

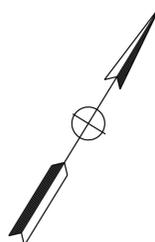
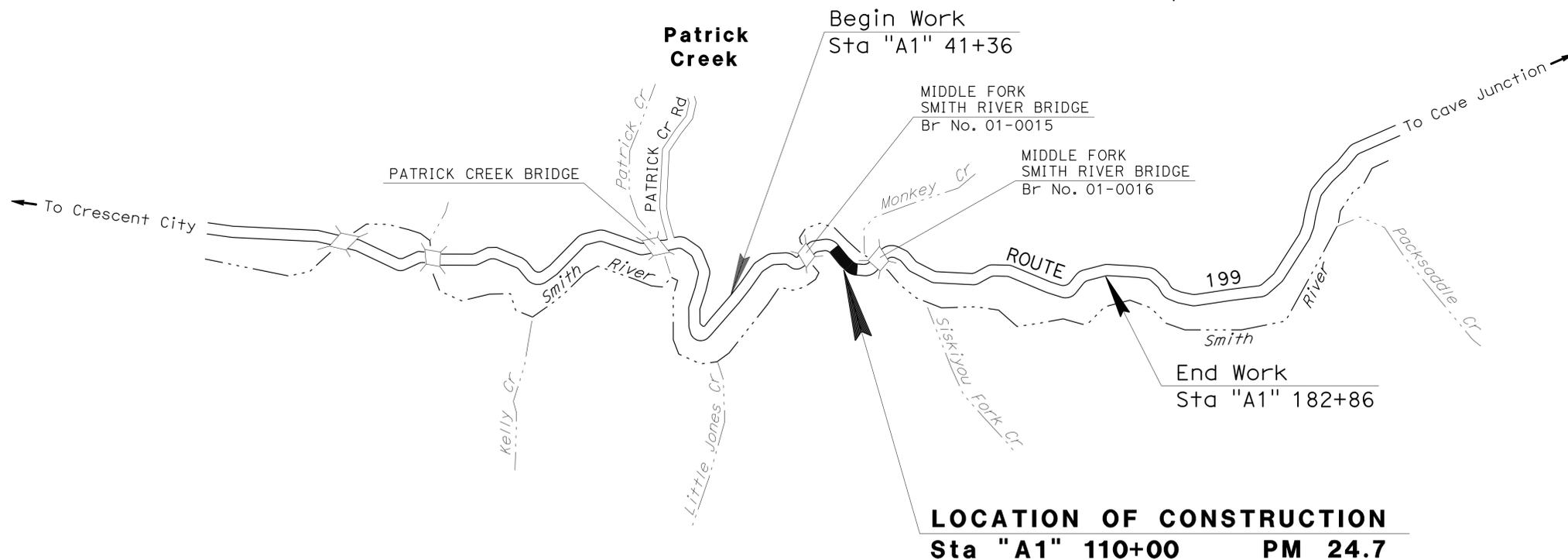
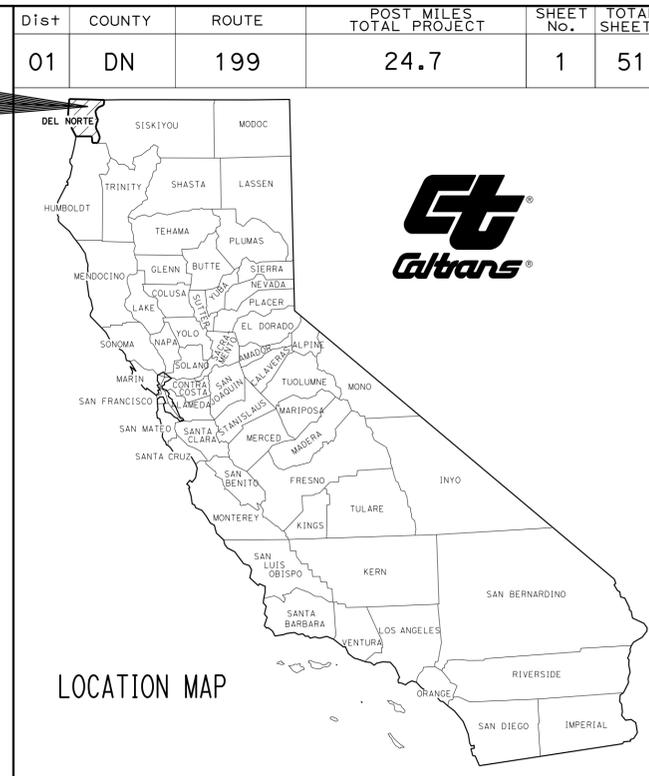
INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
2	TYPICAL CROSS SECTIONS
3	LAYOUT
4	CONSTRUCTION DETAILS
5	CONSTRUCTION AREA SIGNS
6-8	STAGE CONSTRUCTION & TRAFFIC HANDLING PLANS, DETAILS & QUANTITIES
9	SUMMARY OF QUANTITIES
10-12	EROSION CONTROL PLANS, DETAILS & QUANTITIES
13-16	ELECTRICAL PLANS
17-35	REVISED STANDARD PLANS
<b>STRUCTURE PLANS</b>	
36-51	MIDDLE FORK WALL

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

STATE OF CALIFORNIA **ACSTP-ER-19B8(004)E**  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN DEL NORTE COUNTY**  
**NEAR PATRICK CREEK**  
**AT 2.6 MILES NORTH OF**  
**PATRICK CREEK ROAD**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010



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PROJECT MANAGER <b>KEVIN CHURCH</b>	DESIGN MANAGER <b>L. R. ASHLEY</b>
--	---------------------------------------

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

NO SCALE

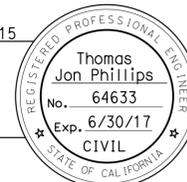


USERNAME => s120115  
DGN FILE => 0112000116cb001.dgn

UNIT 0313 PROJECT NUMBER & PHASE 01120001161

CONTRACT No.	<b>01-OB3204</b>
PROJECT ID	<b>0112000116</b>

6/14/15  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER  
  
**June 15, 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.



DATE PLOTTED => 18-SEP-2015  
TIME PLOTTED => 10:42

**NOTES:**

1. DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
2. SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
3. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

**LEGEND:**

- 1 CENTERLINE RUMBLE STRIP PAVEMENT MARKER (RETROREFLECTIVE/RECESSED)

**ABBREVIATIONS:**

- HMA-O HOT MIX ASPHALT-OPEN GRADED (OPEN GRADED FRICTION COURSE)
- OHW ORDINARY HIGH WATER
- GPI GEOSYNTHETIC PAVEMENT INTERLAYER (PAVING FABRIC)

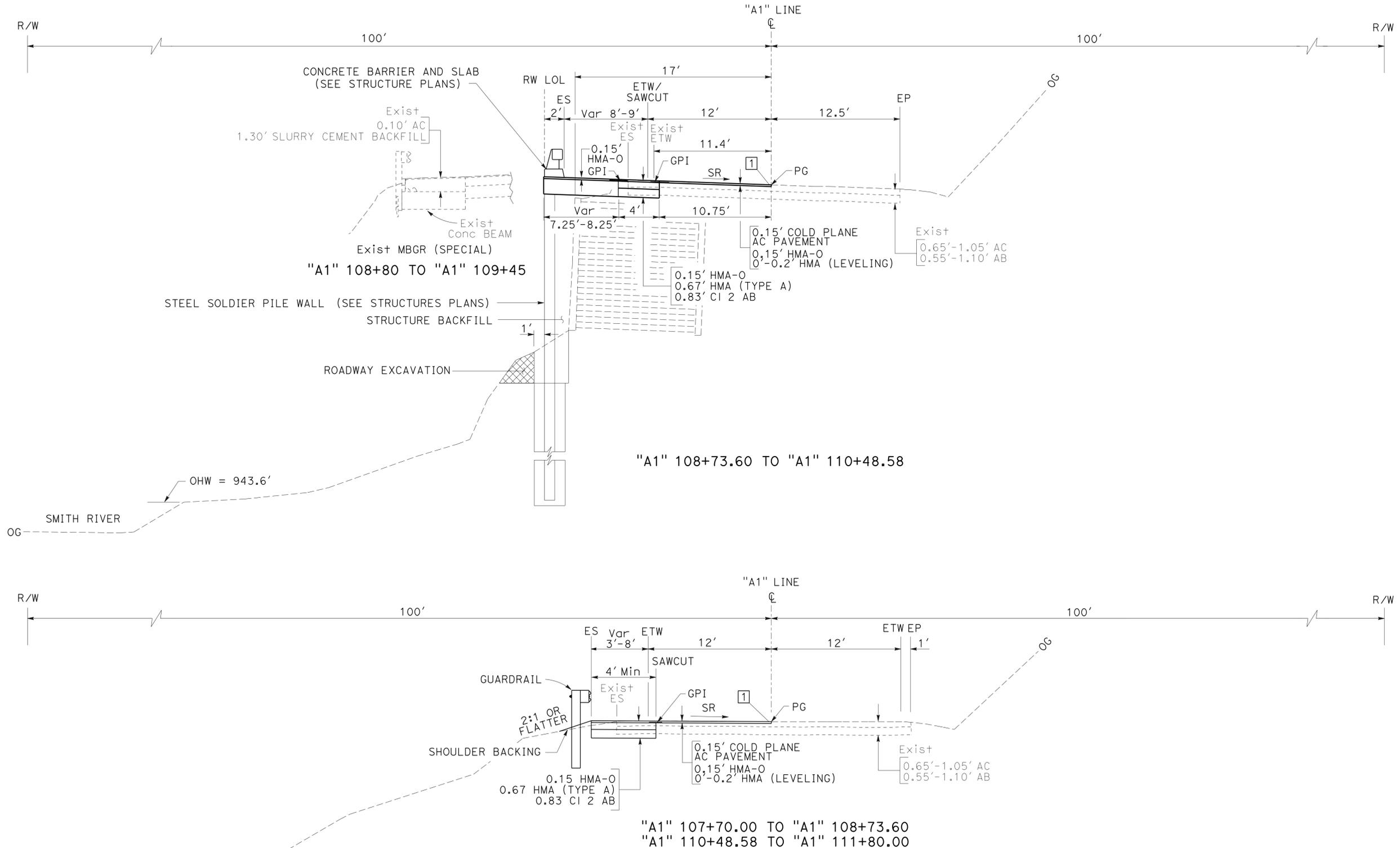
PAVEMENT CLIMATE REGION  
NORTH COAST

**DESIGN DESIGNATION**

- ADT (2015) D 60%
- ADT (2035) T 8%
- DHV (2015) V 55 mph
- ESAL<sub>20</sub> TI<sub>20</sub> 10.0

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	2	51

REGISTERED CIVIL ENGINEER DATE 6-14-15  
 Thomas Jon Phillips No. 64633 Exp. 6/30/17 CIVIL  
 PLANS APPROVAL DATE  
 June 15, 2015  
 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.



"A1" 108+73.60 TO "A1" 110+48.58

"A1" 107+70.00 TO "A1" 108+73.60  
 "A1" 110+48.58 TO "A1" 111+80.00

**ROUTE 199**

**TYPICAL CROSS SECTION**  
NO SCALE

**X-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN  
 L.R. ASHLEY  
 L.R. ASHLEY  
 TODD LARK  
 TOM PHILLIPS  
 REVISIONS BY DATE  
 02-13-15 TIME PLOTTED => 10:42  
 02-13-15 DATE PLOTTED => 18-SEP-2015

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 L.R. ASHLEY  
 FUNCTIONAL SUPERVISOR  
 TOM PHILLIPS  
 TODD LARK  
 REVISIONS BY DATE  
 REVISIONS BY DATE

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

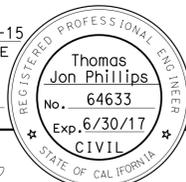
**ABBREVIATIONS:**  
 TFESA TEMPORARY FENCE  
 TRSF TEMPORARY REINFORCED (TYPE SESA) FENCE  
 Alt Term Syst ALTERNATIVE IN-LINE TERMINAL SYSTEM

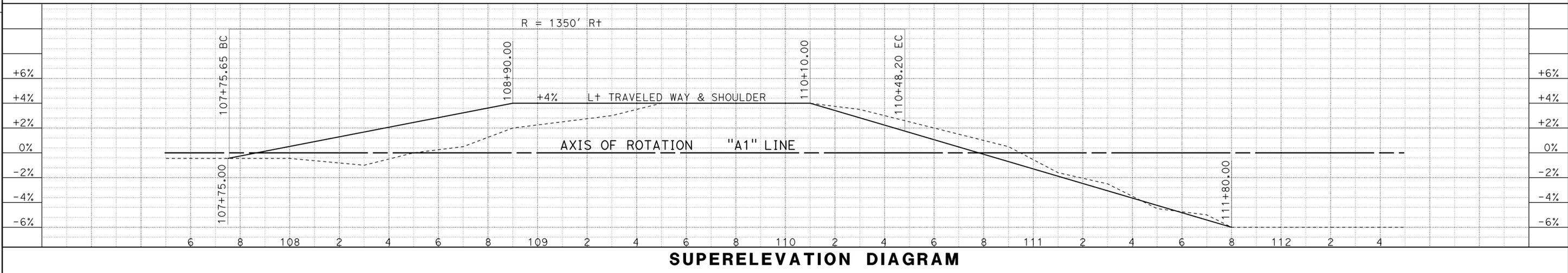
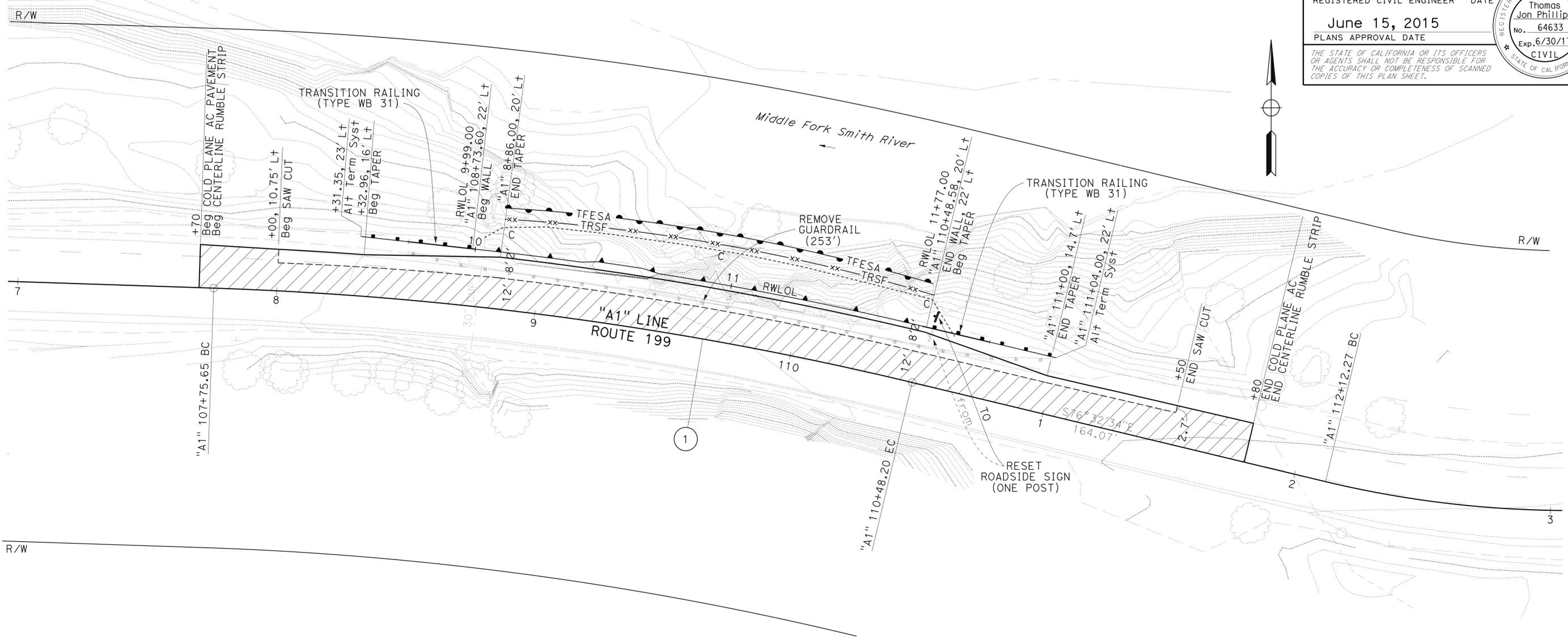
**LEGEND:**  
 COLD PLANE AC PAVEMENT

**CURVE DATA**

No.	R	Δ	T	L
1	1350'	11°34'03"	136.74'	272.56'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	3	51

  
 REGISTERED CIVIL ENGINEER DATE 6-14-15  
**June 15, 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.



**LAYOUT**  
 SCALE: 1"=20'  
**L-1**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	4	51

REGISTERED CIVIL ENGINEER DATE 6-14-15  
 June 15, 2015  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Thomas Jon Phillips  
 No. 64633  
 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.

**NOTES:**

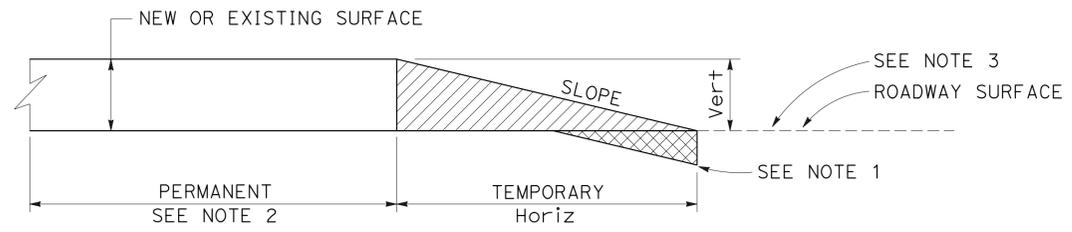
- GRIND EXISTING SURFACES TO ACCOMODATE A MINIMUM TAPER THICKNESS OF 0.10' WHEN EITHER:
  - HMA MATERIAL, SUCH AS RUBBERIZED, POLYMER MODIFIED OR OPEN GRADED IS UNSUITABLE FOR RAKING TO MAXIMUM 0.20' THICKNESS AT THE CONFORM.
  - TEMPORARY TAPER WILL BE IN PLACE FOR MORE THAN 14 DAYS.
- PERMANENT SURFACE MAY BE EXISTING OR NEW PAVEMENT.
- ROADWAY SURFACE IS THE TOP OF THE EXISTING SURFACE OR THE TOP OF THE PLANED SURFACE.
- FOR TEMPORARY TAPERS ON BRIDGE DECKS AND APPROACH SLABS, CONSTRUCT TEMPORARY TAPER WITH POYESTER CONCRETE.
- IF AUTHORIZED, ALTERNATIVE MATERIALS OR METHODS MAY BE USED TO PRODUCE THE REQUIRED TAPER.

**ABBREVIATIONS:**

GPI GEOSYNTHETIC PAVEMENT INTERLAYER (PAVING FABRIC)

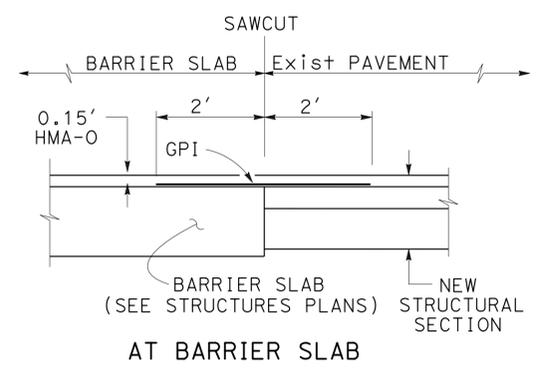
**LEGEND:**

-  HMA MATERIAL (TEMPORARY TAPER) (SEE NOTE 4)
-  IF NECESSARY, COLD PLANE ASPHALT CONCRETE PAVEMENT AND PLACE HMA MATERIAL (SEE NOTE 1)

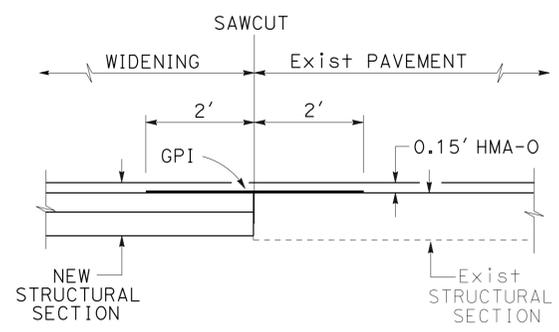


Vert	SLOPE RATIO Horiz/Vert
0-0.10'	70:1
GREATER THAN 0.10'	160:1

**TYPICAL PAVING CONFORM FOR TEMPORARY CONSTRUCTION TAPERS**

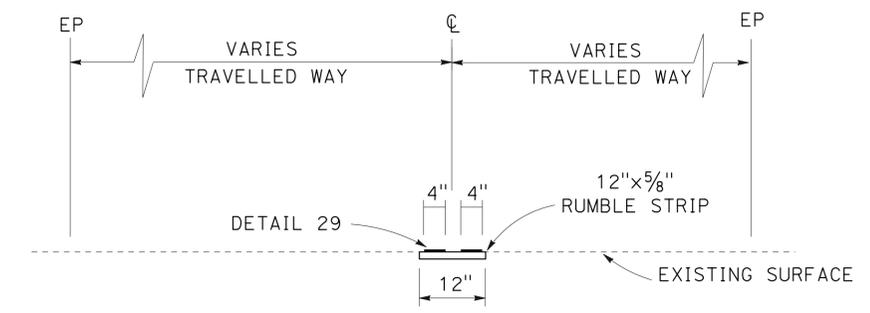


"A1" 108+73.60 TO 110+48.58



"A1" 108+42.19 TO 110+98.39

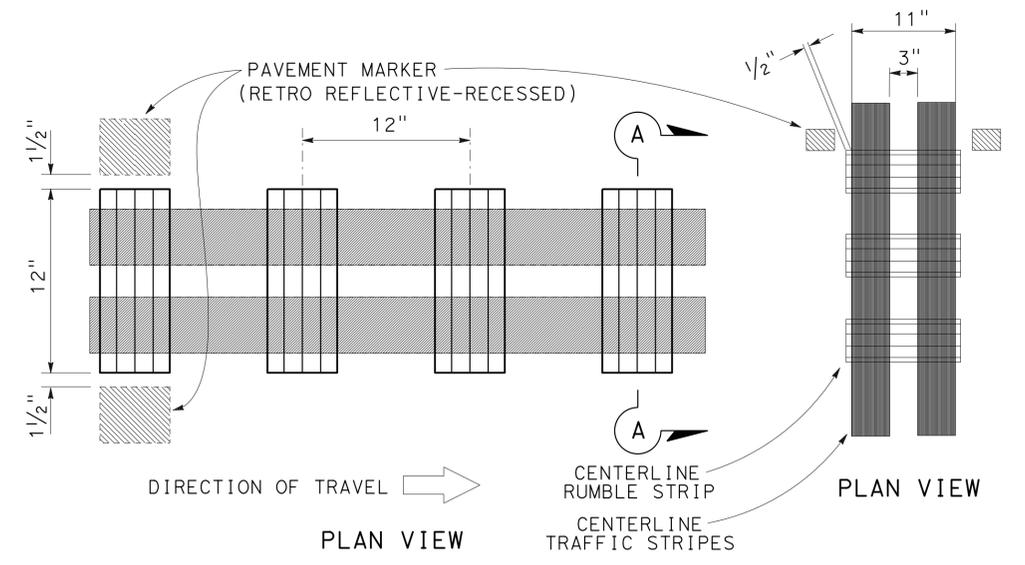
**GEOSYNTHETIC PAVEMENT INTERLAYER (PAVING FABRIC)**



SECTION A-A



ELEVATION



**CENTERLINE RUMBLE STRIP**

"A1" 107+70 TO 111+80

**CONSTRUCTION DETAILS C-1**

NO SCALE

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 DESIGN

REVISIONS  
 REVISION NO. DATE BY  
 1 06/15/15 JPH  
 2 06/15/15 JPH  
 3 06/15/15 JPH  
 4 06/15/15 JPH  
 5 06/15/15 JPH  
 6 06/15/15 JPH  
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 99 06/15/15 JPH  
 100 06/15/15 JPH

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	5	51

*Sheri M. Rodriguez* 6-14-15  
 REGISTERED CIVIL ENGINEER DATE  
**June 15, 2015**  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**SHERI M. RODRIGUEZ**  
 No. C66861  
 Exp. 9-30-16  
 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.

**NOTES:**

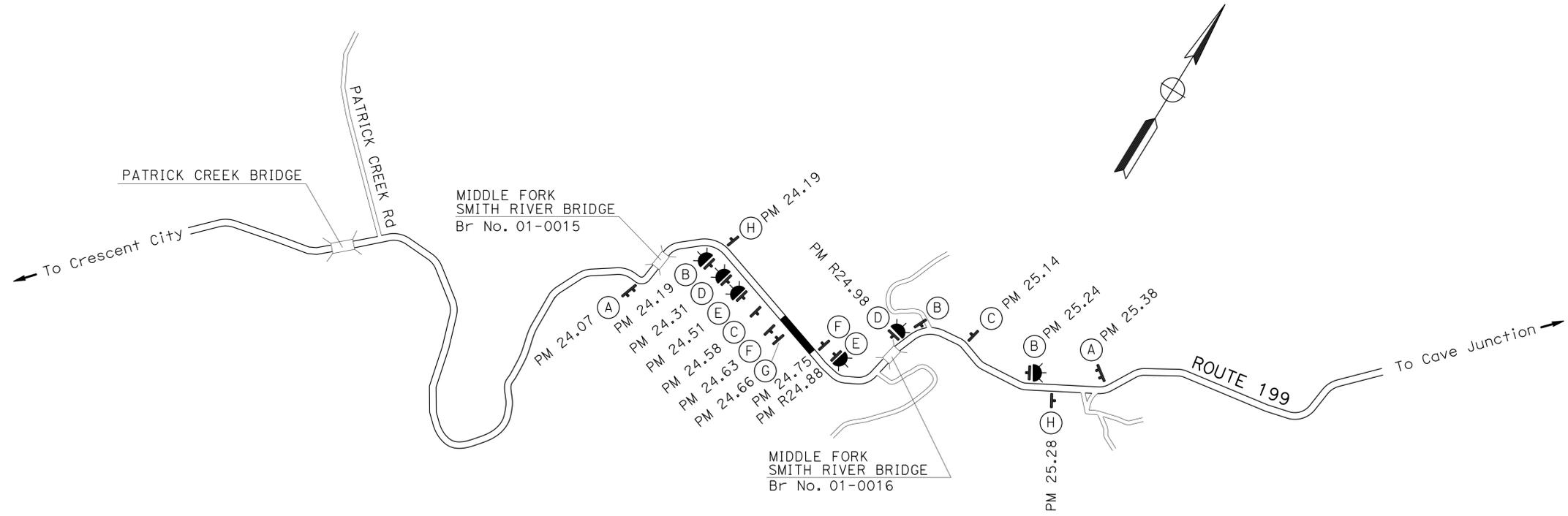
1. EXACT SIGN LOCATION TO BE DETERMINED BY THE ENGINEER.
2. (CA) DESIGNATES CALIFORNIA SIGN CODE.
3. FOR SIGNS WITH FLASHING BEACON, PLACE SIGN ON WOOD POLE.
4. SEE SHEET SC-1 FOR ADDITIONAL DETAILS ON PLACEMENT OF (F) AND (G) SIGNS.

**LEGEND:**

⚡ FLASHING BEACON (SEE ELECTRICAL PLANS)

**STATIONARY MOUNTED CONSTRUCTION AREA SIGNS**

○	SIGN CODE	SIGN MESSAGE	PANEL SIZE	No. OF POSTS AND SIZE	No. OF SIGNS
A	C40(CA)	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	108" x 44"	2 - 6" x 6"	2
B	W20-1	ROAD WORK AHEAD	36" x 36"	1 - 4" x 6" OR WOOD POLE	3
C	R4-11	BIKES MAY USE FULL LANE	30" x 30"	1 - 4" x 6"	2
D	W20-4	ONE LANE ROAD AHEAD	36" x 36"	1 - WOOD POLE	2
E	W3-3	SIGNAL AHEAD SYMBOL	36" x 36"	1 - WOOD POLE	2
F	R10-6	STOP HERE ON RED	24" x 36"	1 - 4" x 6"	2
G	W1-4	REVERSE CURVE SIGN	36" x 36"	1 - 4" x 6"	1
H	G20-2	END ROAD WORK	36" x 18"	1 - 4" x 4"	2



STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC OPS  
 FUNCTIONAL SUPERVISOR: RICHARD MULLEN  
 CALCULATED/DESIGNED BY: SHERI M. RODRIGUEZ  
 CHECKED BY: PAUL W. HAILEY  
 REVISED BY: SHERI M. RODRIGUEZ  
 DATE REVISED: PAUL W. HAILEY  
 USERNAME => s120115  
 DGN FILE => 01120001161a001.dgn  
 BORDER LAST REVISED 7/2/2010  
 P:\PROJ\01\08320\dratf\ing\01-08320\0112000116\01120001161a001.dgn

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY



UNIT 0042

PROJECT NUMBER & PHASE

01120001161

**CONSTRUCTION AREA SIGNS**

NO SCALE

**CS-1**

LAST REVISION | DATE PLOTTED => 18-SEP-2015  
 02-13-15 | TIME PLOTTED => 10:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	6	51

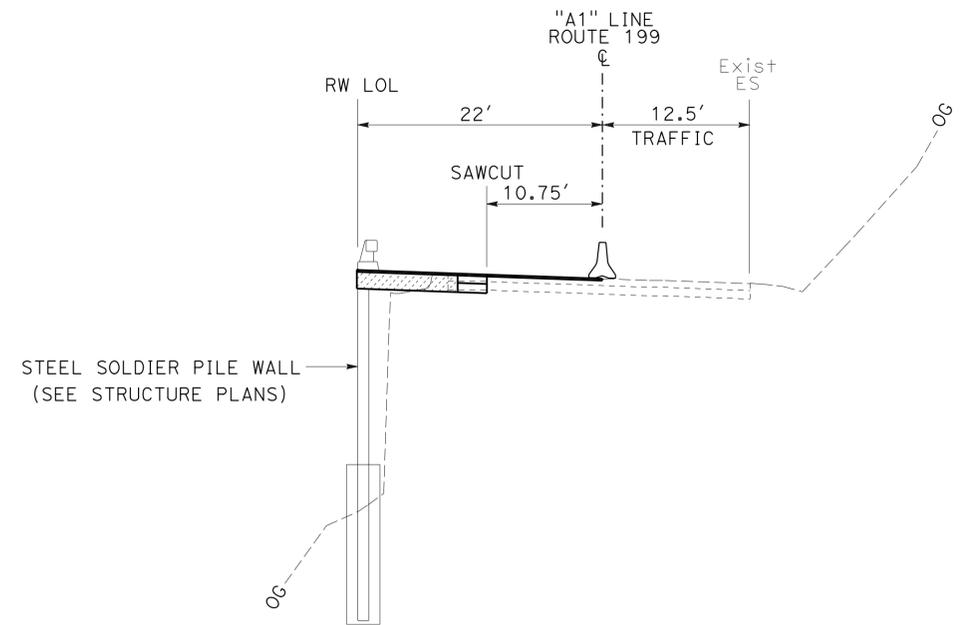
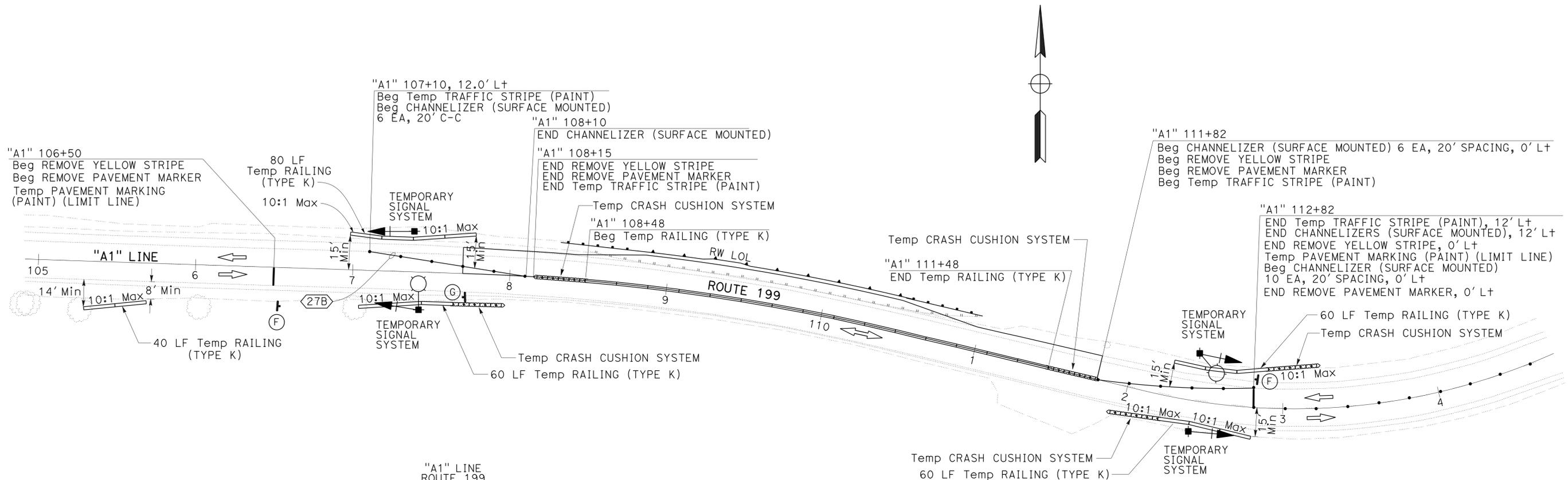
  

<i>Sheri M. Rodriguez</i> REGISTERED CIVIL ENGINEER		6-14-15 DATE
<b>June 15, 2015</b> PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>		

REGISTERED PROFESSIONAL ENGINEER  
**SHERI M. RODRIGUEZ**  
 No. C66861  
 Exp. 9-30-16  
 CIVIL  
STATE OF CALIFORNIA

- LEGEND:**
- YELLOW STRIPE      YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE) (DETAIL 22)
  - (X)                      TRAFFIC STRIP DETAIL NUMBER
  - (G)                      CONSTRUCTION AREA SIGN (SEE SHEET CS-1)

- STAGE 1**
1. INSTALL Temp SIGNAL SYSTEM AND TRAFFIC CONTROL SYSTEM.
  2. CONSTRUCT RETAINING WALL PER STRUCTURE PLANS.
  3. CONSTRUCT STRUCTURAL SECTION FOR NEW SHOULDER.
  3. CONSTRUCT GUARDRAIL.
- STAGE 2**
1. REMOVE Temp SIGNAL SYSTEM AND TRAFFIC CONTROL DEVICES REQUIRED FOR STAGE 1.
  2. PLACE HOT MIX ASPHALT (OPEN GRADED).
  3. PLACE PAVEMENT DELINEATION.
  4. COMPLETE REMAINING ROADWAY ITEMS.



**TYPICAL CROSS SECTION**  
NO SCALE

**STAGE CONSTRUCTION AND TRAFFIC HANDLING PLAN**  
SCALE: 1"=30'

APPROVED FOR STAGE CONSTRUCTION AND TRAFFIC HANDLING WORK ONLY

**SC-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 TRAFFIC OPS  
 SHERI M. RODRIGUEZ  
 PAUL W. HAILEY  
 RICHARD MULLEN  
 USERNAME => s120115  
 DGN FILE => 0112000116ma001.dgn  
 BORDER LAST REVISED 7/2/2010  
 UNIT 0042  
 PROJECT NUMBER & PHASE 01120001161  
 LAST REVISION DATE PLOTTED => 18-SEP-2015  
 02-13-15 TIME PLOTTED => 10:42

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	7	51

*Sheri M. Rodriguez*  
 REGISTERED CIVIL ENGINEER DATE 6-14-15  
**June 15, 2015**  
 PLANS APPROVAL DATE

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### TRAFFIC CONTROL DEVICES

LOCATION		CHANNELIZER (SURFACE MOUNTED)	TEMPORARY RAILING (TYPE K)	TEMPORARY CRASH CUSHION SYSTEM
FROM	TO	EA	LF	EA
"A1" 105+50, R+	"A1" 105+90, R+		40	
"A1" 107+00, R+	"A1" 107+60, R+		60	
"A1" 107+60				1
"A1" 106+80, L+	"A1" 107+60, L+		80	
"A1" 107+10	"A1" 108+10	6		
"A1" 108+15				1
"A1" 108+48	"A1" 111+48		300	
"A1" 111+48				1
"A1" 111+82	"A1" 112+82	6		
"A1" 111+95, R+				1
"A1" 112+27, R+	"A1" 112+87, R+		60	
"A1" 112+30, L+	"A1" 112+90, L+		60	
"A1" 112+90, L+				1
"A1" 112+82	"A1" 114+62	10		
TOTAL		22	600	5

### TEMPORARY PAVEMENT DELINEATION

STAGE	LOCATION		DETAIL LENGTH (N)	DETAIL	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE (HAZARDOUS WASTE)	REMOVE PAVEMENT MARKER	Temp TRAFFIC STRIPE (PAINT)	Temp PAVEMENT MARKING (PAINT)	REMOVE PAINTED TRAFFIC STRIPE	REMOVE PAINTED PAVEMENT MARKING
	FROM	TO			LF	EA	LF	SQFT	LF	SQFT
1	"A1" 106+50	"A1" 108+15	165	22	330	14				
	"A1" 106+50			LIMIT LINE				12		
	"A1" 107+10	"A1" 108+15	105	27B			105			
	"A1" 111+82	"A1" 112+82	100	22	200	10				
	"A1" 111+82	"A1" 112+82	100	27B			100			
2	"A1" 112+82			LIMIT LINE				12		
	"A1" 106+50			LIMIT LINE						12
	"A1" 107+10	"A1" 108+15	105	27B					105	
	"A1" 111+82	"A1" 112+82	100	27B					100	
"A1" 112+82				LIMIT LINE						12
TOTAL					530	24	205	24	205	24

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

### STAGE CONSTRUCTION QUANTITIES

SCQ-1

P:\PROJ\01\08320\dratf\ing\01-08320\0112000116\0112000116mc001.dgn  
 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** TRAFFIC OPS  
 FUNCTIONAL SUPERVISOR RICHARD MULLEN  
 CALCULATED/DESIGNED BY CHECKED BY  
 SHERI M. RODRIGUEZ PAUL W. HAILEY  
 REVISED BY DATE REVISED  
 SHERI M. RODRIGUEZ





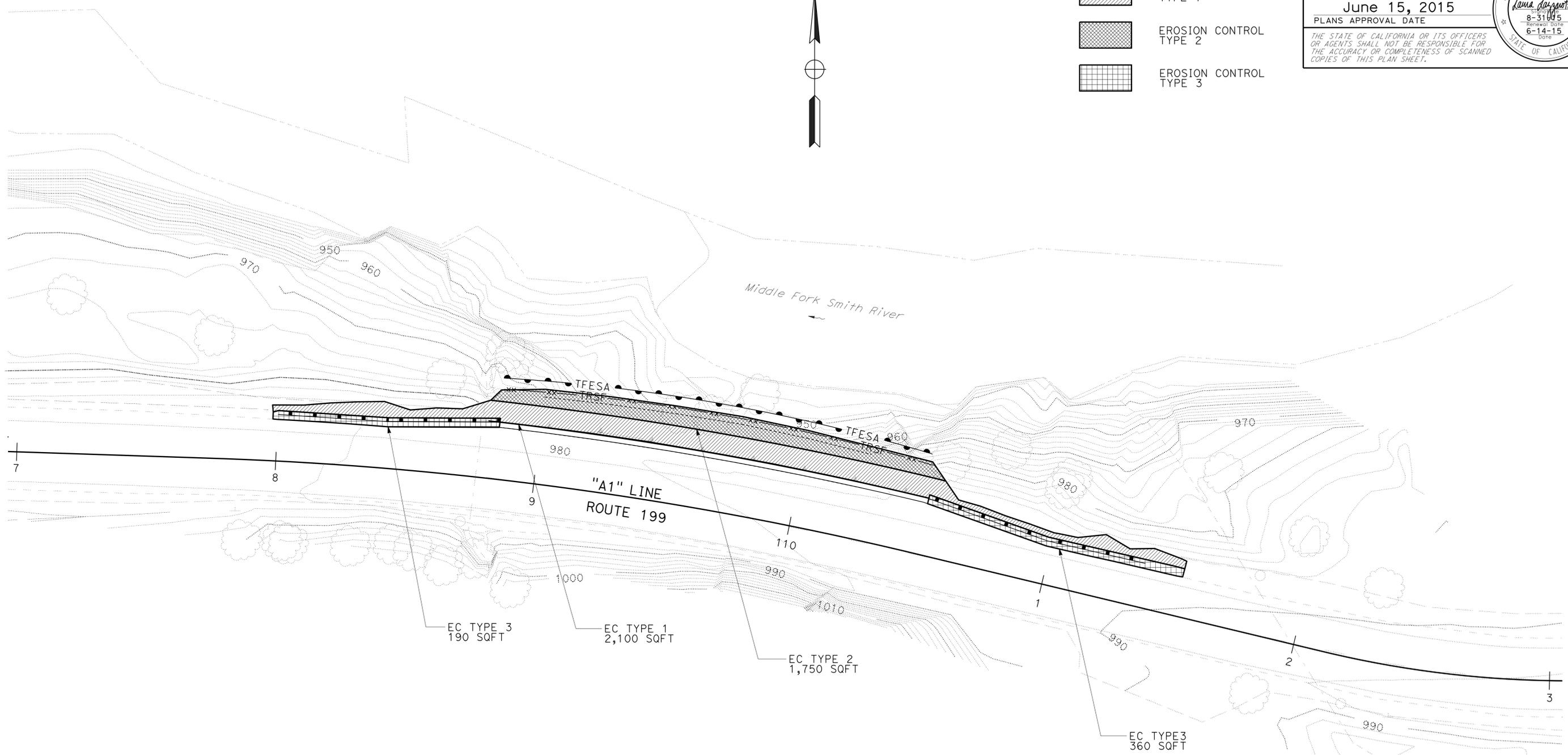
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	10	51

*Laura Lazzarotto*  
 LICENSED LANDSCAPE ARCHITECT  
 June 15, 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.

LEGEND:

-  EROSION CONTROL TYPE 1
-  EROSION CONTROL TYPE 2
-  EROSION CONTROL TYPE 3



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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans** LANDSCAPE  
 SENIOR LANDSCAPE ARCHITECT  
 RON FLORY  
 CALCULATED-DESIGNED BY  
 CHECKED BY  
 LAURA LAZZAROTTO  
 LOGAN MOORE  
 REVISED BY  
 DATE REVISED

APPROVED FOR EROSION CONTROL WORK ONLY

SCALE: 1" = 20'

**EROSION CONTROL PLAN**  
**EC-1**

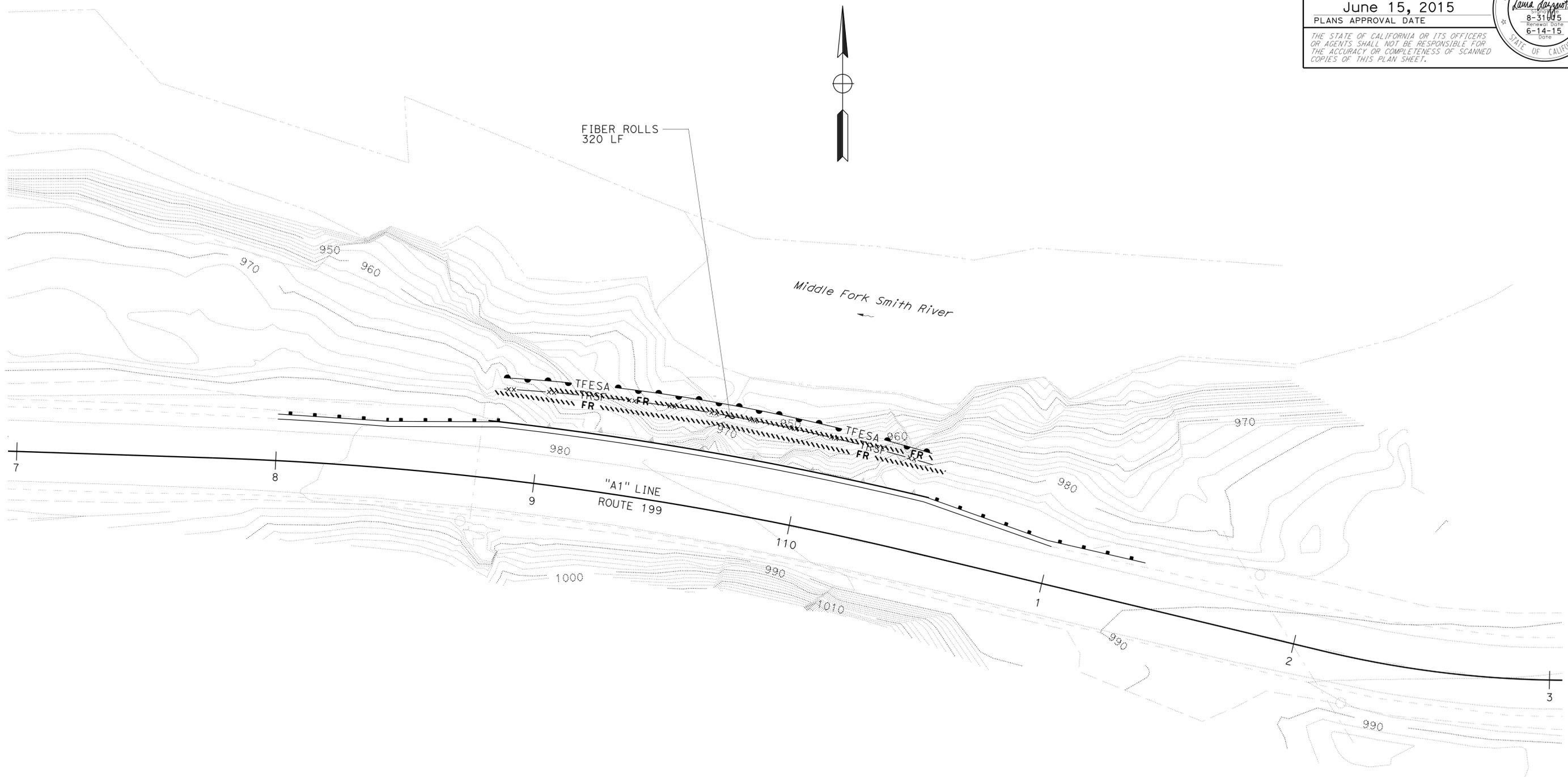
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	11	51

*Laura Lazzarotto*  
 LICENSED LANDSCAPE ARCHITECT

June 15, 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.

LOGAN MOORE	REVISOR	DATE
LAURA LAZZAROTTO	DESIGNER	DATE
RON FLORY	CHECKER	DATE



BORDER LAST REVISED 7/2/2010

USERNAME => s120115  
 DGN FILE => 0112000116te002.dgn

RELATIVE BORDER SCALE IS IN INCHES

UNIT 0314

PROJECT NUMBER & PHASE

01120001161

# EROSION CONTROL PLAN

## EC-2

APPROVED FOR EROSION CONTROL WORK ONLY

SCALE: 1" = 20'

LAST REVISION | DATE PLOTTED => 18-SEP-2015  
 02-13-15 | TIME PLOTTED => 10:43

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	12	51

*Laura Lazzarotto*  
 LICENSED LANDSCAPE ARCHITECT  
 June 15, 2015  
 PLANS APPROVAL DATE

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**FIBER ROLLS**

SEQUENCE	ITEM	MATERIAL		REMARKS
		DESCRIPTION	TYPE	
FIBER ROLLS MUST BE INSTALLED BEFORE EROSION CONTROL	FIBER ROLLS	FIBER ROLL	TYPE B 8" TO 10" Dia	TYPE 1 FIBER ROLL INSTALLATION

**SEED MIX 1**

SEED	BOTANICAL NAME (COMMON NAME)	PERCENT GERMINATION (MINIMUM)	POUNDS PURE LIVE SEED PER ACRE (SLOPE MEASUREMENT)
MIX 1	ACHILLEA MILLEFOLIUM <sup>1</sup> (WHITE YARROW)	40	1
	BROMUS CARINATUS <sup>1</sup> (CALIFORNIA BROME)	45	35
	DESCHAMPSIA CESPITOSA ssp. CESPITOSA <sup>1</sup> (TUFTED HAIRGRASS)	40	3
	ELYMUS GLAUCUS 'BERKELEY' <sup>1</sup> (BLUE WILD RYE, BERKELEY)	55	20
	ELYMUS X TRITICUM (REGREEN)	10	60
	FESTUCA IDAHOENSIS <sup>1</sup> (IDAHO FESCUE)	50	12
	FESTUCA CALIFORNICA <sup>1</sup> (CALIFORNIA FESCUE)	40	8
	LOTUS PURSHIANUS 'SHASTA' <sup>1</sup> (PURSHING'S LOTUS, SHASTA)	40	10
	VULPIA MICROSTACHYS <sup>1</sup> (SIX WEEKS FESCUE)	55	3
	<sup>1</sup> SEED PRODUCED IN CALIFORNIA ONLY.		

**EROSION CONTROL TYPE 1**

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE
		DESCRIPTION	TYPE	
STEP 1	HYDROSEED	SEED	MIX 1	152 LB/ACRE
		FIBER	WOOD	1100 LB/ACRE
		COMPOST	MEDIUM	270 CY/ACRE
STEP 2	STRAW	STRAW	WHEAT &/OR BARLEY	3 TON/ACRE
STEP 3	HYDROMULCH	FIBER	WOOD	1100 LB/ACRE
		TACKIFIER	PSYLLIUM	140 LB/ACRE
		COMPOST	MEDIUM	270 CY/ACRE

**EROSION CONTROL TYPE 2**

SEQUENCE	ITEM	MATERIAL		APPLICATION RATE
		DESCRIPTION	TYPE	
STEP 1	HYDROSEED	SEED	MIX 1	152 LB/ACRE
		FIBER	WOOD	1100 LB/ACRE
		COMPOST	MEDIUM	270 CY/ACRE
STEP 2	HYDROMULCH	FIBER	WOOD	1100 LB/ACRE
		TACKIFIER	PSYLLIUM	140 LB/ACRE
		COMPOST	MEDIUM	270 CY/ACRE
STEP 3	ROLLED EROSION CONTROL PRODUCT (NETTING)	NETTING	TYPE A	

**EROSION CONTROL QUANTITIES**

SHEET NUMBER	STATION	DESCRIPTION	HYDROSEED	STRAW	HYDROMULCH	FIBER ROLLS	ROLLED EC PRODUCT (NETTING)	WOOD MULCH	PURE LIVE SEED (N)
			SQFT	SQFT	SQFT	LF	SQFT	CY	LBS
SHEET EC-1	"A1" 107+98 TO 111+52 L+	EC TYPE 1	2,100	2,100	2,100	-	-	-	7.3
SHEET EC-1	"A1" 108+79 TO 110+57 L+	EC TYPE 2	1,750	-	1,750	-	1,750	-	6.08
SHEET EC-1	"A1" 107+98 TO 111+52 L+	EC TYPE 3	-	-	-	-	-	5.1	-
SHEET EC-2	"A1" 108+81 TO 110+57 L+	FIBER ROLL	-	-	-	320	-	-	-
TOTAL			3,850	2,100	3,850	320	1,750	5.1	13.38

NOTE: (N) NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

**EROSION CONTROL TYPE 3**

SEQUENCE	ITEM	MATERIAL		REMARKS
		DESCRIPTION	TYPE	
STEP 1	WOOD MULCH	WOOD MULCH	WOOD CHIPS	403 CY/ACRE

**EROSION CONTROL TABLES AND EROSION CONTROL QUANTITIES ECQ-1**

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 LANDSCAPE  
 LANDSCAPE ARCHITECT  
 SENIOR LANDSCAPE ARCHITECT  
 RON FLORY  
 CHECKED BY  
 LAURA LAZZAROTTO  
 LOGAN MOORE  
 REVISOR  
 DATE REVISOR  
 DATE REVISOR

LAST REVISION DATE PLOTTED => 18-SEP-2015  
 02-13-15 TIME PLOTTED => 10:43

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	13	51

<i>Brian T. Finck</i> REGISTERED ELECTRICAL ENGINEER DATE 6-14-15	
June 15, 2015 PLANS APPROVAL DATE	
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>	

REGISTERED PROFESSIONAL ENGINEER  
**BRIAN T. FINCK**  
 No. 17756  
 Exp. 6-30-16  
 ELECTRICAL  
 STATE OF CALIFORNIA

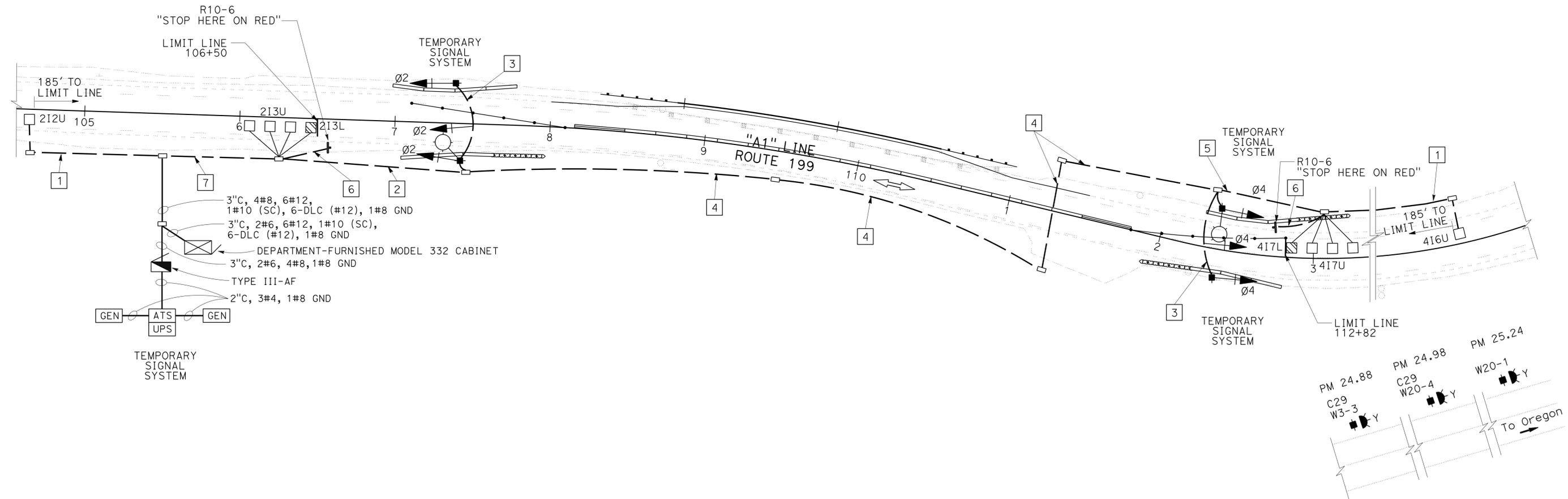
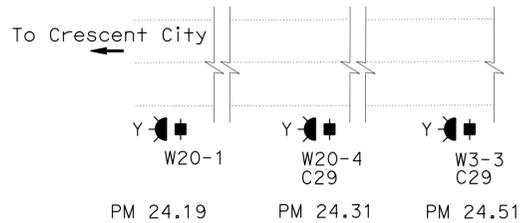
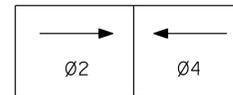
**NOTES: (THIS SHEET ONLY)**

- 1 2"C, 1-DLC (#12)
- 2 2"C, 4#8, 6#12, 1#10 (SC), 3-DLC (#12), 1#8 GND
- 3 OVERHEAD 3#12, 1#10 (SC), 1#8 GND
- 4 2"C, 2#8, 3#12, 1#10 (SC), 3-DLC (#12), 1#8 GND
- 5 2"C, 2#8, 3-DLC (#12), 1#8 GND
- 6 2"C, 2#12, 1#8 GND
- 7 3"C, 4#8, 6#12, 1#10 (SC), 5-DLC (#12), 1#8 GND

**LEGEND**

- UPS UNINTERRUPTIBLE POWER SUPPLY
- (SC) SIGNAL COMMON
- ATS AUTOMATIC TRANSFER SWITCH
- GEN GENERATOR
- C CONTACTOR
- ▽ AUTO-TEST SWITCH
- Y-⬛ TEMPORARY PHOTOVOLTAIC POWERED FLASHING BEACON  
SEE CONSTRUCTION AREA SIGNS SHEETS AND STAGE CONSTRUCTION SHEETS

**PHASE DIAGRAM**



**TEMPORARY SIGNAL SYSTEM**

SCALE: 1"=30'

APPROVED FOR ELECTRICAL WORK ONLY

**E-1**

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL**

REVISOR	DATE	REVISION
BRIAN FINCK		
WILLIAM BARTLEY		
JOHN CARSON		

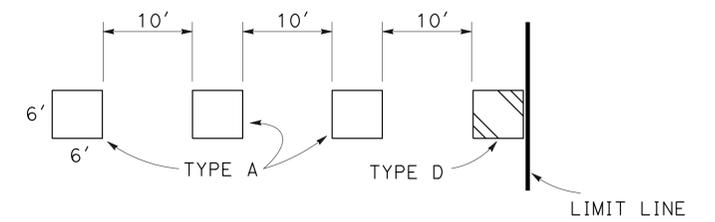
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	14	51

Brian T. Finck 6-14-15  
 REGISTERED ELECTRICAL ENGINEER DATE  
 June 15, 2015  
 PLANS APPROVAL DATE

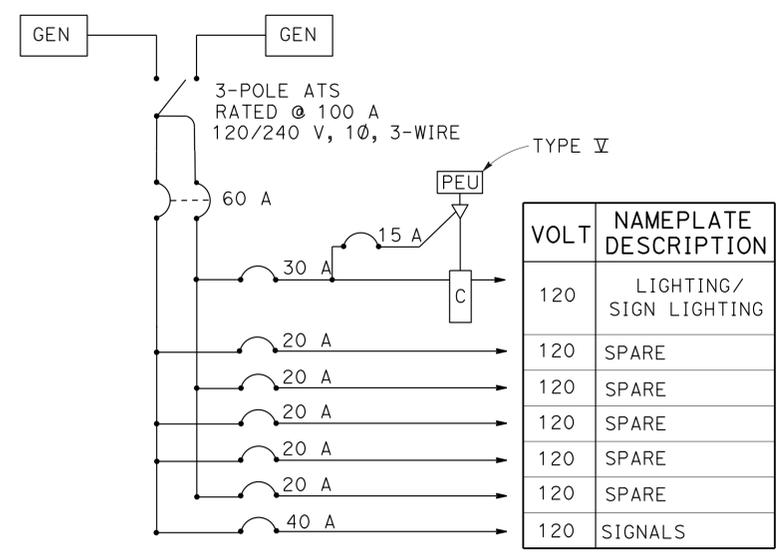
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REGISTERED PROFESSIONAL ENGINEER  
 BRIAN T. FINCK  
 No. 17756  
 Exp. 6-30-16  
 ELECTRICAL  
 STATE OF CALIFORNIA

NOTE: (THIS SHEET)  
 1 WOOD POLES SHALL BE LOCATED OUTSIDE THE CLEAR RECOVERY ZONE OR PROTECTED IN PLACE.

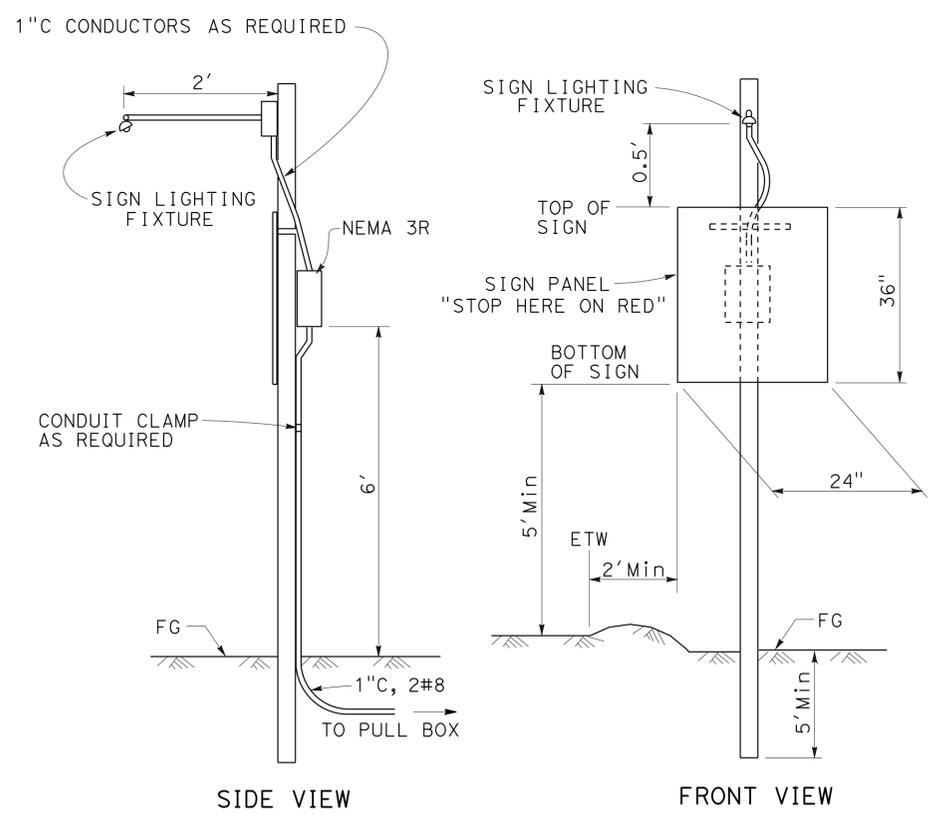


TYPICAL LOOP DETAIL

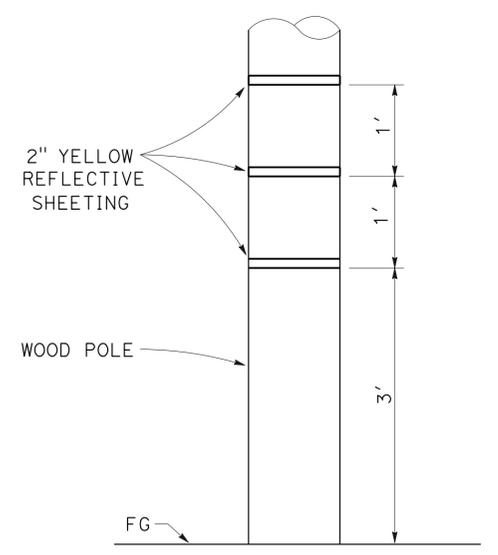


SERVICE WIRING DIAGRAM

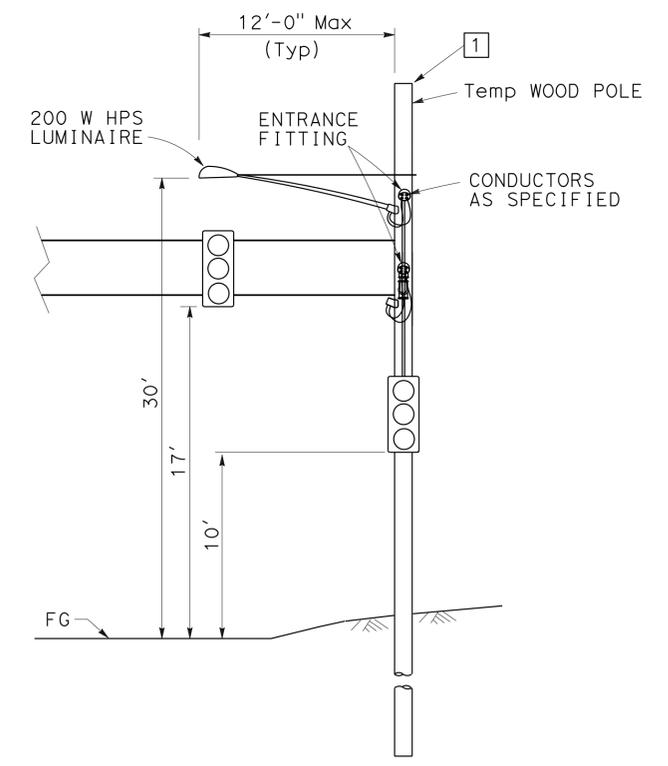
TYPE III-AF SERVICE EQUIPMENT ENCLOSURE



TYPICAL SIGN ILLUMINATION



REFLECTIVE MARKING FOR WOOD POLE



TEMPORARY TRAFFIC SIGNAL

ELECTRICAL DETAILS

NO SCALE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
 ELECTRICAL  
 FUNCTIONAL SUPERVISOR JOHN CARSON  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 REVISIONS  
 REVISION NO. DATE BY  
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 639 03/10/68  
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 643 07/10/68  
 644 08/10/68



**NOTE:**  
 THE QUANTITIES ON THIS SHEET ARE NOT SEPARATE PAY ITEMS AND ARE FOR INFORMATION ONLY.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	16	51

*Brian T. Finck* 6-14-15  
 REGISTERED ELECTRICAL ENGINEER DATE  
**June 15, 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.

**TEMPORARY SIGNAL SYSTEM**

SHEET NUMBER	DESCRIPTION	EA	LF	EA																									
E-1	WOOD POLE	10																											
	2" CONDUIT TYPE 3		1100																										
	GENERATOR	2																											
	No. 5 PULL BOX	10																											
	3 SECTION SIGNAL HEAD	6																											
	FBCA	6																											
	SIGN LIGHTING FIXTURE	2																											
	200 W HPS LUMINAIRE	2																											
	MESSENGER CABLE	100																											
	TYPE D LOOP	2																											
	TYPE A LOOP	8																											
	DLC (#12)	2500																											
	#4 CONDUCTORS	100																											
	#6 CONDUCTORS	50																											
	#8 CONDUCTORS	2500																											
	#8 CONDUCTORS (G)	1250																											
	#10 CONDUCTORS	1250																											
	#12 CONDUCTORS	4250																											
	NEMA 3R SERVICE ENCLOSEURE	8																											
	MODEL 332L CABINET FOUNDATION PLATFORM	1																											
	UPS	1																											
	FUEL TANK	1																											
	No. 6 (E) PULL BOX	6																											
	1 SECTION SIGNAL HEAD	6																											
	REGULATION LOAD/CHARGE CONTROLLER	6																											
	98 A-h 12 V (dc) GEL CELL	12																											
	75 W PHOTOVOLTAIC PANELS	12																											
	TYPE III-AF SERVICE EQUIPMENT ENCLOSEURE	1																											

**ELECTRICAL QUANTITIES**

**E-4**

APPROVED FOR ELECTRICAL WORK ONLY

LAST REVISION | DATE PLOTTED => 18-SEP-2015  
 02-13-15 | TIME PLOTTED => 10:43

M

P continued

S

T continued

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
<p>N</p>	
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
<p>O</p>	
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</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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	17	51

*Grace M. Tsushima*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED June 15, 2015

**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 <sup>3</sup> , pcf	POUNDS PER CUBIC FOOT
tsf	TONS PER SQUARE FOOT
mph, MPH *	MILES PER HOUR
ø	NOMINAL DIAMETER
oz	OUNCE
lb	POUND
kíp	1,000 POUNDS
cal	CALORIE
ft	FOOT OR FEET
gal	GALLON

\* For use on a sign panel only

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS  
(SHEET 2 OF 2)**

NO SCALE

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

**REVISED STANDARD PLAN RSP A10B**

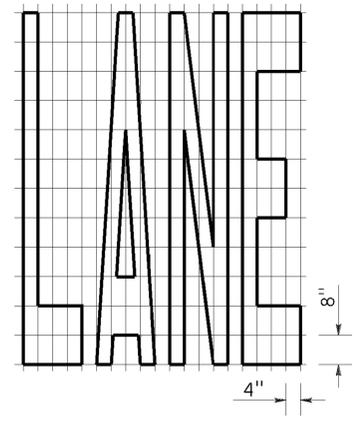
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	18	51

Registered Professional Engineer  
 Roberta L. McLaughlin  
 No. C40375  
 Exp. 3-31-13  
 CIVIL  
 STATE OF CALIFORNIA

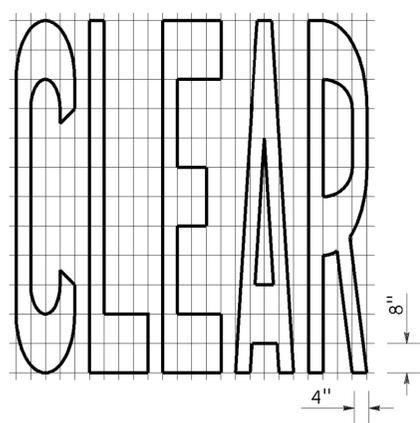
July 20, 2012  
 PLANS APPROVAL DATE

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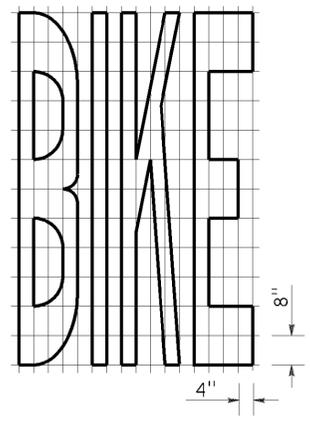
TO ACCOMPANY PLANS DATED June 15, 2015



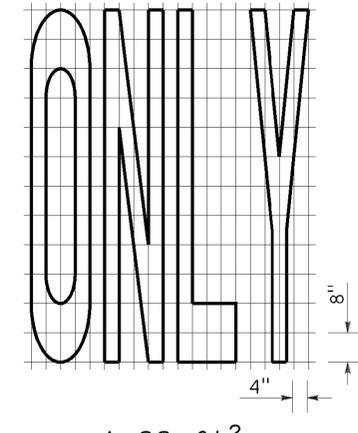
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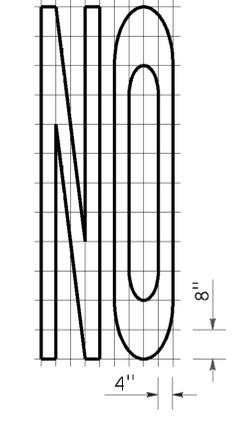
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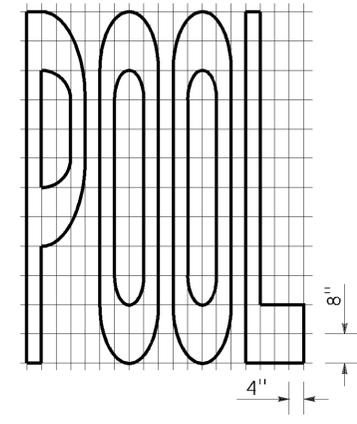
A=21 ft<sup>2</sup>



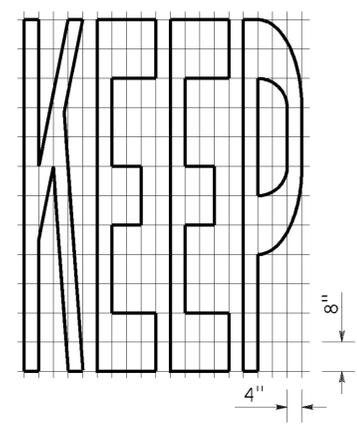
A=22 ft<sup>2</sup>



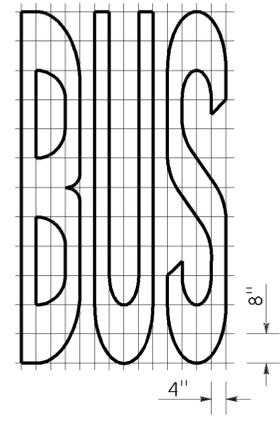
A=14 ft<sup>2</sup>



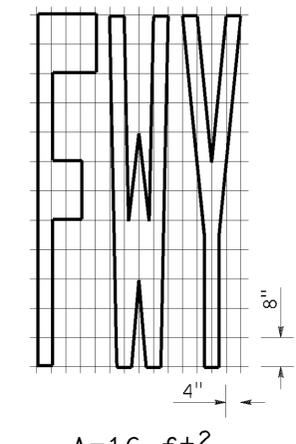
A=23 ft<sup>2</sup>



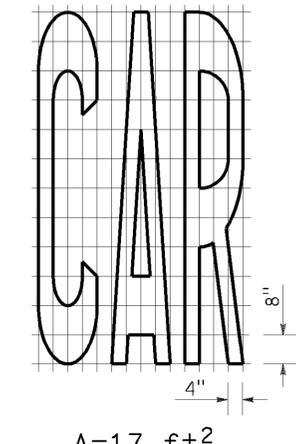
A=24 ft<sup>2</sup>



A=20 ft<sup>2</sup>

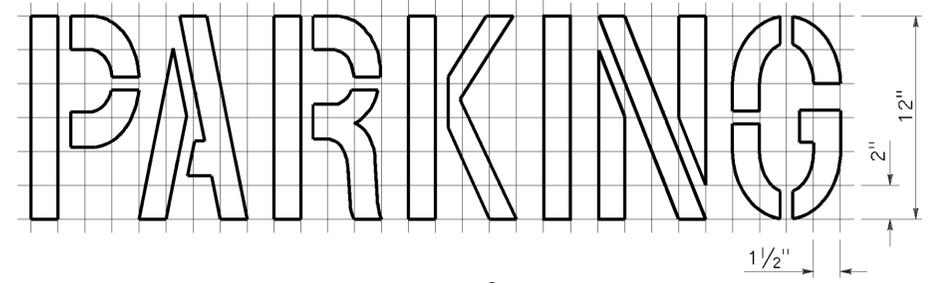
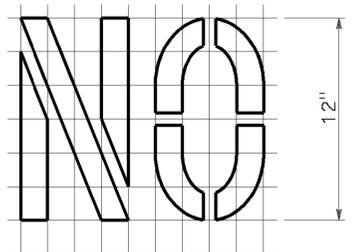


A=16 ft<sup>2</sup>

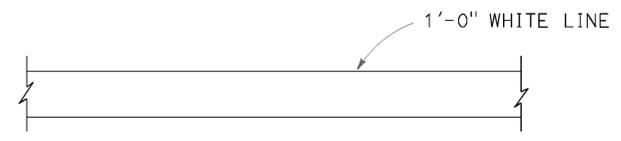


A=17 ft<sup>2</sup>

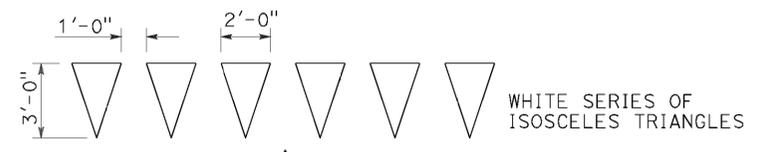
WORD MARKINGS			
ITEM	ft <sup>2</sup>	ITEM	ft <sup>2</sup>
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft<sup>2</sup>  
See Notes 6 and 7



LIMIT LINE (STOP LINE)



DIRECTION OF TRAVEL  
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.

STATE OF CALIFORNIA  
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.

**REVISED STANDARD PLAN RSP A24E**

P:\PROJ\01\08320\drref+ing\01-08320\0112000116\va002.dgn

2010 REVISED STANDARD PLAN RSP A24E

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	19	51

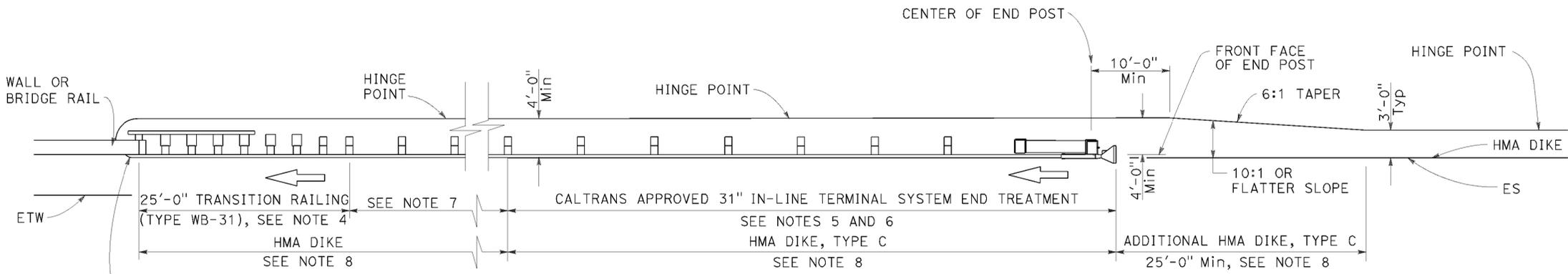
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

August 14, 2015  
PLANS APPROVAL DATE

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

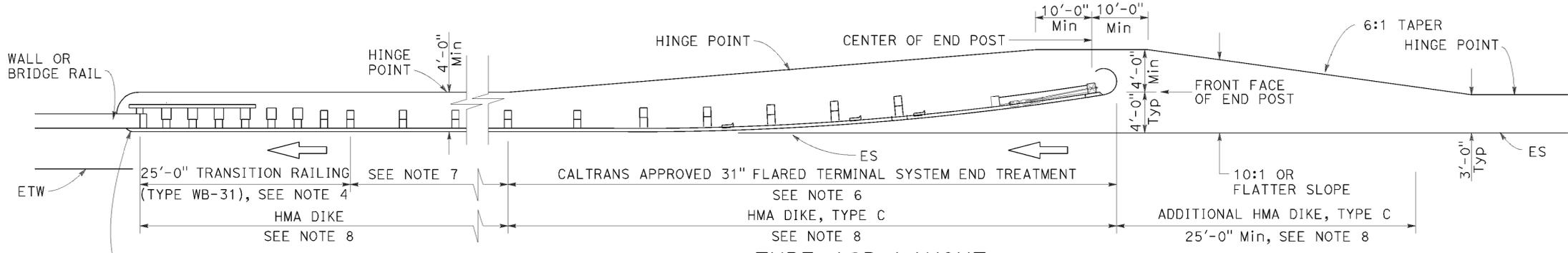
REGISTERED PROFESSIONAL ENGINEER  
*Randell D. Hiatt*  
No. C50200  
Exp. 6-30-17  
CIVIL  
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED June 15, 2015



**TYPE 12A LAYOUT**

(MGS installation at structure approach with 31" in-line end treatment at traffic approach end of railing)  
See Note 9



**TYPE 12B LAYOUT**

(MGS installation at structure approach with 31" Flared end treatment at traffic approach end of railing)  
See Note 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 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 of 31" 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 AUGUST 14, 2015 SUPERSEDES RSP A77Q1 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77Q1**

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2010 REVISED STANDARD PLAN RSP A77Q1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	20	51

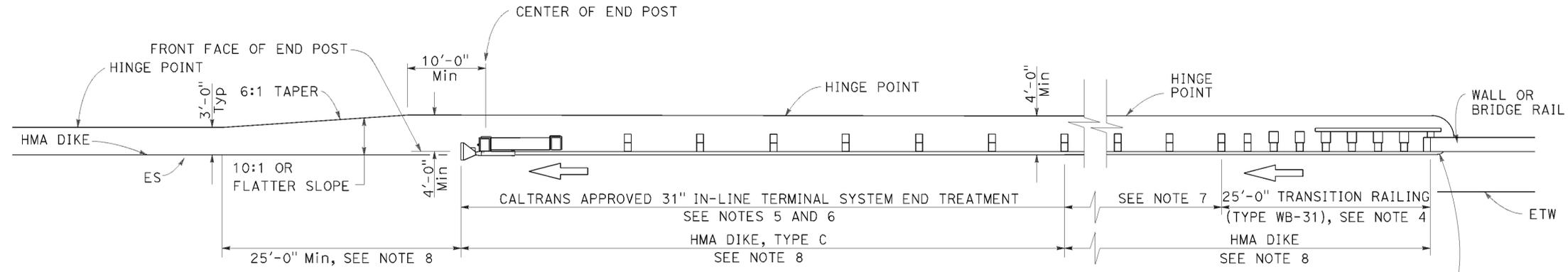
*Randell D. Hiatt*  
REGISTERED CIVIL ENGINEER

August 14, 2015  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
No. C50200  
Exp. 6-30-17  
CIVIL  
STATE OF CALIFORNIA

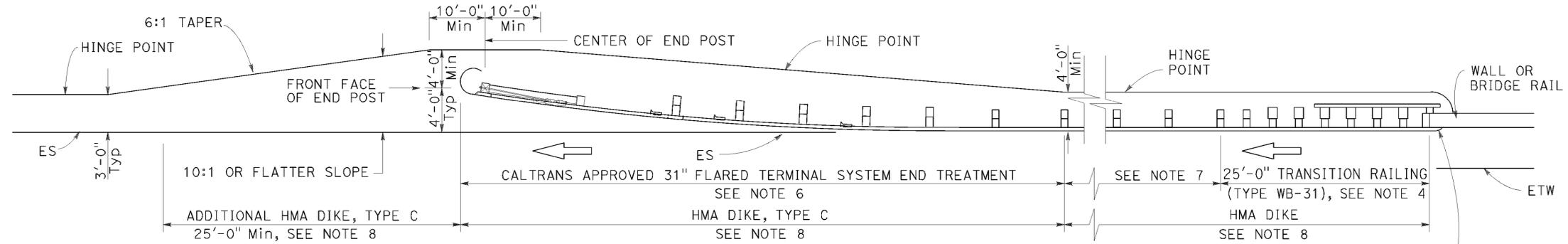
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TO ACCOMPANY PLANS DATED June 15, 2015



**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 A7704 DATED AUGUST 14, 2015 SUPERSEDES RSP A7704 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77Q4**

2010 REVISED STANDARD PLAN RSP A77Q4

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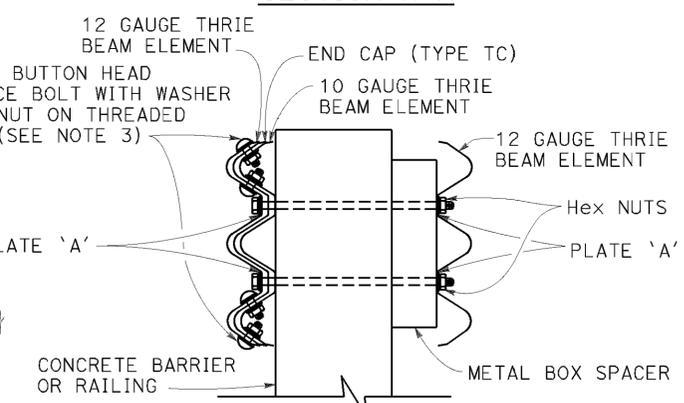
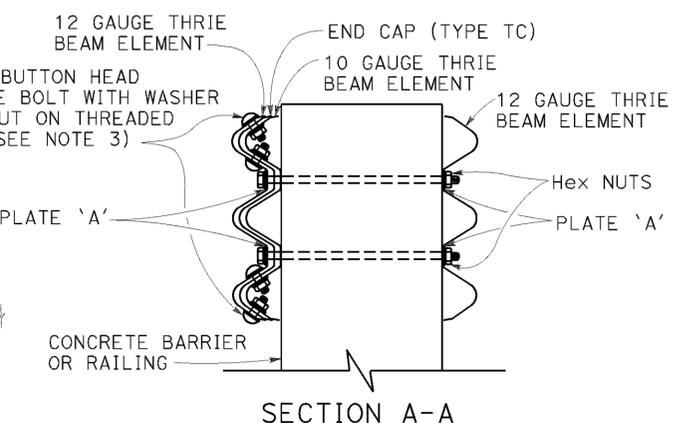
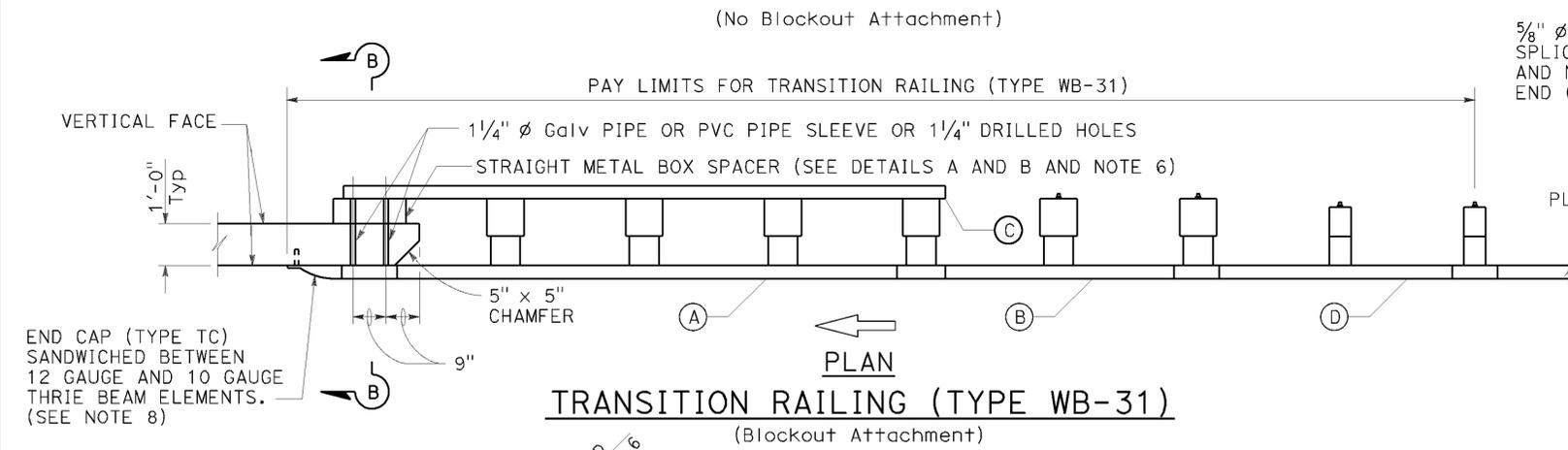
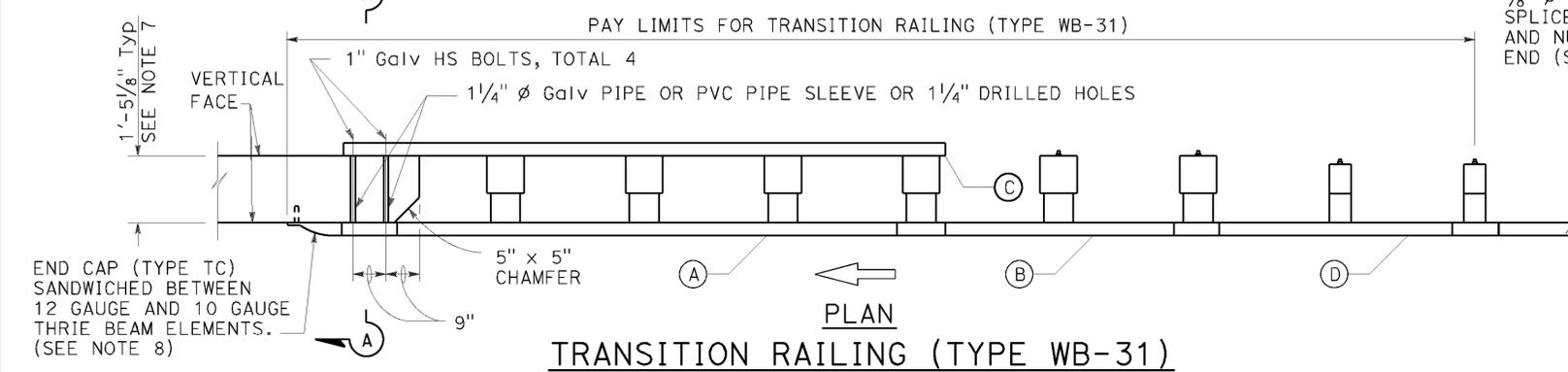
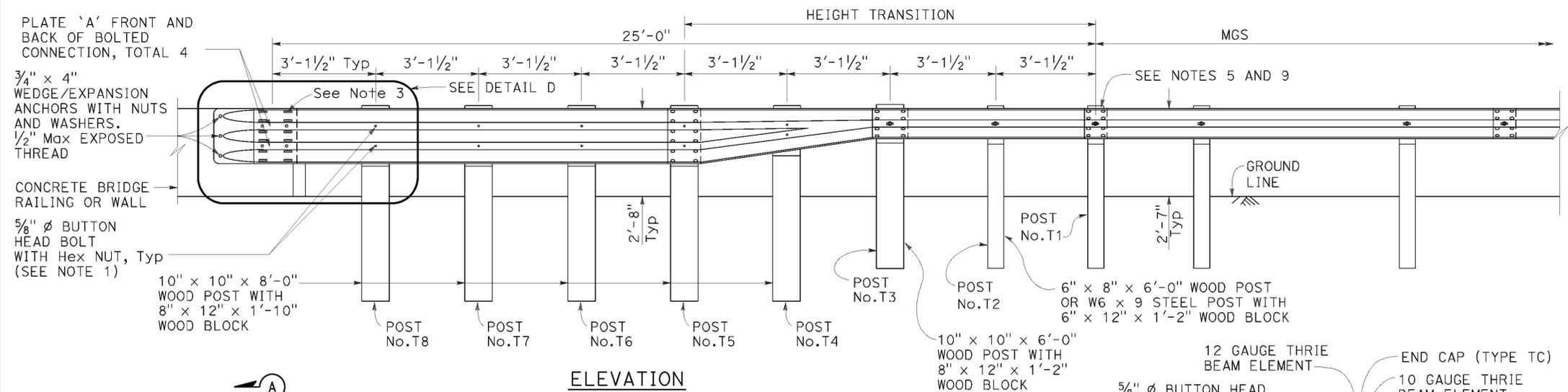
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	21	51

**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

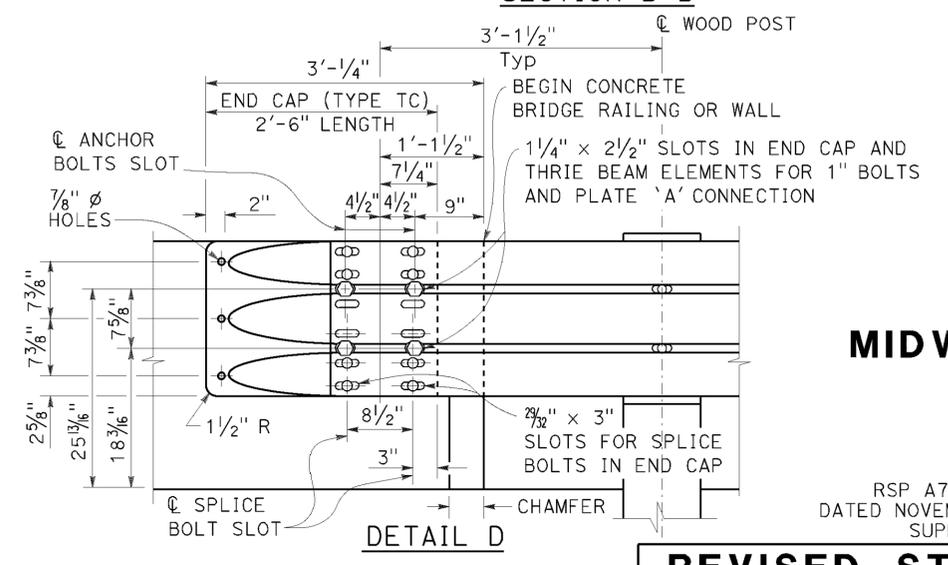
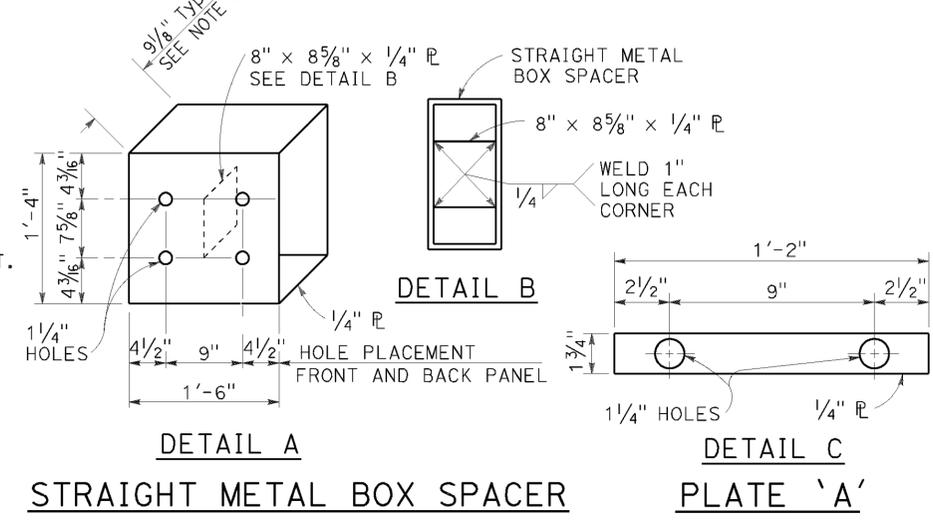
January 23, 2015  
PLANS APPROVAL DATE

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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 June 15, 2015

1. Use 5/8" diameter 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 1/4" diameter. 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

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**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
01	DN	199	24.7	23	51

*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.

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

TO ACCOMPANY PLANS DATED June 15, 2015

**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**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	24	51

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 June 15, 2015

**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

NEW	EXISTING	
		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**

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

**FLASHING BEACON**

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

**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**

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2010 REVISED STANDARD PLAN RSP ES-1B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	25	51

Theresa Gabriel  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

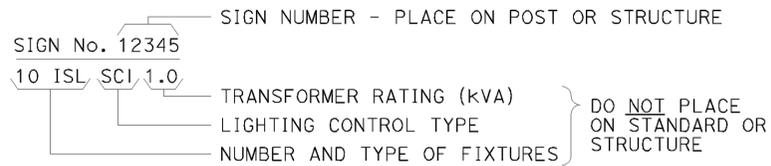
Theresa Aziz Gabriel  
REGISTERED PROFESSIONAL ENGINEER  
No. E15129  
Exp. 6-30-14  
ELECTRICAL  
STATE OF CALIFORNIA

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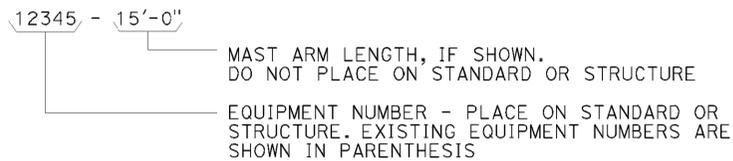
TO ACCOMPANY PLANS DATED June 15, 2015

### EQUIPMENT IDENTIFICATION

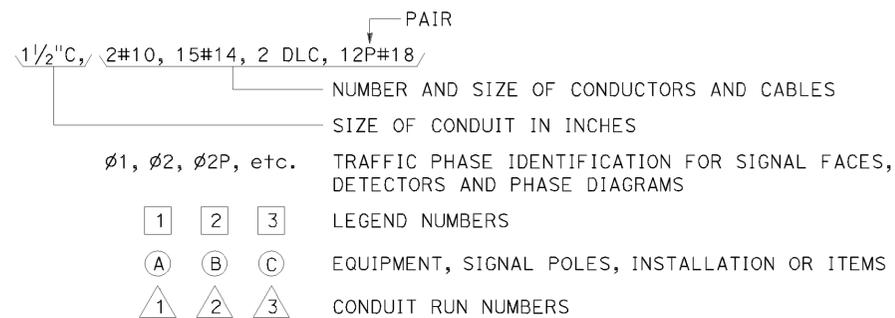
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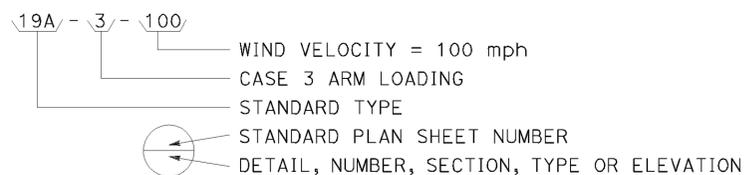
#### ELECTROLIER OR EQUIPMENT IDENTIFICATION NUMBER:



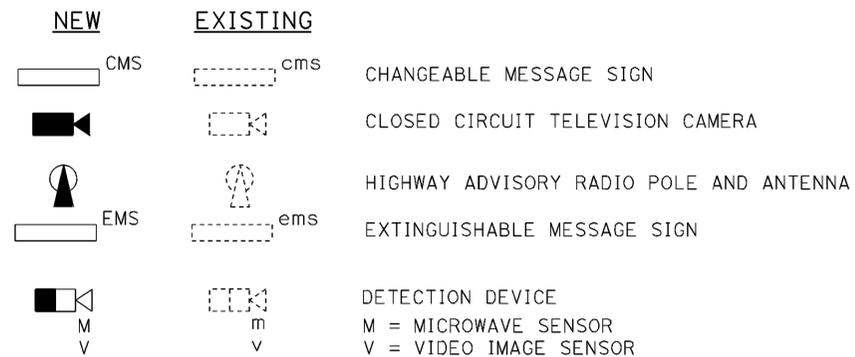
#### CONDUIT AND CONDUCTOR IDENTIFICATION:



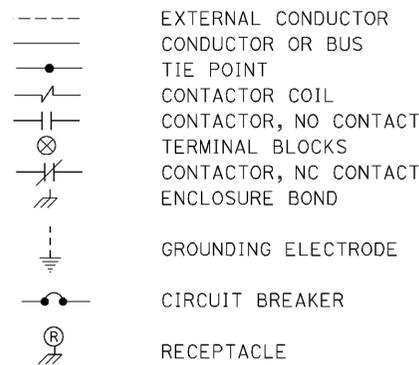
#### SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



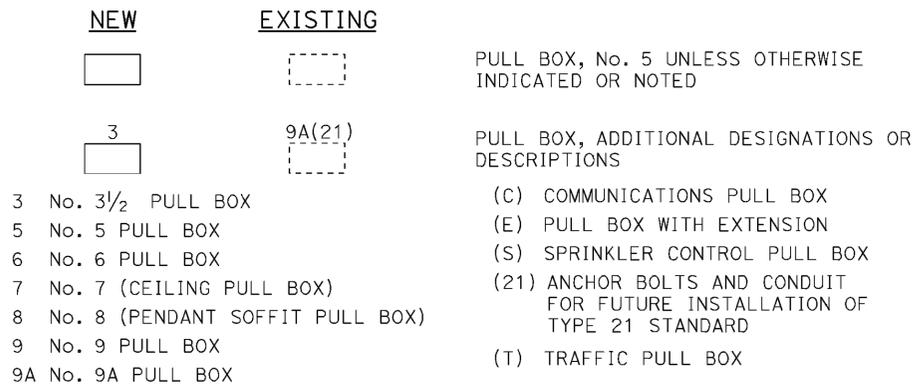
### MISCELLANEOUS EQUIPMENT



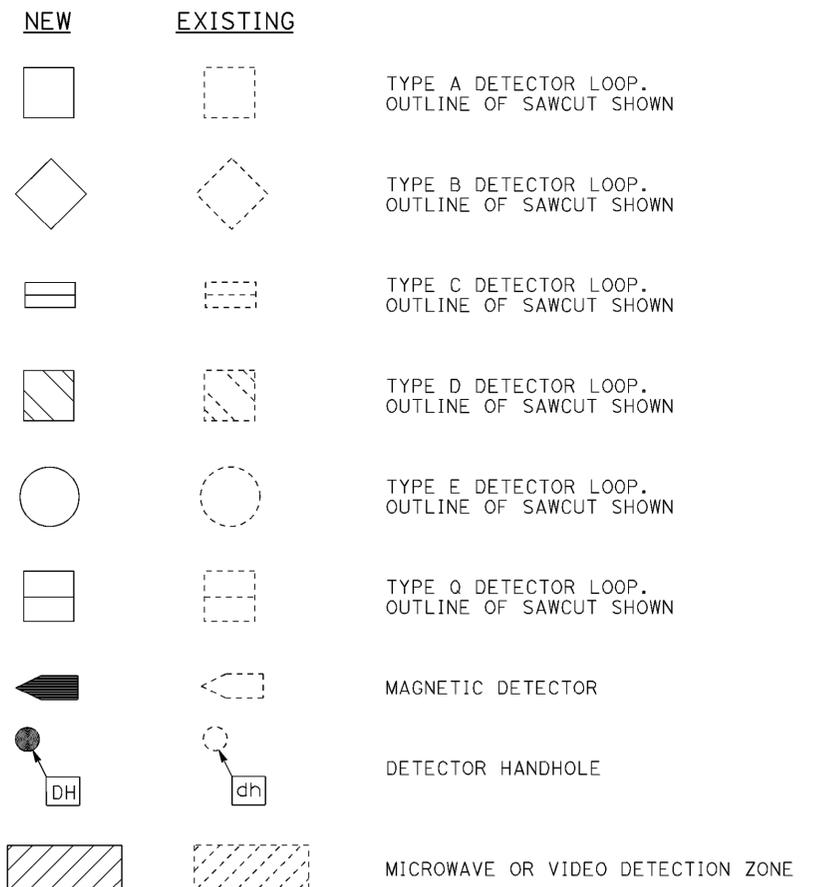
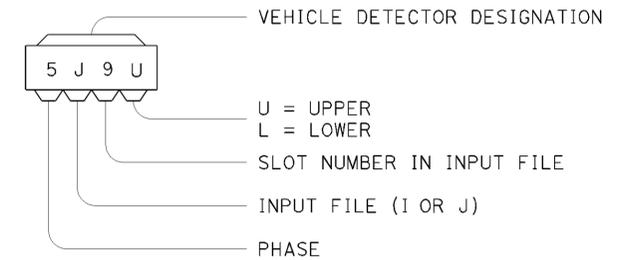
### WIRING DIAGRAM LEGEND



### 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
01	DN	199	24.7	26	51

*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
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TO ACCOMPANY PLANS DATED June 15, 2015

PLAN VIEW OF OTHER SIDE MOUNTINGS

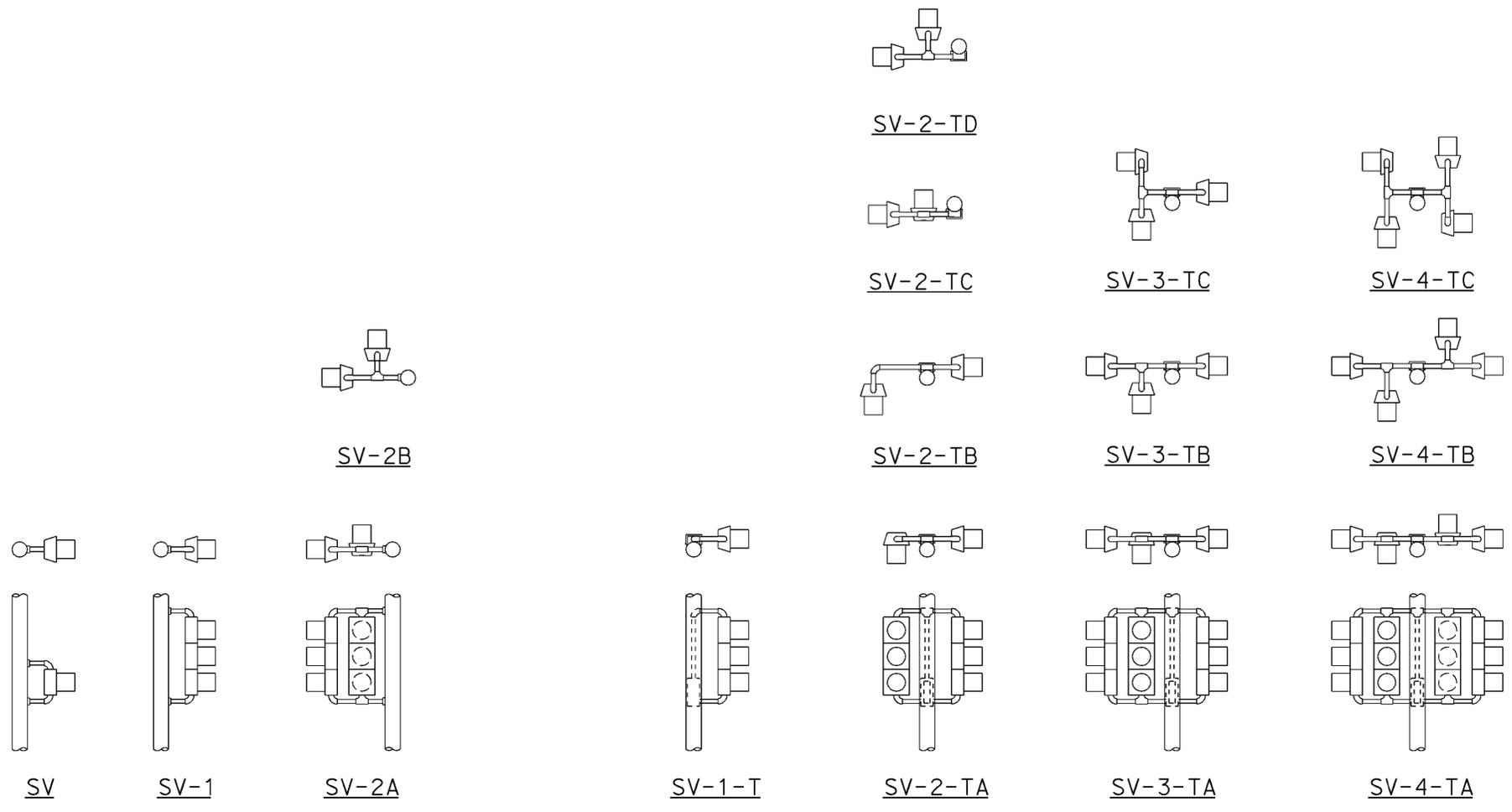
**ABBREVIATIONS:**

- 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
01	DN	199	24.7	27	51

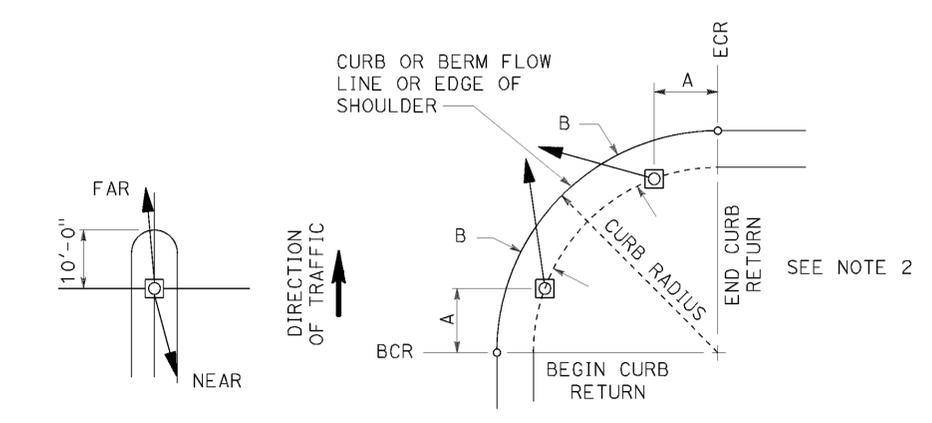
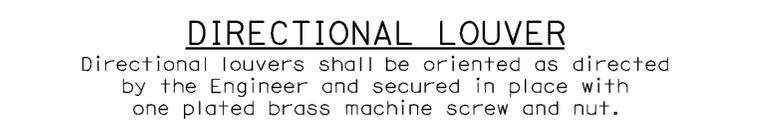
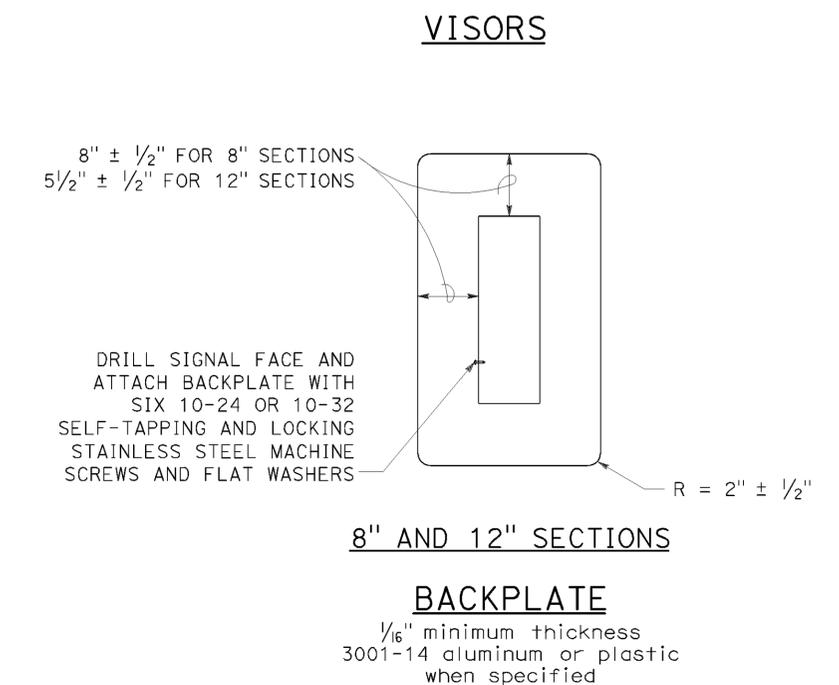
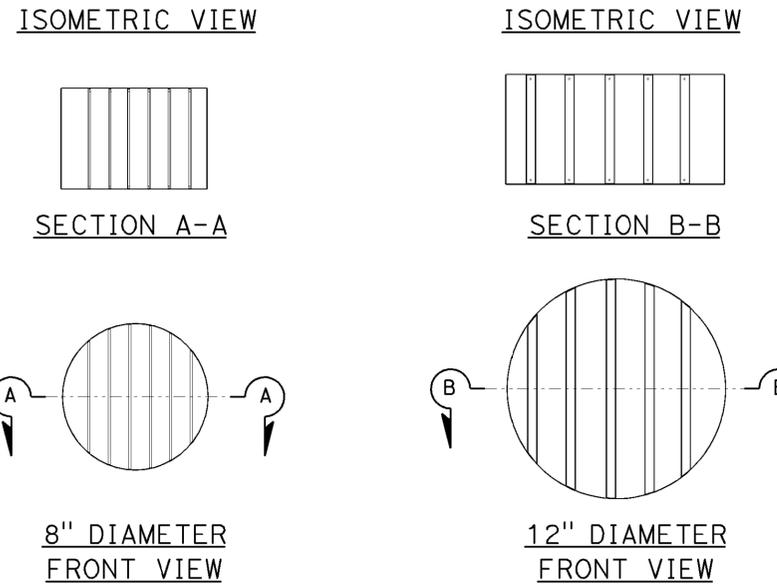
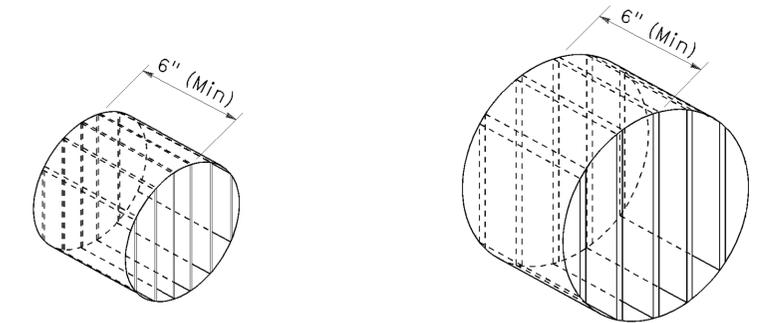
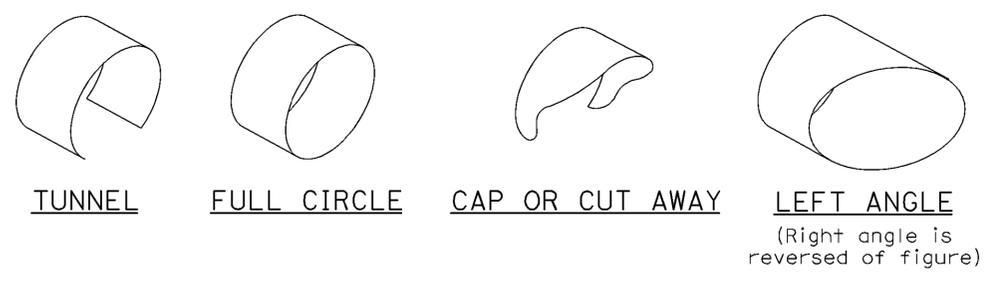
Theresa Gabriel  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

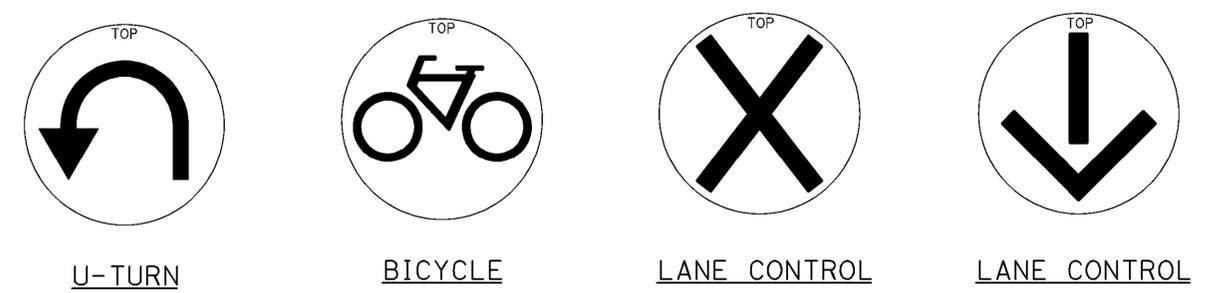
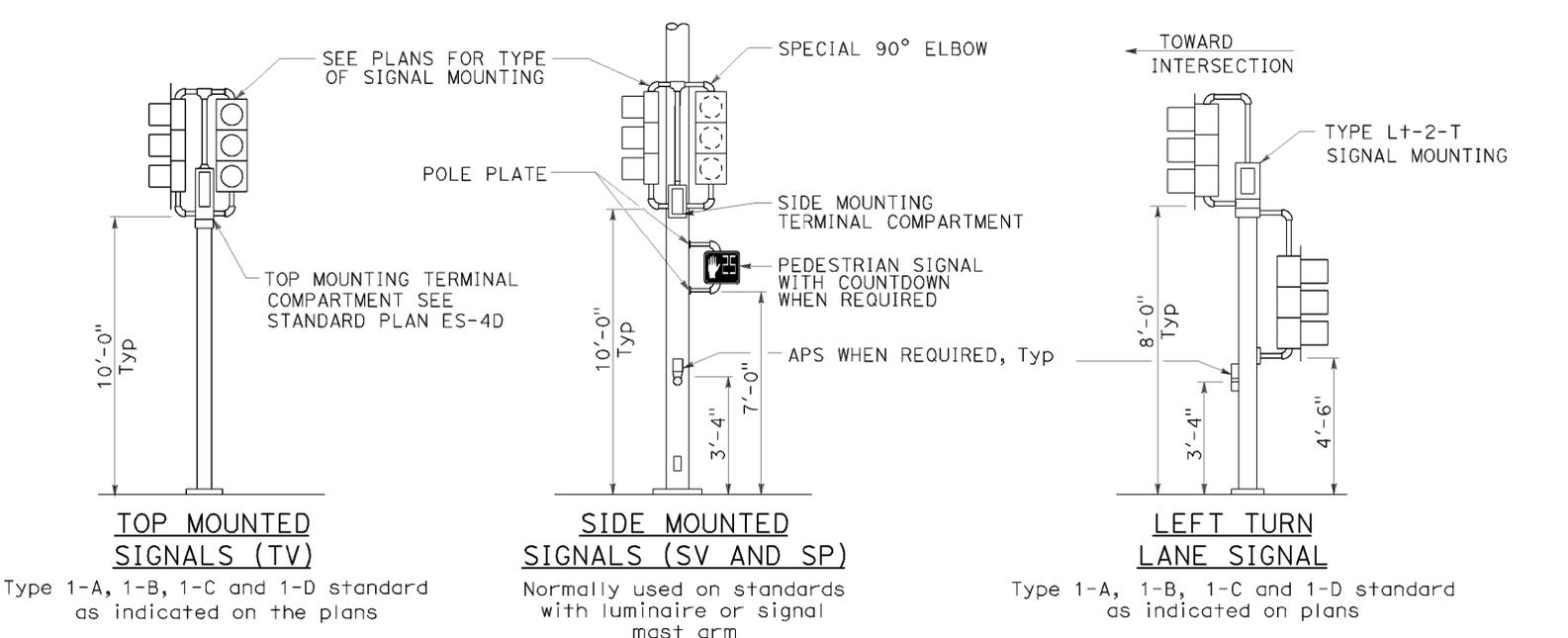
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TO ACCOMPANY PLANS DATED June 15, 2015



- 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.

**SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS**



**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.

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2010 REVISED STANDARD PLAN RSP ES-4C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	28	51

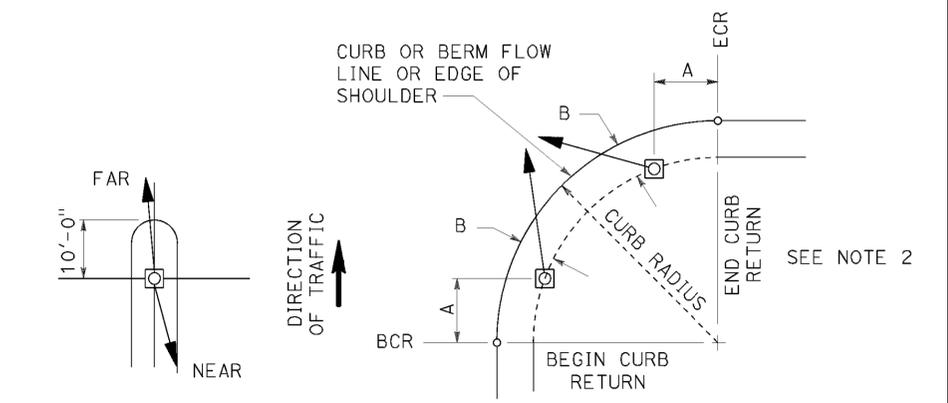
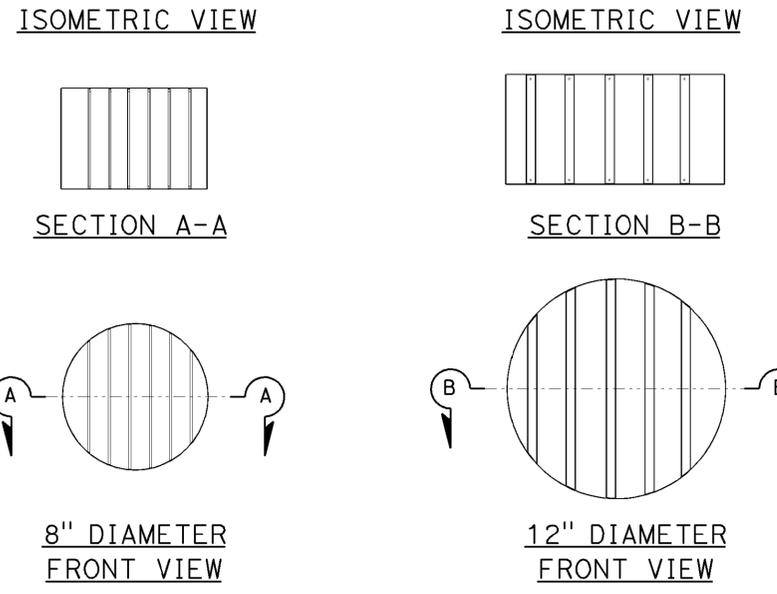
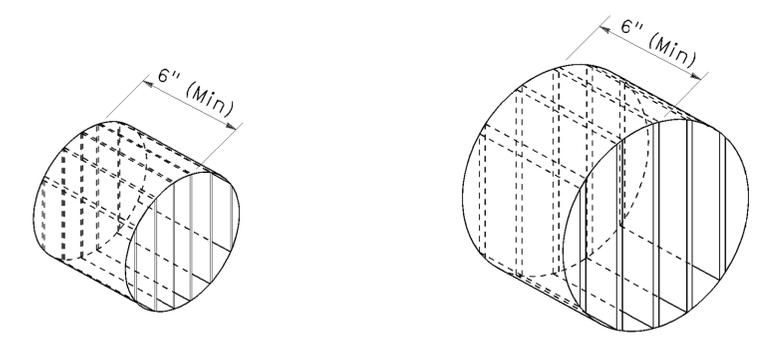
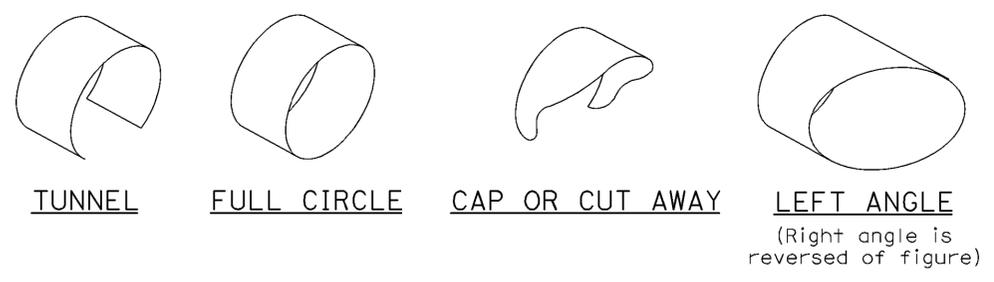
Theresa Gabriel  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

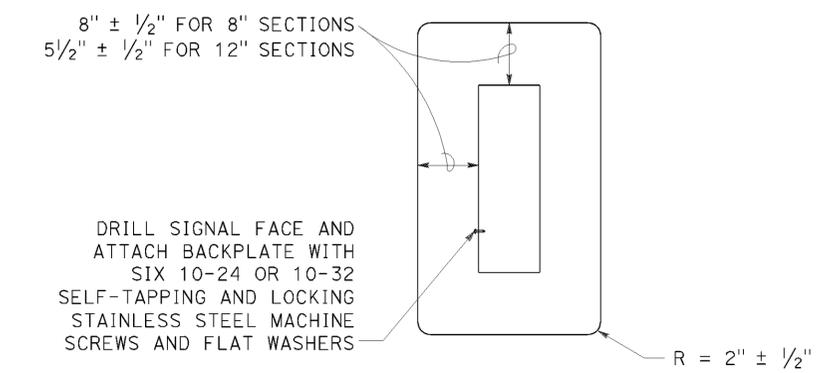
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED June 15, 2015



- 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**

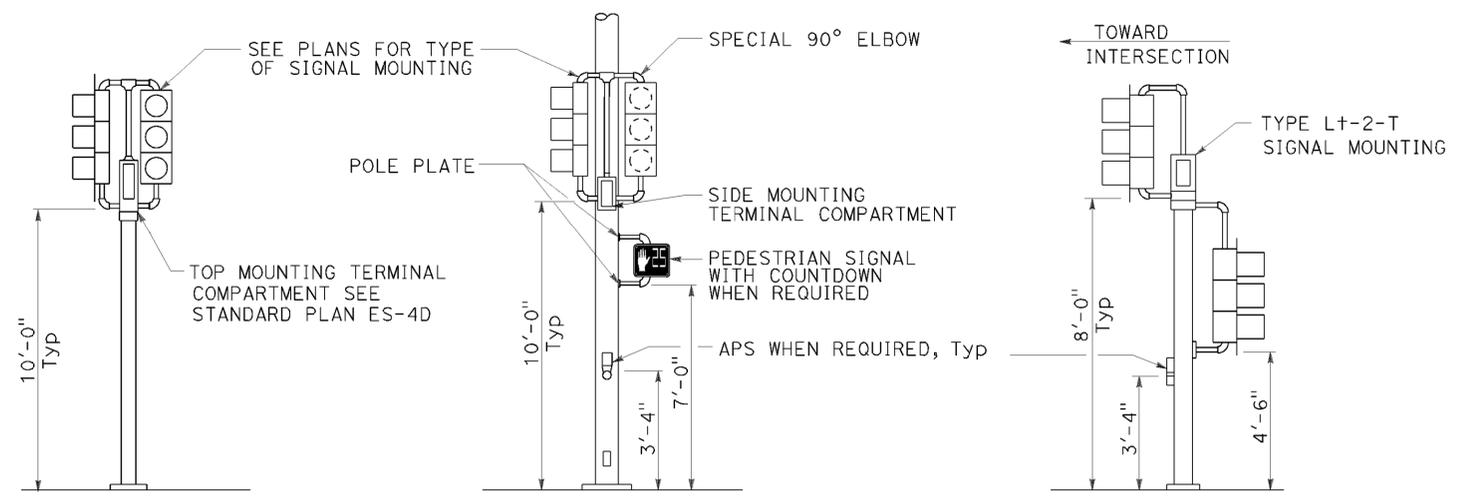
**BACKPLATE**

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)**

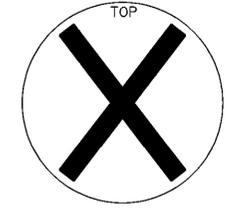
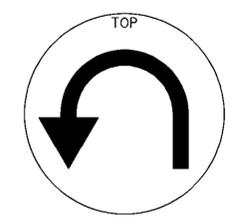
Type 1-A, 1-B, 1-C and 1-D standard as indicated on the plans

**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.

**REVISED STANDARD PLAN RSP ES-4C**

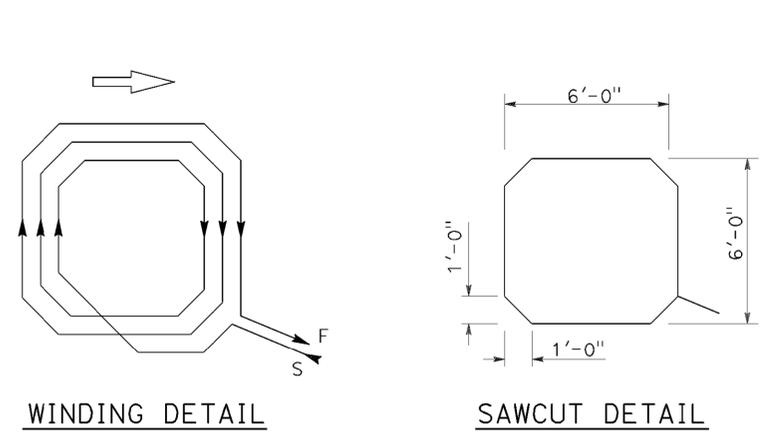
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2010 REVISED STANDARD PLAN RSP ES-4C

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	29	51

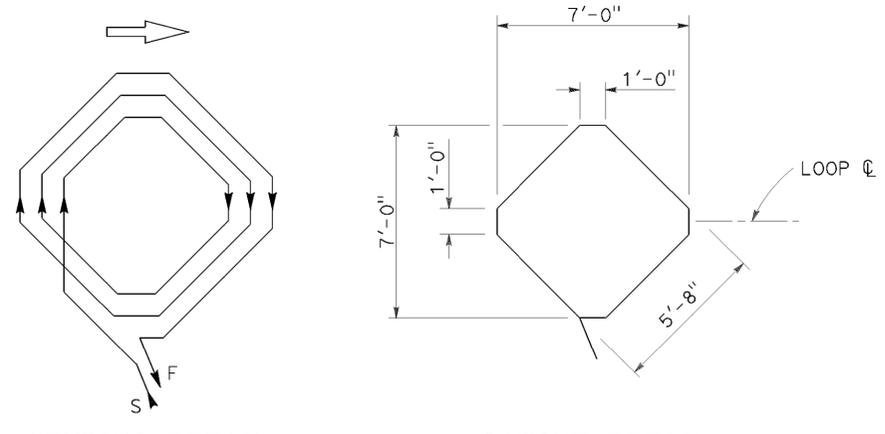
*Theresa Gabriel*  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED June 15, 2015



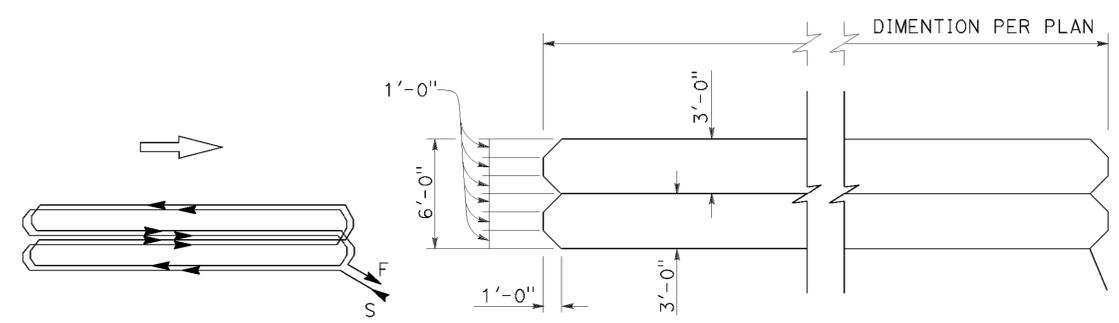
WINDING DETAIL SAWCUT DETAIL

TYPE A LOOP DETECTOR CONFIGURATION



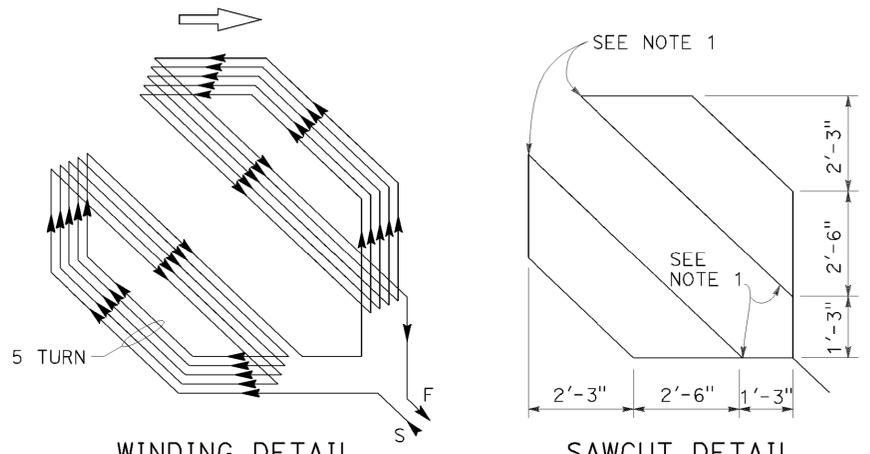
WINDING DETAIL SAWCUT DETAIL

TYPE B LOOP DETECTOR CONFIGURATION



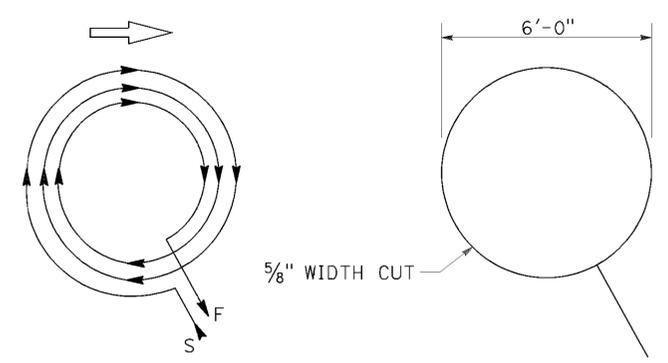
WINDING DETAIL SAWCUT DETAIL

TYPE C LOOP DETECTOR CONFIGURATION



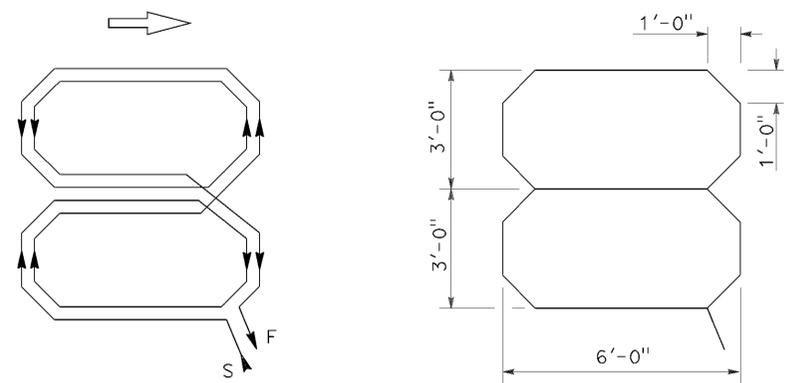
WINDING DETAIL SAWCUT DETAIL

TYPE D LOOP DETECTOR CONFIGURATION



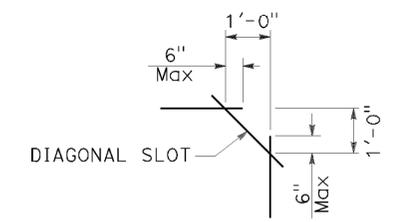
WINDING DETAIL SAWCUT DETAIL

TYPE E LOOP DETECTOR CONFIGURATION



WINDING DETAIL SAWCUT DETAIL

TYPE Q LOOP DETECTOR CONFIGURATION



PLAN VIEW OF DIAGONAL SLOT AT CORNERS

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.

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

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2010 REVISED STANDARD PLAN RSP ES-5B

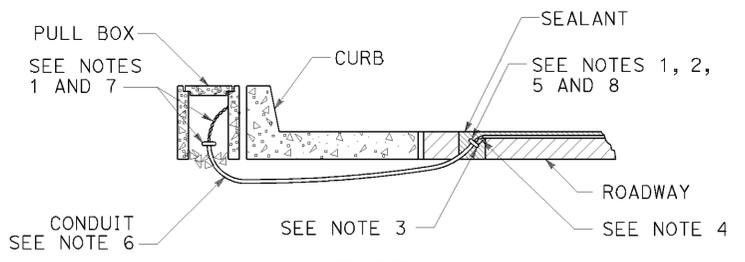
- NOTES:**
1. Round corners of acute angle sawcuts to prevent damage to conductors.
  2. Typical distance separating loops from edge to edge is 10' for Type A, B, D and E installation in single lane.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	30	51

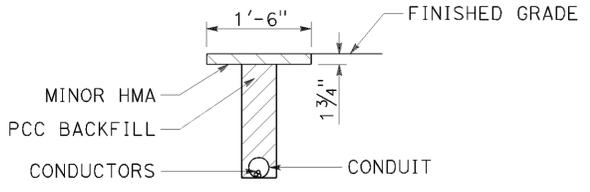
Theresa Gabriel  
 REGISTERED ELECTRICAL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

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

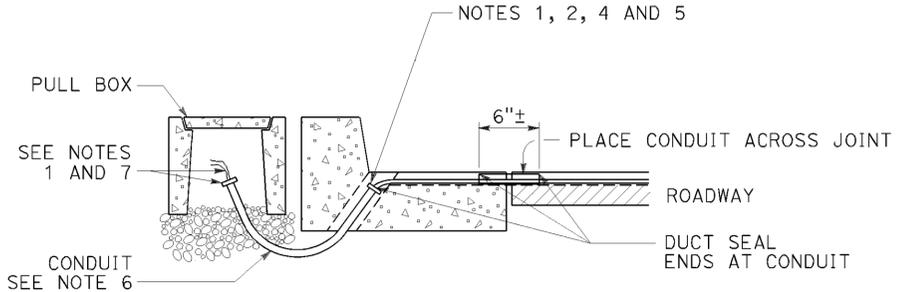
TO ACCOMPANY PLANS DATED June 15, 2015



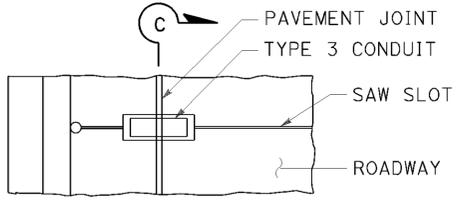
**TYPE A**  
**CURB TERMINATION DETAIL**



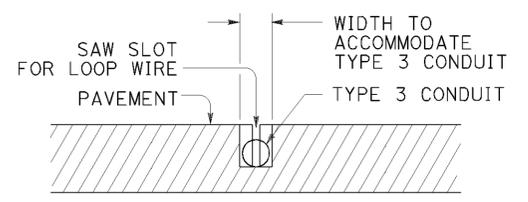
**"T" TRENCH**  
**DETAIL T**



**CROSS SECTION**

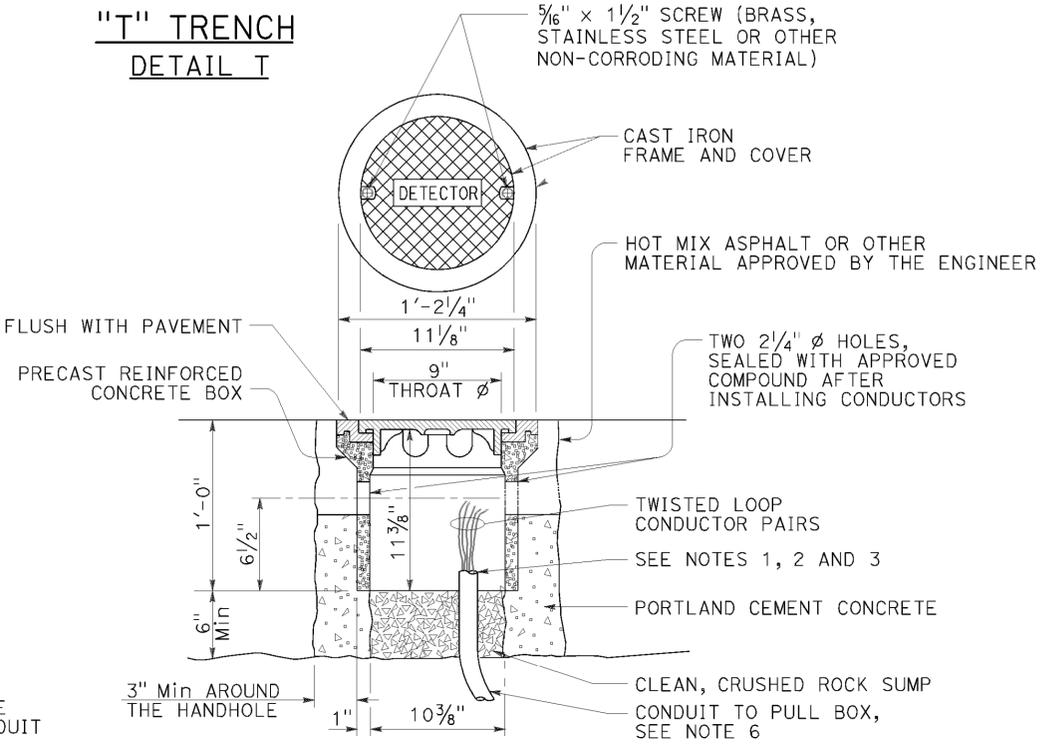


**PLAN VIEW**

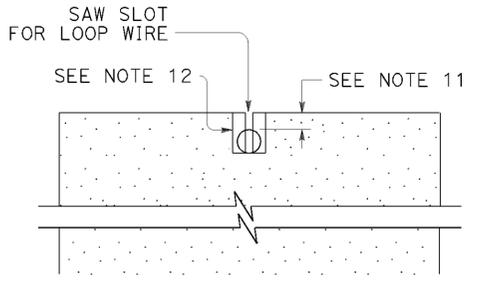


**SECTION C-C**

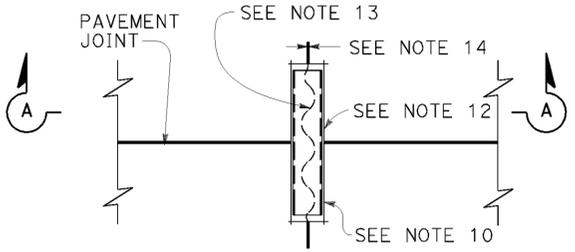
**TYPE B**  
**CURB TERMINATION DETAIL**



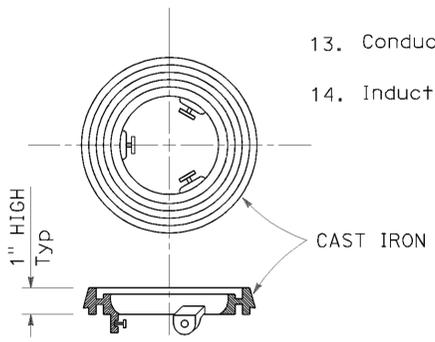
**DETECTOR HANDHOLE DETAIL**



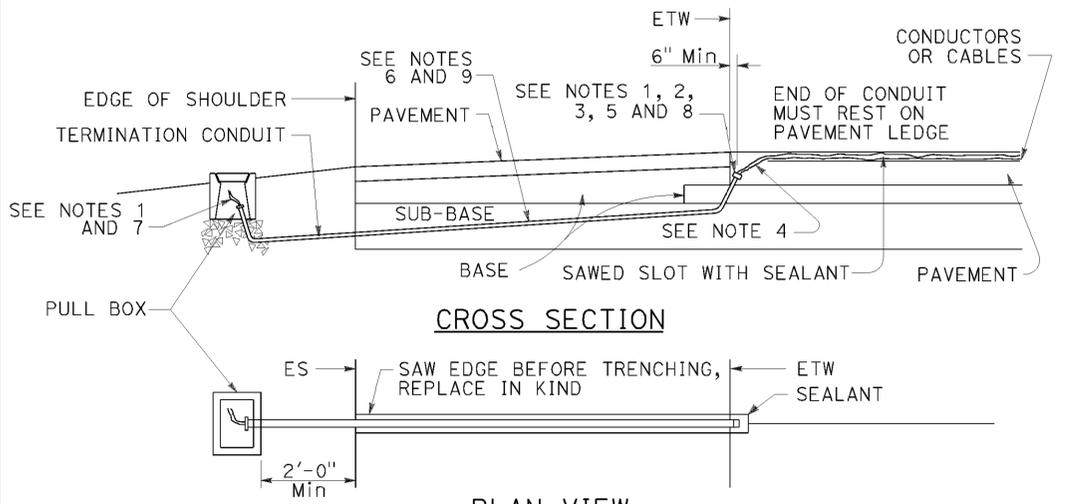
**SECTION A-A**



**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**

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**2010 REVISED STANDARD PLAN RSP ES-5D**

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	31	51

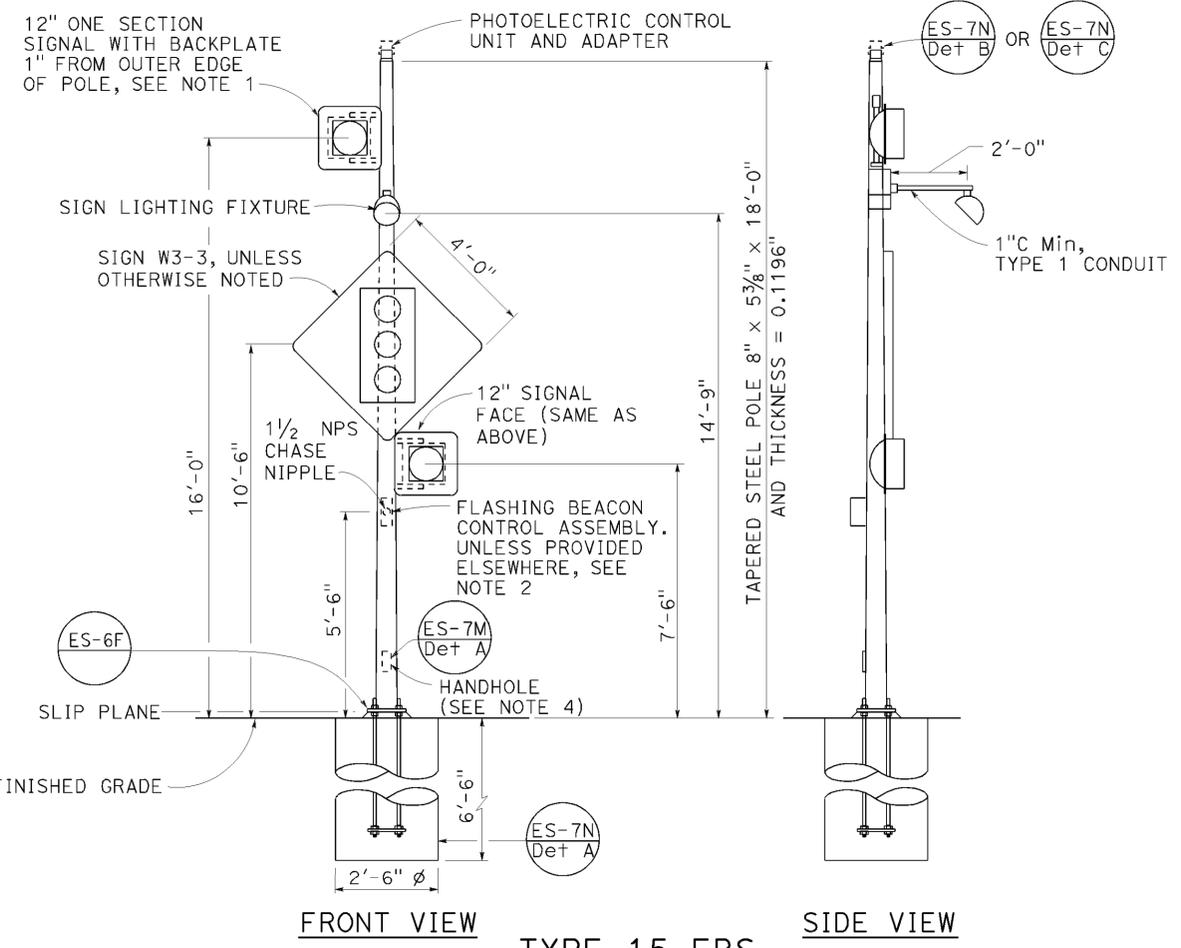
Stanley P. Johnson  
 REGISTERED CIVIL ENGINEER  
 July 19, 2013  
 PLANS APPROVAL DATE  
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

Stanley P. Johnson  
 REGISTERED PROFESSIONAL ENGINEER  
 No. C57793  
 Exp. 3-31-14  
 CIVIL  
 STATE OF CALIFORNIA

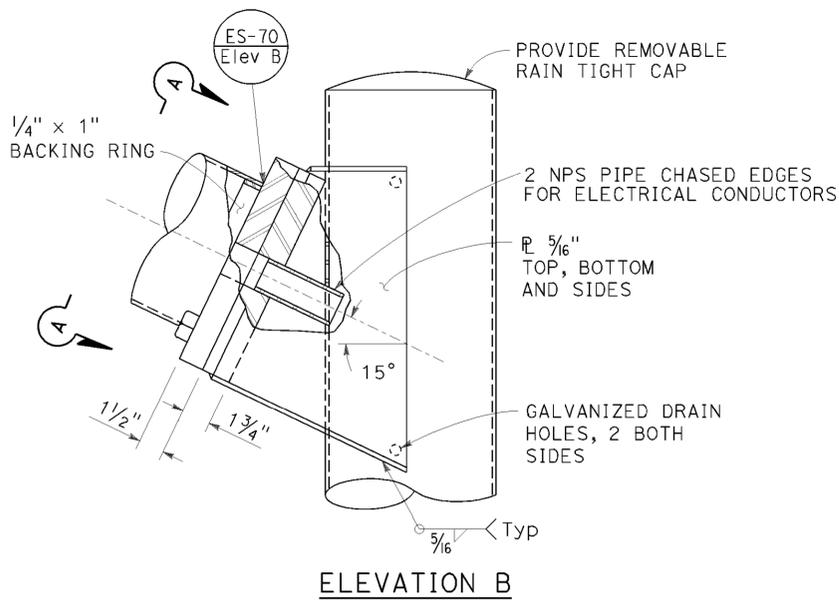
TO ACCOMPANY PLANS DATED June 15, 2015

**NOTES:**

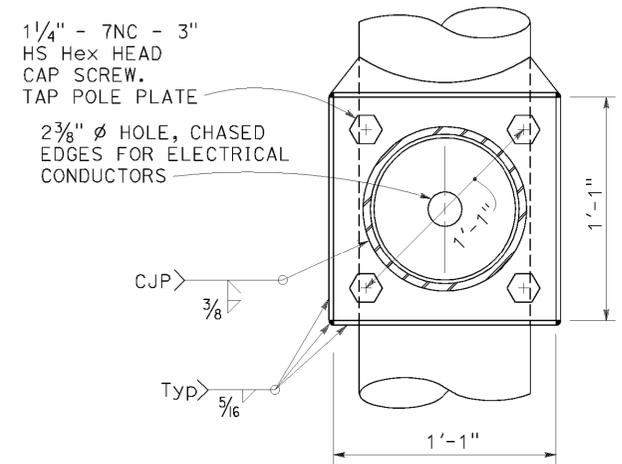
1. See Revised Standard Plan RSP ES-4A and Standard Plan ES-4D for attachment fitting details.
2. For wiring diagram, see Standard Plan ES-14B.
3. For additional notes and details, see Standard Plans ES-7M and ES-7N.
4. Handhole shall be located on the downstream side of traffic.
5. See project plans for type of standard to be installed.



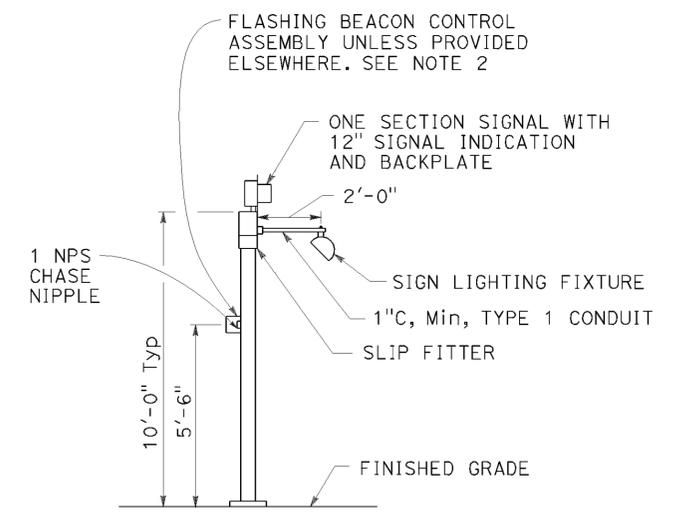
**TYPE 15-FBS**  
**ADVANCE FLASHING BEACON WITH SLIP BASE INSTALLATION**  
**DETAIL A**



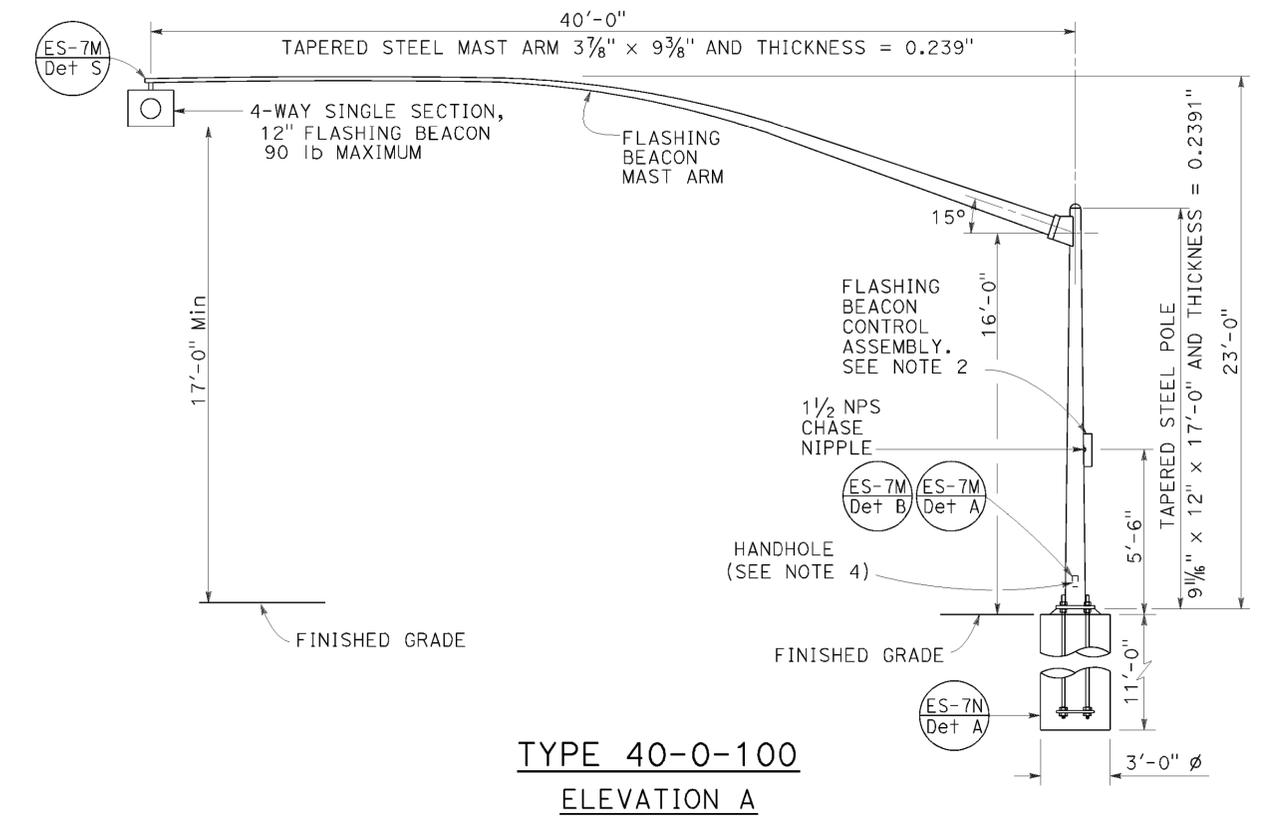
**ELEVATION B**



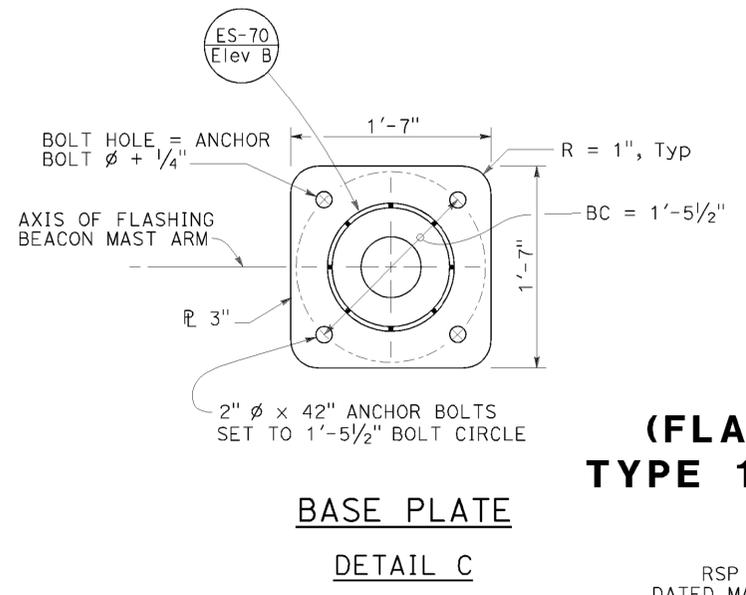
**VIEW A-A**  
**FLASHING BEACON MAST ARM**  
**CONNECTION DETAIL**  
**DETAIL B**



**TYPE 1-A, 1-B, 1-C AND 1-D**  
**ADVANCE FLASHING**  
**BEACON INSTALLATION**  
**DETAIL D**  
 See Note 5



**TYPE 40-0-100**  
**ELEVATION A**



**BASE PLATE**  
**DETAIL C**

**ELECTRICAL SYSTEMS**  
**(FLASHING BEACON ON A TYPE 1, TYPE 15-FBS AND TYPE 40 STANDARD)**  
 NO SCALE

RSP ES-7J DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN ES-7J DATED MAY 20, 2011 - PAGE 471 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-7J**

2010 REVISED STANDARD PLAN RSP ES-7J

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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	DN	199	24.7	32	51

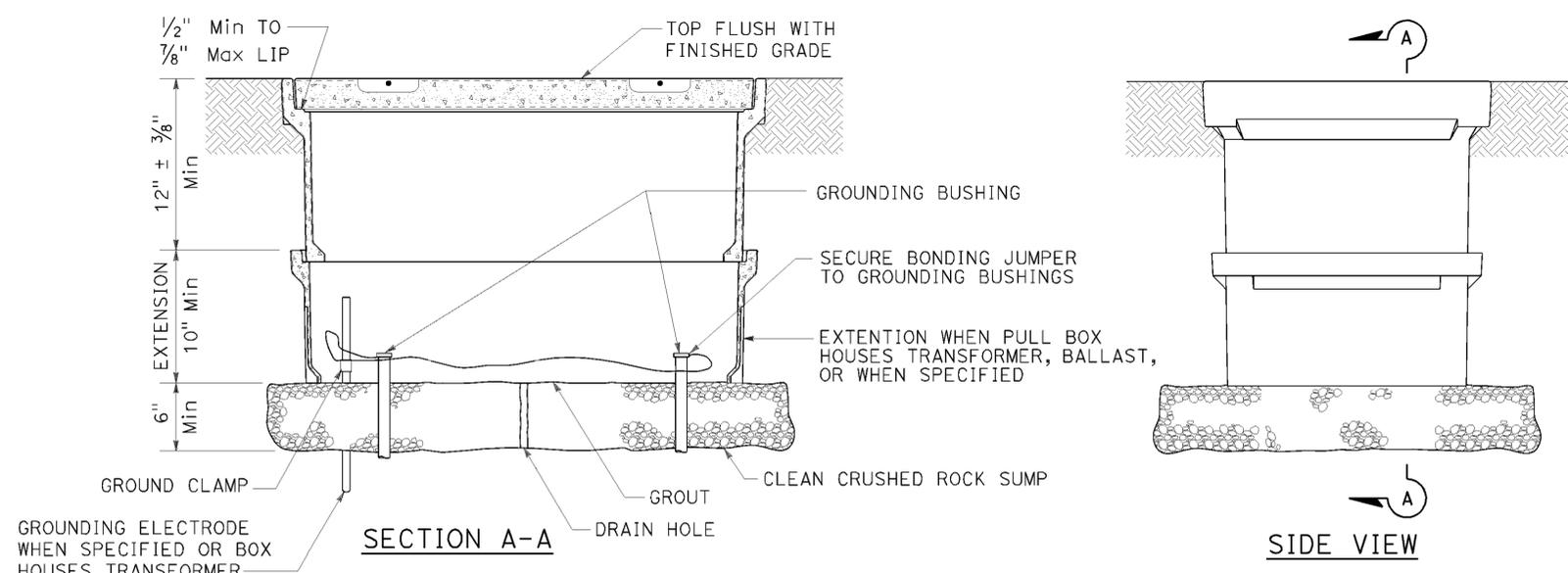
Theresa Gabriel  
REGISTERED ELECTRICAL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

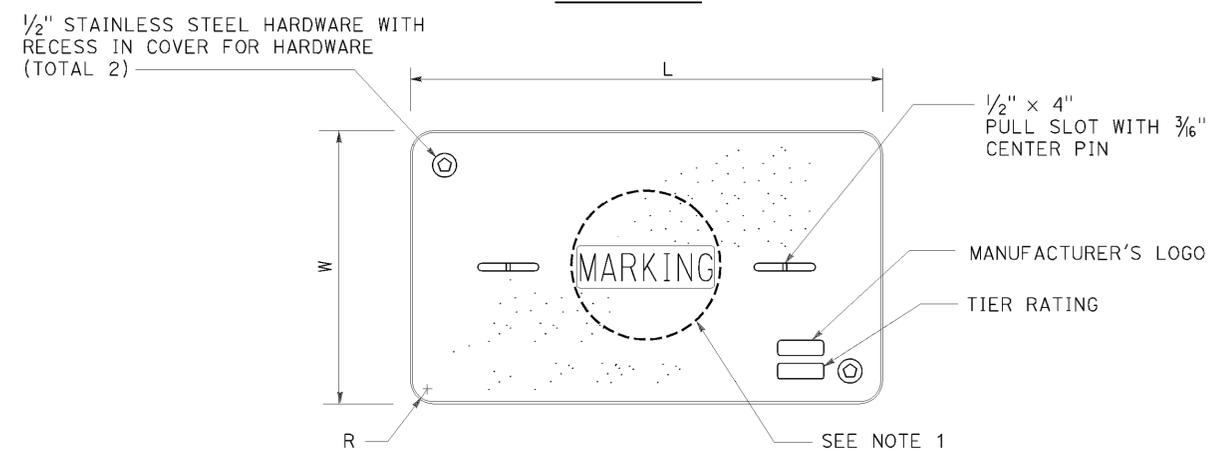
Theresa Aziz Gabriel  
No. E15129  
Exp. 6-30-14  
ELECTRICAL  
STATE OF CALIFORNIA

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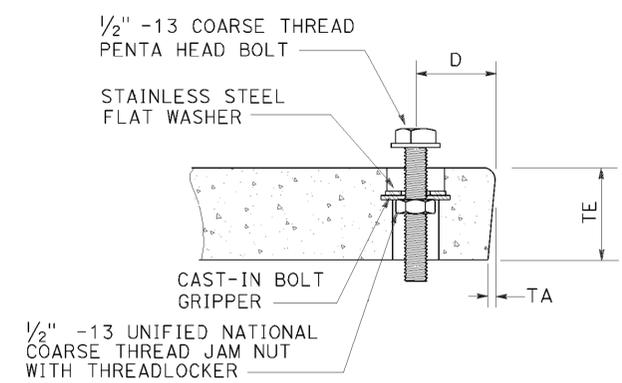
TO ACCOMPANY PLANS DATED June 15, 2015



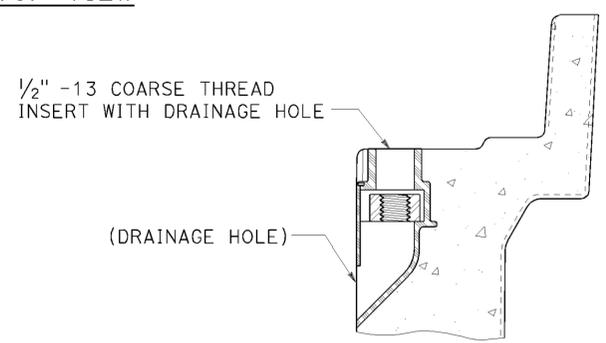
**INSTALLATION DETAILS**  
**DETAIL A**



**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. 3 1/2 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. 3 1/2	12"	N/A	40 lb	1' - 3 3/8"	10 1/8"	1 3/8"	2"	1/8"	1 3/4"	30 lb
No. 5	12"	10"	55 lb	1' - 11 1/4"	1' - 1 3/4"	1 3/8"	2"	1/8"	1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 6 1/2"	1' - 5 1/2"	1 3/8"	2"	1/8"	2"	85 lb

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION  
**ELECTRICAL SYSTEMS**  
**(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**

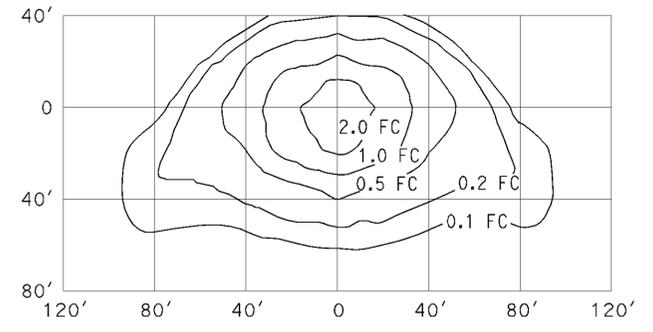
2010 REVISED STANDARD PLAN RSP ES-8A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	33	51

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.

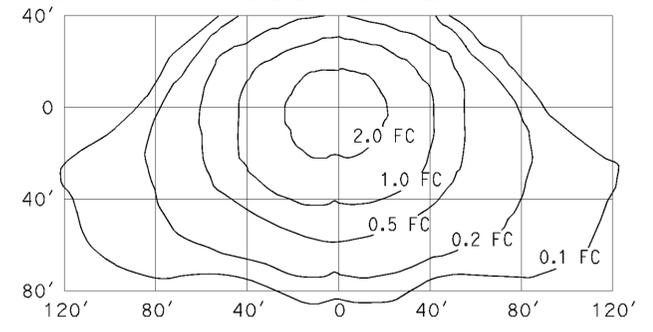
TO ACCOMPANY PLANS DATED June 15, 2015

**ISOFOOTCANDLE CURVE - MINIMUM**



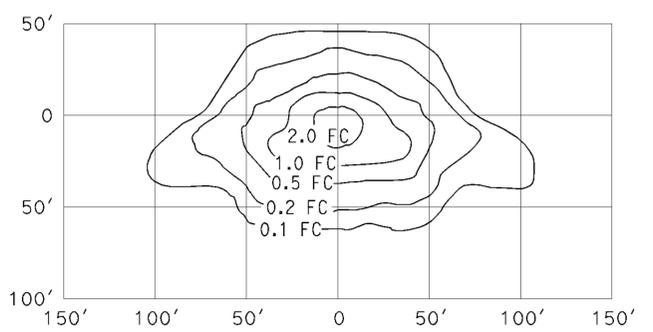
**TYPE III MEDIUM CUTOFF**  
 Cutoff Luminaire  
 34' Mounting Height  
 Lamp operated at 22,000 lm  
 200-W high pressure sodium lamp  
 ANSI Designation S66

**ISOFOOTCANDLE CURVE - MINIMUM**



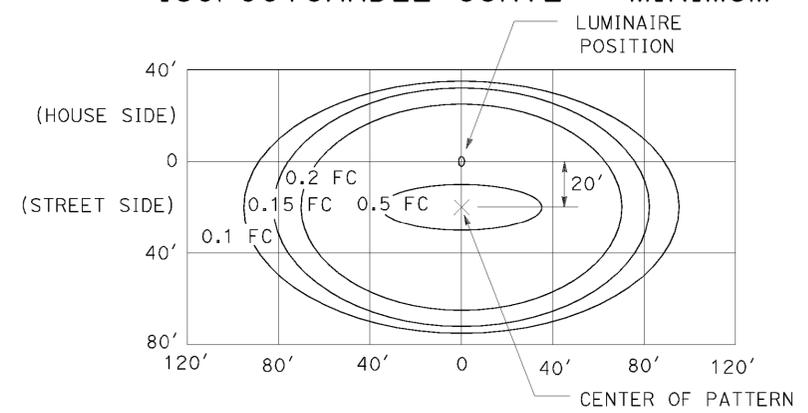
**TYPE III MEDIUM CUTOFF**  
 Cutoff Luminaire  
 40' Mounting Height  
 Lamp operated at 37,000 lm  
 310-W high pressure sodium lamp  
 ANSI Designation S67

**ISOFOOTCANDLE CURVE - MINIMUM**



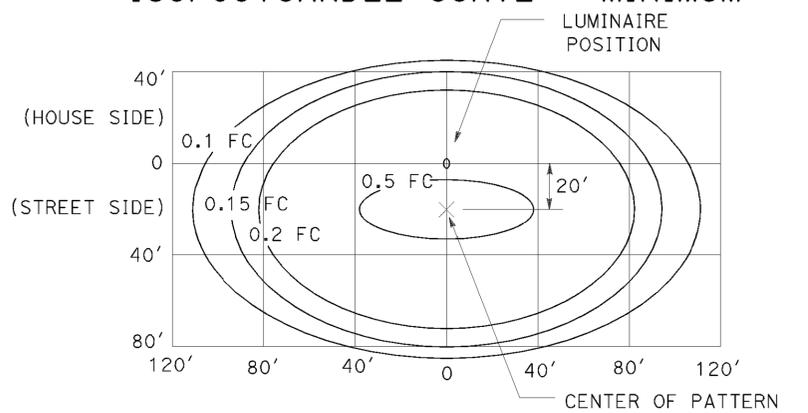
**TYPE III MEDIUM CUTOFF**  
 Cutoff Luminaire  
 30' Mounting Height  
 Lamp operated at 16,000 lm  
 150-W high pressure sodium lamp  
 ANSI Designation S55

**ISOFOOTCANDLE CURVE - MINIMUM**



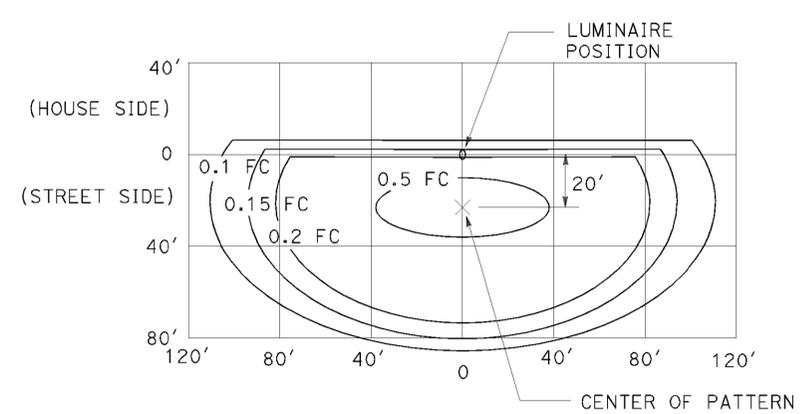
**LED LUMINAIRE ROADWAY 1**  
 165-W at 34' Mounting Height

**ISOFOOTCANDLE CURVE - MINIMUM**



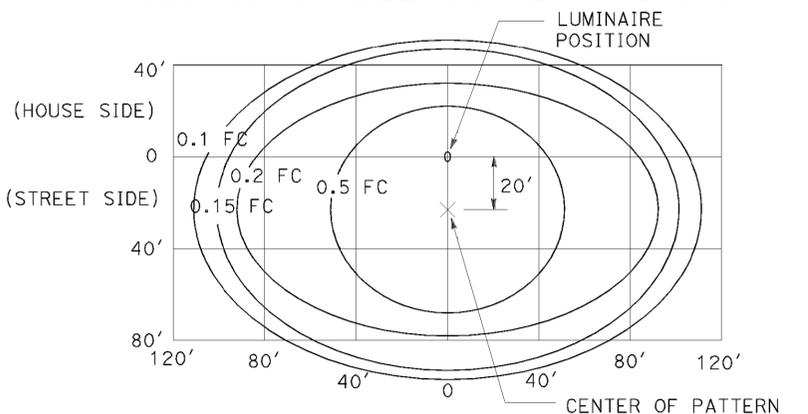
**LED LUMINAIRE ROADWAY 2**  
 235-W at 40' Mounting Height

**ISOFOOTCANDLE CURVE - MINIMUM**



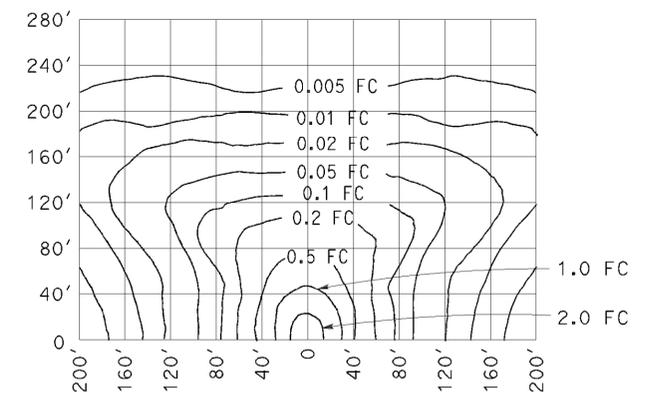
**LED LUMINAIRE ROADWAY 3**  
 235-W at 40' Mounting Height  
 with back side control

**ISOFOOTCANDLE CURVE - MINIMUM**



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

**ISOFOOTCANDLE CURVE - MINIMUM**



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

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.

**REVISED STANDARD PLAN RSP ES-10A**

2010 REVISED STANDARD PLAN RSP ES-10A

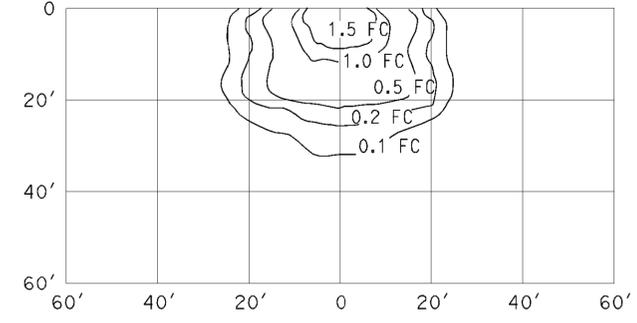
P:\PROJ\01\08320\drf\ing\01-08320-0112000116\va017.dgn

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	34	51

*Jeffery G. McRae*  
 REGISTERED ELECTRICAL ENGINEER  
 July 20, 2012  
 PLANS APPROVAL DATE  
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TO ACCOMPANY PLANS DATED June 15, 2015

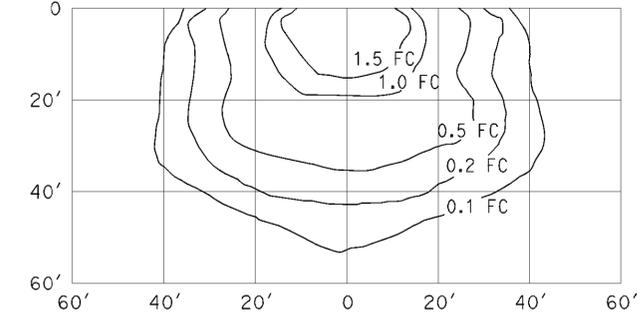
**ISOFOOTCANDLE CURVE - MINIMUM**



**WALL LUMINAIRE**

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

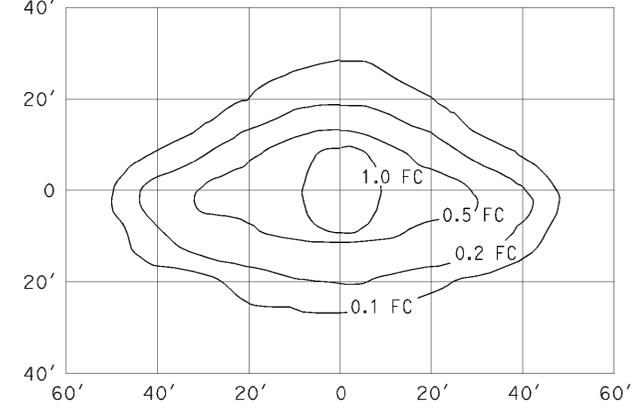
**ISOFOOTCANDLE CURVE - MINIMUM**



**WALL LUMINAIRE**

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

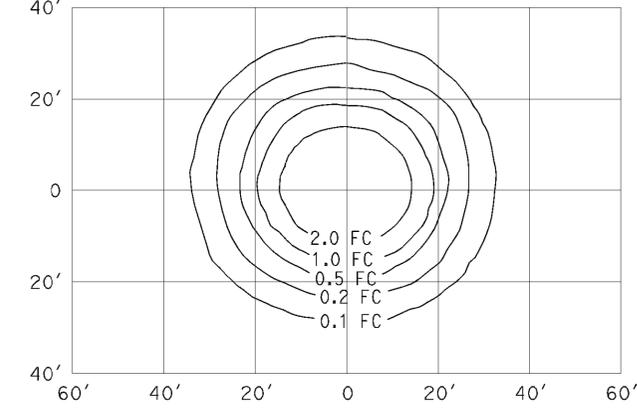
**ISOFOOTCANDLE CURVE - MINIMUM**



**PENDANT SOFFIT LUMINAIRE  
 TYPE III SHORT**

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

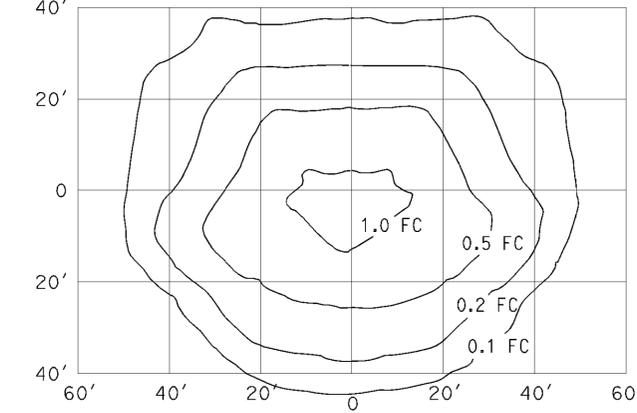
**ISOFOOTCANDLE CURVE - MINIMUM**



**PENDANT SOFFIT LUMINAIRE**

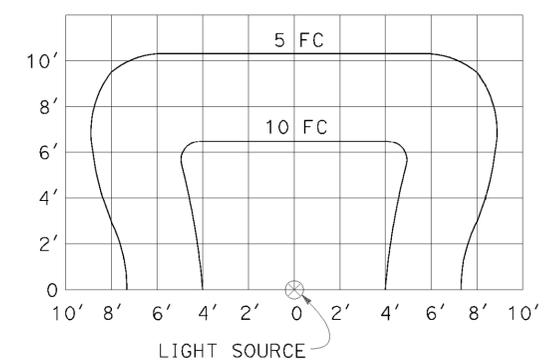
17' Mounting Height  
 Lamp operated at 5,800 lm  
 70-W high pressure sodium lamp  
 ANSI Designation S62

**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

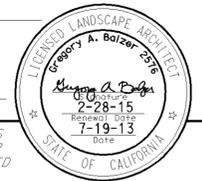
RSP ES-10B DATED JULY 20, 2012 SUPPLEMENTS THE  
 STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP ES-10B**

P:\PROJ\01\08320\drref+ing\01-08320\0112000116\va018.dgn

2010 REVISED STANDARD PLAN RSP ES-10B

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	35	51

  
 LICENSED LANDSCAPE ARCHITECT  
 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 June 15, 2015

**A**

AB AGGREGATE BASE  
 ABS ACRYLONITRILE-BUTADIENE-STYRENE  
 AC ASPHALT CONCRETE  
 ACC ARMOR-CLAD CONDUCTORS  
 Adj ADJACENT/ADJUSTABLE  
 AIC AUXILIARY IRRIGATION CONTROLLER  
 Alt ALTERNATIVE  
 AMEND AMENDMENT  
 ARV AIR RELEASE VALVE  
 AUTO AUTOMATIC  
 AUX AUXILIARY  
 AVB ATMOSPHERIC VACUUM BREAKER

**B**

B&B BALLED AND BURLAPPED  
 B/B BRASS/BRONZE  
 B/B/PL BRASS/BRONZE/PLASTIC  
 B/PL BRASS/PLASTIC  
 BFM BONDED FIBER MATRIX  
 Bit Ctd BITUMINOUS COATED  
 BP BOOSTER PUMP  
 BPA BACKFLOW PREVENTER ASSEMBLY  
 BPE BACKFLOW PREVENTER ENCLOSURE  
 BV BALL VALVE

**C**

C CONDUIT  
 CAP CORRUGATED ALUMINUM PIPE  
 CARV COMBINATION AIR RELEASE VALVE  
 CB COUPLING BAND  
 CCA CAM COUPLER ASSEMBLY  
 CEC CONTROLLER ENCLOSURE CABINET  
 CHDPE CORRUGATED HIGH DENSITY POLYETHYLENE  
 CL CHAIN LINK  
 CNC CONTROL AND NEUTRAL CONDUCTORS  
 Conc CONCRETE  
 CP COPPER PIPE  
 CS COMPOST SOCK  
 CSP CORRUGATED STEEL PIPE  
 CST CENTER STRIP  
 CV CHECK VALVE

**D**

Dia DIAMETER  
 DIP DUCTILE IRON PIPE  
 DIT DRIP IRRIGATION TUBING  
 DG DECOMPOSED GRANITE  
 DN DIAMETER NOMINAL  
 DVA DRIP VALVE ASSEMBLY

**E**

EC EROSION CONTROL  
 ECTC EROSION CONTROL TECHNOLOGY COUNCIL  
 Elect ELECTRIC/ELECTRICAL  
 Elev ELEVATION  
 ELL ELBOW  
 ENCL ENCLOSURE  
 EP EDGE OF PAVEMENT  
 ES EDGE OF SHOULDER  
 EST END STRIP  
 ESTB ESTABLISHMENT  
 ETW EDGE OF TRAVELED WAY

**F**

F FULL CIRCLE  
 F/P FULL/PART CIRCLE  
 FCV FLOW CONTROL VALVE  
 FERT FERTILIZER  
 FG FINISHED GRADE  
 FH FLEXIBLE HOSE  
 FIPT FEMALE IRON PIPE THREAD  
 FIS FERTILIZER INJECTOR SYSTEM  
 FL FLOW LINE  
 FR FIBER ROLL  
 FS FLOW SENSOR  
 FSC FLOW SENSOR CABLE  
 FV FLUSH VALVE

**G**

Galv GALVANIZED  
 GARV GARDEN VALVE  
 GARVA GARDEN VALVE ASSEMBLY  
 GM GRAVEL MULCH  
 GPH GALLONS PER HOUR  
 GPM GALLONS PER MINUTE  
 GSP GALVANIZED STEEL PIPE  
 GV GATE VALVE

**H**

H HALF CIRCLE  
 HDPE HIGH DENSITY POLYETHYLENE  
 HP HORSEPOWER/HINGE POINT  
 HPL HIGH PRESSURE LINE  
 Hwy HIGHWAY

**I**

IC IRRIGATION CONTROLLER  
 ICC IRRIGATION CONTROLLER(S) IN CONTROLLER ENCLOSURE CABINET  
 ID INSIDE DIAMETER  
 IFS IRRIGATION FILTRATION SYSTEM  
 IPS IRON PIPE SIZE  
 IPT IRON PIPE THREAD  
 Irr IRRIGATION

**L**

L LENGTH

**M**

Max MAXIMUM  
 MBGR METAL BEAM GUARD RAILING  
 MCV MANUAL CONTROL VALVE  
 MIC MASTER IRRIGATION CONTROLLER  
 Min MINIMUM  
 MIPT MALE IRON PIPE THREAD  
 Misc MISCELLANEOUS  
 MtI MATERIAL  
 MVP MAINTENANCE VEHICLE PULLOUT

**N**

NCN NO COMMON NAME  
 NL NOZZLE LINE  
 No. NUMBER  
 NPT NATIONAL PIPE THREAD

**O**

O/C ON CENTER  
 OD OUTSIDE DIAMETER  
 OL OVERLAP

**P**

P PART CIRCLE  
 PB PULL BOX  
 PCC PORTLAND CEMENT CONCRETE  
 PE POLYETHYLENE  
 Pkt+ PACKET  
 PL PLASTIC  
 PLS PURE LIVE SEED  
 PLT PLANT/PLANTING  
 PLT ESTB PLANT ESTABLISHMENT  
 PM POST MILE  
 PR PRESSURE RATED  
 PRLV PRESSURE RELIEF VALVE  
 PRV PRESSURE REGULATING VALVE  
 PVC POLYVINYL CHLORIDE  
 Pvm+ PAVEMENT

**Q**

Q QUARTER CIRCLE  
 QCV QUICK COUPLING VALVE

**R**

R RADIUS  
 RCP REINFORCED CONCRETE PIPE  
 RCV REMOTE CONTROL VALVE  
 RCVM REMOTE CONTROL VALVE (MASTER)  
 RCVMF REMOTE CONTROL VALVE (MASTER) W/FLOW SENSOR  
 RCVP REMOTE CONTROL VALVE W/PRESSURE REGULATOR  
 RCW RECYCLED WATER  
 RECP ROLLED EROSION CONTROL PRODUCT  
 REQ REQUIRED  
 RICS REMOTE IRRIGATION CONTROL SYSTEM  
 R/W RIGHT OF WAY

**S**

S SLIP  
 SCH SCHEDULE  
 SF STATE-FURNISHED  
 Shld SHOULDER  
 Sq SQUARE  
 SST SIDE STRIP  
 Sta STATION  
 Std STANDARD  
 SW SIDEWALK/SOUND WALL

**T**

T THIRD CIRCLE/THREAD  
 TLS TRUCK LOADING STANDPIPE  
 TQ THREE QUARTER CIRCLE  
 TRM TURF REINFORCEMENT MAT  
 TT TWO-THIRDS CIRCLE  
 TWSA TREE WELL SPRINKLER ASSEMBLY  
 Typ TYPICAL

**U**

UG UNDERGROUND

**W**

W WIDTH  
 W/ WITH  
 WM WATER METER  
 WS WYE STRAINER  
 WSA WYE STRAINER ASSEMBLY  
 WSP WELDED STEEL PIPE  
 WWM WELDED WIRE MESH

**NOTE:**  
 For additional abbreviations, see Standard Plans A10A and A10B.

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
**LANDSCAPE AND EROSION CONTROL ABBREVIATIONS**  
 NO SCALE

RSP H1 DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN H1 DATED MAY 20, 2011 - PAGE 218 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP H1**

2010 REVISED STANDARD PLAN RSP H1

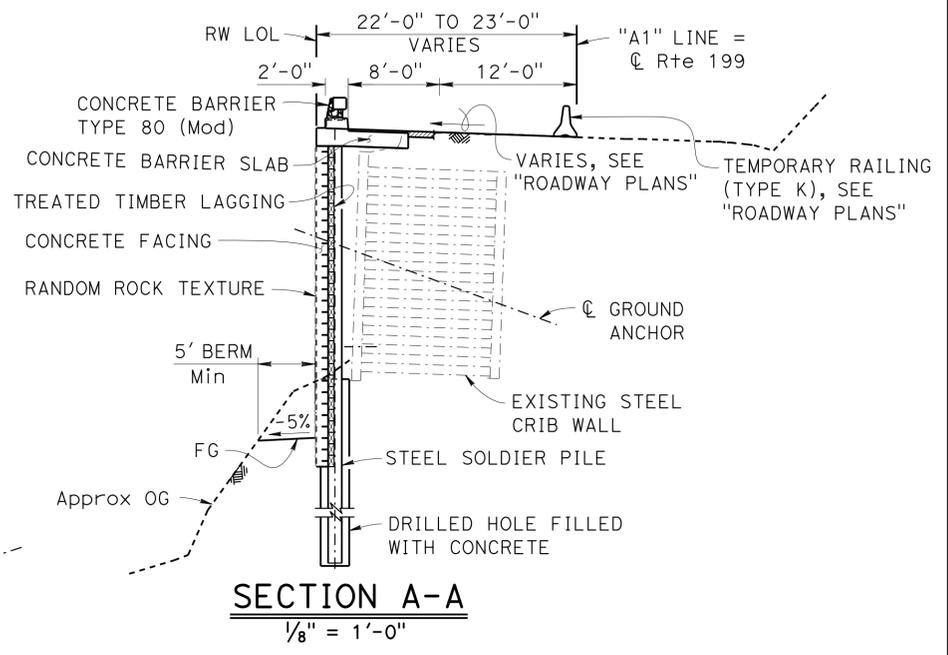
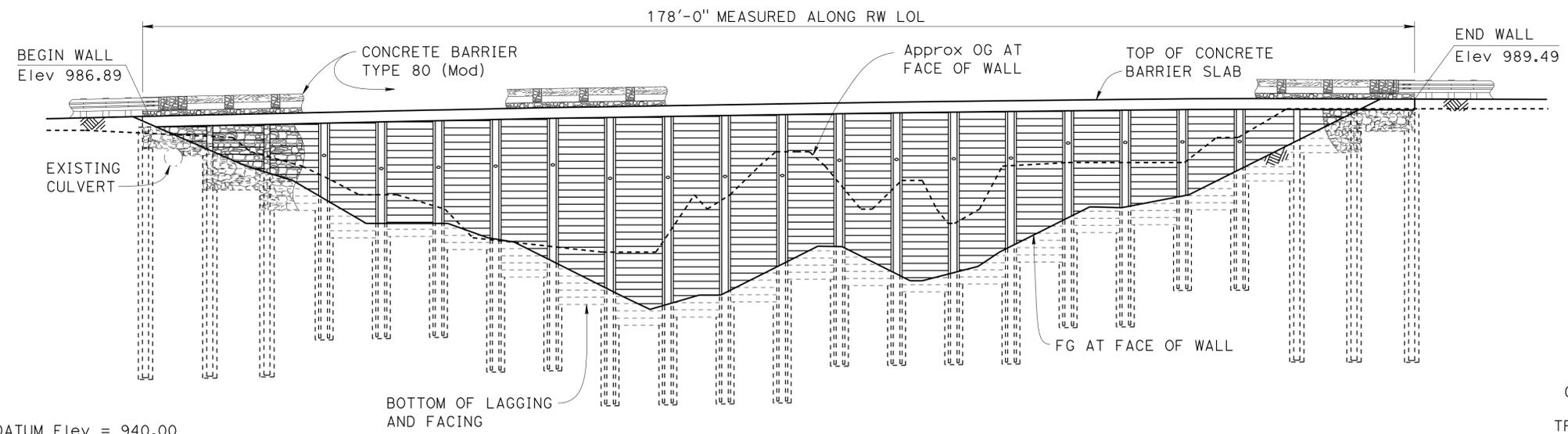
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	36	51

Kevin J. Harper 3/25/15  
 REGISTERED CIVIL ENGINEER DATE

June 15, 2015  
 PLANS APPROVAL DATE

Kevin Harper  
 No. 42221  
 Exp. 3/31/16  
 CIVIL  
 STATE OF CALIFORNIA

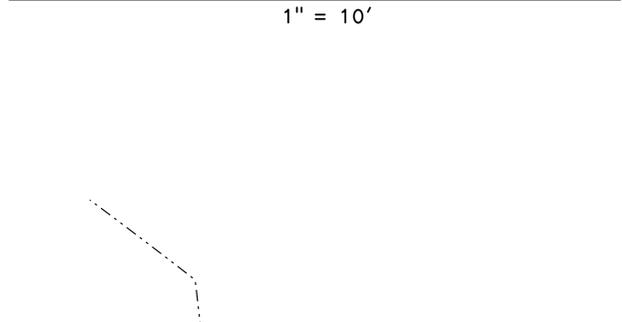
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**INDEX TO PLANS**

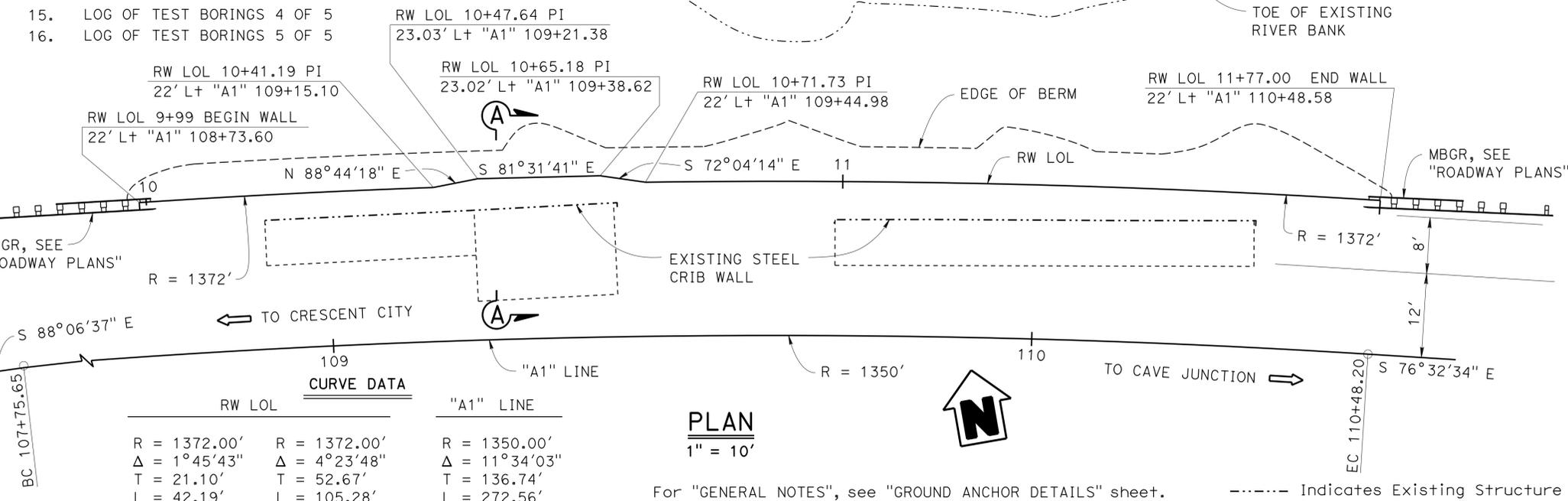
- | SHEET NO. | TITLE                          |
|-----------|--------------------------------|
| 1.        | GENERAL PLAN                   |
| 2.        | STRUCTURE PLAN NO. 1           |
| 3.        | STRUCTURE PLAN NO. 2           |
| 4.        | FOUNDATION PLAN                |
| 5.        | TYPICAL SECTION                |
| 6.        | WALL DETAILS No. 1             |
| 7.        | WALL DETAILS No. 2             |
| 8.        | GROUND ANCHOR DETAILS          |
| 9.        | EXCAVATION AND BACKFILL LIMITS |
| 10.       | CONCRETE BARRIER TYPE 80 (Mod) |
| 11.       | FUTURE BICYCLE RAILING DETAILS |
| 12.       | LOG OF TEST BORINGS 1 OF 5     |
| 13.       | LOG OF TEST BORINGS 2 OF 5     |
| 14.       | LOG OF TEST BORINGS 3 OF 5     |
| 15.       | LOG OF TEST BORINGS 4 OF 5     |
| 16.       | LOG OF TEST BORINGS 5 OF 5     |

**DEVELOPED MIRRORED ELEVATION**



**STANDARD PLANS DATED 2010**

- |            |   |
|------------|---|
| 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)        |
| A10F       | LEGEND - SOIL (SHEET 1 OF 2)            |
| A10G       | LEGEND - SOIL (SHEET 2 OF 2)            |
| A10H       | LEGEND - ROCK                           |
| RSP B11-60 | CONCRETE BARRIER TYPE 80 (SHEET 1 OF 2) |



**QUANTITIES**

STRUCTURE EXCAVATION (SOLDIER PILE WALL)	158	CY
STRUCTURE BACKFILL (SOLDIER PILE WALL)	130	CY
CONCRETE BACKFILL (SOLDIER PILE WALL)	56	CY
LEAN CONCRETE BACKFILL	54	CY
GROUND ANCHOR (SUBHORIZONTAL)	17	EA
STEEL SOLDIER PILE (W 16 X 67)	210	LF
STEEL SOLDIER PILE (2-C 15 X 50)	570	LF
24" DRILLED HOLE	208	LF
30" DRILLED HOLE	394	LF
STRUCTURAL CONCRETE, RETAINING WALL	120	CY
STRUCTURAL CONCRETE, BARRIER SLAB	64	CY
RANDOM ROCK TEXTURE	3,130	SQFT
BAR REINFORCING STEEL (RETAINING WALL)	10,929	LB
TIMBER LAGGING	17	MFBM
CLEAN AND PAINT STEEL SOLDIER PILING	LUMP	SUM
PREPARE AND STAIN CONCRETE	3,130	SQFT
GEOCOMPOSITE DRAIN	54	SQFT
DRILL HOLE (CRIB WALL)	34	EA
CLASS 1 PERMEABLE MATERIAL, TYPE B	144	CY
CONCRETE BARRIER (TYPE 80 MODIFIED)	177	LF

DESIGN	BY	CHECKED	LOAD & RESISTANCE FACTOR DESIGN
DETAILS	Kevin Harper	Daniel Sessions	BY Kevin Harper
QUANTITIES	Jie Tang	Daniel Sessions	BY Wanda Ward
	Eric Watson	Bob Huddleston	

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION  
 DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 1**

BRIDGE NO. 01E0018  
 POST MILE 24.67  
**MIDDLE FORK WALL**  
**GENERAL PLAN**

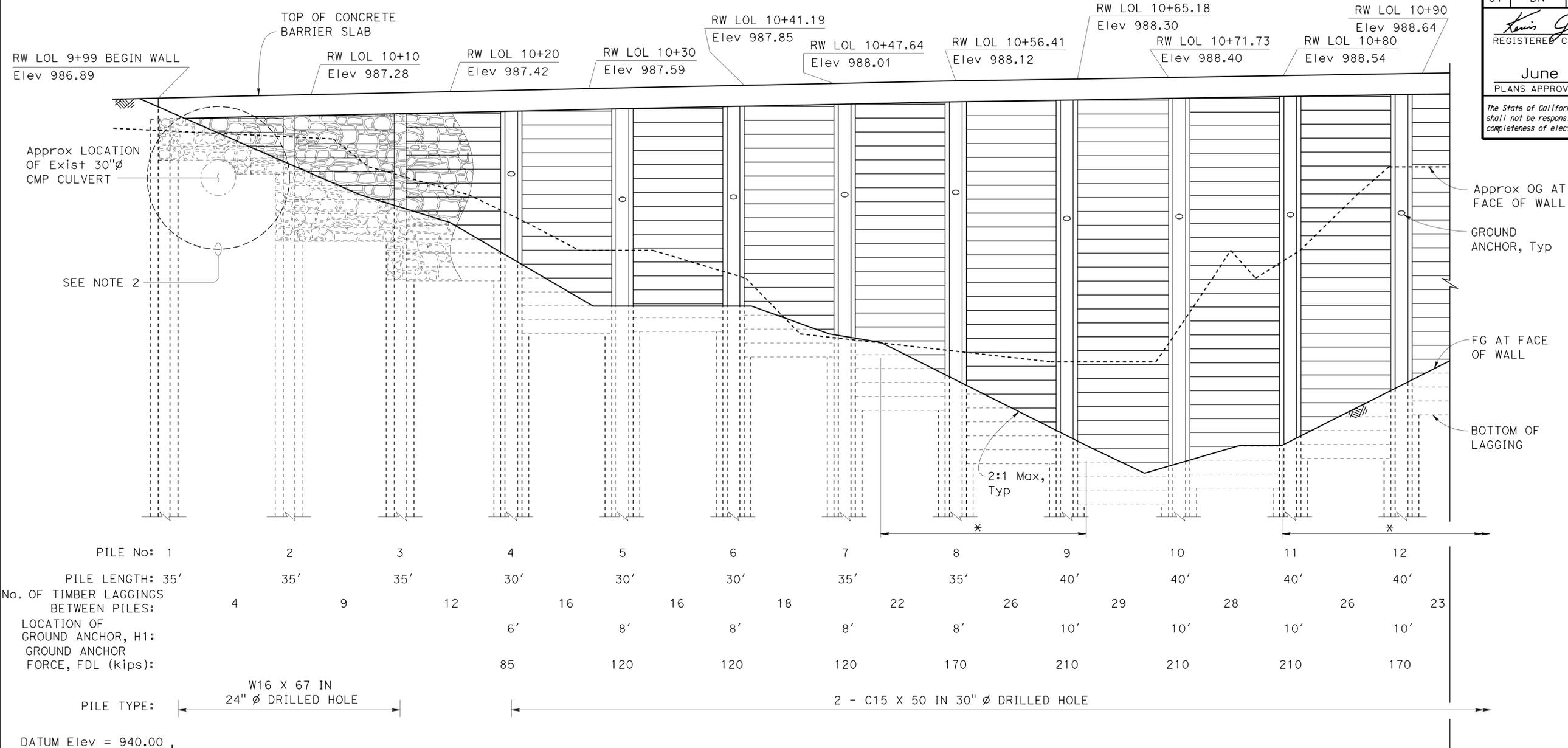
NOTE: Concrete barrier not shown.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	37	51

Kevin J. Harper 3/25/15  
 REGISTERED CIVIL ENGINEER DATE  
 June 15, 2015  
 PLANS APPROVAL DATE

Kevin Harper  
 No. 42221  
 Exp. 3/31/16  
 CIVIL  
 STATE OF CALIFORNIA

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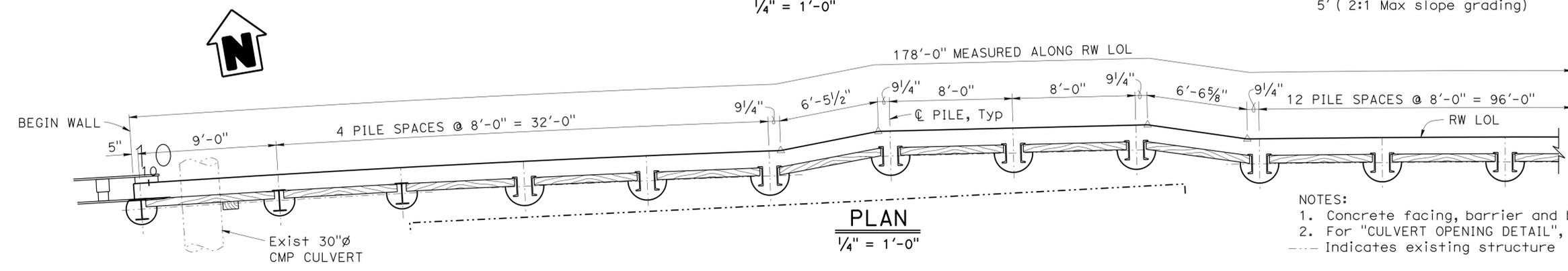
PILE No:	1	2	3	4	5	6	7	8	9	10	11	12
PILE LENGTH:	35'	35'	35'	30'	30'	30'	35'	35'	40'	40'	40'	40'
No. OF TIMBER LAGGINGS BETWEEN PILES:	4	9	12	16	16	18	22	26	29	28	26	23
LOCATION OF GROUND ANCHOR, H1:				6'	8'	8'	8'	8'	10'	10'	10'	10'
GROUND ANCHOR FORCE, FDL (kips):				85	120	120	120	170	210	210	210	170

PILE TYPE: W16 X 67 IN 24" Ø DRILLED HOLE      2 - C15 X 50 IN 30" Ø DRILLED HOLE

DATUM Elev = 940.00

**DEVELOPED MIRRORED ELEVATION**  
 1/4" = 1'-0"

\* - Indicates location where the berm is wider than 5' (2:1 Max slope grading)



**PLAN**  
 1/4" = 1'-0"

- NOTES:  
 1. Concrete facing, barrier and barrier slab not shown in plan.  
 2. For "CULVERT OPENING DETAIL", see "WALL DETAILS NO. 1" sheet.  
 --- Indicates existing structure

DESIGN	BY Kevin Harper	CHECKED Daniel Sessions
DETAILS	BY Jie Tang	CHECKED Daniel Sessions
QUANTITIES	BY Eric Watson	CHECKED Bob Huddleston

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 1**

BRIDGE NO.	01E0018
POST MILE	24.67

**MIDDLE FORK WALL  
 STRUCTURE PLAN NO. 1**

USERNAME => s120115 DATE PLOTTED => 18-SEP-2015 TIME PLOTTED => 10:45

NOTE: Concrete barrier not shown.

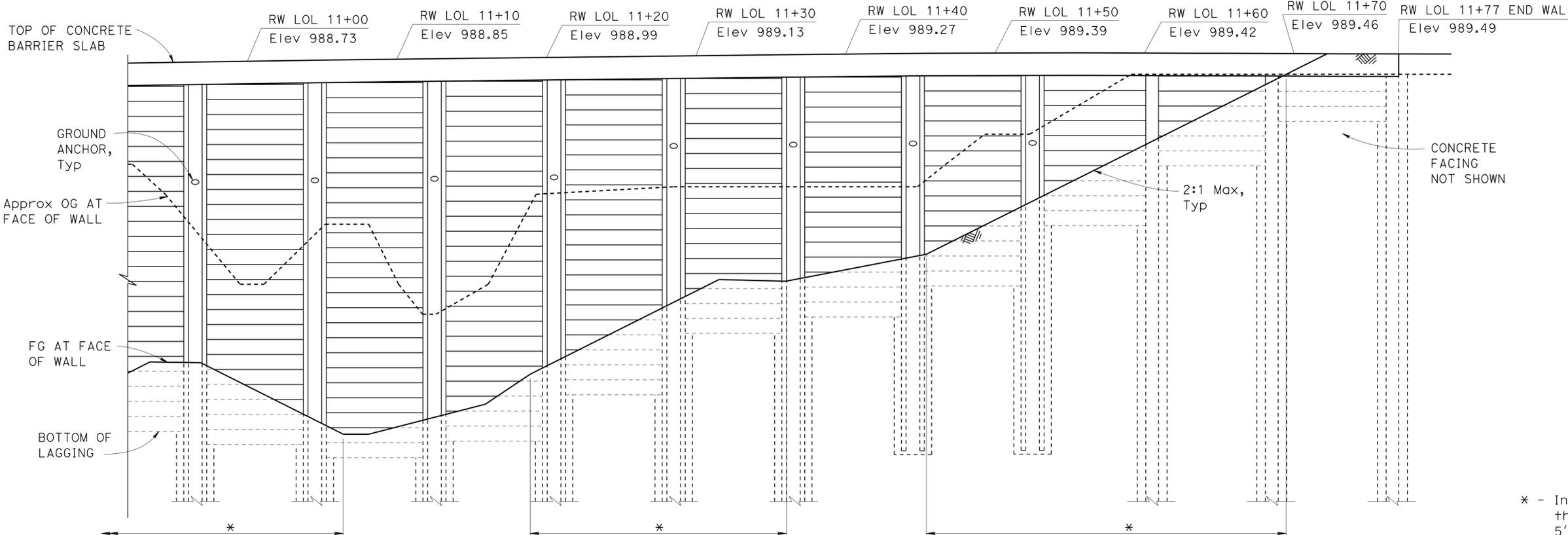
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	38	51

Kevin J. Harper 3/25/15  
 REGISTERED CIVIL ENGINEER DATE

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 No. 42221  
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 STATE OF CALIFORNIA

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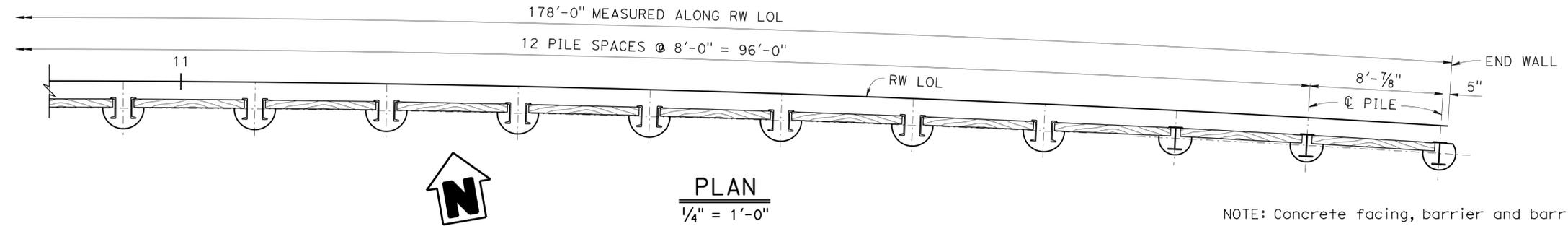
\* - Indicates location where the berm is wider than 5' (2:1 Max slope grading)

PILE No:	13	14	15	16	17	18	19	20	21	22	23
PILE LENGTH:	35'	35'	35'	35'	30'	30'	25'	25'	35'	35'	35'
No. OF TIMBER LAGGING BETWEEN PILES:	24	25	24	21	17	16	14	10	6	3	
LOCATION OF GROUND ANCHOR, H1:	8'	8'	8'	8'	6'	6'	6'	6'			
GROUND ANCHOR FORCE, FDL (kips):	170	170	170	170	120	85	85	85			

PILE TYPE: ← 2 - C15 X 50 IN 30" Ø DRILLED HOLE → W16 X 67 IN 24" Ø DRILLED HOLE →

DATUM Elev = 940.00

**DEVELOPED MIRRORED ELEVATION**  
 $\frac{1}{4}'' = 1'-0''$



NOTE: Concrete facing, barrier and barrier slab not shown in plan.

DESIGN BY Kevin Harper CHECKED Daniel Sessions DETAILS BY Jie Tang CHECKED Daniel Sessions QUANTITIES BY Eric Watson CHECKED Bob Huddleston	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 1</b>	BRIDGE NO. 01E0018	<b>MIDDLE FORK WALL</b> <b>STRUCTURE PLAN NO. 2</b>
			POST MILE 24.67	
			UNIT: 3576 PROJECT NUMBER & PHASE: 01120001161 CONTRACT NO.: 01-0B3204	

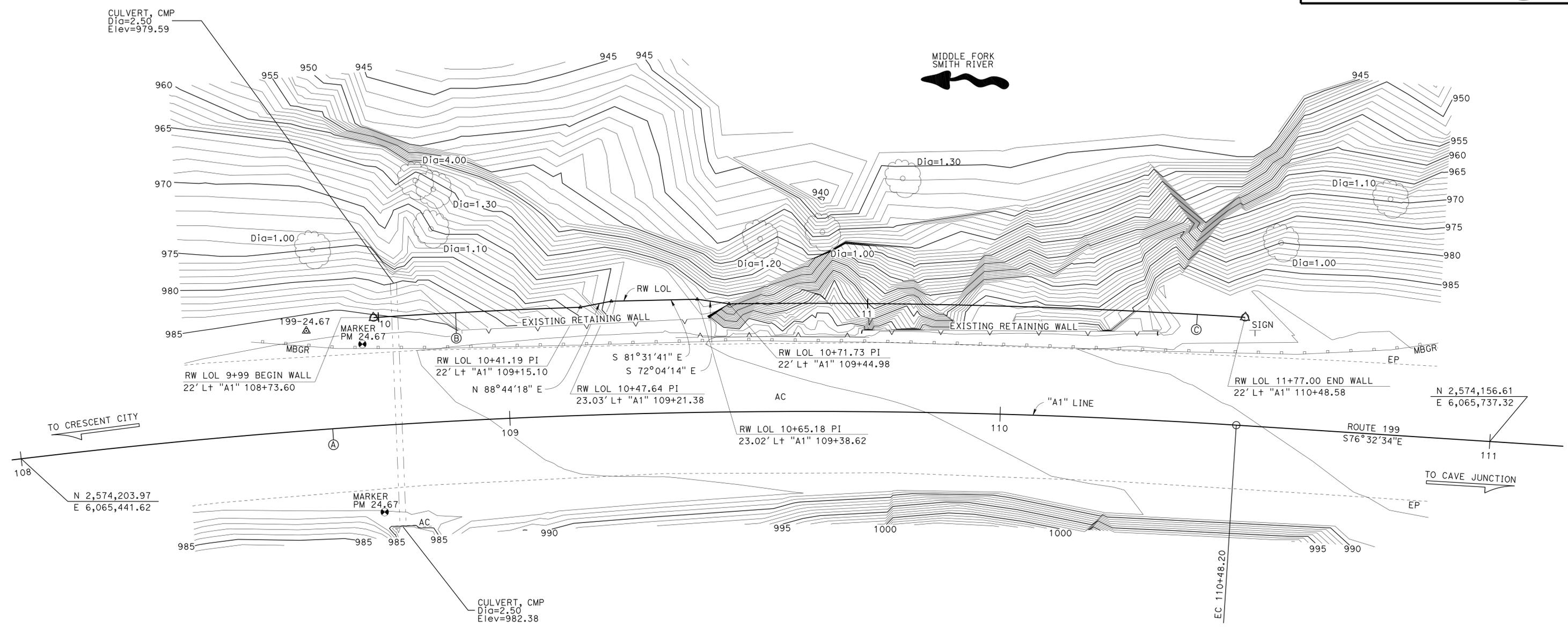
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CURVE DATA

No.	R	Δ	T	L
(A)	1350.00'	11°34'03"	136.74'	272.56'
(B)	1372.00'	1°43'12"	20.59'	41.19'
(C)	1372.00'	4°23'48"	52.67'	105.28'

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	39	51

REGISTERED CIVIL ENGINEER DATE 3/25/15  
 Kevin Harper  
 PLANS APPROVAL DATE June 15, 2015  
 No. 42221  
 Exp. 3/31/16  
 REGISTERED PROFESSIONAL ENGINEER  
 Kevin Harper  
 No. 42221  
 Exp. 3/31/16  
 CIVIL  
 STATE OF CALIFORNIA  
 The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



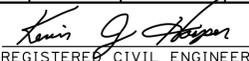
**SURVEY CONTROL**

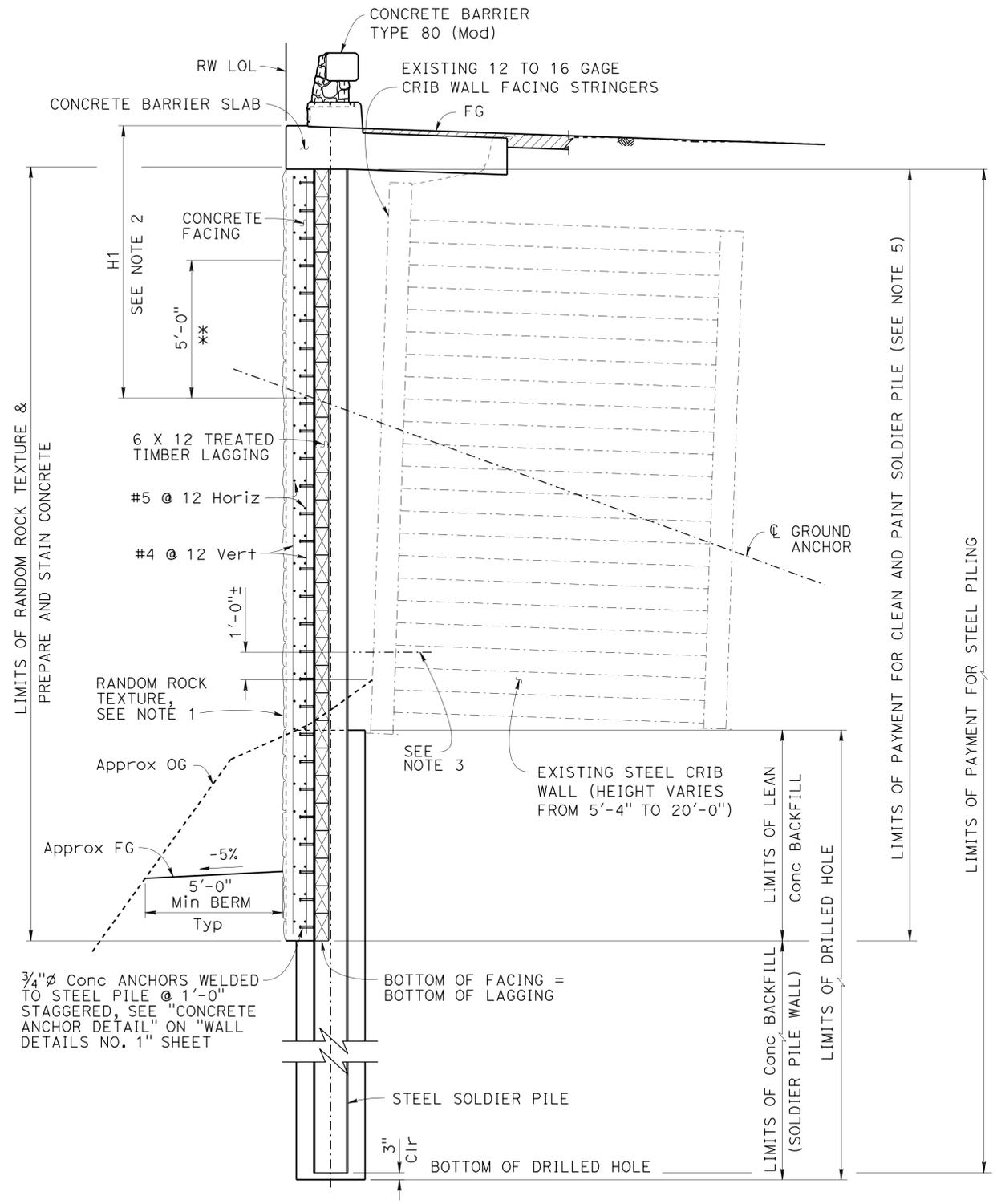
199-24.67  
 Fnd CalTrans Alum CAP  
 20.26 Ft Lt Rte 199  
 Sta 108+59.94  
 N 2,574,219.76  
 E 6,065,503.32  
 Elev = 985.74

199-24.76 (NOT SHOWN ON PLAN)  
 Fnd CalTrans Alum CAP  
 18.26 Ft Rt Rte 199  
 Sta 113+62.48  
 N 2,574,105.01  
 E 6,065,998.15  
 Elev = 994.35

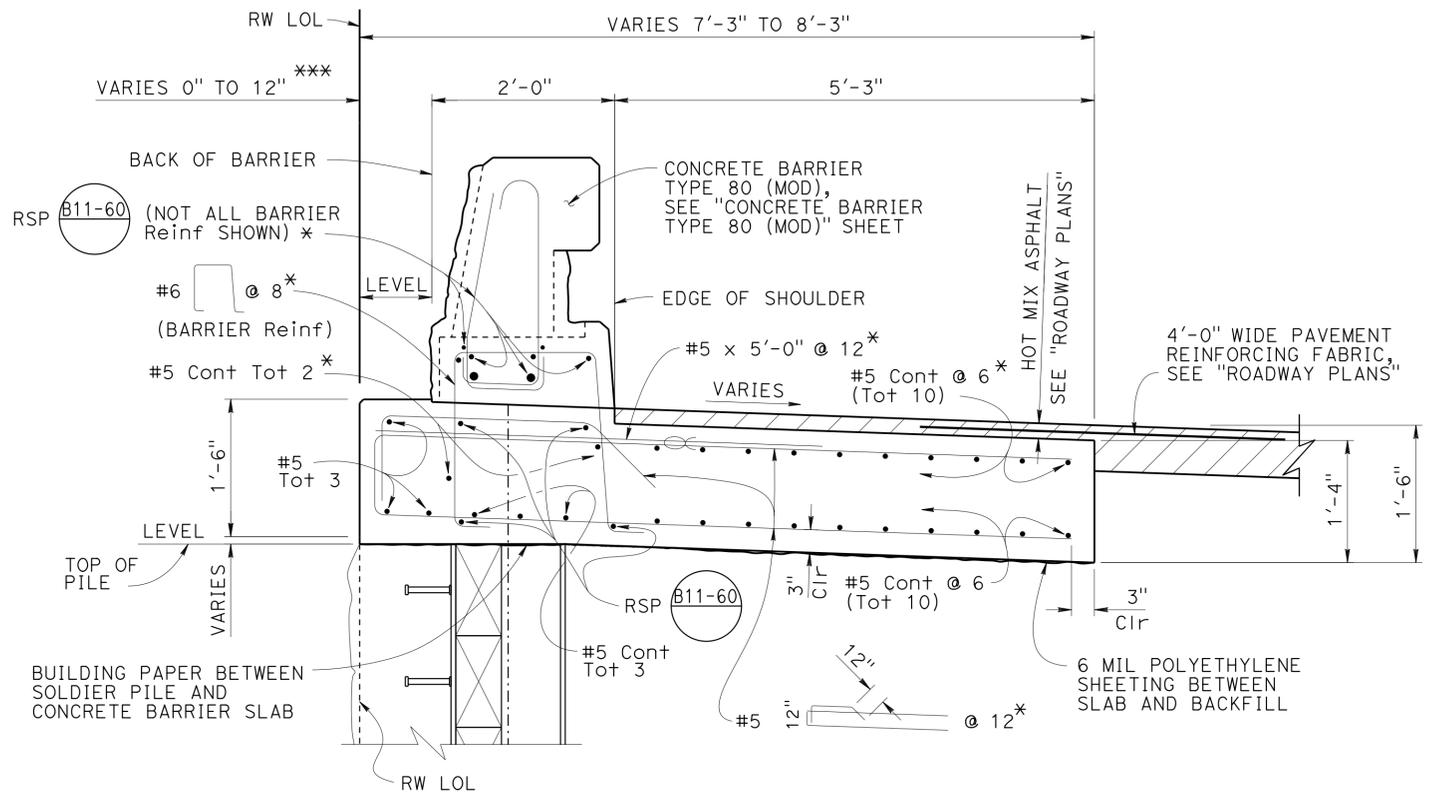
PRELIMINARY INVESTIGATION SECTION				DESIGN BY Kevin Harper	CHECKED Daniel Sessions	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 1</b>	BRIDGE NO. 01E0018	<b>MIDDLE FORK WALL</b> <b>FOUNDATION PLAN</b>			
SCALE 1"=10'	VERT.DATUM NAVD88	PHOTOGRAMMETRY AS OF: X	DETAILS BY Jie Tang	CHECKED Daniel Sessions	POST MILE 24.67							
ALIGNMENT TIES Dist TRAVERSE SHEET	DRAFTED BY T. ZOLNIKOV 03/2014	CHECKED BY S. SOU 03/2014	QUANTITIES BY Eric Watson	CHECKED Bob Huddleston								
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3576	PROJECT NUMBER & PHASE: 01120001161	CONTRACT NO.: 01-0B3204	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 4 OF 16

USERNAME => s120115 DATE PLOTTED => 18-SEP-2015 TIME PLOTTED => 10:45

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	40	51
 REGISTERED CIVIL ENGINEER DATE 3/25/15					
<b>June 15, 2015</b> PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



**SECTION A-A**  
 $\frac{3}{8}'' = 1'-0''$



**CONCRETE BARRIER SLAB DETAIL**  
 $1'' = 1'-0''$

- NOTES:
- For "RANDOM ROCK TEXTURE", see "ARCHITECTURAL DETAILS" on "WALL DETAILS NO. 2" sheet.
  - For "H1" dimensions, see "STRUCTURE PLAN No. 1" and "STRUCTURE PLAN No. 2" sheets.
  - Drill 3"  $\phi$  drain holes in existing crib wall facing stringers at 3'-4" Max spacing (provide 2 holes at the Approx 1/3 points of every crib cell)
  - For location of "SECTION A-A", see "GENERAL PLAN" sheet.
  - All surfaces of pile are to be painted within the limits shown.

- LEGEND:
- Indicates existing structure (Steel Crib Wall)
  - \* Indicates epoxy coated reinforcement
  - \*\* Indicates Min level of backfill prior to stressing Ground Anchor
  - ⊕ Indicates bundled bars

DESIGN	BY Kevin Harper	CHECKED Daniel Sessions
DETAILS	BY Jie Tang	CHECKED Daniel Sessions
QUANTITIES	BY Eric Watson	CHECKED Bob Huddleston

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
 STRUCTURE DESIGN  
**DESIGN BRANCH 1**

BRIDGE NO.	01E0018
POST MILE	24.67

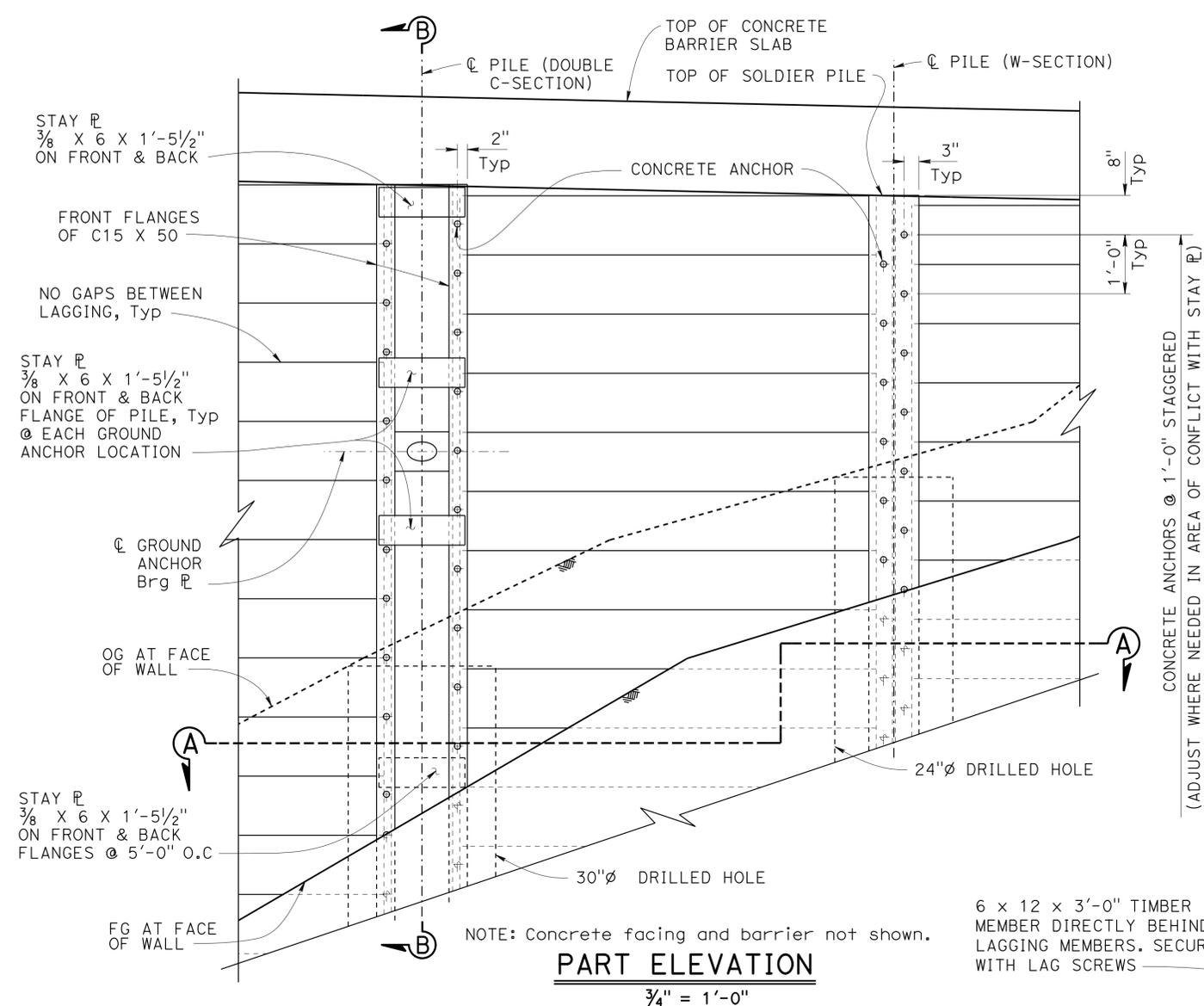
**MIDDLE FORK WALL**  
**TYPICAL SECTION**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	41	51

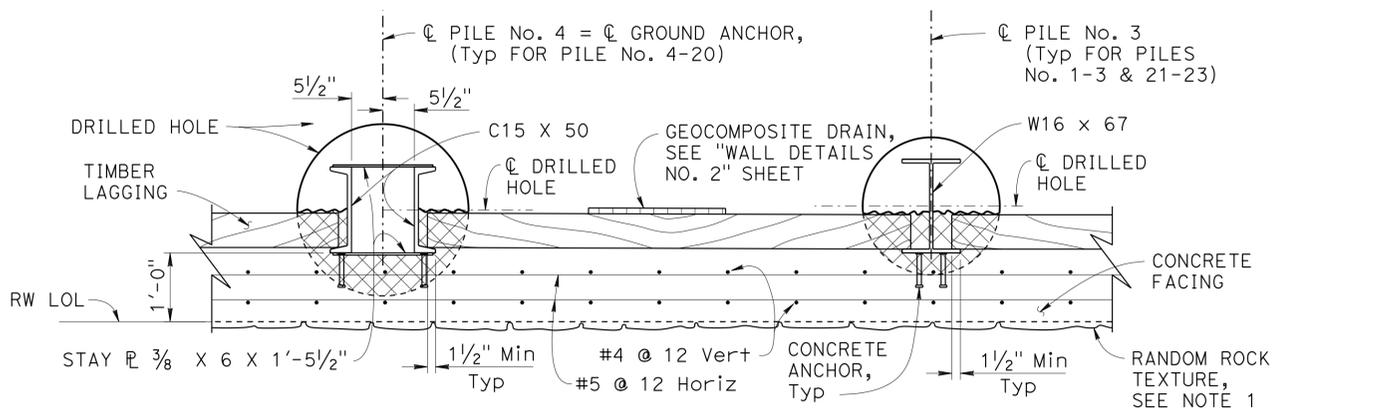
  

REGISTERED CIVIL ENGINEER	DATE	3/25/15
Kevin J. Harper No. 42221 Exp. 3/31/16 CIVIL		
June 15, 2015 PLANS APPROVAL DATE		

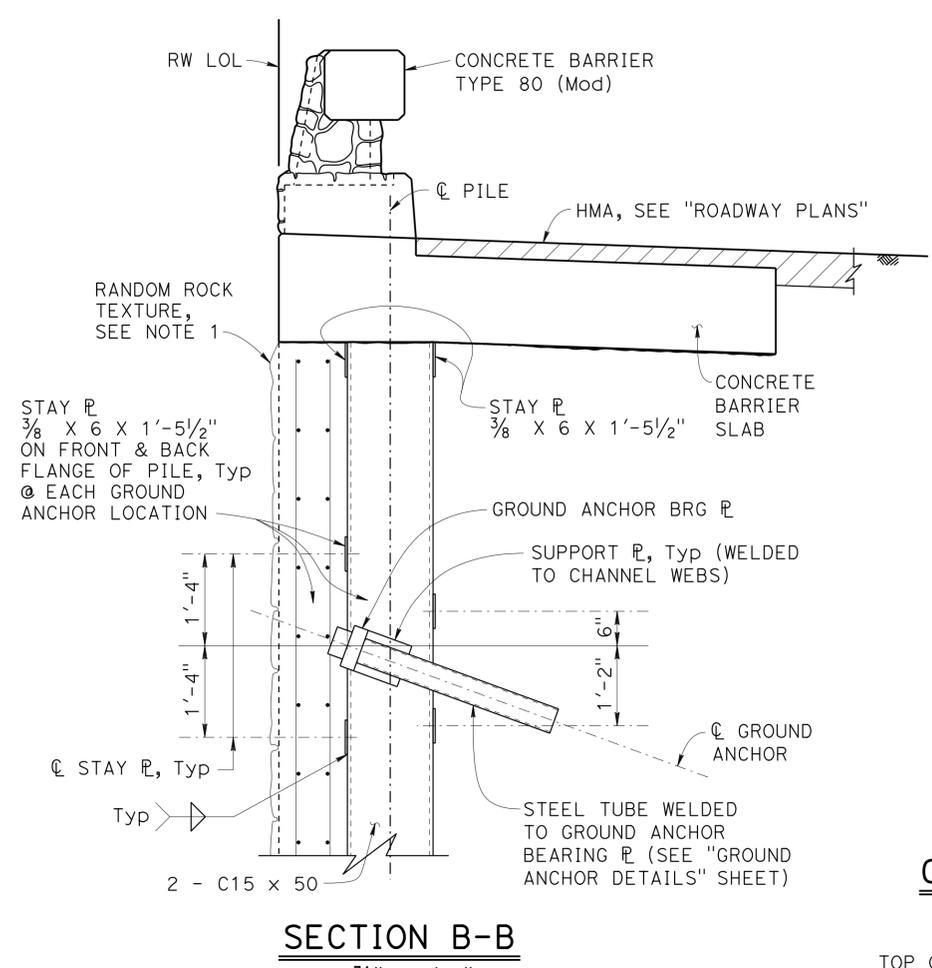
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



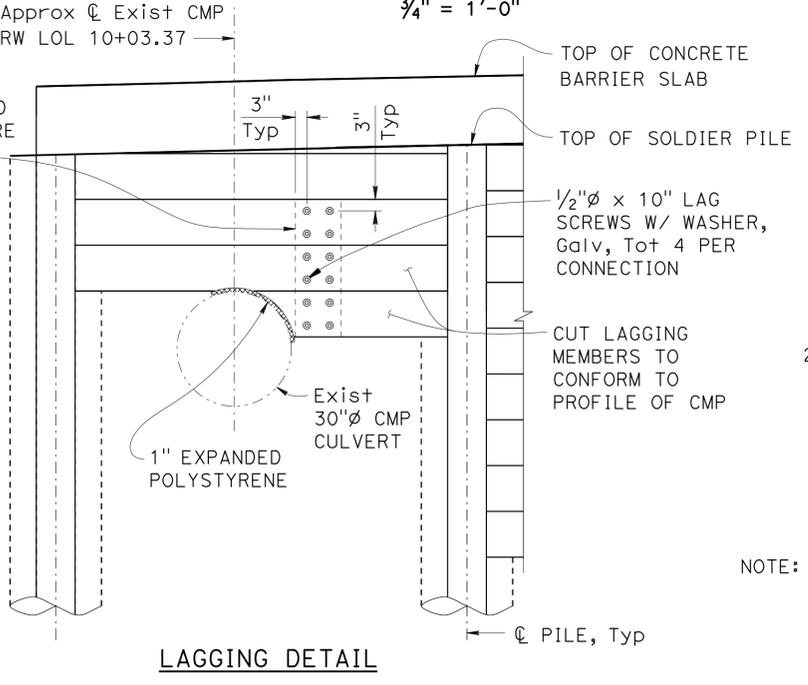
**PART ELEVATION**  
3/4" = 1'-0"



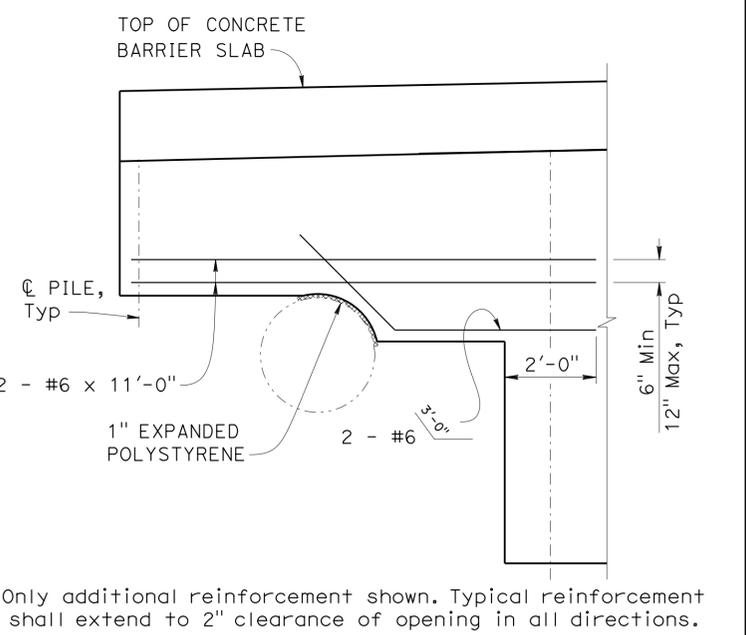
**SECTION A-A**  
3/4" = 1'-0"



**SECTION B-B**  
3/4" = 1'-0"



**LAGGING DETAIL**

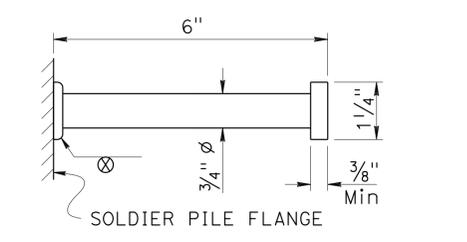


**FACING DETAIL**

**CULVERT OPENING DETAIL**  
1/2" = 1'-0"

- NOTES:
- For "RANDOM ROCK TEXTURE, see "ARCHITECTURAL DETAILS" on "WALL DETAILS NO. 2" sheet.
  - Steel soldier piles shall be centered in drilled hole.
  - For location of "CULVERT OPENING DETAIL", see "STRUCTURE PLAN NO. 1" sheet.

Indicates Lean Concrete Removal Limits



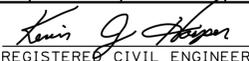
**CONCRETE ANCHOR DETAIL**  
6" = 1'-0"

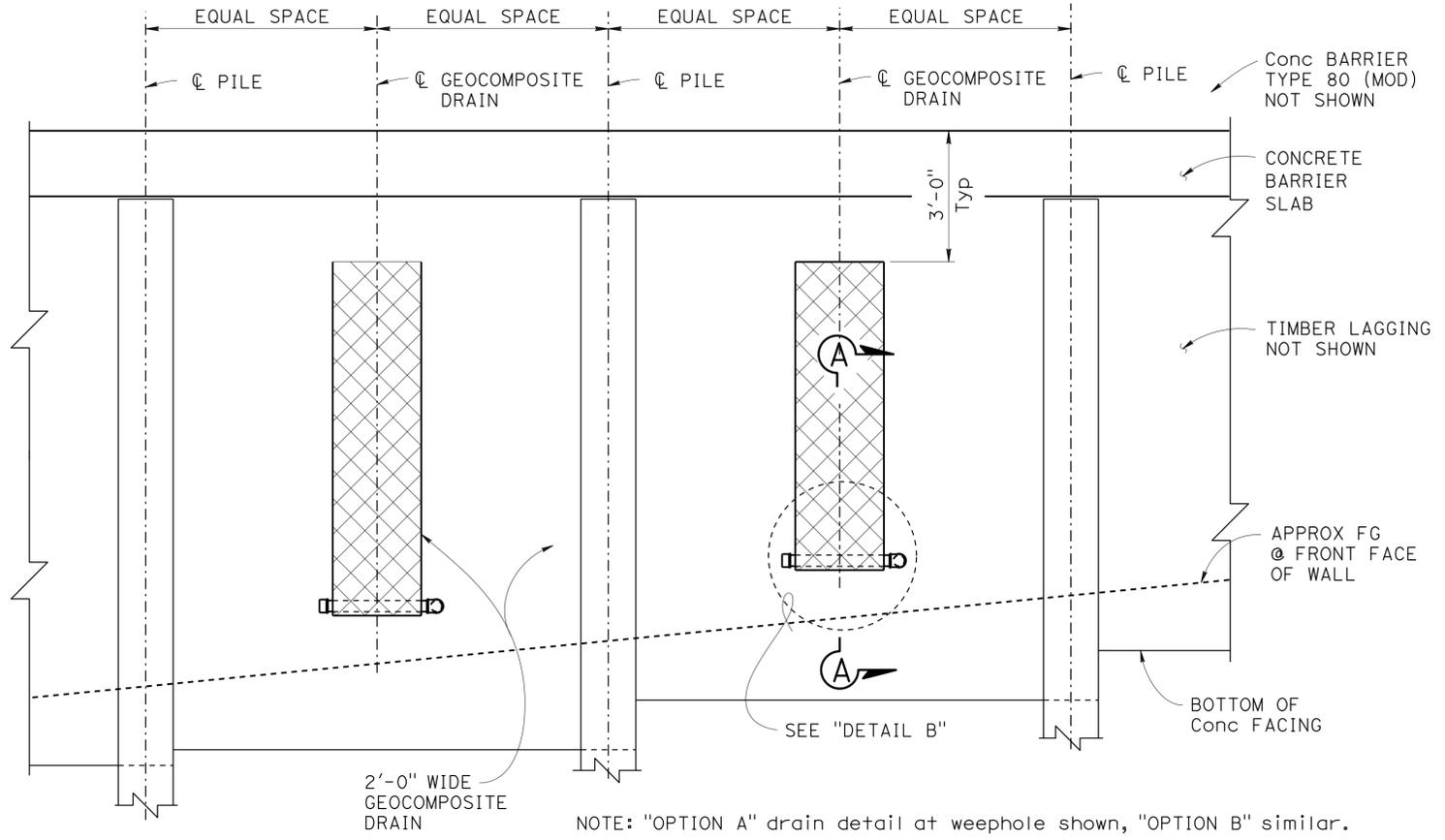
NOTE: Only additional reinforcement shown. Typical reinforcement shall extend to 2" clearance of opening in all directions.

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Kevin Harper	CHECKED Daniel Sessions	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 1</b>	BRIDGE NO.	01E0018	<b>MIDDLE FORK WALL</b> <b>WALL DETAILS NO. 1</b>
	DETAILS	BY Jie Tang	CHECKED Daniel Sessions			POST MILE	24.67	
	QUANTITIES	BY Eric Watson	CHECKED Bob Huddleston			CONTRACT NO.:	01-0B3204	

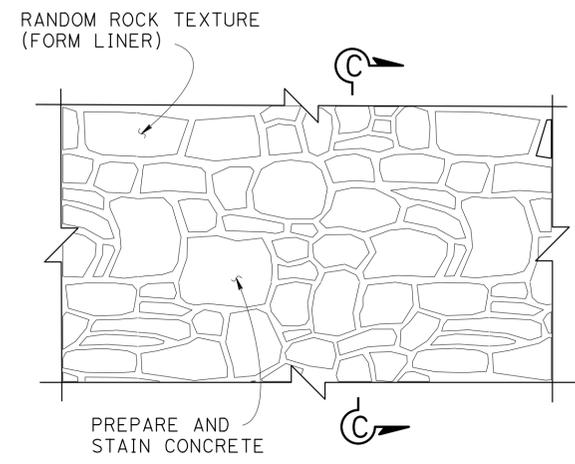
  

UNIT: 3576	PROJECT NUMBER & PHASE: 01120001161	CONTRACT NO.:	01-0B3204
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		REVISION DATES	SHEET 6 OF 16

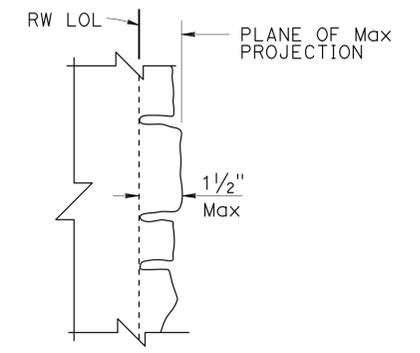
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	42	51
 REGISTERED CIVIL ENGINEER			3/25/15	DATE	
June 15, 2015 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



**PART REAR ELEVATION - GEOCOMPOSITE DRAIN**  
NO SCALE

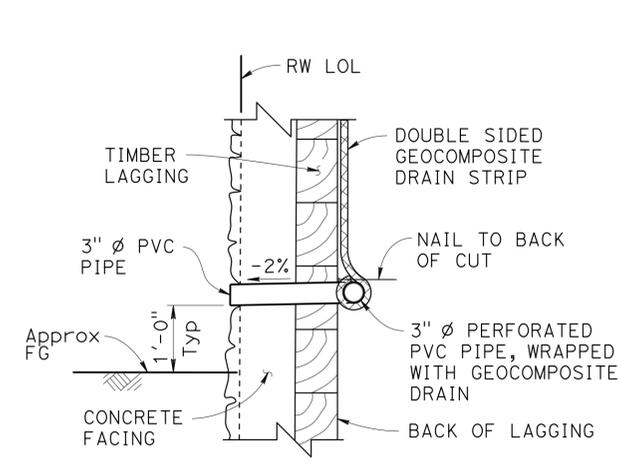


**PART ELEVATION**  
3/4" = 1'-0"

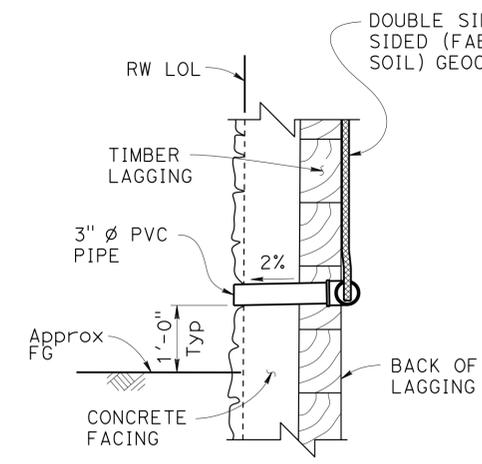


**SECTION C-C**  
NO SCALE

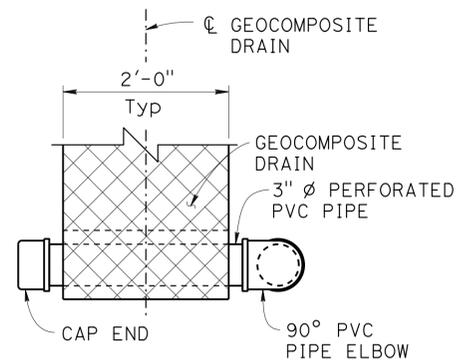
**ARCHITECTURAL DETAILS**  
NO SCALE



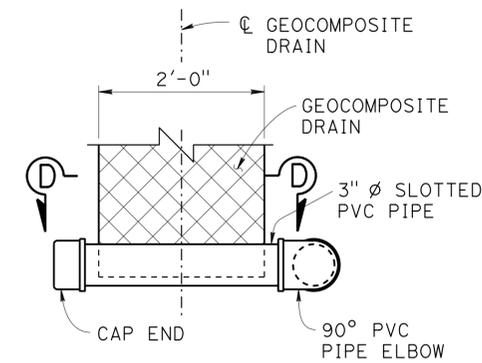
**SECTION A-A**  
NO SCALE



**OPTION B**

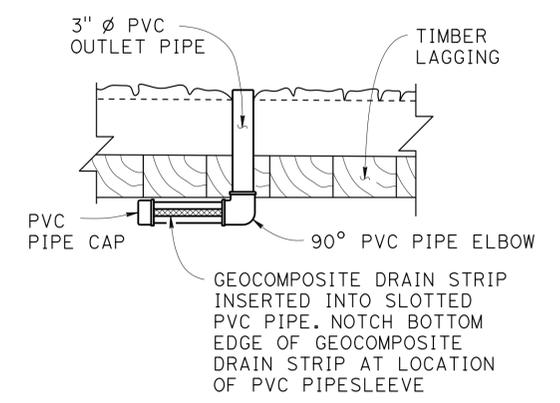


**OPTION A**



**OPTION B**

**DETAIL B**  
NO SCALE



**SECTION D-D**  
NO SCALE

DESIGN	BY Kevin Harper	CHECKED Daniel Sessions
DETAILS	BY Jie Tang	CHECKED Daniel Sessions
QUANTITIES	BY Eric Watson	CHECKED Bob Huddleston

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

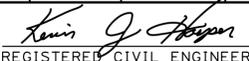
DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 1

BRIDGE NO.	01E0018
POST MILE	24.67

MIDDLE FORK WALL  
WALL DETAILS NO. 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	43	51

	
REGISTERED CIVIL ENGINEER	DATE 3/25/15
June 15, 2015 PLANS APPROVAL DATE	
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GROUND ANCHOR	
PILE No.	UNBONDED LENGTH
4 - 6	20'-0"
7 - 13	35'-0"
14 - 20	20'-0"

## GENERAL NOTES LOAD AND RESISTANCE FACTOR DESIGN

**DESIGN:**  
 AASHTO Bridge Specifications, 2012 Edition with Caltrans Amendments, Preface dated January 2014

**LIVE LOAD:**  
 2'-0" Level Earth Surcharge

**SOIL PARAMETERS:**  
 (For determination of design lateral earth pressures)  
 $\phi = 35^\circ$ ,  $\gamma = 130$  pcf (above bottom of facing)  
 $\phi = 50^\circ$ ,  $\gamma_{sub} = 82.6$  pcf (below bottom of facing)

**PRESTRESSING STEEL:**  
 (GROUND ANCHORS)

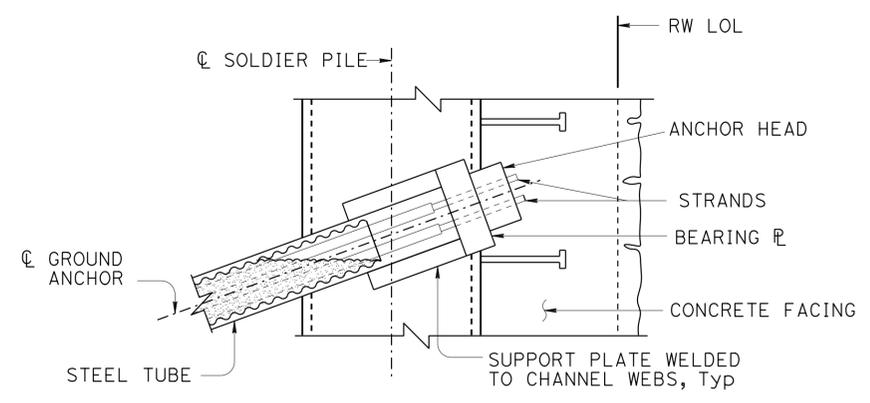
Strands - ASTM designation: A416  
 Bars - ASTM designation: A722 Type II  
 FTL = Factored Test Load Per Anchor (kips)  
 FDL = Factored Design Load Per Anchor (kips)  
 FTL = 1.0 FDL  
 LL = Lock off Load = 0.55 FDL  
 $f_{pu}$  = Minimum ultimate tensile stress of steel in ground anchor (kips/in<sup>2</sup>)  
 $A_s$  (Min) = Minimum cross sectional area of prestressing steel in Ground Anchor (square inch)  
 $A_s$  (Min) =  $\frac{1.0 \text{ FTL}}{0.75 f_{pu}}$

**REINFORCED CONCRETE:**  
 $f'_c = 3.6$  ksi  
 $f_y = 60$  ksi  
 $n = 8$

**STRUCTURAL STEEL:**  
 $f_y = 50$  ksi

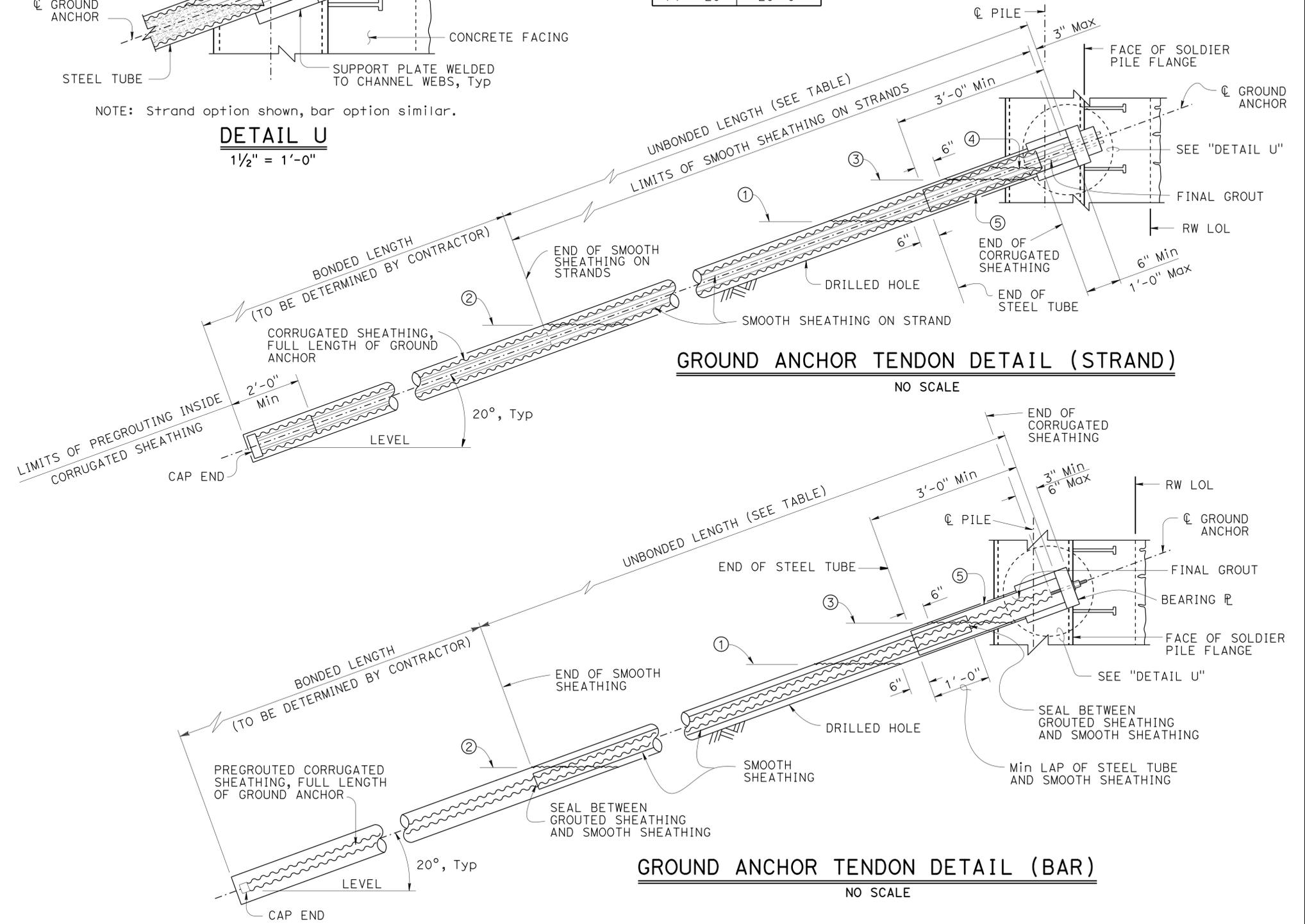
**STRUCTURAL TIMBER:**  
 Treated Douglas Fir No. 2 or better  
 Timber to be full sawn

- LEGEND:**
- ① Level of initial grouting for drilled hole 6"  $\phi$  or smaller
  - ② Level of initial grouting for drilled hole greater than 6"  $\phi$
  - ③ Level of secondary grouting
  - ④ Level of initial grouting inside corrugated sheathing
  - ⑤ Steel tube welded to bearing plate. Inside diameter of steel tube shall be at least 1" greater than the outer diameter of corrugated sheathing. (Min thickness = 1/4") Galvanize assembly after fabrication. Fill tube with grout.



NOTE: Strand option shown, bar option similar.

### DETAIL U 1 1/2" = 1'-0"



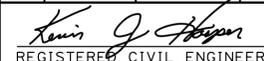
### GROUND ANCHOR TENDON DETAIL (STRAND)

NO SCALE

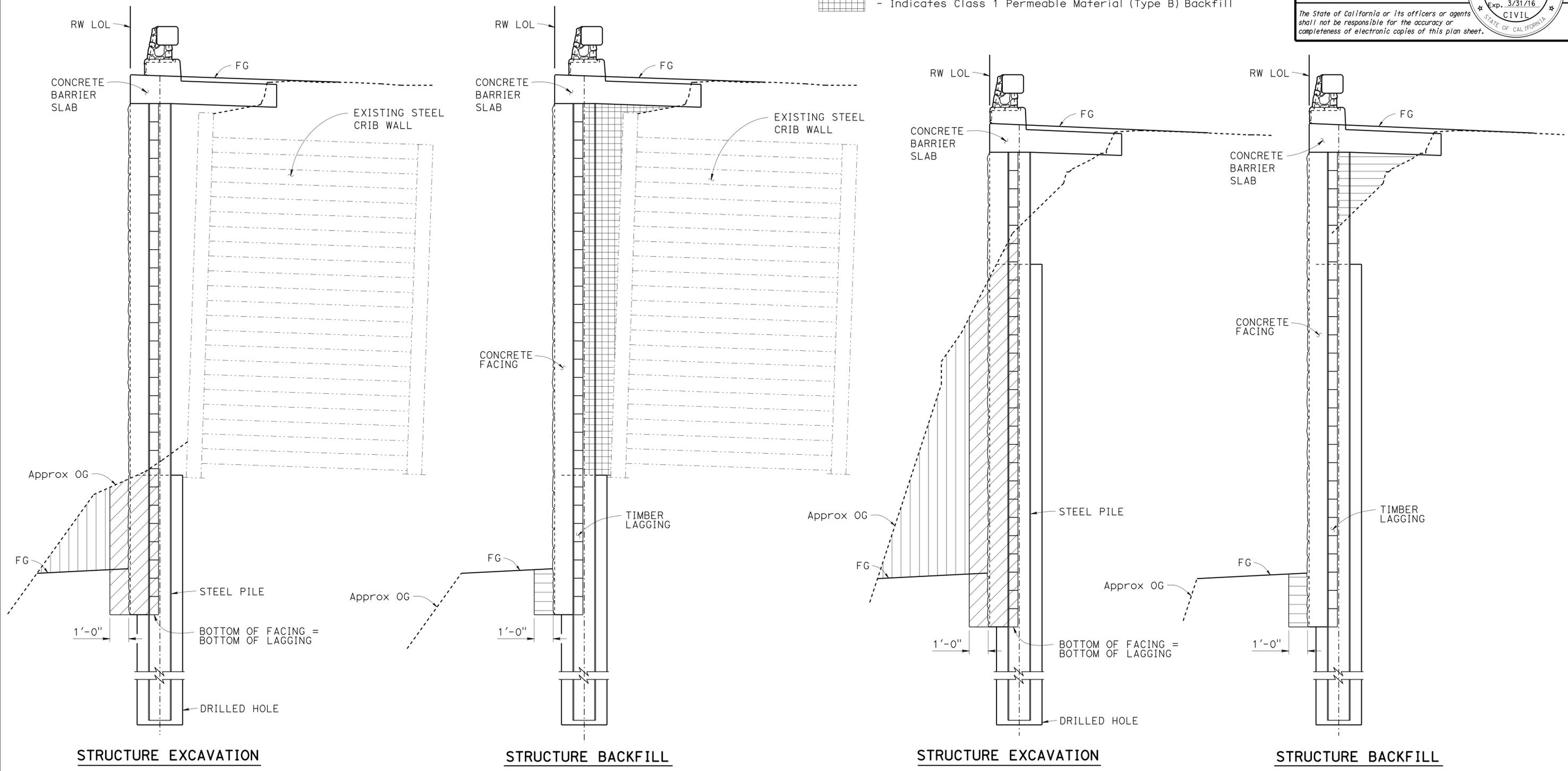
### GROUND ANCHOR TENDON DETAIL (BAR)

NO SCALE

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Kevin Harper	CHECKED Daniel Sessions	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 1</b>	BRIDGE NO.	01E0018	<b>MIDDLE FORK WALL</b> <b>GROUND ANCHOR DETAILS</b>	
	DETAILS	BY Jie Tang	CHECKED Daniel Sessions			POST MILE	24.67		
	QUANTITIES	BY Eric Watson	CHECKED Bob Huddleston			PROJECT NUMBER & PHASE: 01120001161	CONTRACT NO.: 01-0B3204		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3576 PROJECT NUMBER & PHASE: 01120001161	CONTRACT NO.: 01-0B3204	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 07/23/14 08/21/14 09/19/14	SHEET 8 OF 16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	44	51
 REGISTERED CIVIL ENGINEER			3/25/15 DATE		
June 15, 2015 PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					

- LEGEND:
-  - Indicates Structure Excavation (Soldier Pile Wall)
  -  - Indicates Structure Backfill (Soldier Pile Wall)
  -  - Indicates Roadway Excavation, see "ROADWAY PLANS"
  -  - Indicates Class 1 Permeable Material (Type B) Backfill

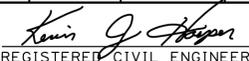


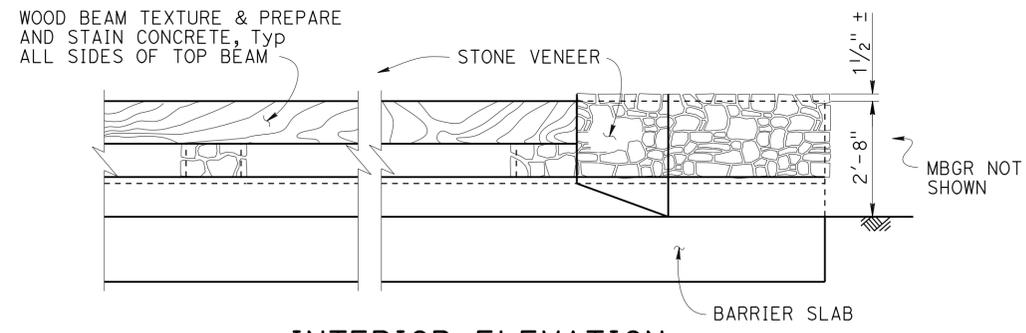
**PAY LIMITS NEAR EXISTING CRIB WALL**  
 $\frac{3}{8}'' = 1'-0''$

**TYPICAL PAY LIMITS**  
 $\frac{3}{8}'' = 1'-0''$

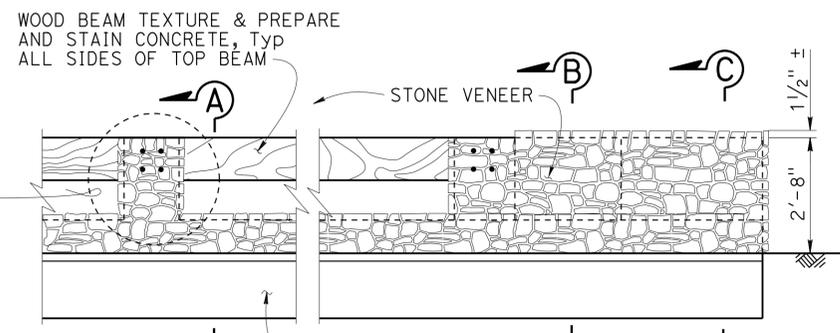
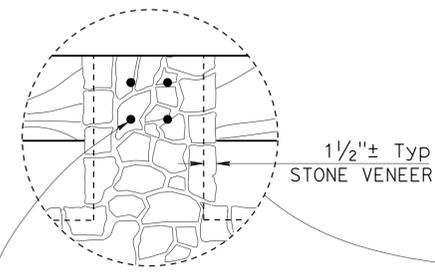
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Kevin Harper	CHECKED Daniel Sessions	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 1</b>	BRIDGE NO.	01E0018	<b>MIDDLE FORK WALL</b> <b>EXCAVATION AND BACKFILL LIMITS</b>
	DETAILS	BY Jie Tang	CHECKED Daniel Sessions			POST MILE	24.67	
	QUANTITIES	BY Eric Watson	CHECKED Bob Huddleston			CONTRACT NO.:	01-0B3204	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				UNIT: 3576 PROJECT NUMBER & PHASE: 01120001161	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 9 OF 16	

USERNAME => s120115 DATE PLOTTED => 18-SEP-2015 TIME PLOTTED => 10:45

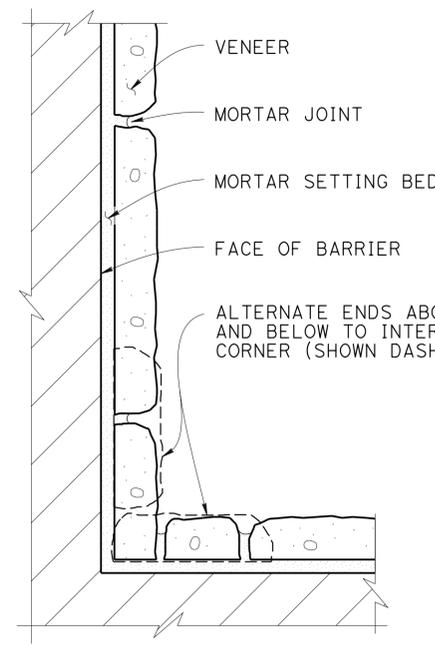
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	45	51
 REGISTERED CIVIL ENGINEER DATE 3/25/15					
PLANS APPROVAL DATE June 15, 2015					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.</small>					



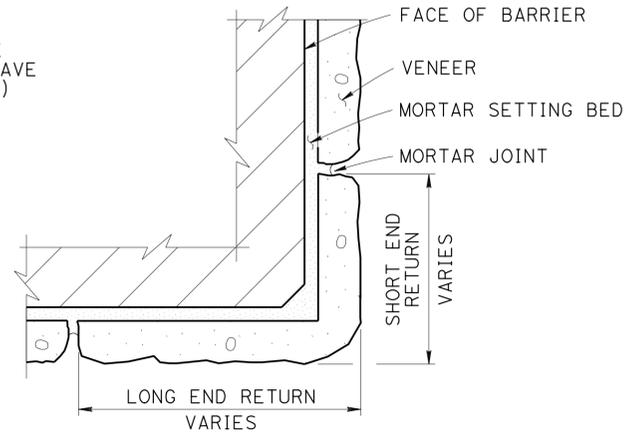
**INTERIOR ELEVATION**  
NO SCALE



**EXTERIOR ELEVATION**  
NO SCALE



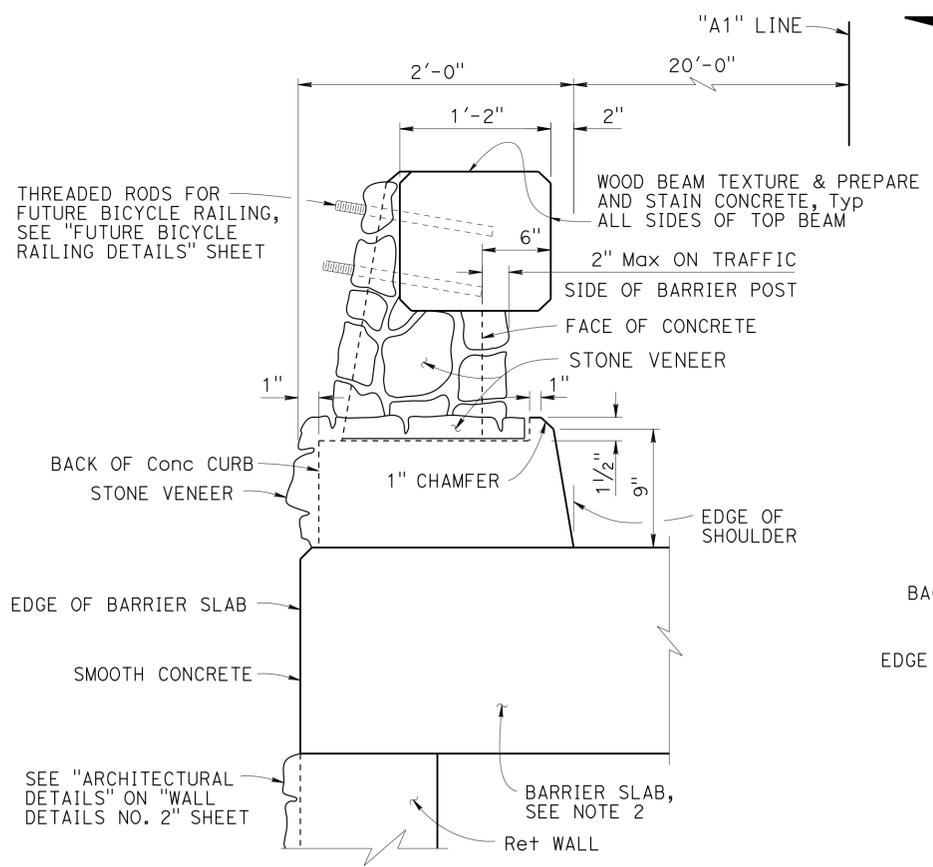
INSIDE CORNER DETAIL



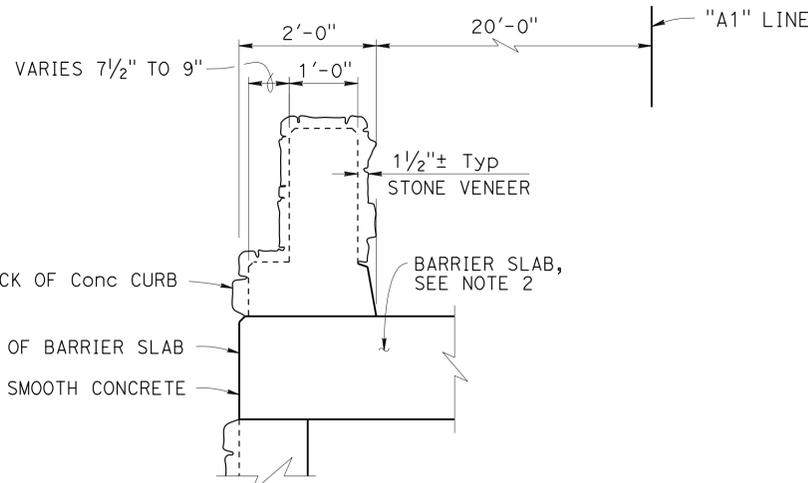
OUTSIDE CORNER DETAIL

**MANUFACTURED STONE VENEER TEXTURE**  
NO SCALE

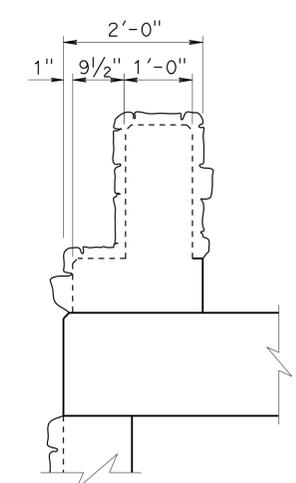
- NOTES:
1. For details not shown, see REVISED STANDARD PLAN B11-60.
  2. For Barrier Slab details, see "CONCRETE BARRIER SLAB DETAIL" on "TYPICAL SECTION" sheet.
  3. The average installed thickness of the stone veneer shall be approximately 1 1/2".



**SECTION A-A**  
1 1/2" = 1'-0"



**SECTION B-B**  
3/4" = 1'-0"



**SECTION C-C**  
3/4" = 1'-0"

NOTE: For details not shown, see "SECTION B-B"

DESIGN	BY Kevin Harper	CHECKED Daniel Sessions
DETAILS	BY Jie Tang	CHECKED Daniel Sessions
QUANTITIES	BY Eric Watson	CHECKED Bob Huddleston

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES  
STRUCTURE DESIGN  
DESIGN BRANCH 1

BRIDGE NO.	01E0018
POST MILE	24.67

MIDDLE FORK WALL  
CONCRETE BARRIER TYPE 80 (Mod)

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	DN	199	24.7	46	51

REGISTERED CIVIL ENGINEER	DATE
Kevin J. Harper	3/25/15
PLANS APPROVAL DATE	
June 15, 2015	

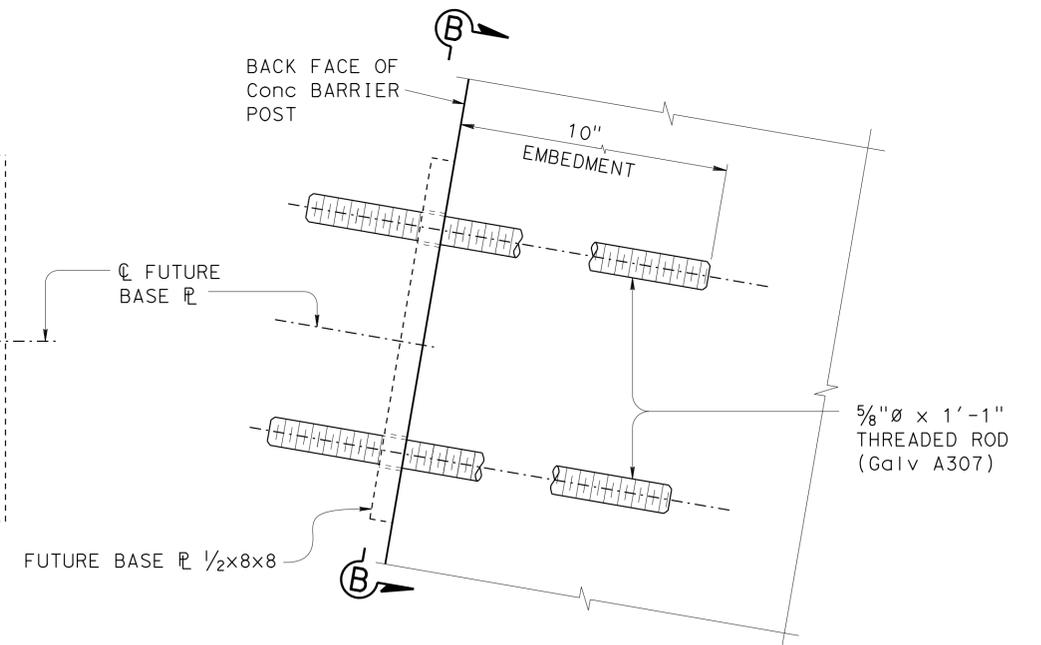
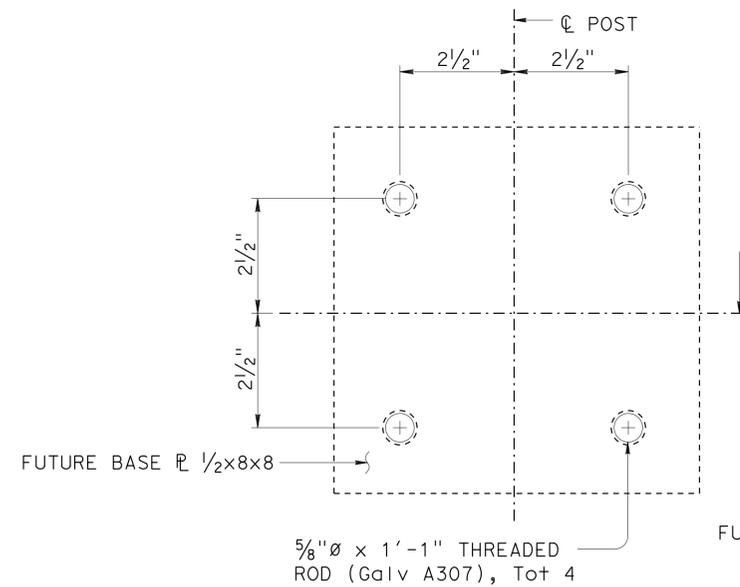
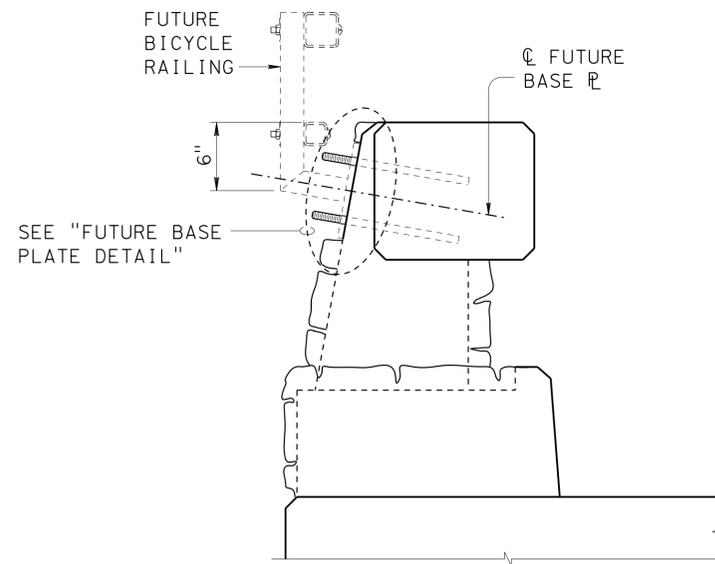
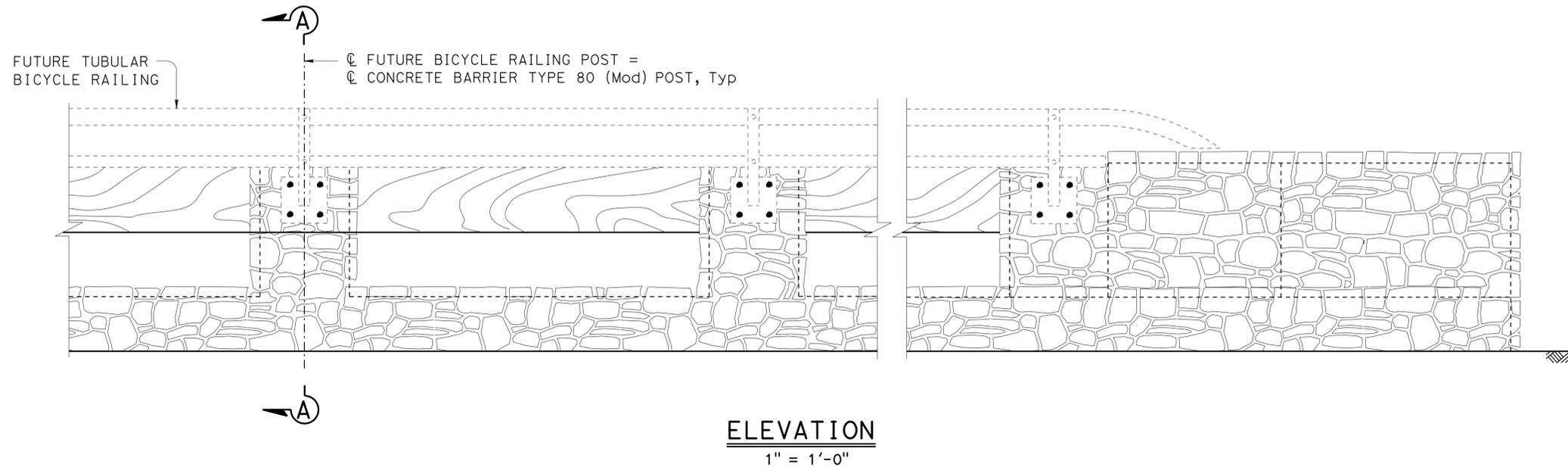
  

REGISTERED PROFESSIONAL ENGINEER
Kevin Harper
No. 42221
Exp. 3/31/16
CIVIL
STATE OF CALIFORNIA

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NOTES:

- For details not shown see "CONCRETE BARRIER TYPE 80 (Mod)" sheet.
- Place rock veneer around threaded rods in the area of the future base plate.

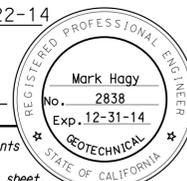


NOTE: Rock veneer is shown removed in area of future base plate for attachment of bicycle railing. See Note 2.

NOTE: Rock veneer not shown

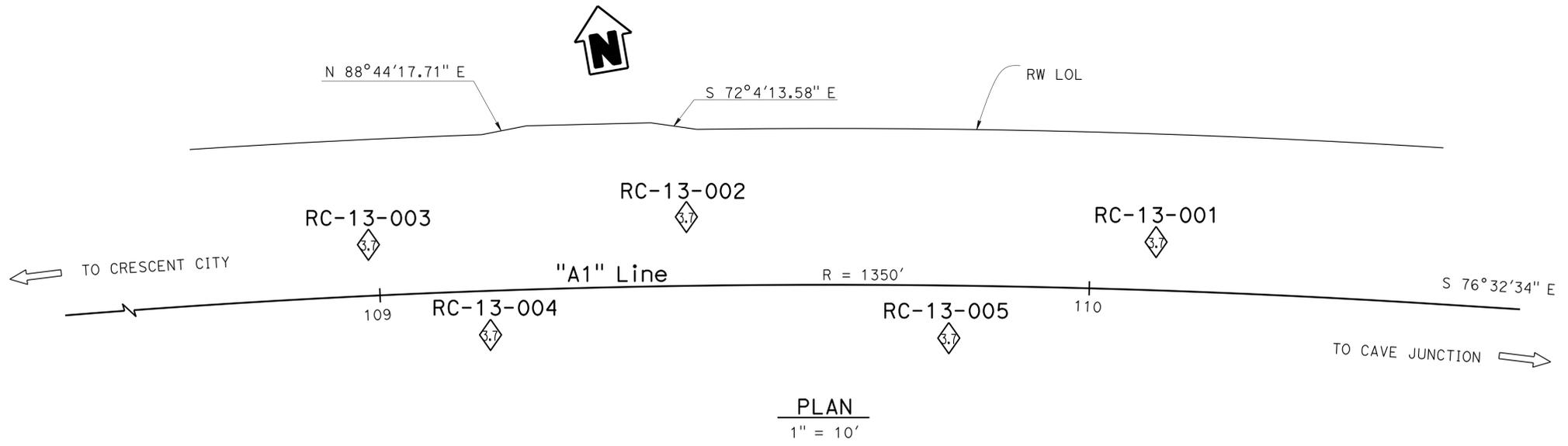
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Kevin Harper	CHECKED Daniel Sessions	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 1	BRIDGE NO.	MIDDLE FORK WALL	
	DETAILS	BY Jie Tang	CHECKED Daniel Sessions			01E0018	FUTURE BICYCLE RAILING DETAILS	
	QUANTITIES	BY Eric Watson	CHECKED Bob Huddleston			POST MILE 24.67		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3576	PROJECT NUMBER & PHASE: 01120001161	CONTRACT NO.: 01-0B3204	DISREGARD PRINTS BEARING EARLIER REVISION DATES
					0 1 2 3	08/22/14 09/13/14	SHEET 11	OF 16

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	DN	199	24.7	47	51


  
 9-22-14  
 REGISTERED GEOTECHNICAL ENGINEER  
 June 15, 2015  
 PLANS APPROVAL DATE  
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**BENCH MARK**

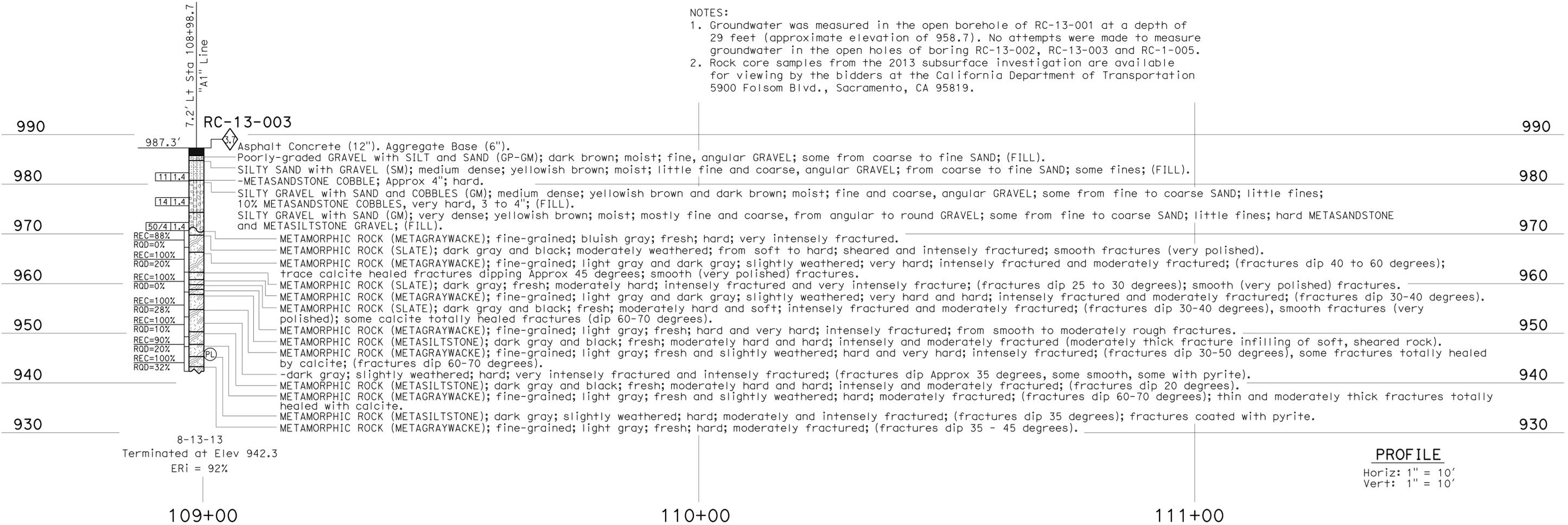
199-24.67  
 Fnd CalTrans Alum CAP  
 20.26 Ft Lt Rte 199  
 Sta 108+59.94  
 N 2,574,219.76  
 E 6,065,503.32  
 Elev = 985.74  
  
 199-24.76  
 Fnd CalTrans Alum CAP  
 18.26 Ft Rt Rte 199  
 Sta 113+62.48  
 N 2,574,105.01  
 E 6,065,998.15  
 Elev = 994.35



**PLAN**  
 1" = 10'

**NOTES:**

- Groundwater was measured in the open borehole of RC-13-001 at a depth of 29 feet (approximate elevation of 958.7). No attempts were made to measure groundwater in the open holes of boring RC-13-002, RC-13-003 and RC-1-005.
- Rock core samples from the 2013 subsurface investigation are available for viewing by the bidders at the California Department of Transportation 5900 Folsom Blvd., Sacramento, CA 95819.



**PROFILE**

Horiz: 1" = 10'  
 Vert: 1" = 10'

<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>MIDDLE FORK WALL</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: I. G-Remmen, F. Nguyen		DEPARTMENT OF TRANSPORTATION		BRIDGE NO. 01E0018		<b>LOG OF TEST BORINGS 1 OF 5</b>	
NAME: J. Huang		CHECKED BY: C. Koepke		FIELD INVESTIGATION BY: L. Paredes		POST MILE 24.7			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		PROJECT NUMBER & PHASE: 01120001161		CONTRACT NO.: 01-0B3204	
				0 1 2 3		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES: 08-14-14, 09-22-14, 10/09/14	
								SHEET 12 OF 16	

USERNAME => s120115 DATE PLOTTED => 16-SEP-2015 TIME PLOTTED => 10:45







DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
01	DN	199	24.7	51	51

9-22-14

REGISTERED GEOTECHNICAL ENGINEER

**June 15, 2015**

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

Mark Hagy

No. 2838

Exp. 12-31-14

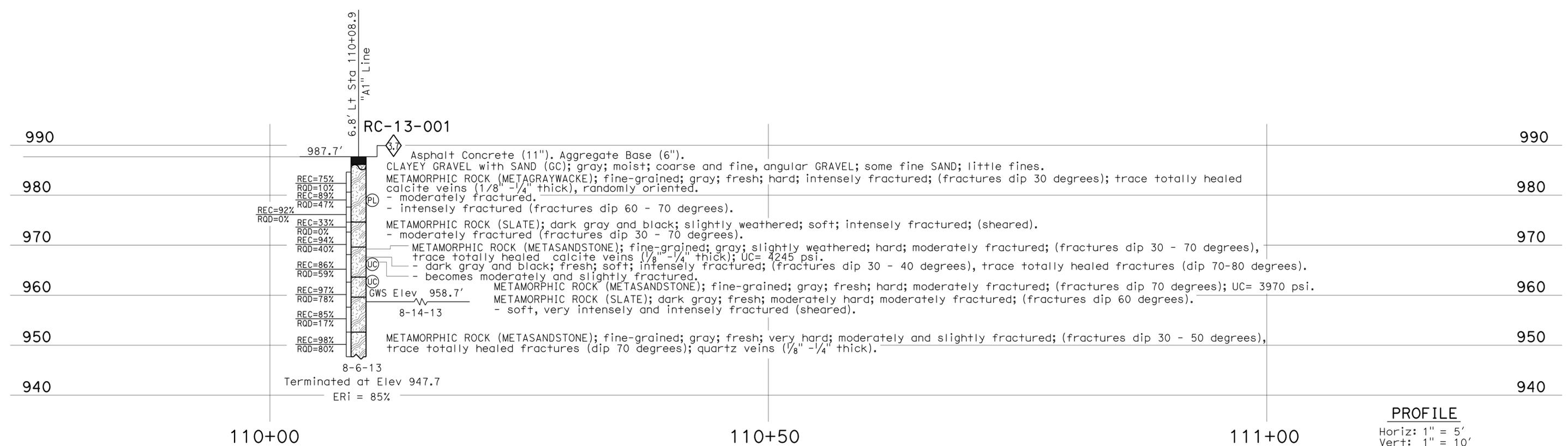
\* GEOTECHNICAL \*

STATE OF CALIFORNIA

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This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, & Presentation Manual (2010 Edition).  
See 2010 Standard Plans A10F and A10G for Soil Legend, and A10H for Rock Legend.

FOR PLAN VIEW, SEE  
"LOG OF TEST BORINGS 1 OF 5"



<b>ENGINEERING SERVICES</b>		<b>MATERIALS AND GEOTECHNICAL SERVICES</b>		<b>STATE OF CALIFORNIA</b>		<b>DIVISION OF ENGINEERING SERVICES</b>		<b>MIDDLE FORK WALL</b>	
FUNCTIONAL SUPERVISOR		DRAWN BY: F. Nguyen		DEPARTMENT OF TRANSPORTATION		BRIDGE NO. 01E0018		<b>LOG OF TEST BORINGS 5 OF 5</b>	
NAME: J. Huang		CHECKED BY: C. Koepke		PROJECT NUMBER & PHASE: 01120001161		POST MILE 24.7			
06S CIVIL LOG OF TEST BORINGS SHEET		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3643		CONTRACT NO.: 01-0B3204		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
				0 1 2 3				REVISION DATES	
								08-14-14 09-22-14 09-17-14	
								SHEET 16 OF 16	

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