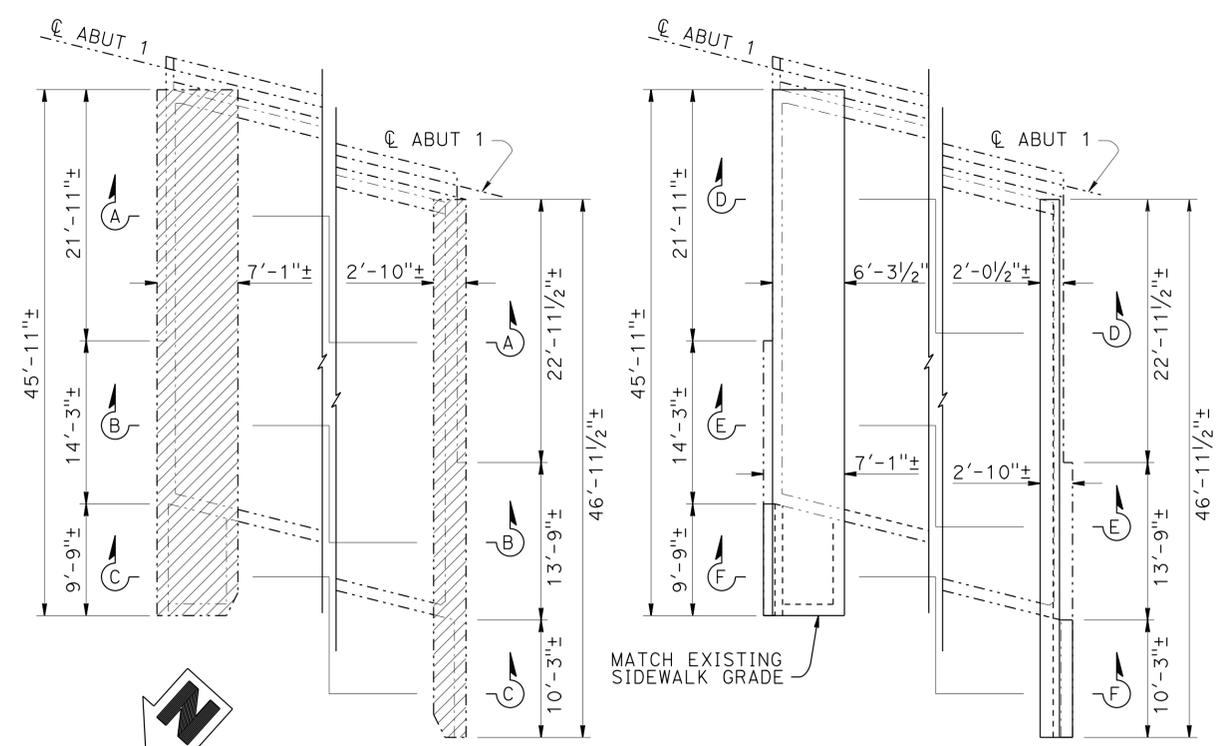
REVISED STANDARD DRAWING	1 Details Modified
FILE NO. xs16-200	APPROVAL DATE <u>October 2014</u>

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 37-0144
		POST MILE 11.4

SARATOGA AVENUE SEPARATION		
BARRIER REPLACEMENT		
CHAIN LINK RAILING TYPE 6		
REVISION DATES	SHEET	OF
6-26-14 9-16-14 9-15-14 11-06-14	5	9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	95	98

REGISTERED CIVIL ENGINEER DATE 04-01-15
 Philip E. Lutz
 No. C55839
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA
 PLANS APPROVAL DATE 6-1-15
 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.

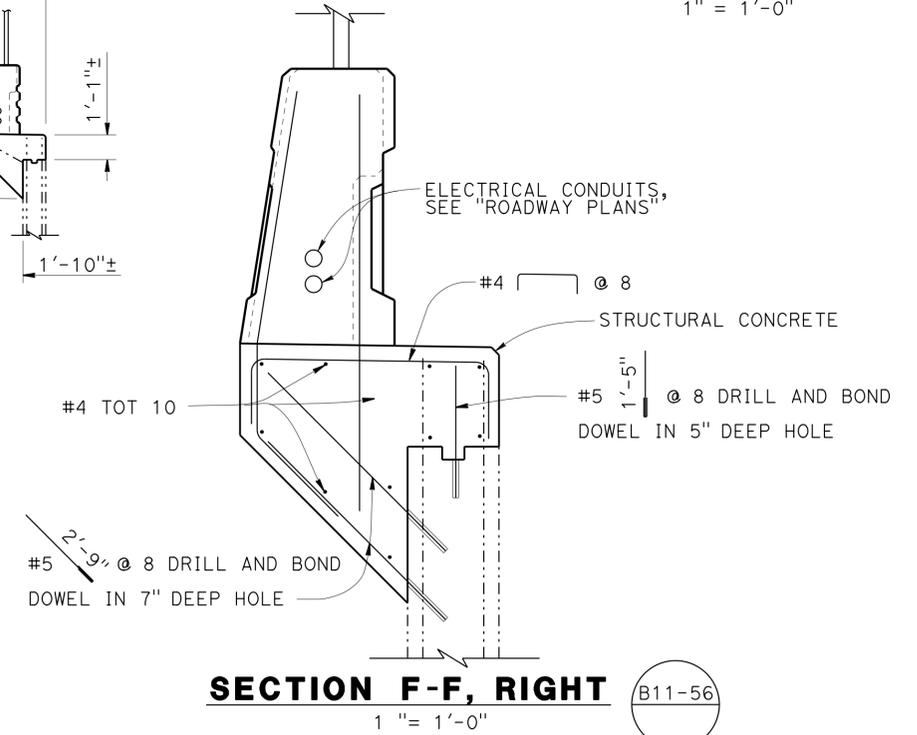
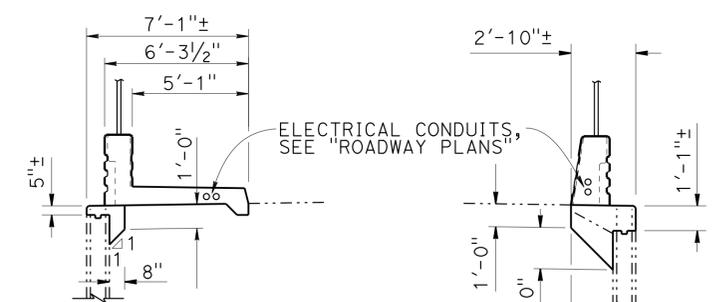
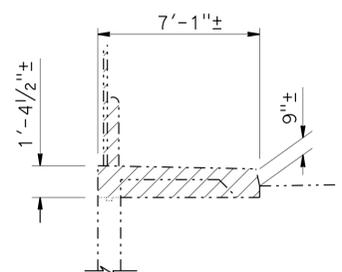
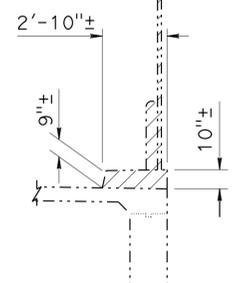
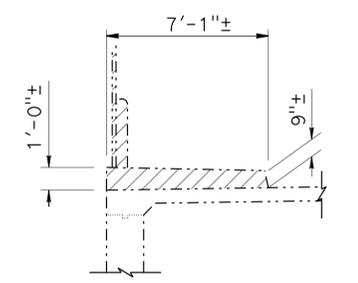
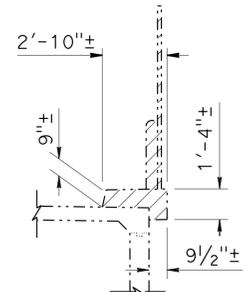
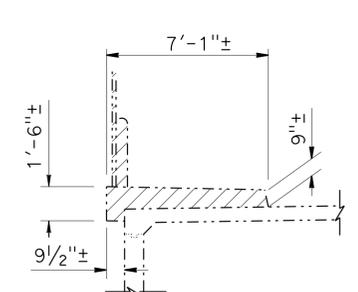
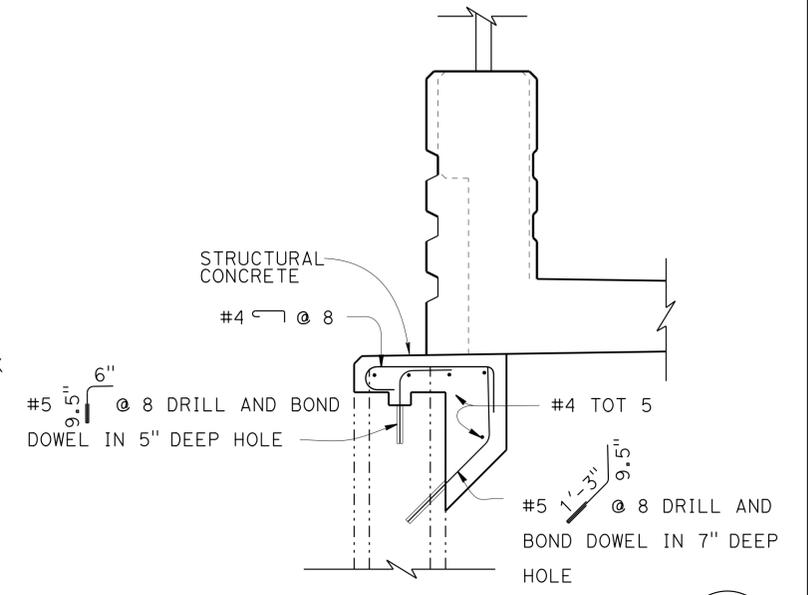
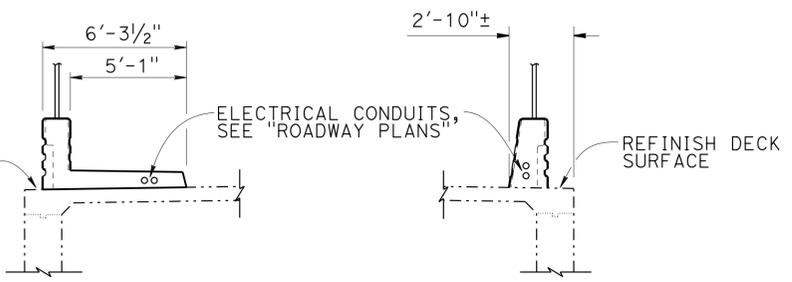
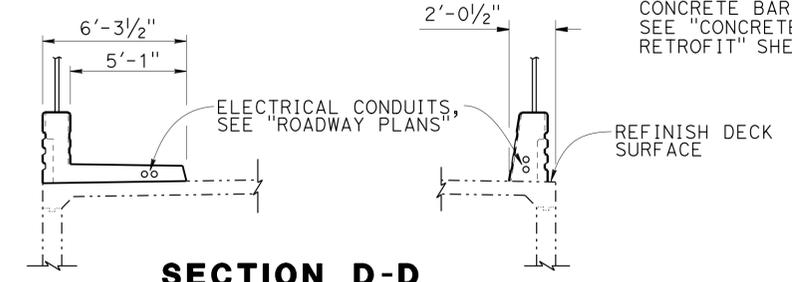


BARRIER REMOVAL AND RECONSTRUCTION DETAIL
 $\frac{1}{8}'' = 1'-0''$

ABUTMENT 1 SHOWN, ABUTMENT 3 SIMILAR

- LEGEND:**
- Indicates existing structure
 - Indicates new structure
 - ▨ Indicates bridge removal (portion)

- NOTES:**
- FOR DRILL & BOND DOWEL FOR CONCRETE BARRIER TYPE 26 (MOD) ON BRIDGE DECK, "SECTION D-D" AND "SECTION E-E", SEE "CFRP DETAILS" SHEET
 - FOR DRILL & BOND DOWEL FOR CONCRETE BARRIER TYPE 736 (MOD), SEE "CONCRETE BARRIER TYPE 736 RETROFIT" SHEET



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

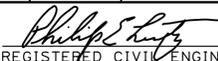
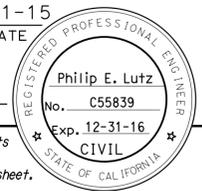
DESIGN	BY P. Lutz	CHECKED J. Railey
DETAILS	BY P. Lutz / C. Cancino	CHECKED J. Railey
QUANTITIES	BY P. Lutz	CHECKED E. Franciliso

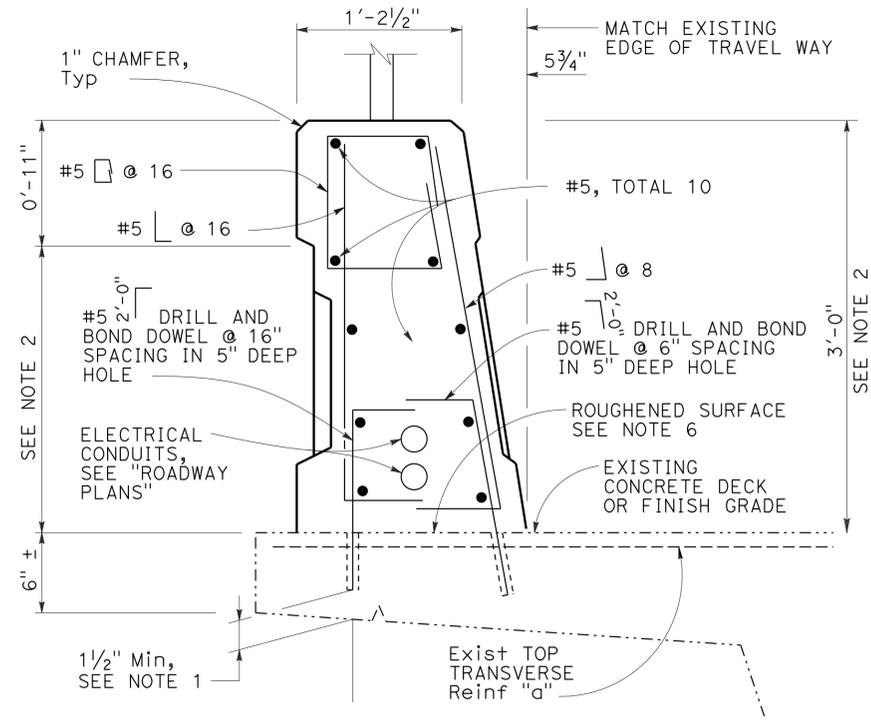
STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 9

BRIDGE NO.	37-0144
POST MILE	11.4

SARATOGA AVENUE SEPARATION
BARRIER REPLACEMENT
BARRIER DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	96	98
 REGISTERED CIVIL ENGINEER			04-01-15	DATE	
PLANS APPROVAL DATE			6-1-15	DATE	
					
<i>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.</i>					



- NOTES:**
1. Avoid existing reinforcement when drilling.
 2. Dimensions may vary with roadway cross slope and with certain thickness of surfacing. See "Roadway Plans".
 3. Clearance to reinforcing steel in barrier to be 1", except as noted. Longitudinal reinforcement to stop at all expansion joints.
 4. For typical guard railing connection details not shown, see Standard Plans RSP A77U4.
 5. See Standard Plans ES-9A, ES-9B, ES-9C, ES-9D and ES-9E for electrical details. The maximum number of conduits in the barrier is limited to two 2" conduits along with one 3" conduit. When a 3" conduit is used, it is restricted to the base of the barrier.
 6. Roughen existing bridge deck surface before casting new concrete against existing concrete.
 7. For electrolier mounting details, see Standard Plans ES-6A and ES-6B.
 8. Corbel must be placed and cured before barrier drill and bond installation.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

CT: 54 kip maximum traffic impact loading evenly distributed over 10 feet at top of the barrier and 1:1 distribution down and outward

Reinforced Concrete:

New	Existing
f'c = 3.6 Ksi	f'c = 3.6 Ksi
fy = 60 Ksi	fy = 60 Ksi

Load Combinations and Limit States. For barrier attachments to existing bridge and check of existing bridge deck overhang only.

Service I Q=1.00DC+1.00 (LL+IM)

Strength I Q=aDC+1.75 (LL+IM)

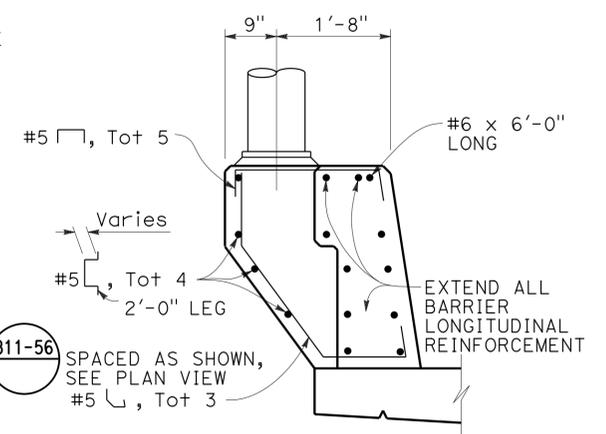
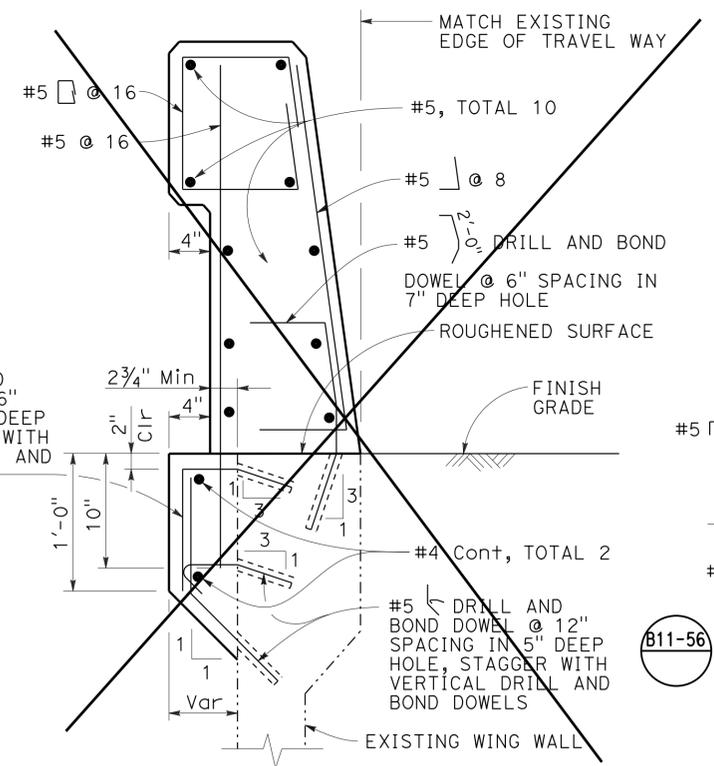
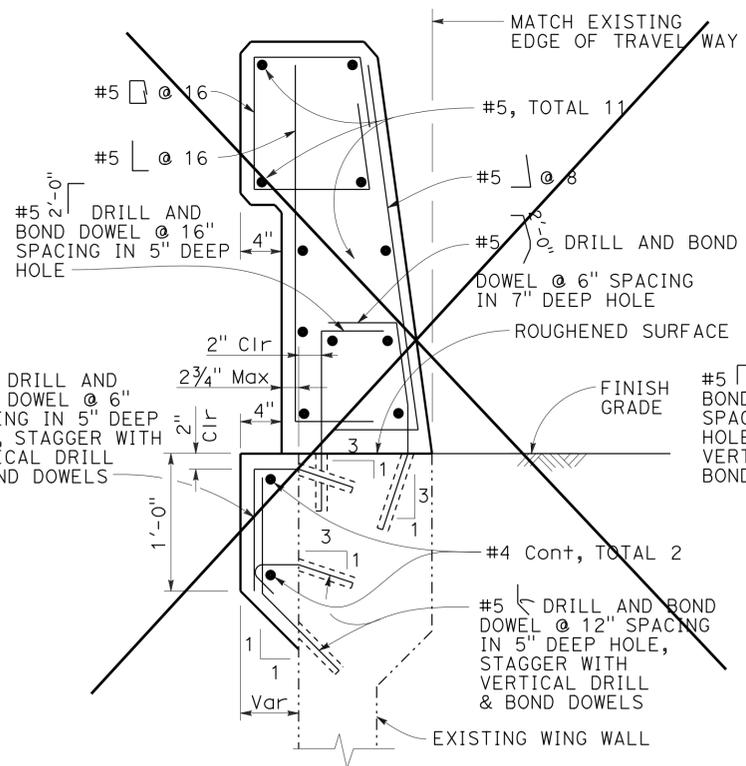
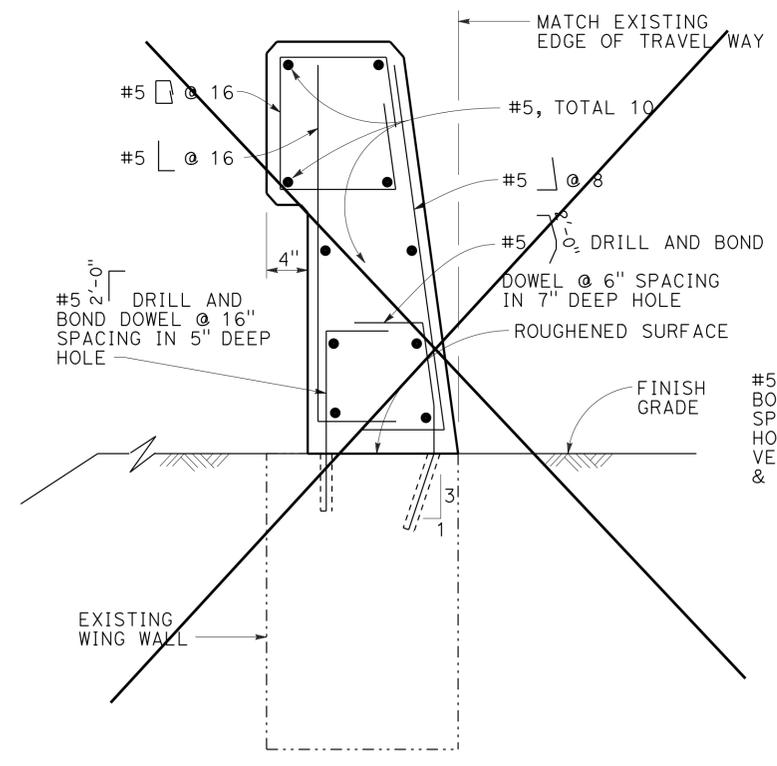
Extreme II Q=1.00DC+1.00CT

Where:

Q: Force Effects
 a: 1.25 or 0.90, Whichever Controls Design
 DC: Dead Load of Structure Components
 CT: Vehicular Collision Force
 LL: Live Load
 IM: Live Load Impact

Note: Overhang Bridge Deck shown, Slab Bridge Deck similar.

OVERHANG 2
NO SCALE



1 **TYPE 736B**
NO SCALE

1 **TYPE 736A, OPTION 1**
NO SCALE

1 **TYPE 736A, OPTION 2**
NO SCALE

PEDESTAL ELEVATION
NO SCALE

REVISED STANDARD DRAWING		1 Details deleted	3 Notes modified	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES	BRIDGE NO. 37-0144 POST MILE 11.4	SARATOGA AVENUE SEPARATION CONCRETE BARRIER TYPE 736 RETROFIT ON EXISTING BRIDGE DECK AND WING WALL						
FILE NO. xs16-045	APPROVAL DATE <u>June 2012</u>	2 Details modified		UNIT: 3594 PROJECT NUMBER & PHASE: 0412000162	CONTRACT NO.: 04-1A3404	DISREGARD PRINTS BEARING EARLIER REVISION DATES	<table border="1" style="font-size: small;"> <tr> <th>REVISION DATES</th> <th>SHEET</th> <th>OF</th> </tr> <tr> <td>4/7/12 6/7/12 01-05-15</td> <td>7</td> <td>9</td> </tr> </table>	REVISION DATES	SHEET	OF	4/7/12 6/7/12 01-05-15	7	9
REVISION DATES	SHEET	OF											
4/7/12 6/7/12 01-05-15	7	9											

DS OSD 2147A (ENGLISH STANDARD DRAWING "XS" BORDER REV. (02-02-11)) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 FILE => 37-0144-j-05xs16-045.dgn

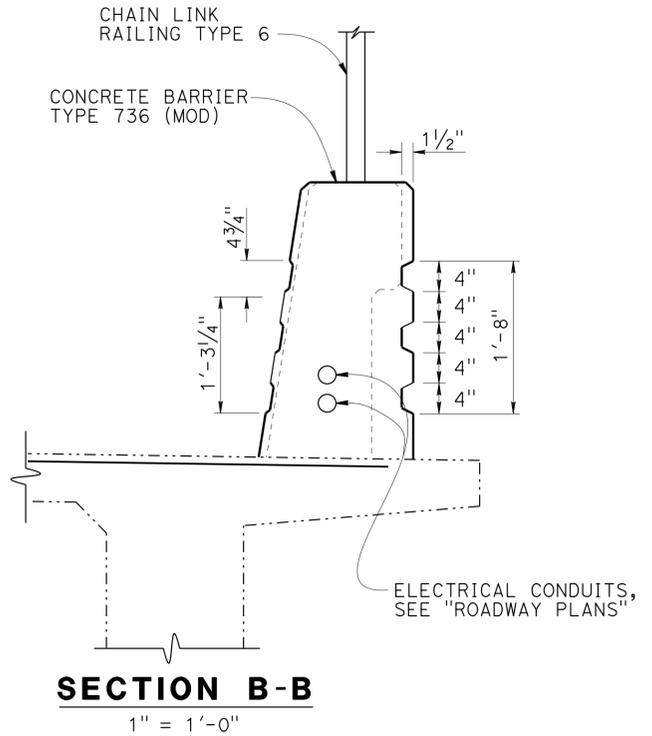
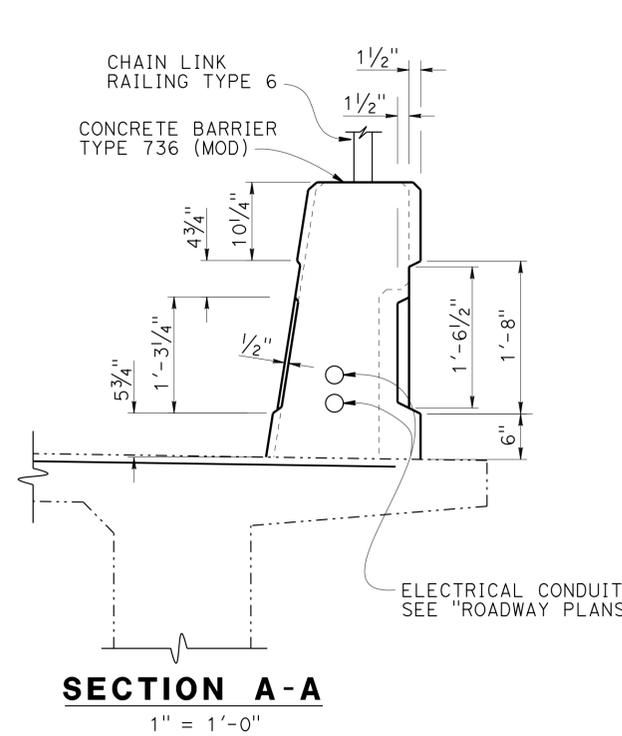
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	97	98

REGISTERED CIVIL ENGINEER
 Philip E. Lutz
 No. C55839
 Exp. 12-31-16
 CIVIL
 STATE OF CALIFORNIA

04-01-15
 DATE

6-1-15
 PLANS APPROVAL DATE

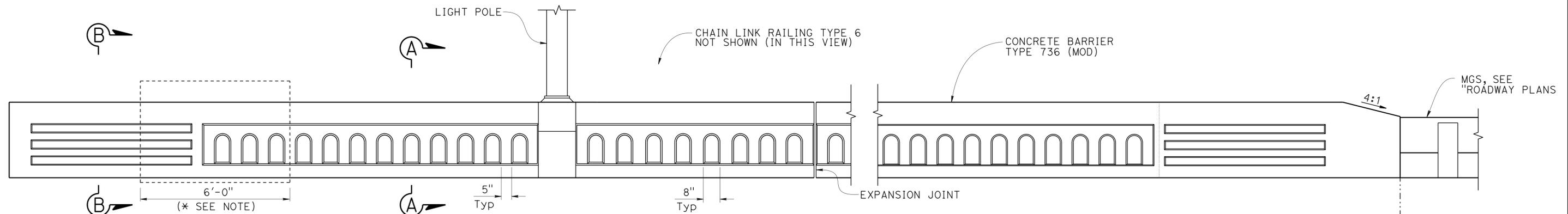
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.



NOTE:
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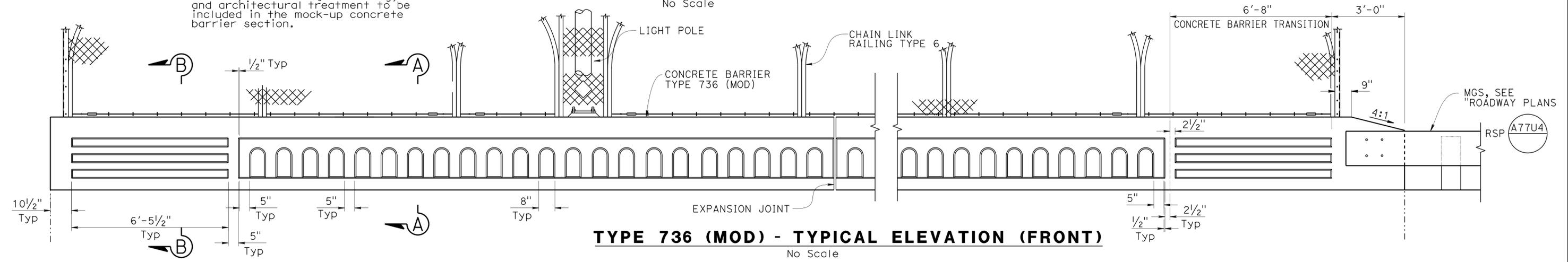
LEGEND:
 - - - - - Indicates existing structure
 _____ Indicates new structure

NOTE:
For Tubular Bicycle Railing Details, see "TUBULAR BICYCLE RAILING DETAILS" sheet



TYPE 736 (MOD) - TYPICAL (MIRRORED) ELEVATION (BACK)
No Scale

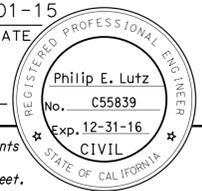
* Limits of elements of concrete barrier, tubular bicycle railing, and architectural treatment to be included in the mock-up concrete barrier section.



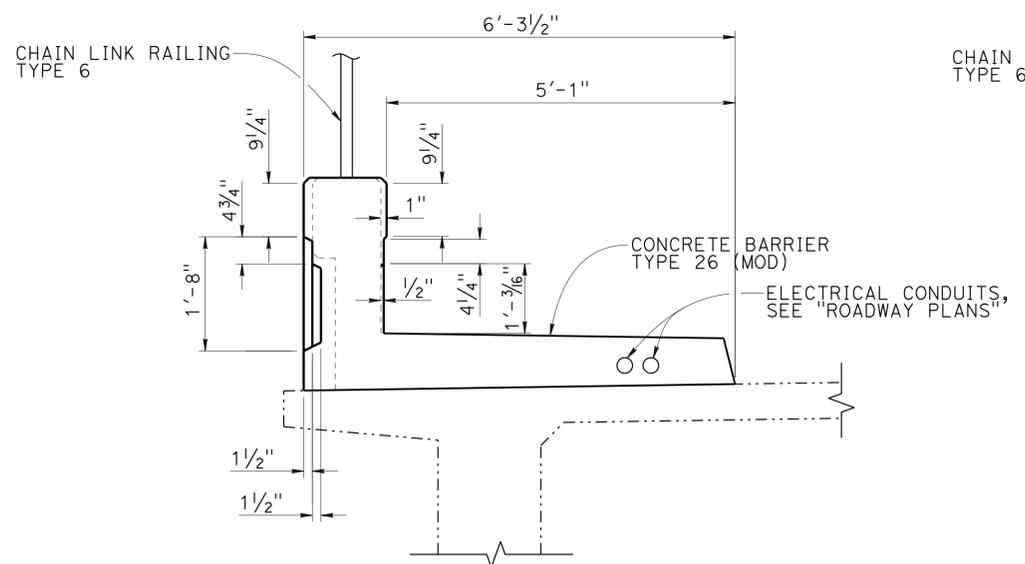
TYPE 736 (MOD) - TYPICAL ELEVATION (FRONT)
No Scale

DESIGN BY P. Lutz CHECKED J. Railey				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 9	BRIDGE NO.	SARATOGA AVENUE SEPARATION		
DETAILS BY P. Lutz / C. Cancino CHECKED J. Railey						37-0144	BARRIER REPLACEMENT		
QUANTITIES BY P. Lutz CHECKED E. Franciliso						POST MILE	ARCHITECTURAL TREATMENT DETAILS NO. 1		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3594 PROJECT NUMBER & PHASE: 0412000162 1	CONTRACT NO.: 04-1A3404	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 01-05-15	SHEET OF 8 9

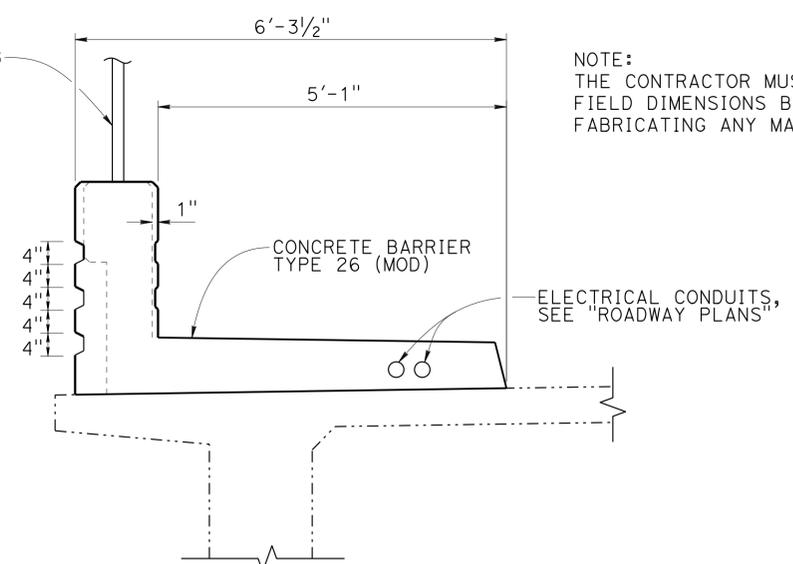
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	SCI	9	3.6, 11.4	98	98
 REGISTERED CIVIL ENGINEER			04-01-15	DATE	
6-1-15			PLANS APPROVAL DATE		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					



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



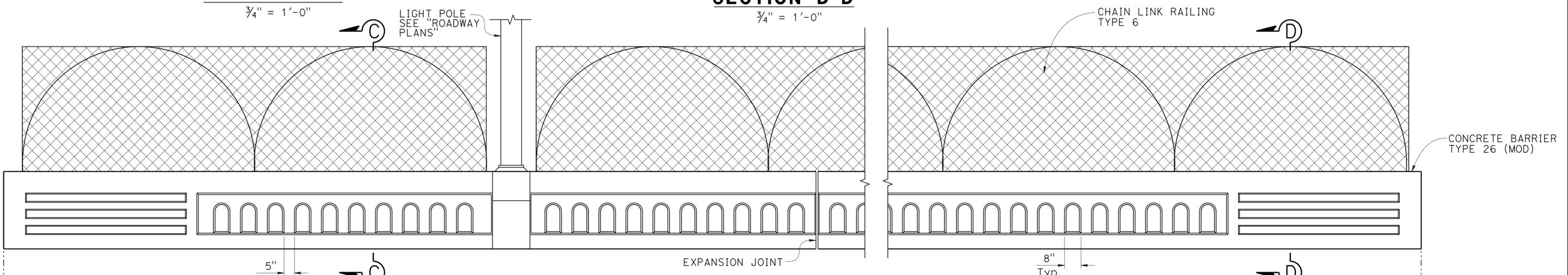
SECTION C-C



SECTION D-D

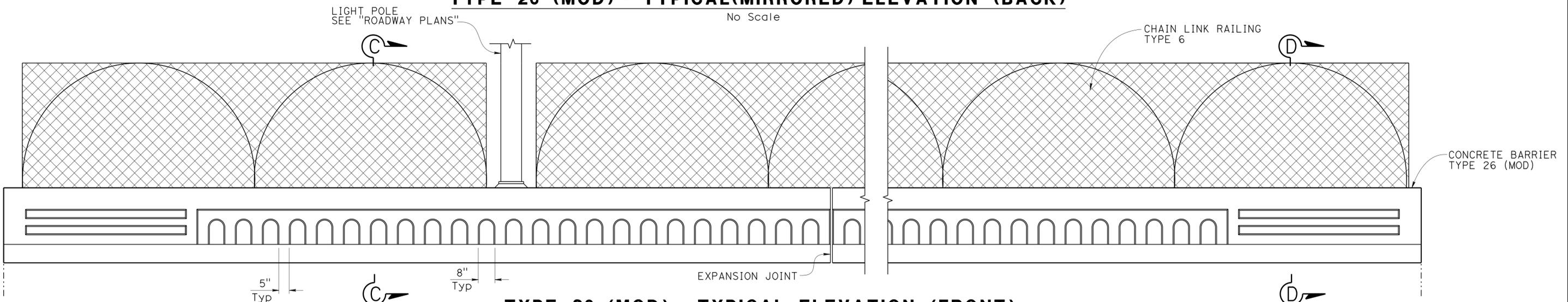
LEGEND:
 - - - - - Indicates existing structure
 ———— Indicates new structure

NOTE:
For Chain Link Railing -Type 6 Details, see "CHAIN LINK RAILING TYPE 6" sheet.



TYPE 26 (MOD) - TYPICAL (MIRRORED) ELEVATION (BACK)

No Scale



TYPE 26 (MOD) - TYPICAL ELEVATION (FRONT)

No Scale

DESIGN BY P. Lutz CHECKED J. Railey DETAILS BY P. Lutz / C. Cancino CHECKED J. Railey QUANTITIES BY P. Lutz CHECKED E. Franciliso				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 9	BRIDGE NO. 37-0144 POST MILE 11.4	SARATOGA AVENUE SEPARATION BARRIER REPLACEMENT ARCHITECTURAL TREATMENT DETAILS NO. 2
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