

INDEX OF PLANS

SHEET No.	DESCRIPTION
1	TITLE SHEET AND LOCATION MAP
2	LAYOUT
3	UTILITY PLAN
4	CONSTRUCTION AREA SIGNS
5	SUMMARY OF QUANTITIES
6 - 10	REVISED STANDARD PLANS
STRUCTURE PLANS	
11 - 14	RUSSIAN RIVER SIDEHILL VIADUCTS

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

STATE OF CALIFORNIA  
**DEPARTMENT OF TRANSPORTATION**  
**PROJECT PLANS FOR CONSTRUCTION ON**  
**STATE HIGHWAY**  
**IN SONOMA COUNTY**  
**NEAR GUERNEWOOD PARK**  
**AT RUSSIAN RIVER SIDEHILL VIADUCTS**

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	10.4/10.5	1	14

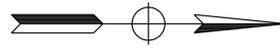
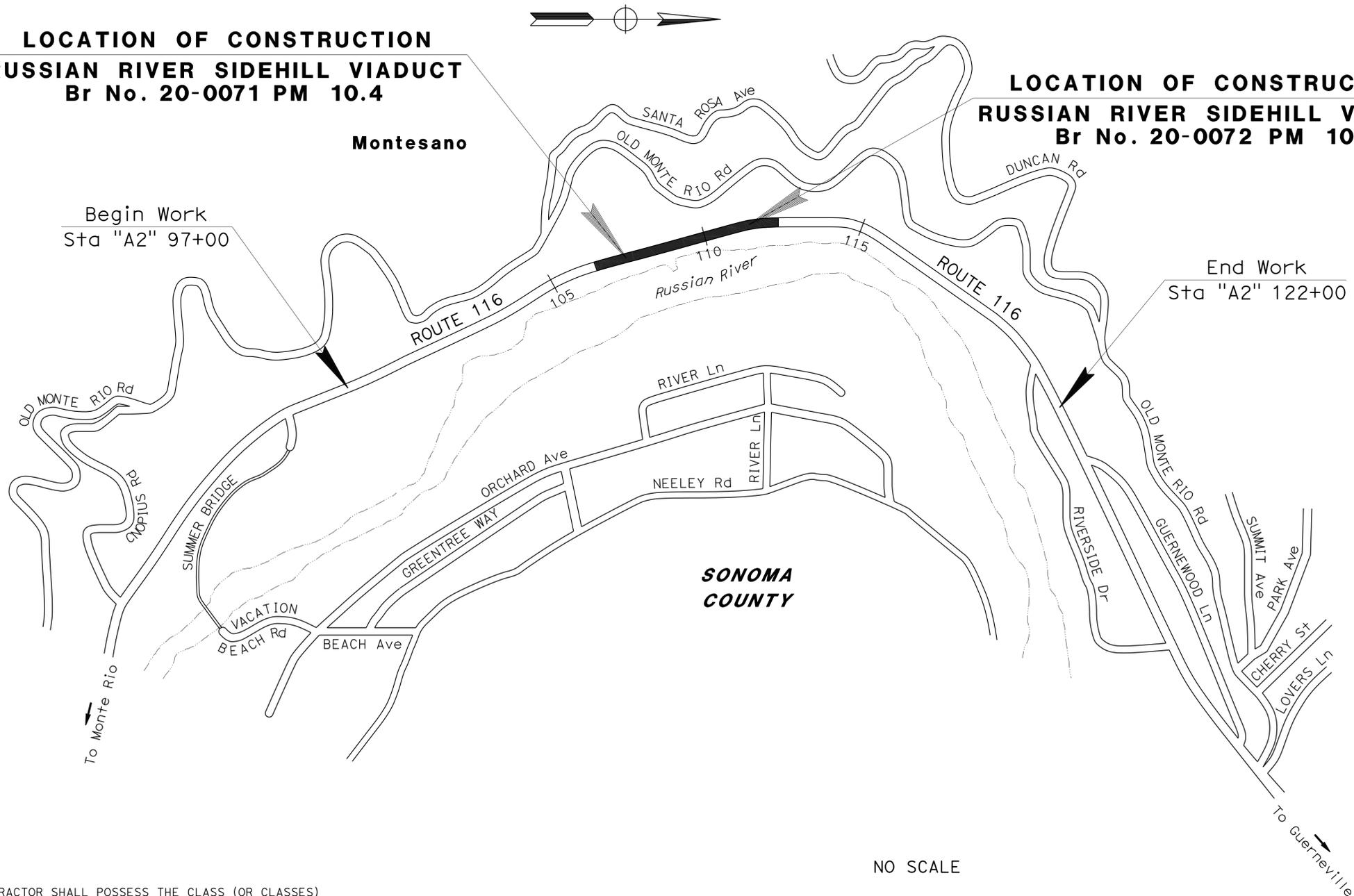




LOCATION MAP

**LOCATION OF CONSTRUCTION**  
**RUSSIAN RIVER SIDEHILL VIADUCT**  
**Br No. 20-0071 PM 10.4**

**LOCATION OF CONSTRUCTION**  
**RUSSIAN RIVER SIDEHILL VIADUCT**  
**Br No. 20-0072 PM 10.5**

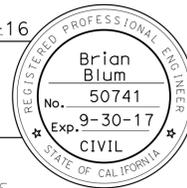


NO SCALE

PROJECT MANAGER LILIAN ACORDA
DESIGN MANAGER JONATHAN LEE

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

 3-28-16  
 PROJECT ENGINEER DATE  
 REGISTERED CIVIL ENGINEER



March 28, 2016  
 PLANS APPROVAL DATE

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

CONTRACT No.	<b>04-0G6414</b>
PROJECT ID	<b>0413000340</b>

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 JONATHAN LEE  
 FUNCTIONAL SUPERVISOR  
 JONATHAN LEE  
 CHECKED BY  
 JONATHAN LEE  
 REVISOR BY  
 JONATHAN LEE  
 DATE REVISOR  
 11-16-15  
 BB  
 11-16-15

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

**NOTES:**

- "A2" ALIGNMENT DOES NOT COINCIDE WITH CENTERLINE OF HIGHWAY.
- ACCESS TO PROPERTIES AND PARKING TO BE MAINTAINED AT ALL TIMES.
- HORIZONTAL DATUM: CCS 83, ZONE 2.  
 VERTICAL DATUM: NAVD 1988.

**LEGEND:**

-  CURVE DATA NUMBER
-  ESA AREA

**ABBREVIATION:**

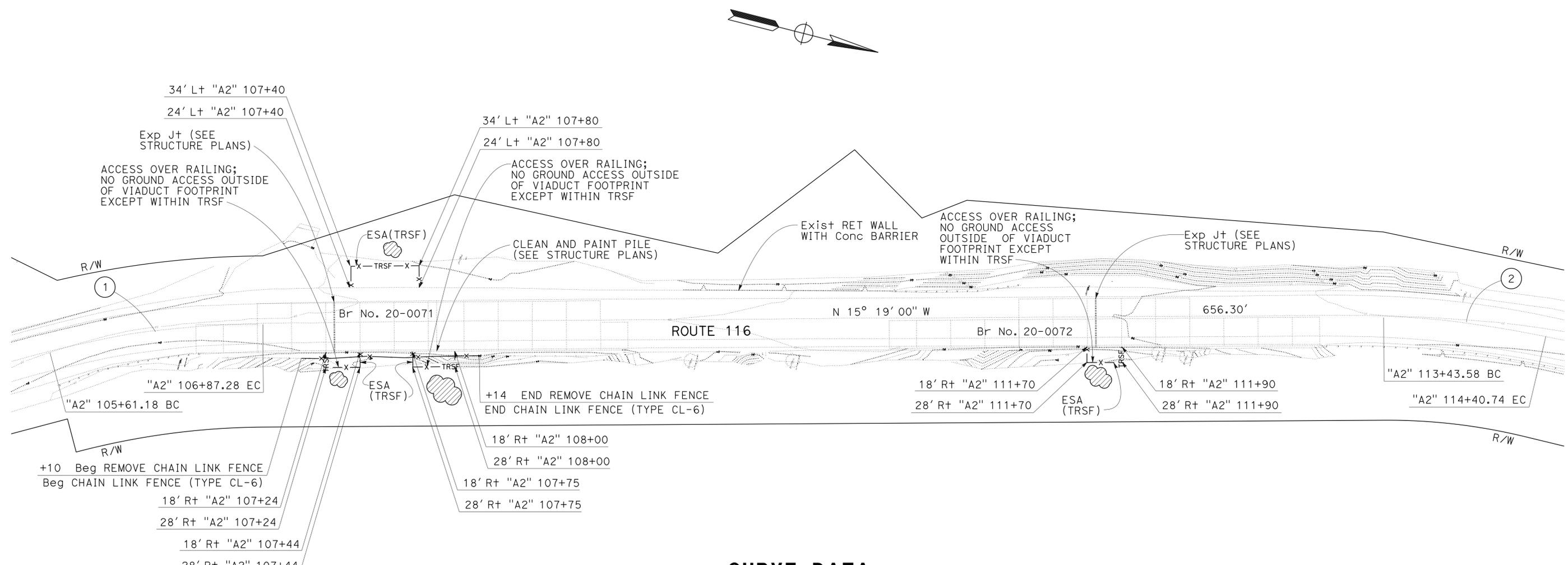
- ESA (TRSF TYPE 1)
- TEMPORARY REINFORCED SILT FENCE TYPE 1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	10.4/10.5	2	14

3-28-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-28-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Brian Blum  
 No. 50741  
 Exp. 9-30-17  
 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.



**CURVE DATA**

No. Ⓢ	R	Δ	T	L
1	500'	14° 27' 00"	63.39'	126.10'
2	400'	13° 55' 00"	48.82'	97.16'

**LAYOUT**  
 SCALE: 1" = 30'

**L-1**

LAST REVISION | DATE PLOTTED => 29-MAR-2016  
 03-18-16 | TIME PLOTTED => 12:44

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

FUNCTIONAL SUPERVISOR  
 HANNA KHOURY

CALCULATED/DESIGNED BY  
 CHECKED BY

ROGER DUAN  
 HONG WONG

REVISED BY  
 DATE REVISED

RD  
 11-16-15

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

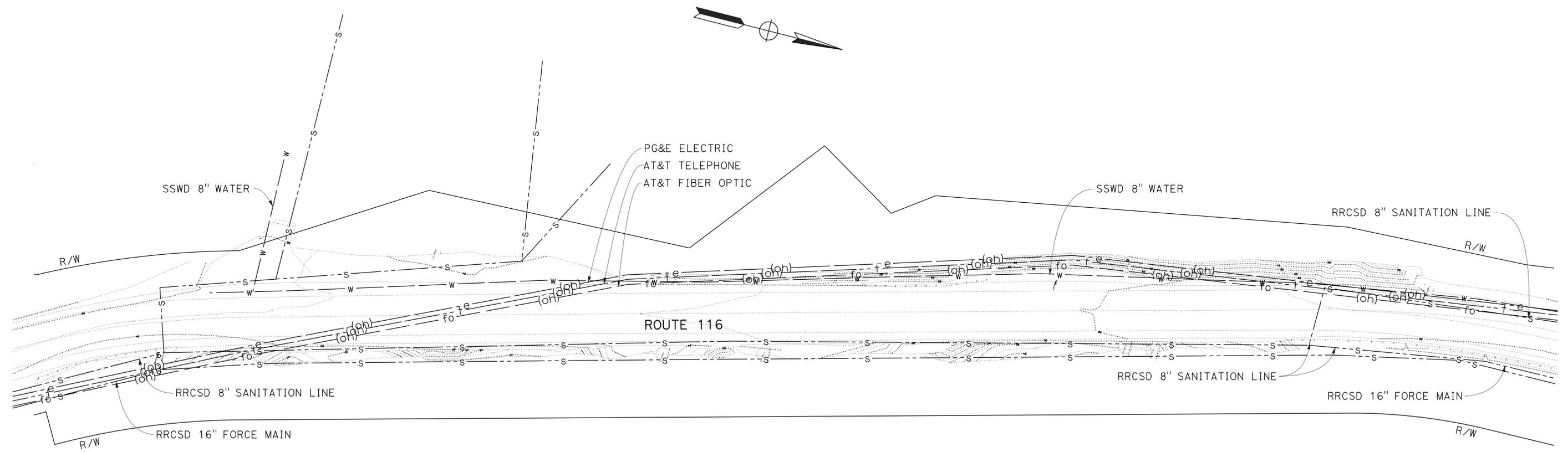
- NOTES:**
- UTILITY OWNERSHIP:  
 ELECTRICAL - PACIFIC GAS AND ELECTRIC (PG&E)  
 TELEPHONE - AMERICAN TELEPHONE AND TELEGRAPH (AT&T)  
 FIBER OPTIC - AMERICAN TELEPHONE AND TELEGRAPH (AT&T)  
 SEWER - RUSSIAN RIVER COUNTY SANITATION DISTRICT (RRCSD)  
 WATER - SWEETWATER SPRINGS WATER DISTRICT (SSWD)
  - UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	10.4/10.5	3	14

3-28-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-28-16  
 PLANS APPROVAL DATE

Yu Duan  
 No. 80637  
 Exp. 3-31-17  
 CIVIL  
 STATE OF CALIFORNIA

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APPROVED FOR UTILITY INFORMATION ONLY

**UTILITY PLAN**  
 SCALE: 1" = 30'

**U-1**

# STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	10.4/10.5	4	14

3-28-16  
REGISTERED CIVIL ENGINEER DATE

3-28-16  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER

Brian Blum

No. 50741

Exp. 9-30-17

CIVIL

STATE OF CALIFORNIA

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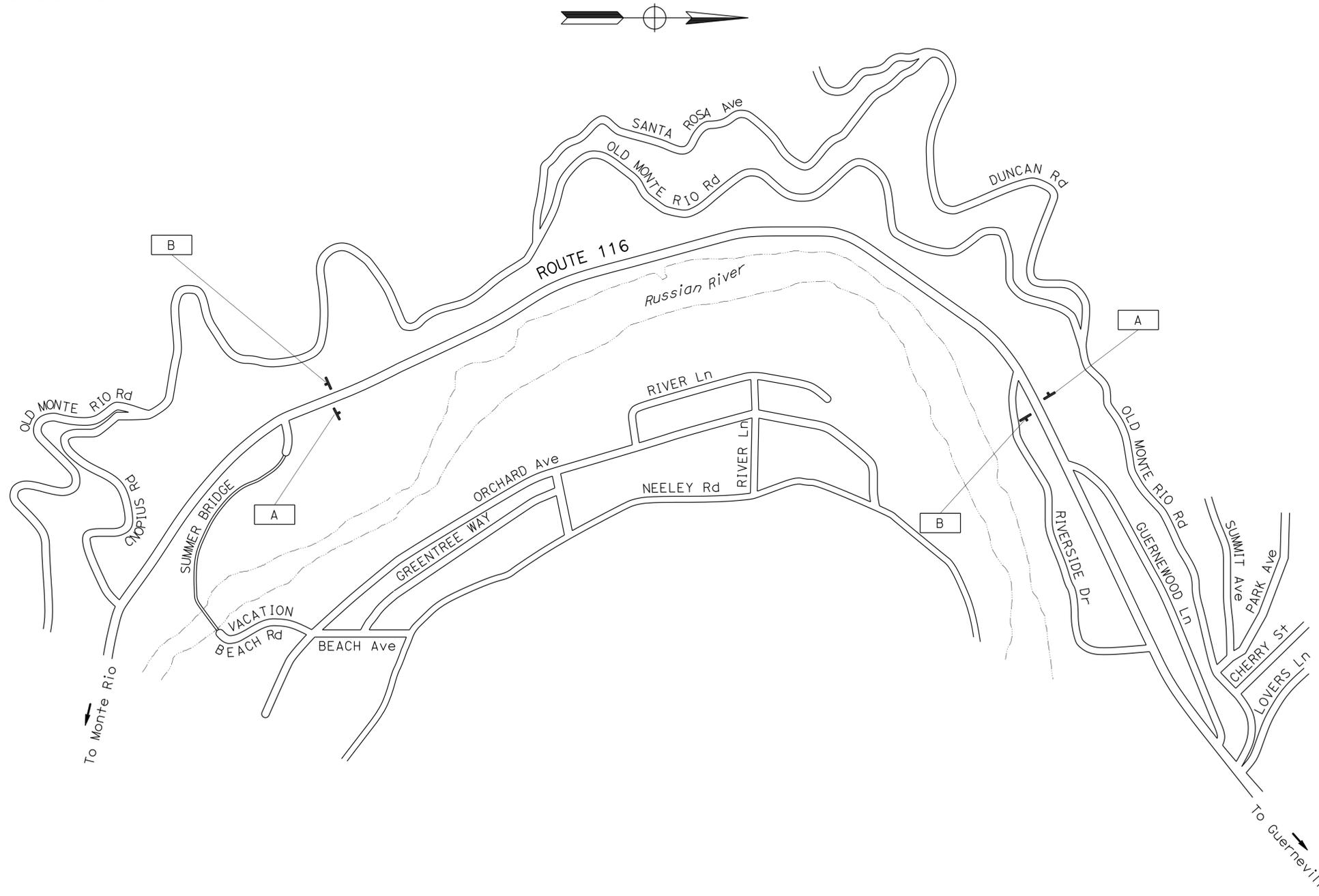
SIGN No.	MUTCD CODE	SIGN MESSAGE	PANEL SIZE	NUMBER OF POSTS AND SIZE	No. OF SIGNS
A	W20-1	ROAD WORK AHEAD	48" x 48"	(ONE) 4" x 6"	2
B	G20-2	END ROAD WORK	36" x 18"	(ONE) 4" x 4"	2

**LEGEND:**

CONSTRUCTION AREA SIGN LETTER

**NOTES:**

1. EXACT LOCATION AND POSITION OF ROADSIDE SIGNS TO BE DETERMINED BY THE ENGINEER.
2. POST SIZE AND LENGTH GIVEN ARE APPROXIMATE. EXACT SIZE AND LENGTH TO BE DETERMINED BY THE ENGINEER.



**CONSTRUCTION AREA SIGNS**  
NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

**CS-1**

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 JONATHAN LEE  
 JONATHAN LEE  
 BRIAN BLUM  
 JONATHAN LEE  
 BB  
 11-16-15

LAST REVISION | DATE PLOTTED => 29-MAR-2016  
 03-18-16 | TIME PLOTTED => 12:44

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**Caltrans**  
 DESIGN  
 FUNCTIONAL SUPERVISOR  
 JONATHAN LEE  
 CALCULATED/DESIGNED BY  
 CHECKED BY  
 BRIAN BLUM  
 JONATHAN LEE  
 REVISED BY  
 DATE REVISED  
 BB  
 11-16-15

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	10.4/10.5	5	14

 3-28-16  
 REGISTERED CIVIL ENGINEER DATE  
 3-28-16  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 Brian Blum  
 No. 50741  
 Exp. 9-30-17  
 CIVIL  
 STATE OF CALIFORNIA

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**TEMPORARY REINFORCED SILT FENCE (TYPE 1)**

SHEET No.	STATION	LENGTH
		ft
L-1	28' Rt "A2" 107+24 TO 28' 107+44	20
	18' Rt "A2" 107+24 TO 28' 107+24	10
	18' Rt "A2" 107+44 TO 28' 107+44	10
	28' Rt "A2" 107+75 TO 28' 108+00	25
	18' Rt "A2" 107+75 TO 28' 107+75	10
	18' Rt "A2" 108+00 TO 28' 108+00	10
	34' Lt "A2" 107+40 TO 34' 107+80	40
	24' Lt "A2" 107+40 TO 34' 107+40	10
	24' Lt "A2" 107+80 TO 34' 107+80	10
	28' Rt "A2" 111+70 TO 28' 111+90	20
	18' Rt "A2" 111+70 TO 28' 111+70	10
	18' Rt "A2" 111+90 TO 28' 111+90	10
	TOTAL	

**CHAIN LINK FENCE**

SHEET No.	STATION	REMOVE	CL-6
		ft	
L-1	20' Rt "A2" 107+10 TO 20' 108+14	104	104
TOTAL		104	104

**SUMMARY OF QUANTITIES**

**Q-1**

LAST REVISION | DATE PLOTTED => 29-MAR-2016  
 01-22-16 | TIME PLOTTED => 12:44

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

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	10.4/10.5	6	14

*Grace M. Tsushima*  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 3-28-16

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

**TABLE A**

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

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

**TABLE B**

SYMBOL USED	DEFINITIONS
ksi	KIPS PER SQUARE INCH
ksf	KIPS PER SQUARE FOOT
psi	POUNDS PER SQUARE INCH
psf	POUNDS PER SQUARE FOOT
lb/ft <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

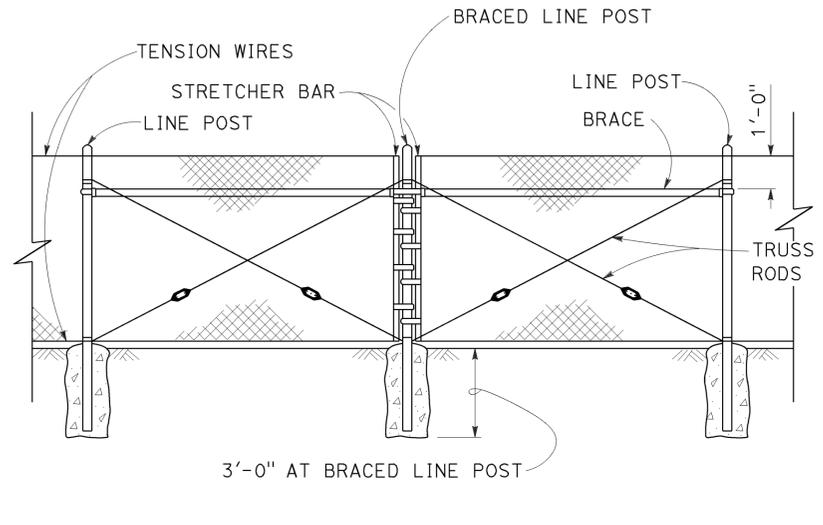
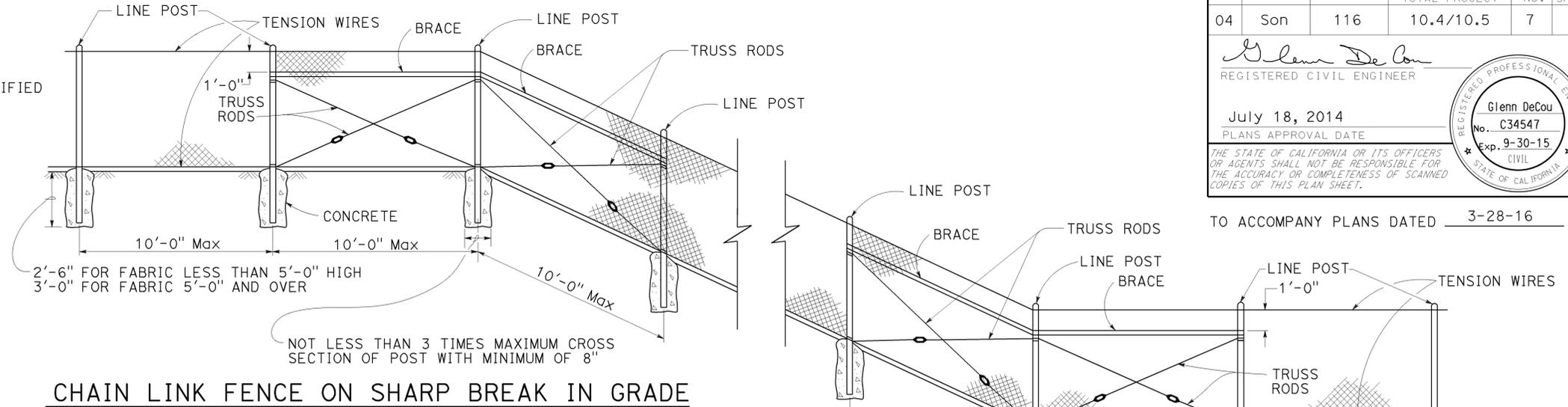
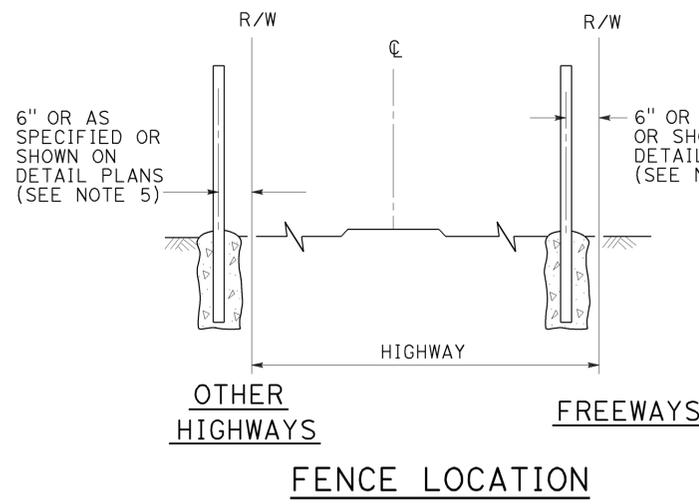
STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

**ABBREVIATIONS  
(SHEET 2 OF 2)**

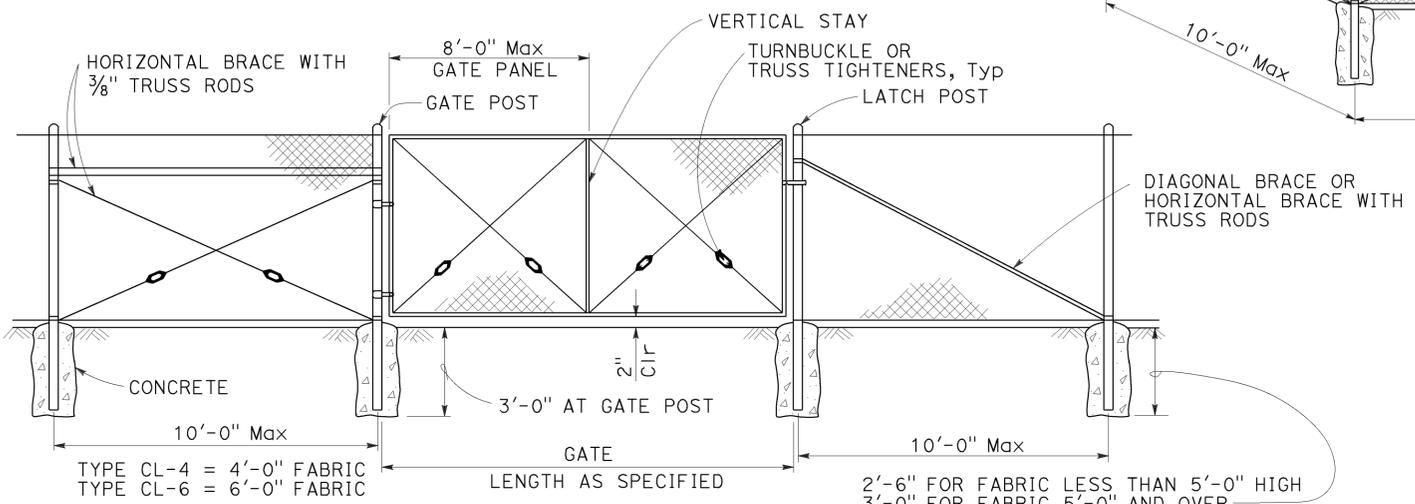
NO SCALE

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

2010 REVISED STANDARD PLAN RSP A10B



**BRACED LINE POST INSTALLATION**  
Braced line post at intervals not exceeding 1000'



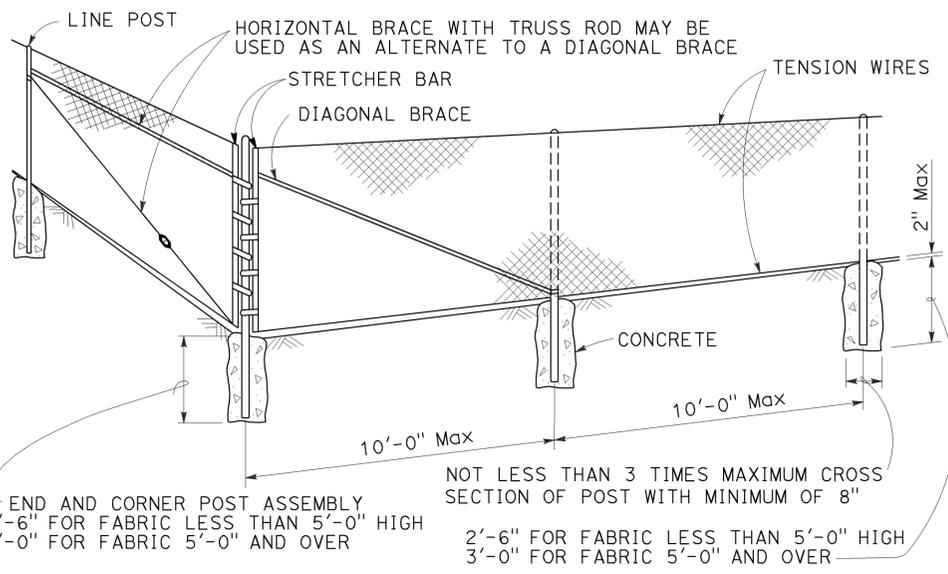
**CHAIN LINK GATE INSTALLATION**

**NOTES:**

- The table below shows minimum sized posts and braces complying with the specifications. Larger or heavier post and brace sizes may be used upon approval.
- Sections shown in the tables must also comply with the strength requirements and other provisions of the Specifications.
- Other sections which comply with the strength requirements and other provisions of the Specifications may be used upon approval.
- Options exercised shall be uniform on any one project.
- Offset to be 2'-0" at monument locations, measured at right angles to R/W lines. Taper to achieve offset to be at least 20'-0" long.
- See Revised Standard Plan RSP A85B for Brace, Stretcher Bar, and Truss Tightener Details.

FENCE HEIGHT	GATE WIDTHS	ROUND OD PIPE	WEIGHT (lb/ft)
6'-0" AND LESS	UP THRU 6'-0"	2.875"	5.80
	OVER 6'-0" THRU 12'-0"	4.500"	10.80
	OVER 12'-0" THRU 18'-0"	5.563"	14.63
OVER 6'-0" TO 8'-0" Max	OVER 18'-0" TO 24'-0" Max	6.625"	18.99
	UP THRU 6'-0"	3.500"	7.58
	OVER 6'-0" THRU 12'-0"	5.563"	14.63
	OVER 12'-0" THRU 18'-0"	6.625"	18.99
	OVER 18'-0" TO 24'-0" Max	8.625"	28.58

Above post dimensions and weights are minimums. Larger sizes may be used upon approval.



FENCE HEIGHT	LINE POSTS		END, LATCH AND CORNER POSTS		BRACES					
	ROUND OD PIPE	WEIGHT (lb/ft)	ROLL FORMED		ROUND OD PIPE	WEIGHT (lb/ft)				
			SECTION	WEIGHT (lb/ft)			SECTION	WEIGHT (lb/ft)		
6'-0" AND LESS	1.900"	2.72	1.875" x 1.625"	1.85	2.375"	3.65	1.66"	2.27	1.625" x 1.25"	1.35
OVER 6'-0" TO 8'-0" Max	2.375"	3.65	2.25" x 1.70"	2.78	2.875"	5.80	1.66"	2.27	1.625" x 1.25"	1.35

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

RSP A85 DATED JULY 18, 2014 SUPERSEDES STANDARD PLAN A85  
DATED MAY 20, 2011 - PAGE 112 OF THE STANDARD PLANS BOOK DATED 2010.

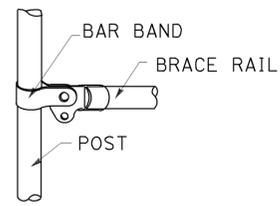
**REVISED STANDARD PLAN RSP A85**

2010 REVISED STANDARD PLAN RSP A85

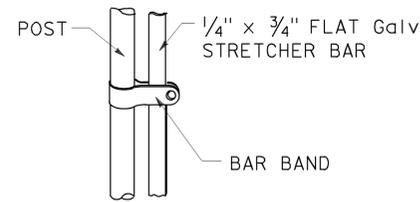
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	10.4/10.5	8	14

Glenn DeCou  
 REGISTERED CIVIL ENGINEER  
 October 19, 2012  
 PLANS APPROVAL DATE  
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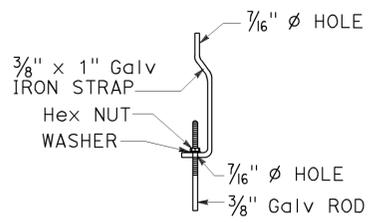
REGISTERED PROFESSIONAL ENGINEER  
 Glenn DeCou  
 No. C34547  
 Exp. 9-30-13  
 CIVIL  
 STATE OF CALIFORNIA



**BRACE RAIL**



**STRETCHER BAR**

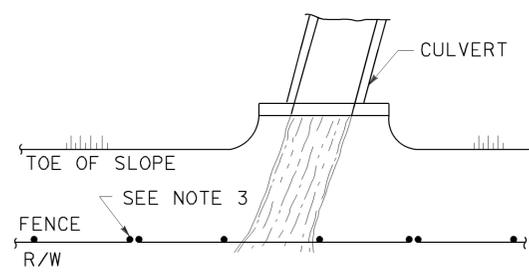


**TRUSS TIGHTENER**

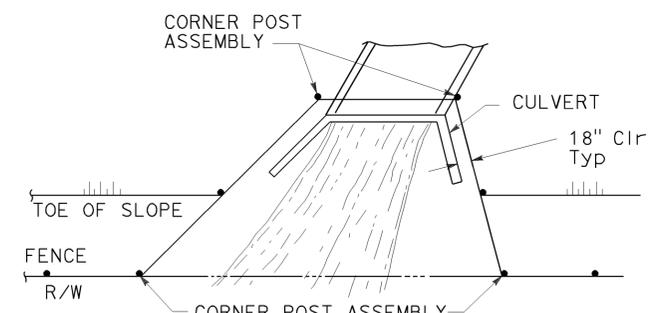
**NOTES:**

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

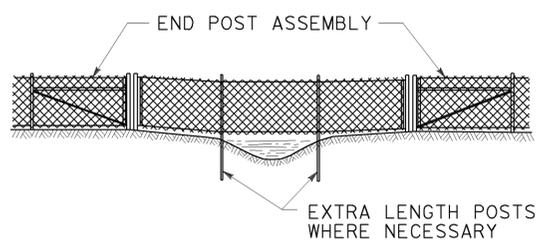
TO ACCOMPANY PLANS DATED 3-28-16



**PLAN**

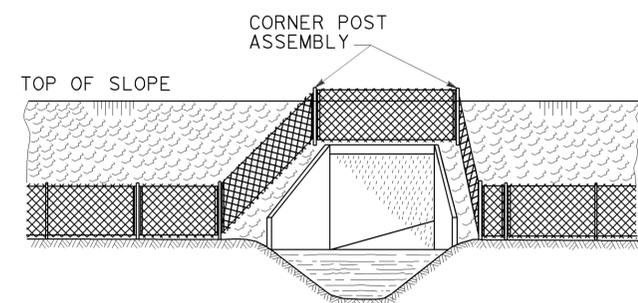


**PLAN**



**ELEVATION**

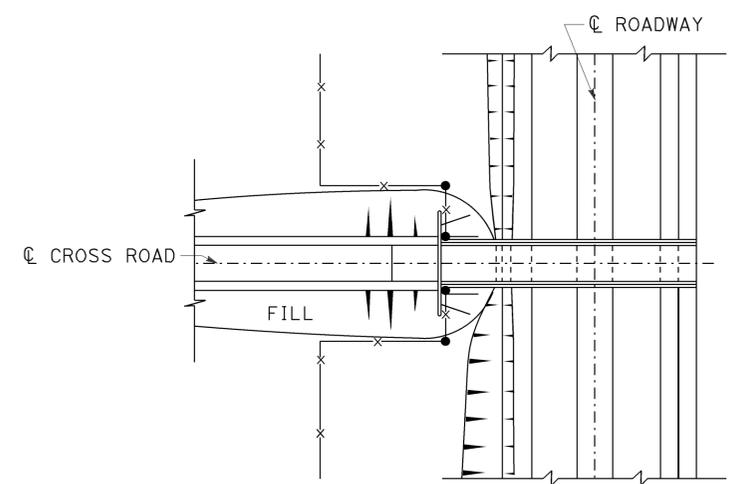
**INSTALLATION OVER STREAM**



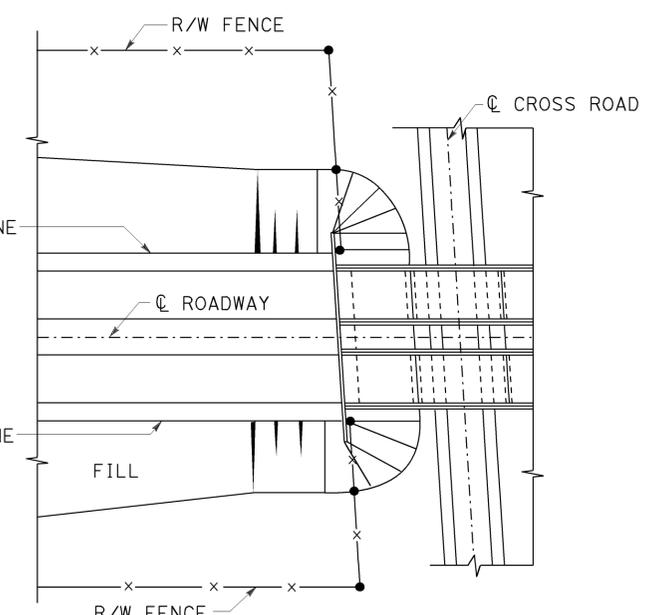
**ELEVATION**

**INSTALLATION AROUND HEADWALL**

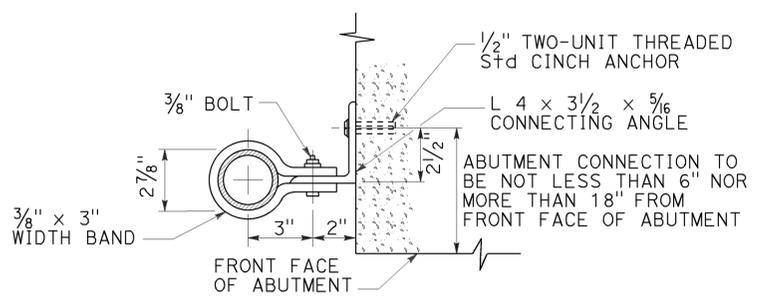
See Note 4



**PLAN OF ROADWAY - OVERCROSSING**



**PLAN OF ROADWAY - UNDERCROSSING**



**ABUTMENT CONNECTION**

**TYPICAL INSTALLATION AT BRIDGES**

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

RSP A85B DATED OCTOBER 19, 2012 SUPERSEDES STANDARD PLAN A85B DATED MAY 20, 2011 - PAGE 114 OF THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A85B**

2010 REVISED STANDARD PLAN RSP A85B

TO ACCOMPANY PLANS DATED 3-28-16

TABLE 1

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

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

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

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

TABLE 2

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

\* - Speed is posted speed limit, off-peak 85th-percentile speed prior to work starting, or the anticipated operating speed in mph  
 \*\* - Longitudinal buffer space or flagger station spacing  
 \*\*\* - Use on sustained downgrade steeper than -3 percent and longer than 1 mile.

TABLE 3

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

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

STATE OF CALIFORNIA  
 DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T9**

2010 REVISED STANDARD PLAN RSP T9

**NOTES:**

See Revised Standard Plan RSP T9 for tables.

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

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	10.4/10.5	10	14

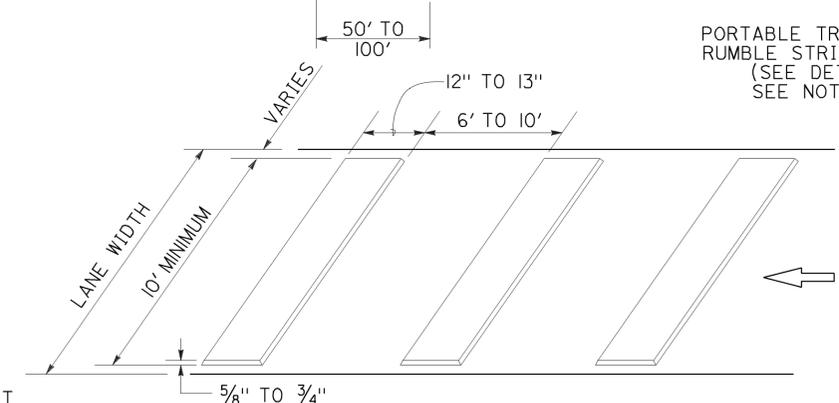
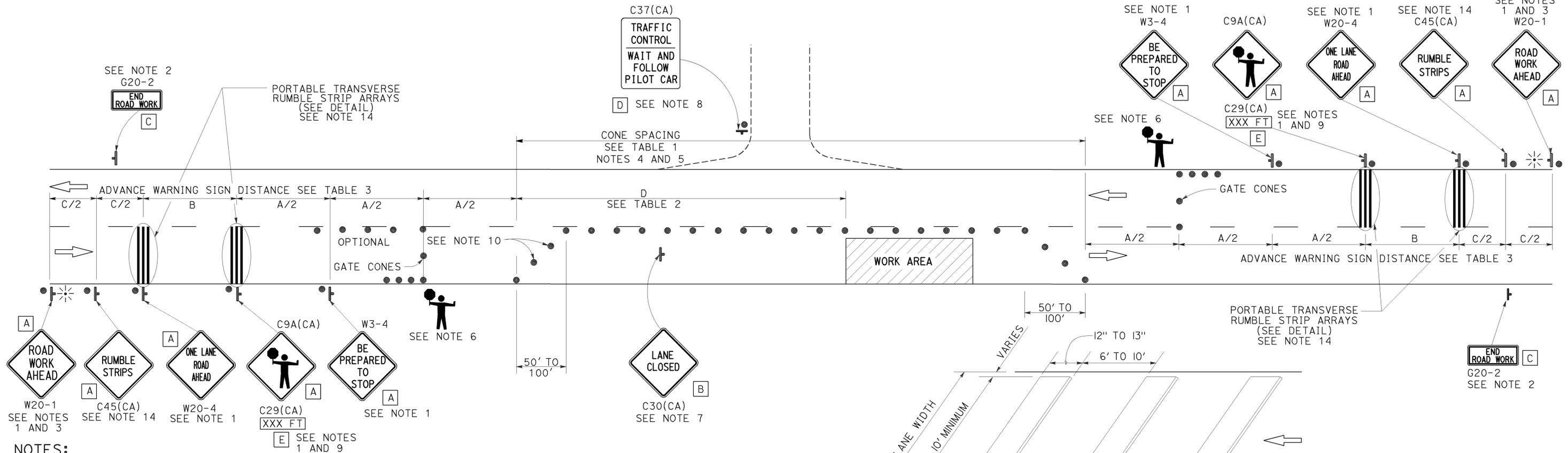
*Devinder Singh*  
 REGISTERED CIVIL ENGINEER  
 No. C50470  
 Exp. 6-30-17  
 CIVIL  
 STATE OF CALIFORNIA

October 30, 2015  
 PLANS APPROVAL DATE

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**TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL**

TO ACCOMPANY PLANS DATED 3-28-16



**NOTES:**

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

**LEGEND**

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

**SIGN PANEL SIZE (Min)**

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

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

NO SCALE

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

**REVISED STANDARD PLAN RSP T13**

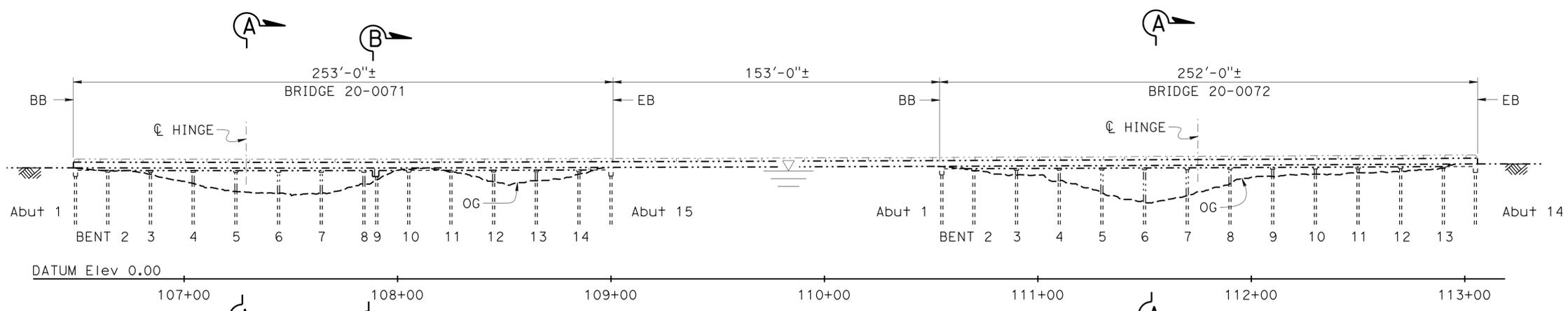
2010 REVISED STANDARD PLAN RSP T13

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	10.4/10.5	11	14

John J. Lane  
 REGISTERED CIVIL ENGINEER  
 No. 55042  
 Exp. 06-30-16  
 CIVIL  
 STATE OF CALIFORNIA

1-15-16  
 DATE  
 3-28-16  
 PLANS APPROVAL DATE

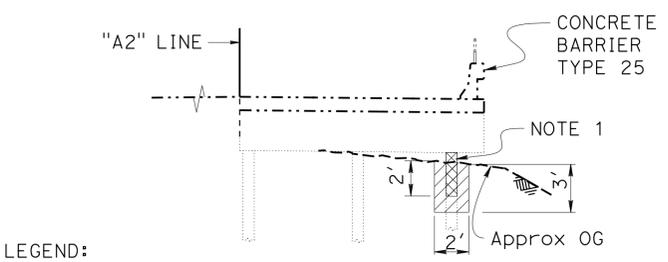
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**ELEVATION**  
1" = 30'

**QUANTITIES**

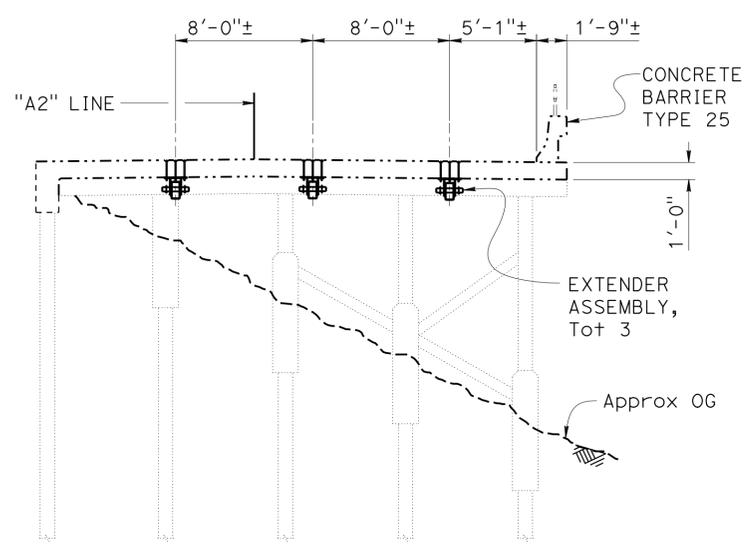
RAPID SETTING CONCRETE (PATCH)	0.6	CF
CORE CONCRETE (1")	54	LF
CORE CONCRETE (4")	7	LF
HMA PATCH (BRIDGE)	3.4	CF
ELASTOMERIC BEARING PAD (2"x4"x6")	12	EA
STRUCTURAL STEEL (BRIDGE)	1,948	LB
CLEAN AND PAINT STRUCTURAL STEEL (EXISTING BRIDGE)		LUMP SUM



**LEGEND:**

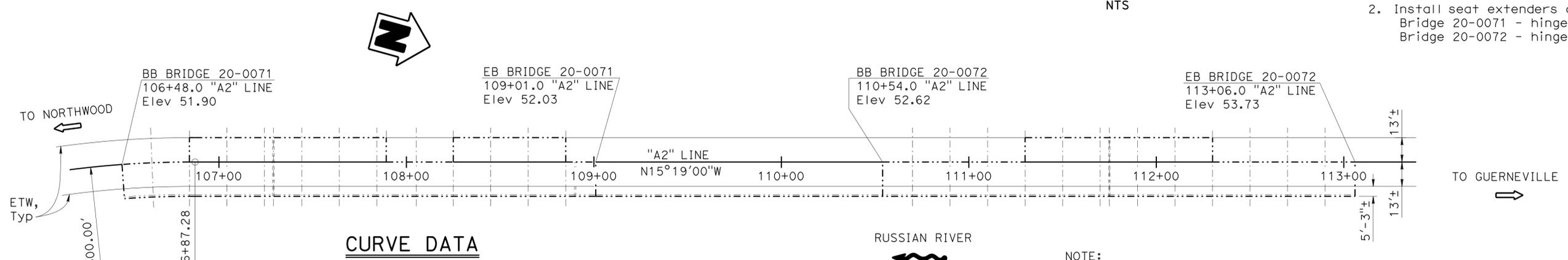
- Indicates Limits of Structure Excavation and Backfill (Bridge) (3'x3'x2')
- Indicates Limits of Clean and Paint Structural Steel (Existing Bridge)

**SECTION B-B**  
NTS



**SECTION A-A**  
NTS

- NOTES:**
- Clean and paint outermost exposed section of Steel 10BP42pile at Pier 9, Bridge 20-0071, then regrade slope to match existing profile.
  - Install seat extenders at the following locations:  
 Bridge 20-0071 - hinge at Station 107+29.0 "A2" Line  
 Bridge 20-0072 - hinge at Station 111+55.0 "A2" Line



**CURVE DATA**

R = 500.00  
 Δ = 14°27'00"  
 T = 63.39  
 L = 126.10

**PLAN**  
1" = 30'

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

**EARTHQUAKE RETROFIT**  
**RUSSIAN RIVER SIDEHILL VIADUCTS**  
**GENERAL PLAN**

DESIGN ENGINEER

DESIGN	BY John J. Lane	CHECKED Doug Dunrud
DETAILS	BY Bob Huddleston / Y. Tang/K. Kubo	CHECKED Doug Dunrud
QUANTITIES	BY John J. Lane	CHECKED Doug Dunrud

LOAD & RESISTANCE FACTOR DESIGN	BY John J. Lane	CHECKED D. Dunrud
LAYOUT	BY John J. Lane	CHECKED D. Dunrud
SPECIFICATIONS	BY D. Vargas	PLANS AND SPECS COMPARED John J. Lane

**STATE OF CALIFORNIA**  
**DEPARTMENT OF TRANSPORTATION**

**DIVISION OF ENGINEERING SERVICES**  
**STRUCTURE DESIGN**  
**DESIGN BRANCH 14**

BRIDGE NO.  
 20-0071  
 20-0072  
 POST MILE  
 10.4

UNIT: 3613  
 PROJECT NUMBER & PHASE: 04130003401  
 CONTRACT NO.: 04-066414

DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET	OF
	2-22-16	11	14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	10.4/10.5	12	14

*John J. Lane* **11-24-15**  
REGISTERED CIVIL ENGINEER DATE

3-28-16  
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
**JOHN J. LANE**  
No. 55042  
Exp. 06-30-16  
CIVIL  
STATE OF CALIFORNIA

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## INDEX TO PLANS

SHEET	TITLE
1.	GENERAL PLAN
2.	INDEX TO PLANS
3.	SLAB BRIDGE SEAT EXTENDER-DETAILS NO. 1
4.	SLAB BRIDGE SEAT EXTENDER-DETAILS NO. 2

## GENERAL NOTES

DESIGN:  
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS,  
2012 edition and the Caltrans Amendments

SEISMIC DESIGN:  
Caltrans Seismic Design Criteria (SDC)

CONCRETE:  
 $f_y = 60$  ksi  
 $f'_c = 5$  ksi

STRUCTURAL STEEL (new construction):  
 $f_y = 50$  ksi

STRUCTURAL STEEL  
(Assumed for Evaluation of Existing Structure):  
ASTM A709  
 $f_y = 50$  ksi

### EARTHQUAKE RETROFIT

### RUSSIAN RIVER SIDEHILL VIADUCTS

## INDEX TO PLANS

DESIGN	BY John J. Lane	CHECKED Doug Dunrud	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 14</b>	BRIDGE NO. 20-0071 20-0072
DETAILS	BY Luexa Xiong	CHECKED Doug Dunrud			POST MILE 10.4
QUANTITIES	BY John J. Lane	CHECKED Doug Dunrud			

USERNAME => s141036 DATE PLOTTED => 29-MAR-2016 TIME PLOTTED => 12:44

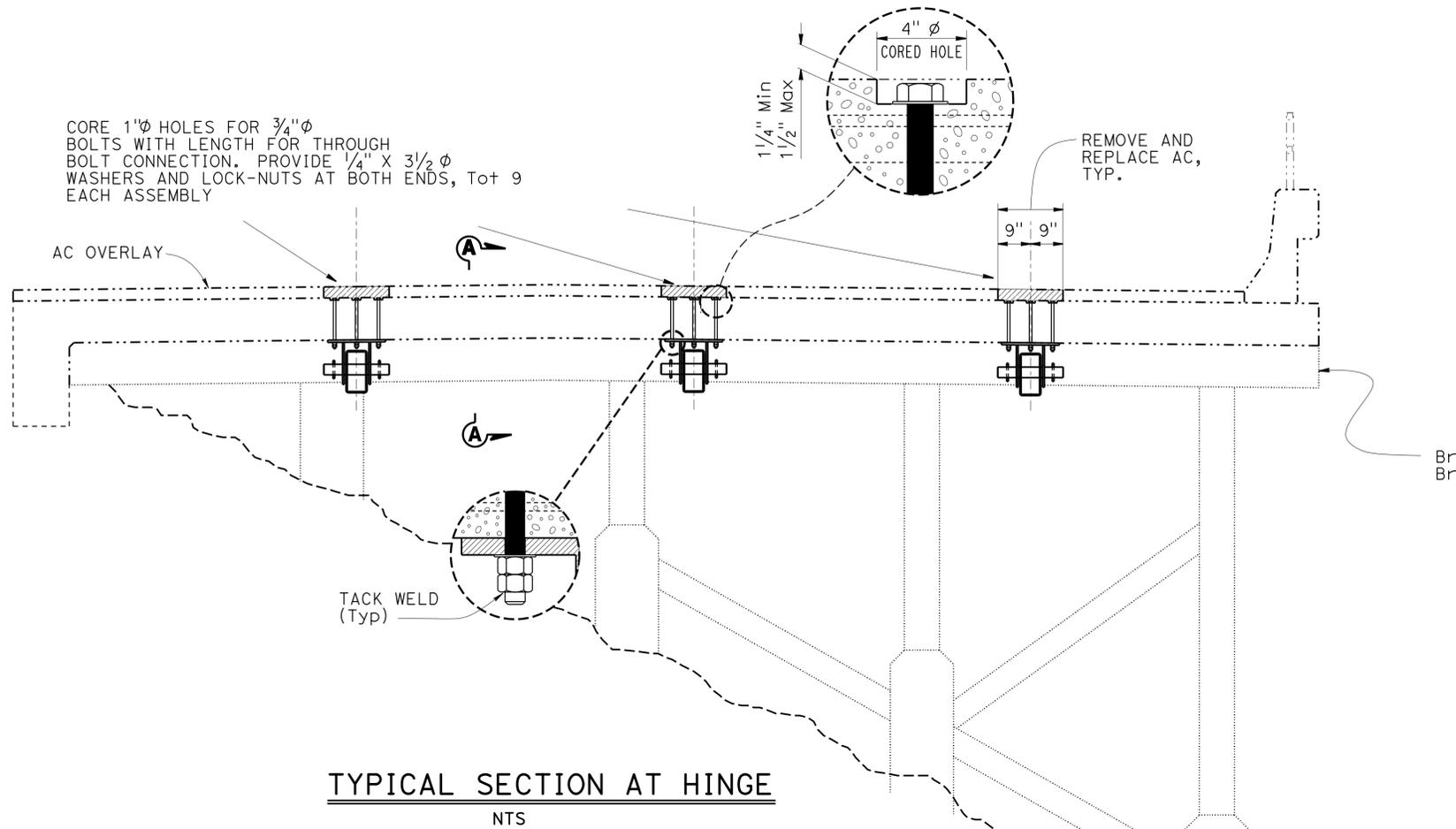
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	10.4/10.5	13	14

*John J. Lane*  
**11-24-15**  
 REGISTERED CIVIL ENGINEER DATE

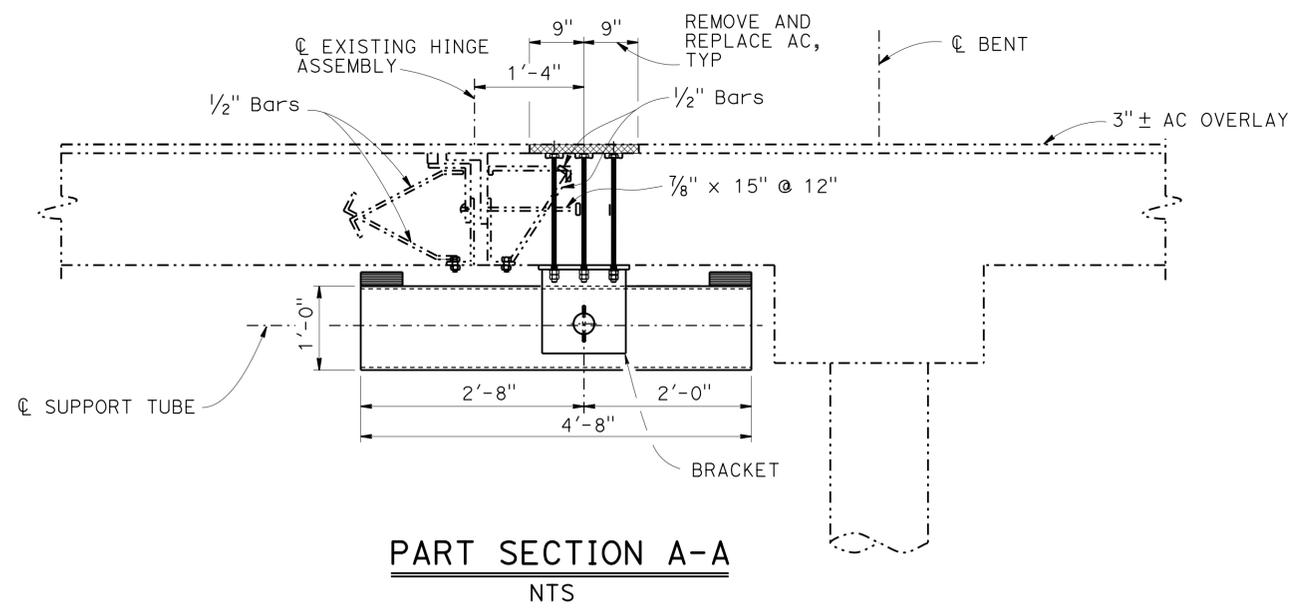
3-28-16  
 PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER  
 JOHN J. LANE  
 No. 55042  
 Exp. 06-30-16  
 CIVIL  
 STATE OF CALIFORNIA



**TYPICAL SECTION AT HINGE**  
 NTS



**PART SECTION A-A**  
 NTS

- NOTES:**
1. Extender capacity = 20 kips at center of cantilever bearing pad
  2. 1" Holes will be filled with Non-Shrink Grout while the 4" Dia. Countersunk Holes will be filled with Rapid Setting Concrete Patch
  3. Galvanize all steel and bolts
  4. Existing Hinge Assemblies include 1/2" Bars spaced @ 8 1/2" on Left Side of Roadway and 9 1/2" on the Right Side as well as 7/8" Bars spaced at 12".
  5. At each location, remove 18" x 18" x 3" ± AC Overlay and replace with same after work is completed.

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

DESIGN BY John J. Lane CHECKED Doug Dunrud DETAILS BY Y. Tang/ K.Kubo CHECKED Doug Dunrud QUANTITIES BY John J. Lane CHECKED Doug Dunrud	<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 14</b>	BRIDGE NO. 20-0071 20-0072 POST MILE 10.4
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	
UNIT: 3613 PROJECT NUMBER & PHASE: 04130003401		CONTRACT NO.: 04-066414	

**EARTHQUAKE RETROFIT**

**RUSSIAN RIVER SIDEHILL VIADUCTS**

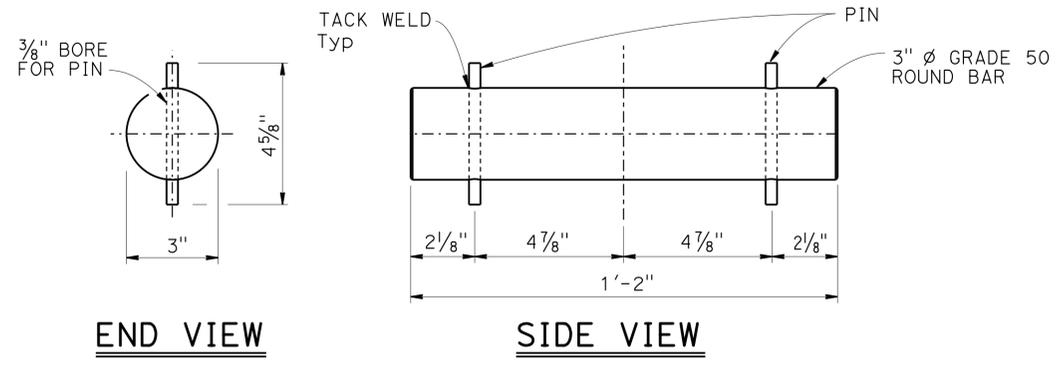
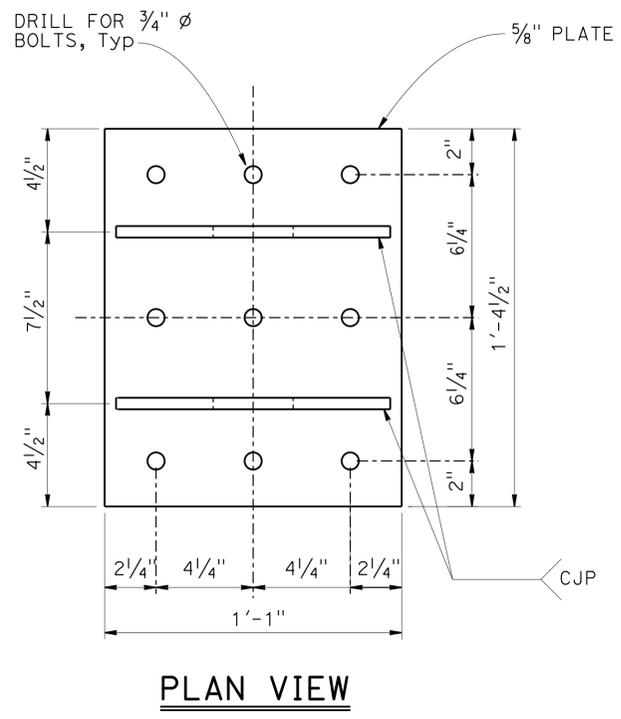
**SLAB BRIDGE SEAT EXTENDER-DETAILS No. 1**

REVISION DATES	SHEET	OF
12-16-15 12-23-15	3	4

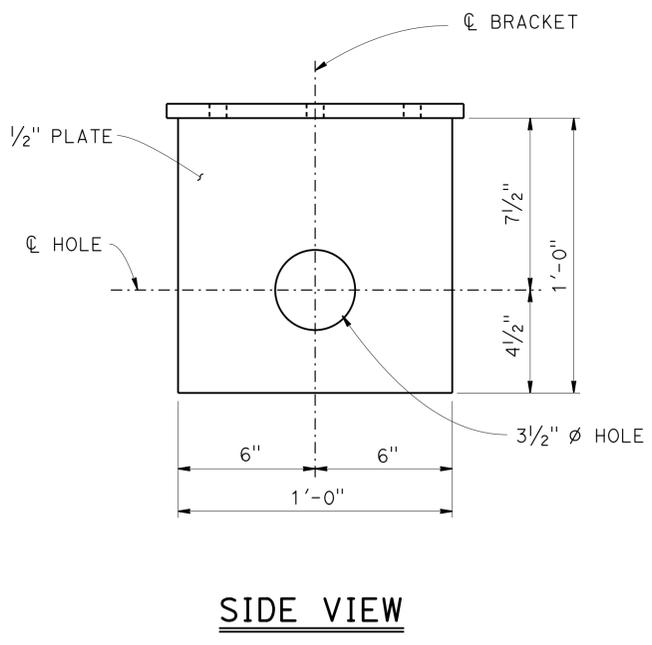
DISREGARD PRINTS BEARING EARLIER REVISION DATES

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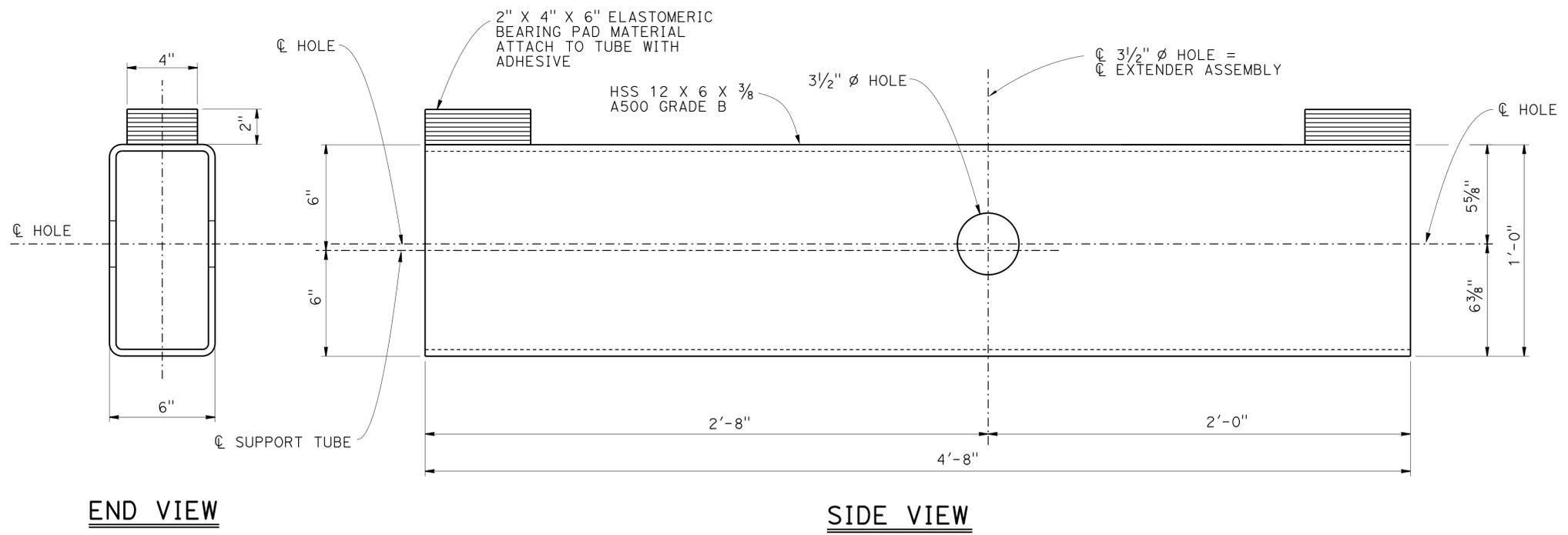
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
04	Son	116	10.4/10.5	14	14
 REGISTERED CIVIL ENGINEER			11-24-15 DATE		
3-28-16 PLANS APPROVAL DATE					
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**PIN**  
NO SCALE



**BRACKET**  
3" = 1'-0"



**SUPPORT TUBE**  
3" = 1'-0"

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

NOTE:  
For details not shown, see "SLAB BRIDGE SEAT EXTENDER DETAILS NO. 1", sheet

DESIGN BY John J. Lane      CHECKED Doug Dunrud		<b>STATE OF CALIFORNIA</b> DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN <b>DESIGN BRANCH 14</b>	BRIDGE NO.	<b>EARTHQUAKE RETROFIT</b> <b>RUSSIAN RIVER SIDEHILL VIADUCTS</b> <b>SLAB BRIDGE SEAT EXTENDER-DETAILS No. 2</b>
DETAILS BY Y. Tang/ K. Kubo      CHECKED Doug Dunrud				20-0071	
QUANTITIES BY John J. Lane      CHECKED Doug Dunrud				20-0072	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			PROJECT NUMBER & PHASE: 04130003401	POST MILE 10.4	CONTRACT NO.: 04-066414
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			UNIT: 3613	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 4 OF 4