

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN HUMBOLDT COUNTY
ON ROUTE 254
AT VARIOUS LOCATIONS
FROM OHMAN CREEK BRIDGE
TO BEAR CREEK BRIDGE

TO BE SUPPLEMENTED BY STANDARD PLANS DATED 2010

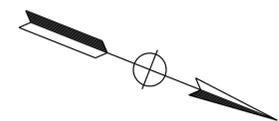


INDEX OF PLANS

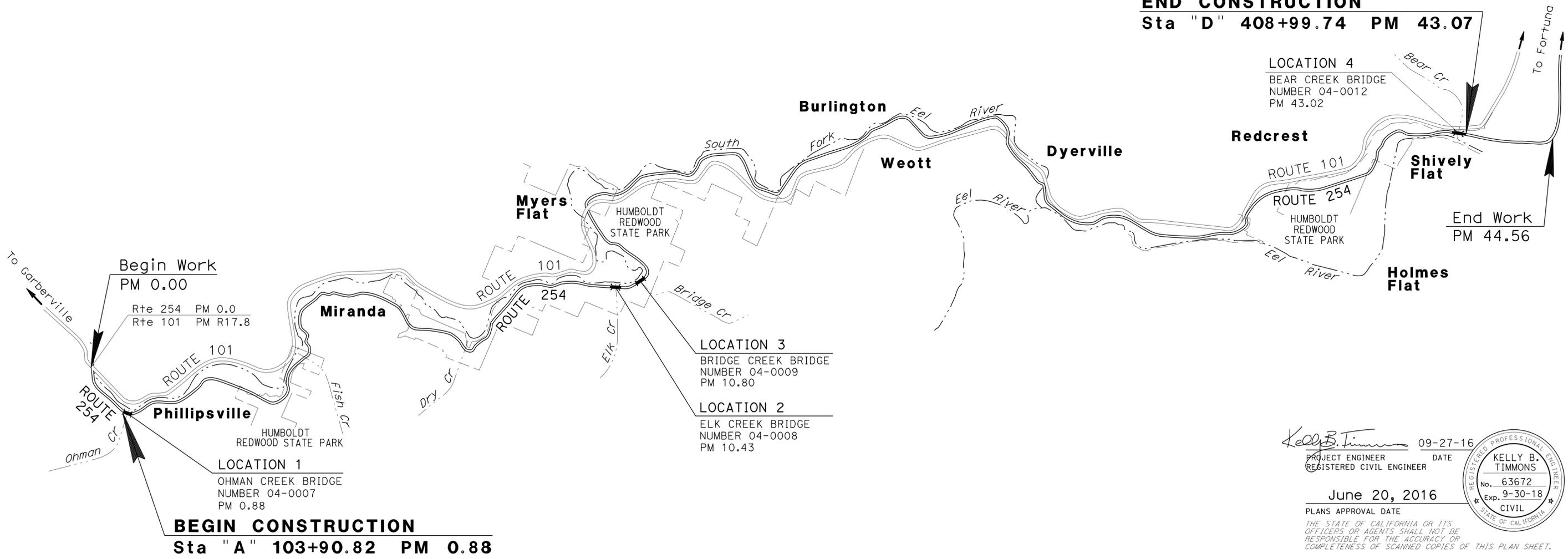
SHEET No.	DESCRIPTION
1	TITLE AND LOCATION MAP
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4-7	LAYOUTS
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STRUCTURE PLANS
 64-100 STRUCTURES

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



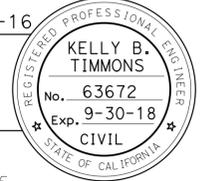
END CONSTRUCTION
 Sta " D " 408+99.74 PM 43.07



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 PROJECT MANAGER TROY ARSENEAU
 DESIGN ENGINEER KELLY B. TIMMONS

PROJECT MANAGER TROY ARSENEAU
 DESIGN ENGINEER KELLY B. TIMMONS

09-27-16
 PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER
 June 20, 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.	01-430604
PROJECT ID	0100000186

NO SCALE



USERNAME => s115152
 DGN FILE => 0100000186ab001.dgn

LAST REVISION DATE PLOTTED => 30-SEP-2016 09-27-16 TIME PLOTTED => 07:06

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 Kelly B. Timmons
 FUNCTIONAL SUPERVISOR
 Kelly B. Timmons
 CALCULATED/DESIGNED BY
 Kelly B. Timmons
 CHECKED BY
 Eric Shada
 REVISED BY
 Eric Shada
 DATE REVISED

NOTES:

- DIMENSIONS OF THE PAVEMENT STRUCTURES (STRUCTURAL SECTIONS) ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS.
- SUPERELEVATION AS SHOWN OR AS DIRECTED BY THE ENGINEER.
- FOR TYPICAL SECTIONS OF STRUCTURES, SEE "STRUCTURE PLANS."
- FOR LOCATIONS OF GUARD RAILING ARE SHOWN ON LAYOUTS AND THE SUMMARY OF QUANTITY SHEETS.

DESIGN DESIGNATION

AADT (2016)	657-1670	D	60%
AADT (2026)	682-1720	T	3.0% - 4.0%
DHV (2036)	170-486	V	55 mph

PAVEMENT CLIMATE REGION

NORTH COAST

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	2	100

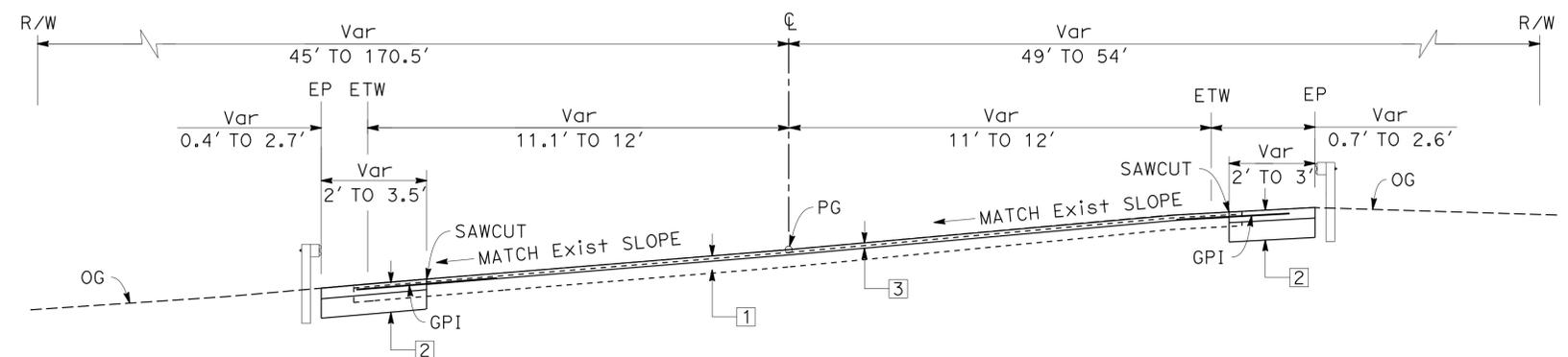
Kelly B. Timmons 09-27-16
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE

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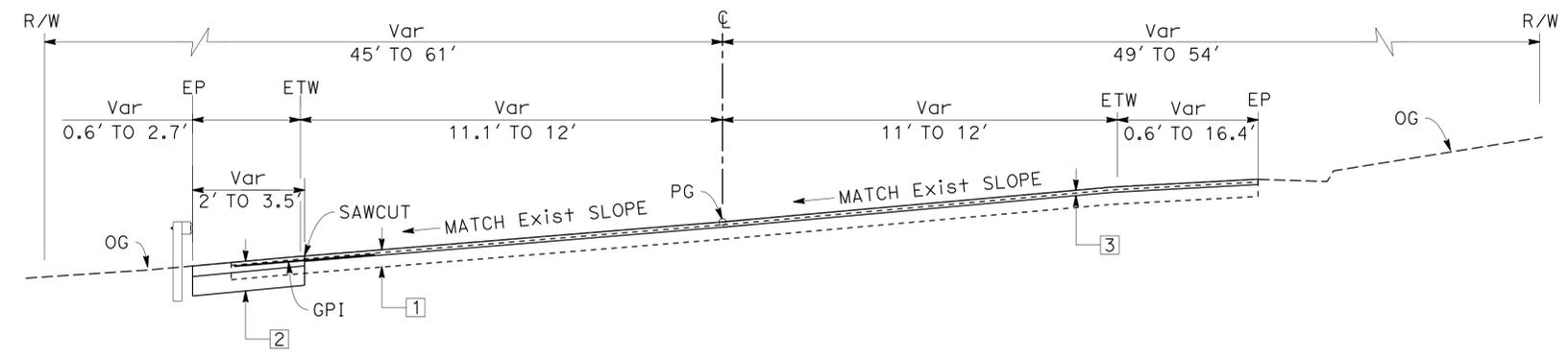
REGISTERED PROFESSIONAL ENGINEER
 KELLY B. TIMMONS
 No. C63672
 Exp. 9-30-18
 CIVIL
 STATE OF CALIFORNIA

TYPICAL PAVEMENT STRUCTURE SECTIONS

- Exist
0.30' - 0.40' AC
0' - 1.08' AB
- 0.30' HMA (TYPE A)
0.55' AB (CLASS 2)
- COLD PLANE
Var 0.15' - 0.50' AC Pvm+
0.15' HMA (TYPE A)



- "A" 105+74 TO "A" 105+91
- "A" 107+51 TO "A" 107+72
- "B" 205+09 TO "B" 205+36
- "B" 206+56 TO "B" 207+60
- "C" 305+19 TO "C" 305+51
- "C" 307+11 TO "C" 307+75
- "D" 404+94 TO "D" 405+25
- "D" 407+00 TO "D" 407+49



- "A" 103+91 TO "A" 105+74
- "B" 203+74 TO "B" 205+09
- "C" 307+75 TO "C" 307+84
- "D" 403+25 TO "D" 404+94
- "D" 407+49 TO "D" 409+00

TYPICAL CROSS SECTIONS
NO SCALE

ROUTE 254

X-1

LAST REVISION DATE PLOTTED => 30-SEP-2016
 09-27-16 TIME PLOTTED => 07:06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	4	100

09-27-16
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE

KELLY B. TIMMONS
 No. C63672
 Exp. 9-30-18
 CIVIL

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

- NOTES:**
- FOR COMPLETE RIGHT OF WAY DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
 - FOR BRIDGE WIDENING DETAIL SEE STRUCTURE PLANS.
 - FOR LIMITS OF GUARDRAIL REMOVAL, SEE QUANTITIES.

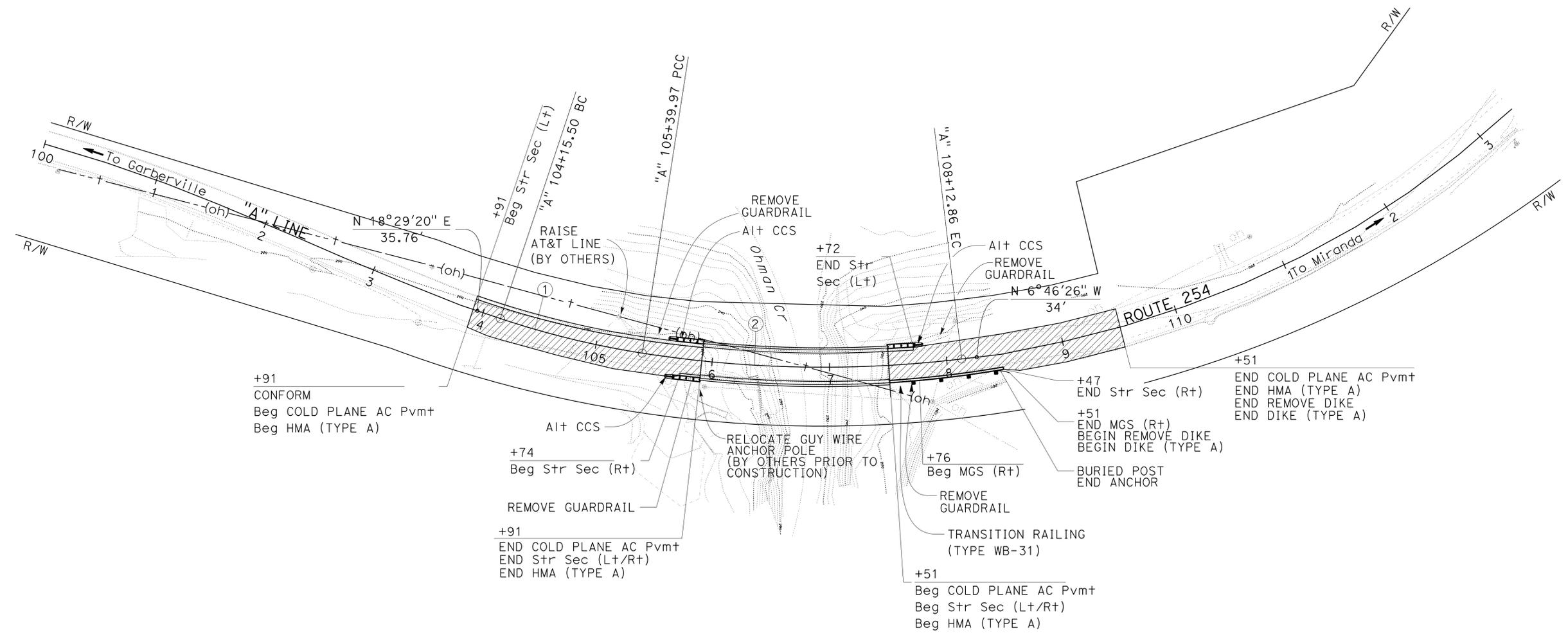
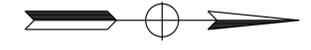
CURVE DATA

No. (+)	R	Δ	T	L
1	740.77'	9°37'41"	62.387'	124.48'
2	1000'	15°38'06"	137.293'	272.88'

- ABBREVIATIONS:**
- Alt CCS ALTERNATIVE CRASH CUSHION SYSTEM
 - AFTS ALTERNATIVE FLARED TERMINAL SYSTEM
 - AITs ALTERNATIVE IN-LINE TERMINAL SYSTEM

LEGEND:

 COLD PLANE AC PAVEMENT



LOCATION 1

OHMAN CREEK BRIDGE
NUMBER 04-0007
PM 0.88

LAYOUT
SCALE: 1" = 50'

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 Kelly B. Timmons
 Eric Shada
 Kelly B. Timmons
 Functional Supervisor
 Calculated/Designed By
 Checked By
 Revised By
 Date Revised
 USERNAME => s115152
 DGN FILE => 0100000186ea001.dgn
 BORDER LAST REVISED 7/2/2010
 RELATIVE BORDER SCALE IS IN INCHES
 UNIT 0312
 PROJECT NUMBER & PHASE 01 0000 0186 1
 LAST REVISION DATE PLOTTED => 30-SEP-2016
 09-27-16 TIME PLOTTED => 07:06

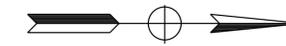
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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN

NOTES:

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2. FOR BRIDGE WIDENING DETAIL SEE STRUCTURE PLANS.
3. FOR LIMITS OF GUARDRAIL REMOVAL, SEE QUANTITIES.

CURVE DATA

No. (+)	R	Δ	T	L
3	4390'	3°17'59"	126.447'	252.824'
4	1500'	4°37'41"	60.613'	121.16'

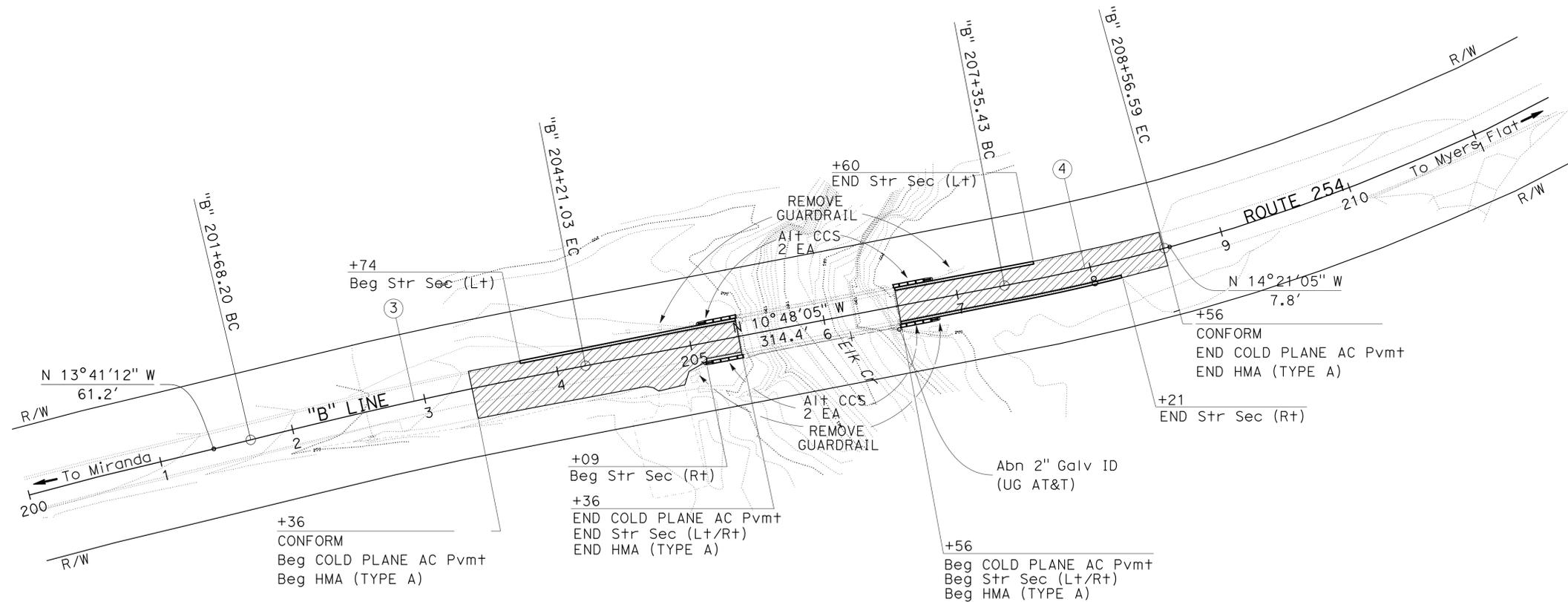


Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	5	100

Kelly B. Timmons 09-27-16
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LOCATION 2

ELK CREEK BRIDGE
 NUMBER 04-0008
 PM 10.43

LAYOUT
 SCALE: 1" = 50'

LAST REVISION DATE PLOTTED => 30-SEP-2016 09-27-16 TIME PLOTTED => 07:06

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	6	100

Kelly B. Timmons 09-27-16
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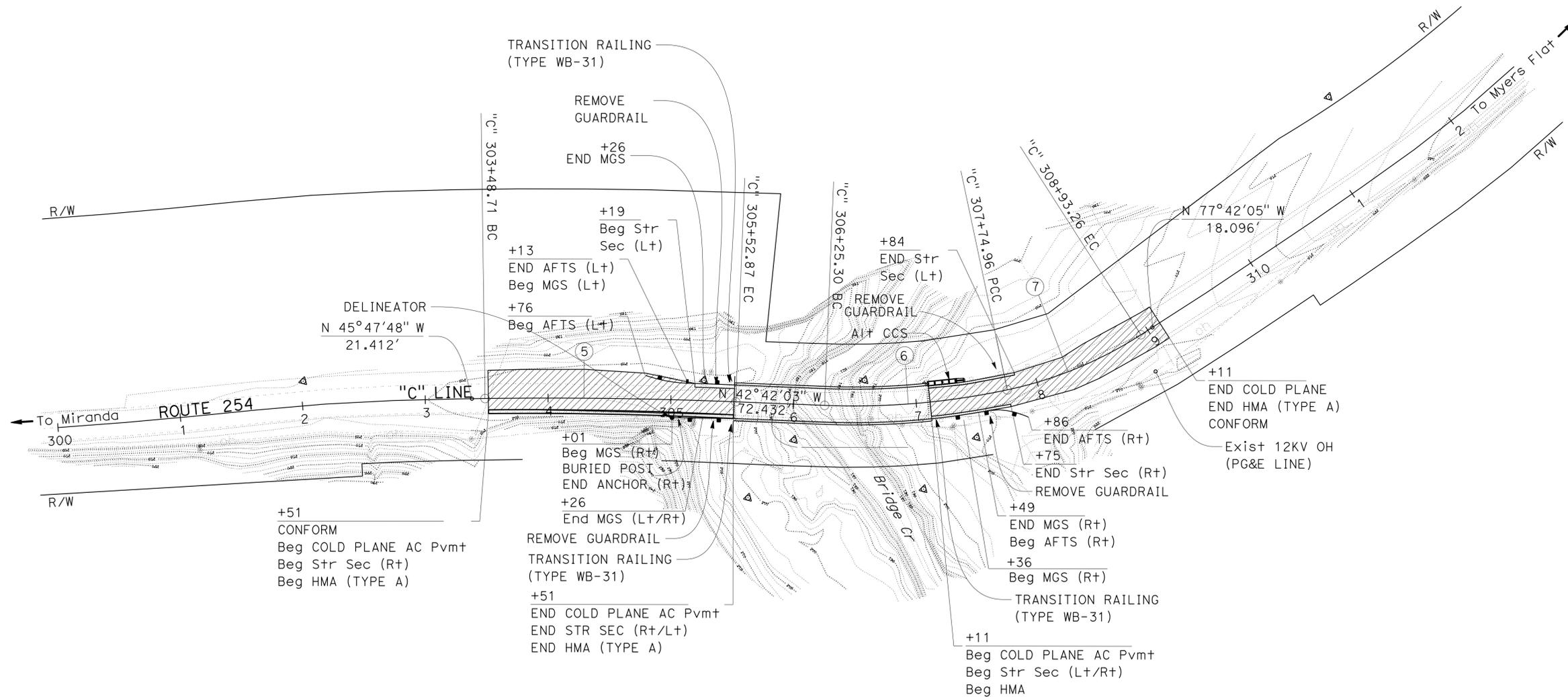
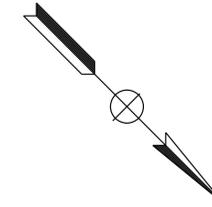
REGISTERED PROFESSIONAL ENGINEER
 KELLY B. TIMMONS
 No. C63672
 Exp. 9-30-18
 CIVIL
 STATE OF CALIFORNIA

NOTES:

1. FOR COMPLETE RIGHT OF WAY DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
2. FOR BRIDGE WIDENING DETAIL SEE STRUCTURE PLANS.
3. FOR LIMITS OF GUARDRAIL REMOVAL, SEE QUANTITIES.
4. NO UTILITIES INDICATED AT LOCATION 3.

CURVE DATA

No. ±	R	Δ	T	L
5	3778.422'	3°5'45"	102.107'	204.163'
6	600'	14°17'28"	75.219'	149.658'
7	327.305'	20°42'34"	59.804'	118.303'



LOCATION 3

BRIDGE CREEK BRIDGE
 NUMBER 04-0009
 PM 10.80

LAYOUT
 SCALE: 1" = 50'

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 Kelly B. Timmons
 Eric Shada
 Functional Supervisor
 Calculated/Designed By
 Checked By
 Revised By
 Date Revised

NOTES:

1. FOR COMPLETE RIGHT OF WAY DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.
2. FOR BRIDGE WIDENING DETAIL SEE STRUCTURE PLANS.
3. FOR LIMITS OF GUARDRAIL REMOVAL, SEE QUANTITIES.
4. NO UTILITIES INDICATED AT LOCATION 4.

CURVE DATA

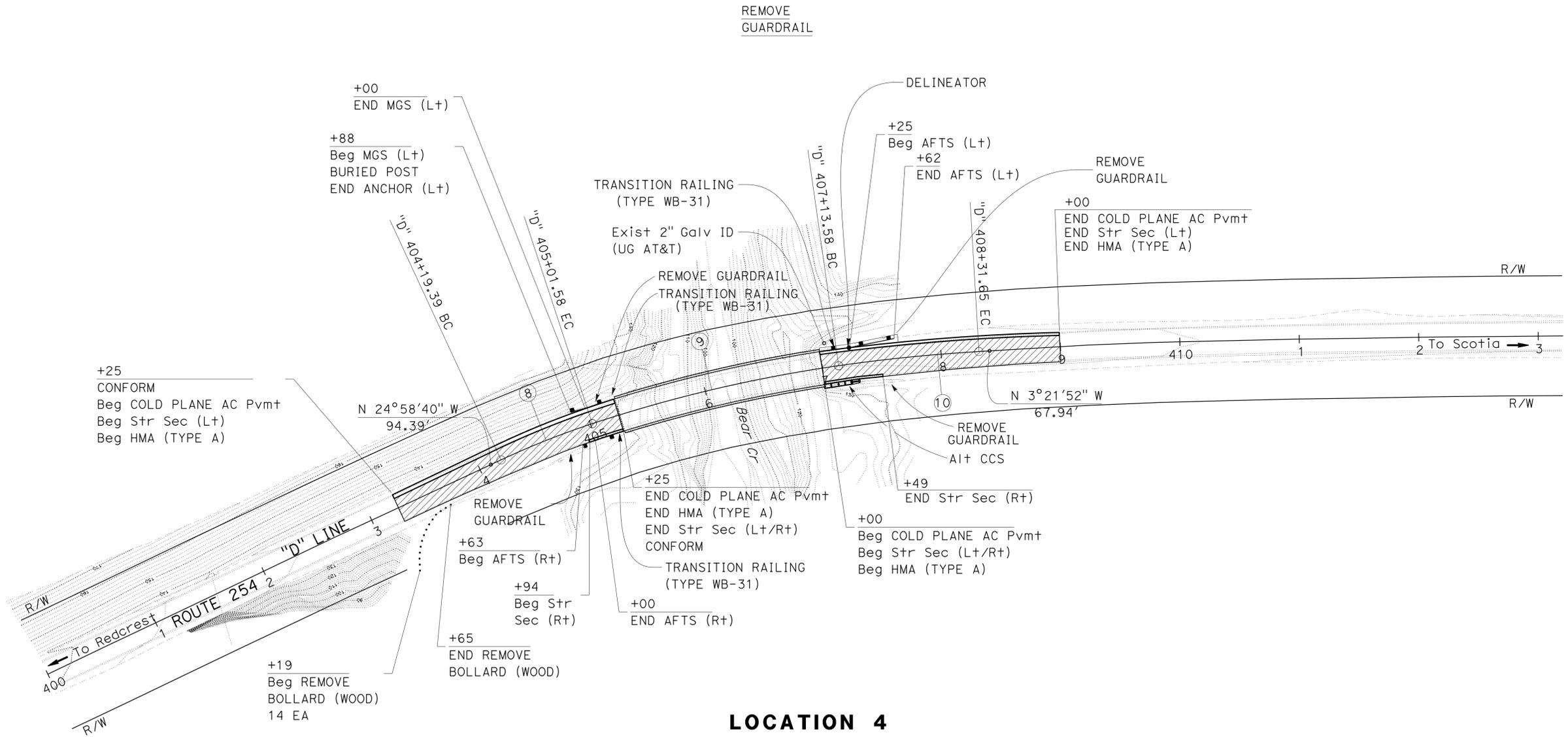
No. ④	R	Δ	T	L
8	705.97'	6°40'13"	41.14'	82.19
9	1200'	10°07'20"	106.28'	212'
10	1418.09'	4°46'13"	59.07'	118.06'

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	7	100

Kelly B. Timmons 09-27-16
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LOCATION 4

BEAR CREEK BRIDGE
 NUMBER 04-0012
 PM 43.02

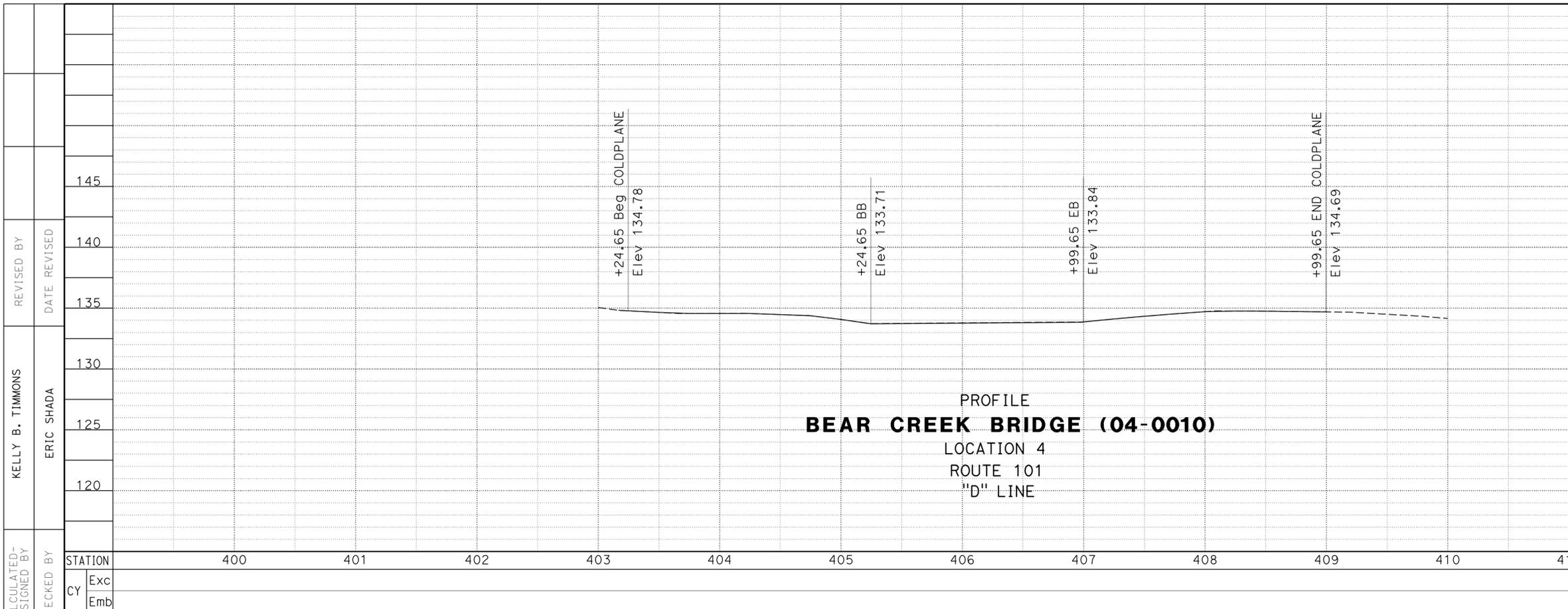
LAYOUT
 SCALE: 1" = 50'

L-4

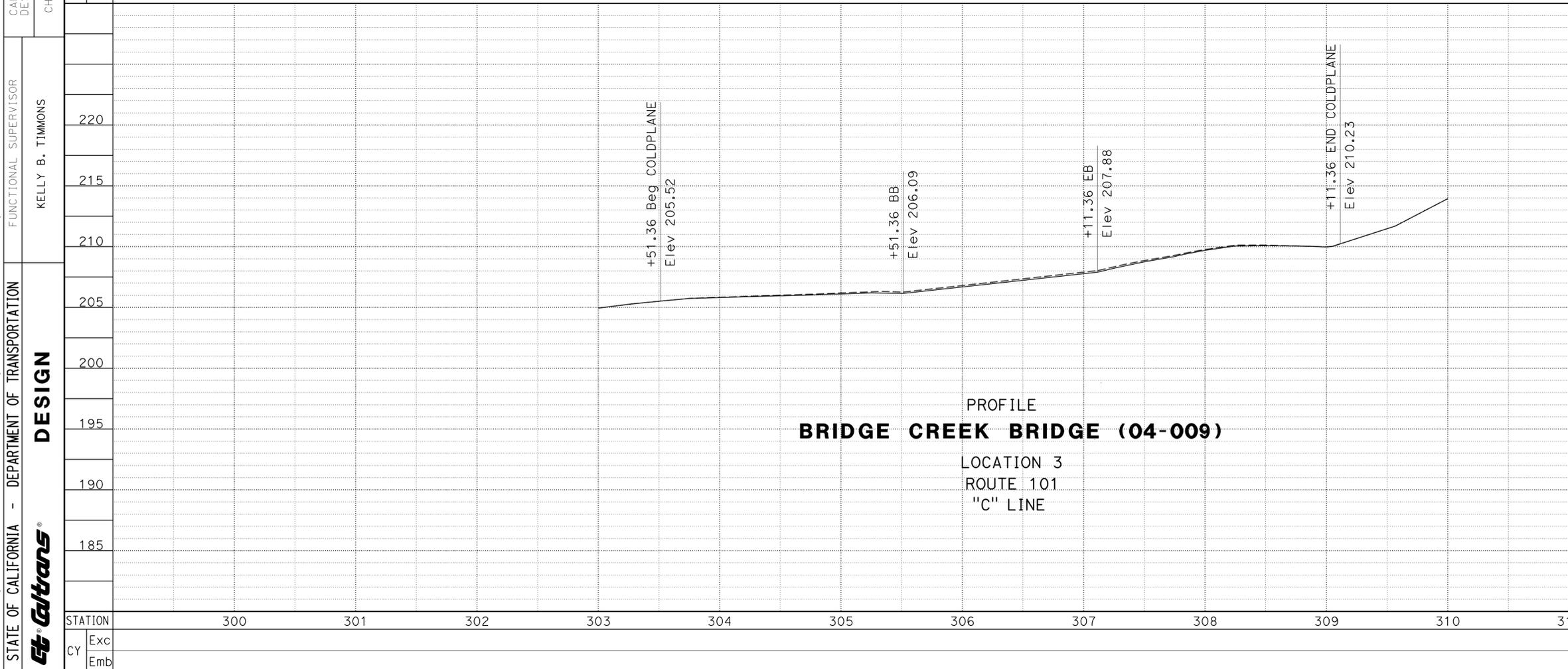
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 Kelly B. Timmons
 Eric Shada
 Kelly B. Timmons

LAST REVISION DATE PLOTTED => 30-SEP-2016
 09-27-16 TIME PLOTTED => 07:07

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 Kelly B. Timmons
 FUNCTIONAL SUPERVISOR
 Kelly B. Timmons
 CALCULATED BY
 Eric Shada
 CHECKED BY
 Eric Shada
 REVISOR
 Kelly B. Timmons
 DATE
 09-27-16



Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	9	100
			09-27-16	DATE	
			06-20-16	PLANS APPROVAL DATE	
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PROFILE
 SCALE: 1" = 10' Horiz
 1" = 1' Vert
P-2

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	10	100

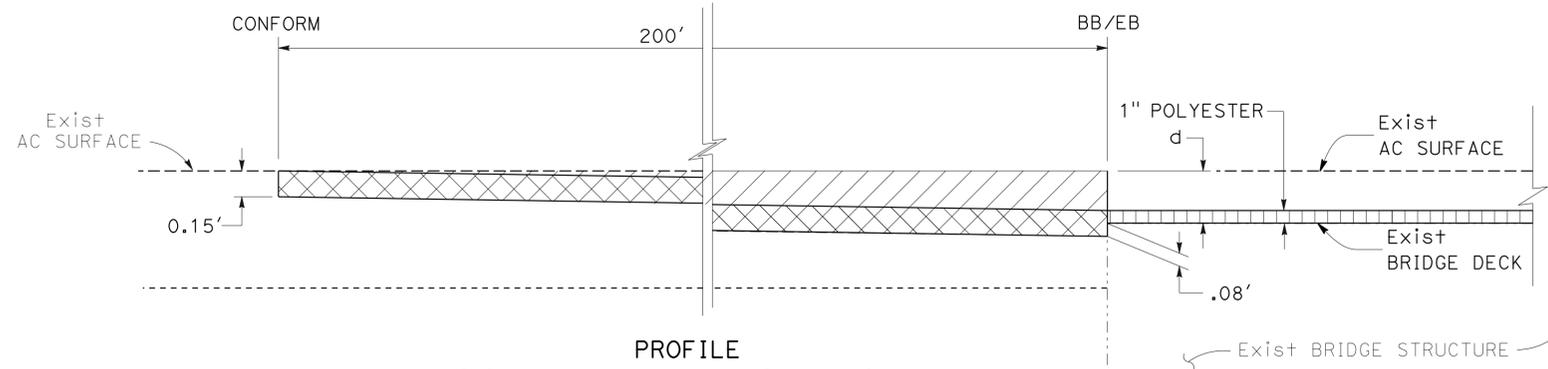
Kelly B. Timmons 09-27-16
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 KELLY B. TIMMONS
 No. C63672
 Exp. 9-30-18
 CIVIL
 STATE OF CALIFORNIA

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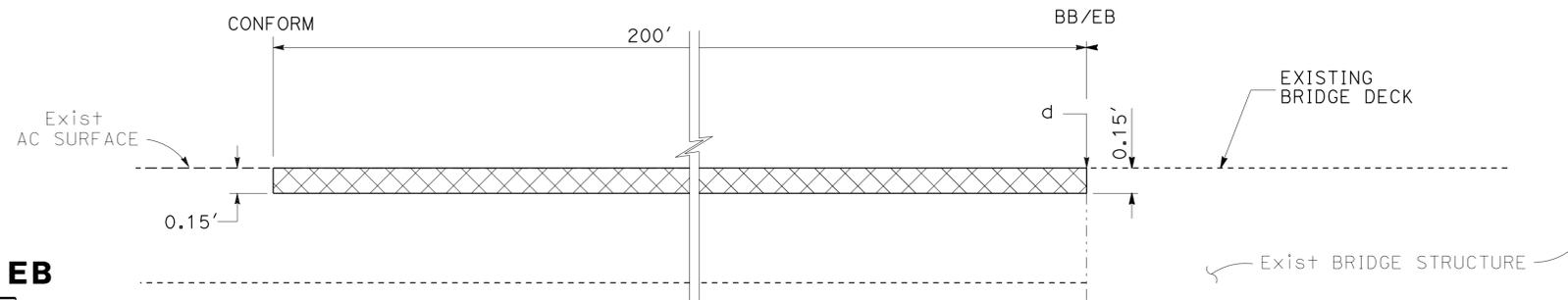
LEGEND:

-  COLD PLANE AC Pvm+
Var 0.15'-0.50'
-  0.15' HMA
-  POLYESTER OVERLAY
(SEE STRUCTURE PLANS)



**PROFILE
COLD PLANE AC PROFILE**

- "A" 103+91 TO "A" 105+91
- "A" 107+51 TO "A" 109+51
- "B" 203+36 TO "B" 205+36
- "B" 206+56 TO "B" 208+56
- "C" 303+51 TO "C" 305+51
- "C" 307+11 TO "C" 309+11

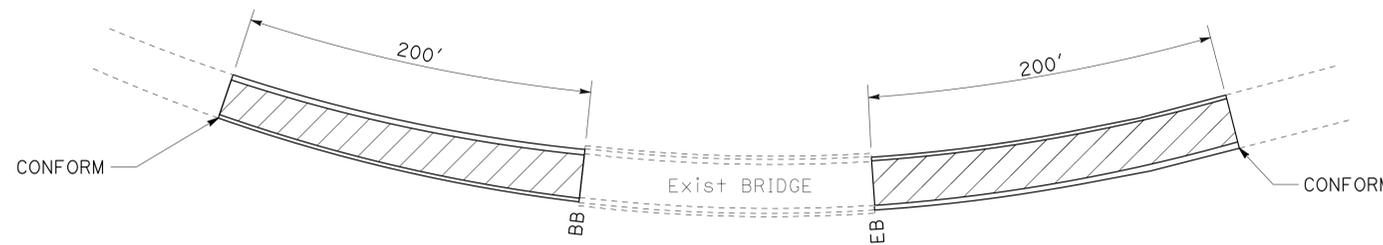


**PROFILE
COLD PLANE AC PROFILE**

- "D" 403+25 TO "D" 405+25
- "D" 407+00 TO "D" 409+00

COLD PLANE AC PAVEMENT AT BB/EB

LOC	BB/EB	REMOVE BRIDGE AC DEPTH (d)	REMARKS
1	BB	0.42'	OHMAN CREEK BRIDGE
	EB	0.42'	
2	BB	0.31'	ELK CREEK BRIDGE
	EB	0.32'	
3	BB	0.19'	BRIDGE CREEK BRIDGE
	EB	0.21'	
4	BB	0.0	BEAR CREEK BRIDGE
	EB	0.0	



PLAN VIEW

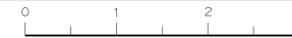
LIMITS OF COLD PLACE AC PAVEMENT

(REMOVE AC SURFACING - SEE STRUCTURE PLANS)

CONSTRUCTION DETAILS

NO SCALE

C-1



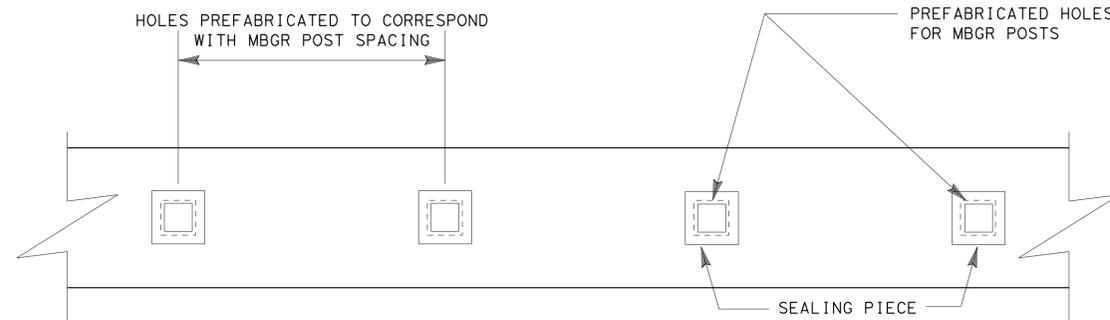
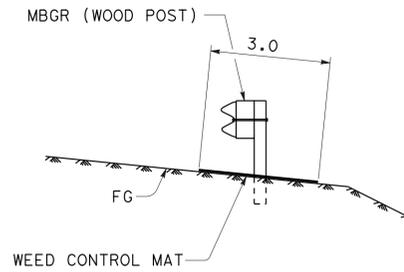
NOTE:
FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA,
SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	11	100

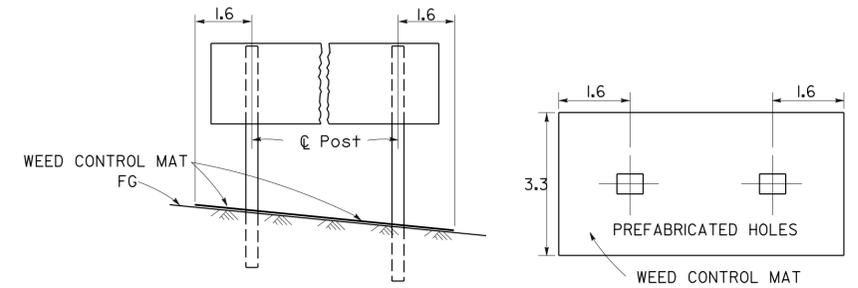
Kelly B. Timmons 09-27-16
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 KELLY B. TIMMONS
 No. C63672
 Exp. 9-30-18
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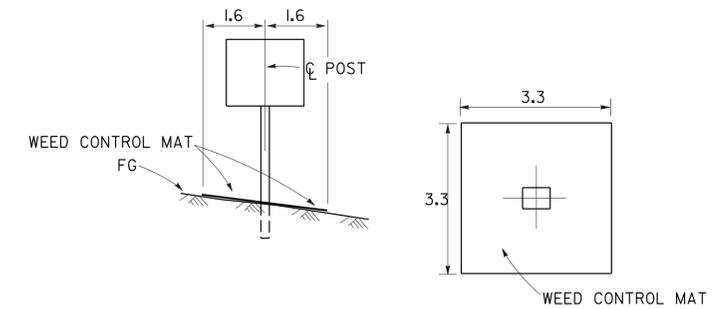
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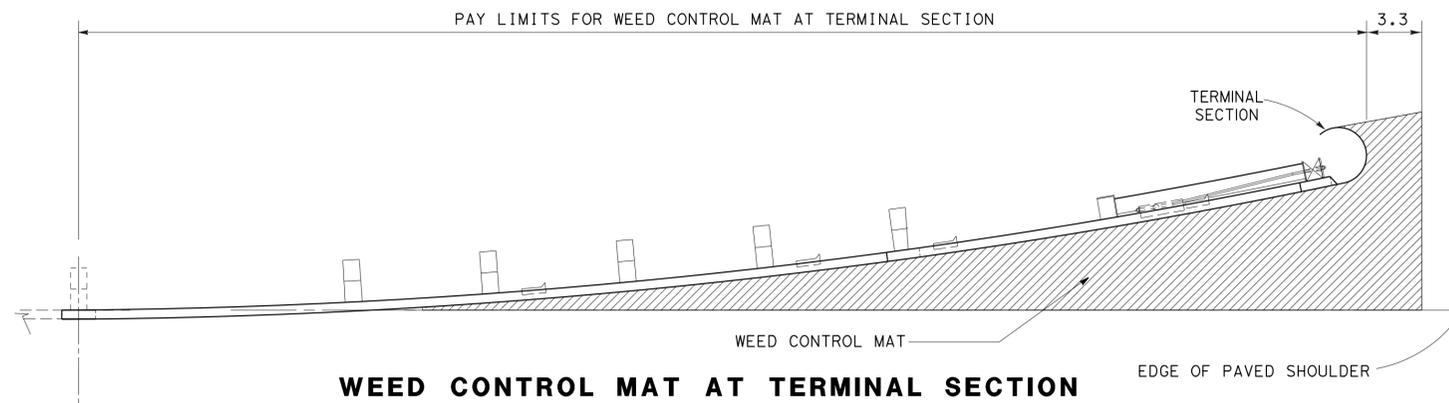
WEED CONTROL MAT UNDER MBGR
(INCLUDES ALL END SECTION TYPES)



WEED CONTROL MAT UNDER ROADSIDE SIGN TWO POST



WEED CONTROL MAT UNDER ROADSIDE SIGN ONE POST



WEED CONTROL MAT AT TERMINAL SECTION

CONSTRUCTION DETAILS

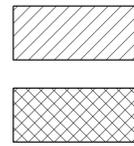
NO SCALE

C-2

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR
 KELLY B. TIMMONS
 CALCULATED/DESIGNED BY
 CHECKED BY
 ERIC SHADA
 REVISIONS
 REVISION NO. DATE REVISION BY
 01 09-27-16
 02 06-20-16
 03 09-27-16
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NOTES:

1. GRIND EXISTING SURFACES TO ACCOMODATE A MINIMUM TAPER THICKNESS OF 0.10' WHEN EITHER:
 - A. HMA MATERIAL SUCH AS RUBBERIZED, POLYMER MODIFIED OR OPEN GRADED IS UNSUITABLE FOR RAKING TO A MAXIMUM 0.02' THICKNESS AT THE CONFORM.
 - B. TEMPORARY TAPER WILL BE IN PLACE FOR MORE THAN 14 DAYS.
2. PERMANENT SURFACE MAY BE EXISTING OR NEW PAVEMENT.
3. ROADWAY SURFACE IS THE TOP OF EXISTING SURFACE OR THE TOP OF THE COLD PLANED SURFACING.



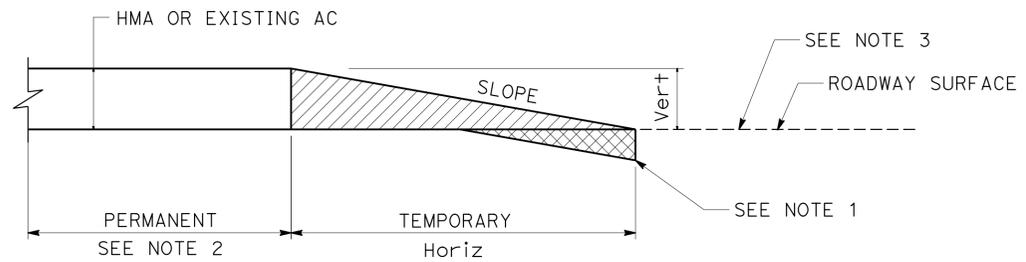
LEGEND:

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	12	100

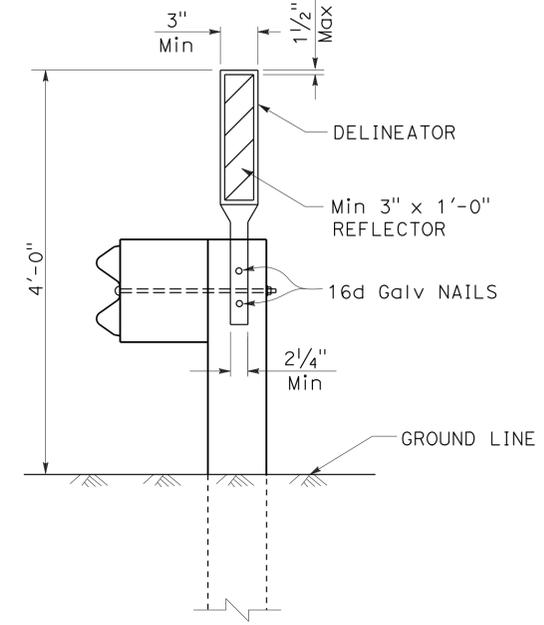
Kelly B. Timmons 09-27-16
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 KELLY B. TIMMONS
 No. C63672
 Exp. 9-30-18
 CIVIL
 STATE OF CALIFORNIA

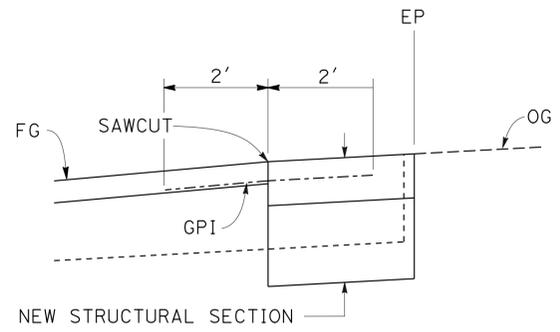


TYPICAL PAVING CONFORM FOR TEMPORARY CONSTRUCTION TAPERS

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



GUARDRAIL DELINEATOR
 FOR DETAILS NOT SHOWN, SEE S+d PLAN A73C



GEOSYNTHETIC PAVEMENT LAYER (GPI)

CONSTRUCTION DETAILS
 NO SCALE

C-3

LAST REVISION DATE PLOTTED => 30-SEP-2016 09-27-16 TIME PLOTTED => 07:07

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	17	100

09-27-16
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE

KELLY B. TIMMONS
 No. C63672
 Exp. 9-30-18
 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 LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. EXISTING UTILITY FACILITIES HAVE NOT BEEN PLOTTED ON THESE PLANS.

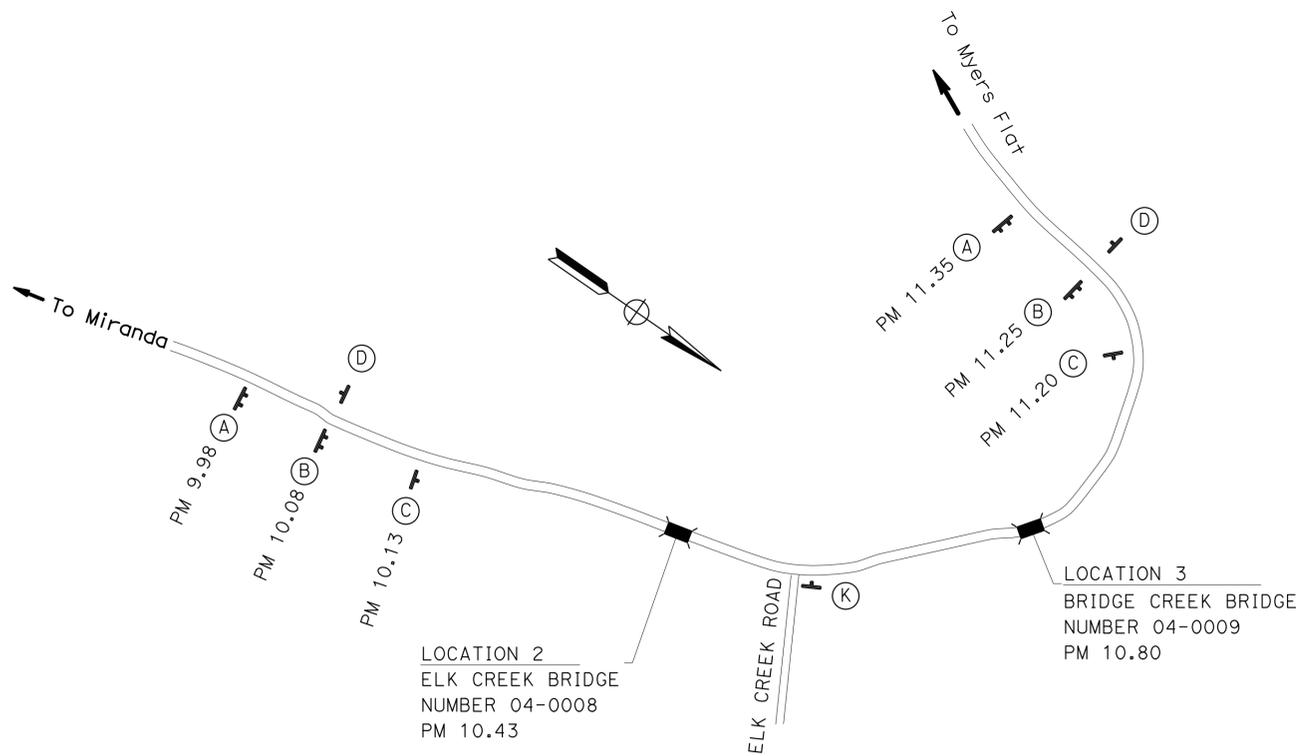
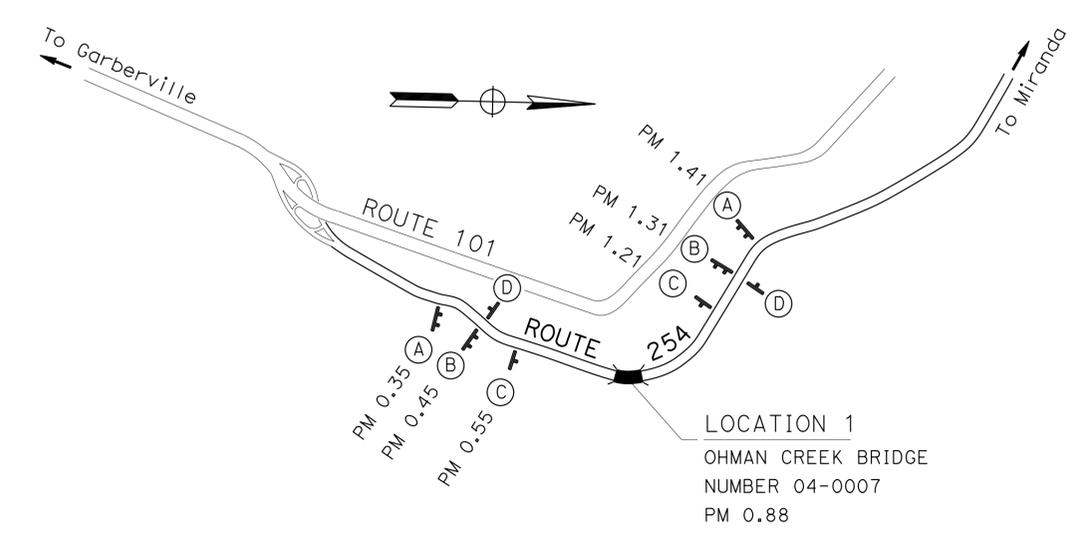
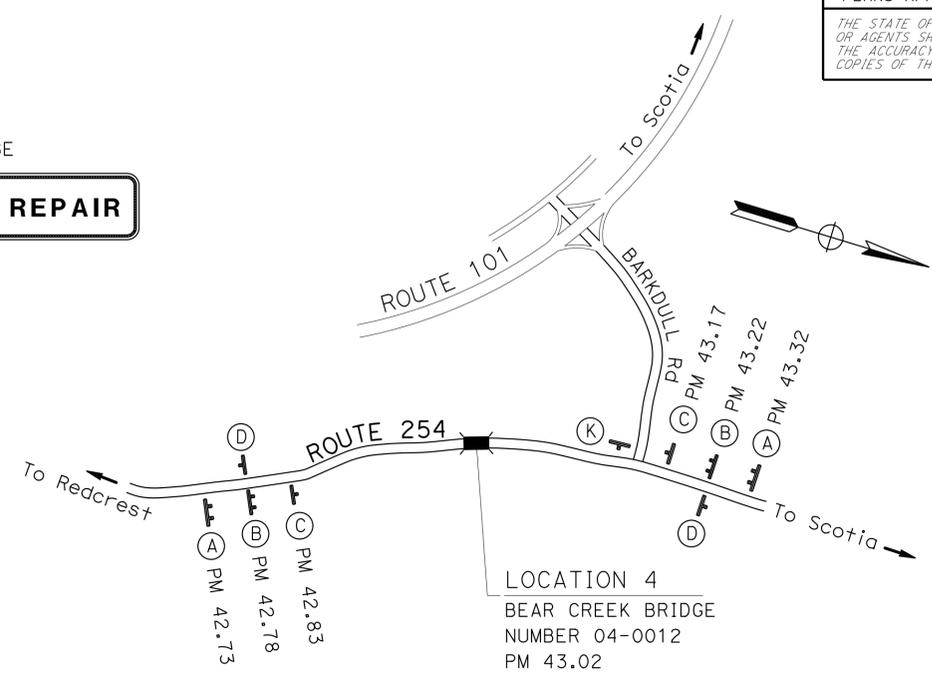
STATIONARY MOUNTED CONSTRUCTION AREA SIGNS

SIGN No.	SIGN CODE	SIGN MESSAGE	PANEL SIZE	No. OF POSTS AND SIZE	(N) No. OF SIGNS
(A)	C40 (CA)	TRAFFIC FINES DOUBLED IN CONSTRUCTION ZONES	108" x 42"	2 - 6" x 6"	6
(B)	W20-1	ROAD WORK AHEAD	36" x 36"	1 - 4" x 6"	6
	SP1	BRIDGE REPAIR	36" x 12"		
(C)	R4-11	BIKES MAY USE FULL LANE	30" x 30"	1 - 4" x 6"	6
(D)	G20-2	END ROAD WORK	36" x 18"	1 - 4" x 4"	6
(E)*	W20-4	ONE LANE ROAD AHEAD	36" x 36"	1 - 4" x 6"	8
(F)*	W3-3	SIGNAL AHEAD (SYMBOL)	36" x 36"	1 - 4" x 6"	4
(G)*	W3-1	STOP AHEAD (SYMBOL)	36" x 36"	1 - 4" x 6"	4
(H)*	R10-6	STOP HERE ON RED	24" x 36"	1 - 4" x 6"	4
(I)*	R1-1	STOP	30" x 30"	1 - 4" x 6"	4
(J)*	W1-4	REVERSE CURVE SIGN	36" x 36"	1 - 4" x 6"	4
(J)* RESET	W1-4	REVERSE CURVE SIGN	36" x 36"	1 - 4" x 6"	4
(K)	W20-1	ROAD WORK AHEAD	36" x 36"	1 - 4" x 6"	2

* SEE STAGING PLAN SHEETS TH-1 THRU TH-8 FOR SIGN PLACEMENT.
 (N) - NOT A SEPARATE PAY ITEM, FOR INFORMATION ONLY

SP1
 4" CAPS
 BLACK/ORANGE

BRIDGE REPAIR



CONSTRUCTION AREA SIGNS
 NO SCALE

APPROVED FOR CONSTRUCTION AREA SIGN WORK ONLY

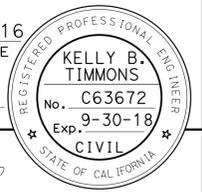
CS-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 KELLY B. TIMMONS
 ERIC SHADA
 KELLY B. TIMMONS
 FUNCTIONAL SUPERVISOR
 CHECKED BY
 DESIGNED BY
 REVISIONS: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	20	100

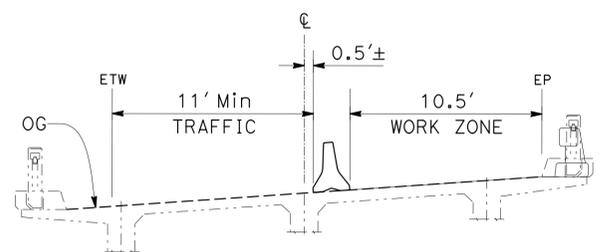
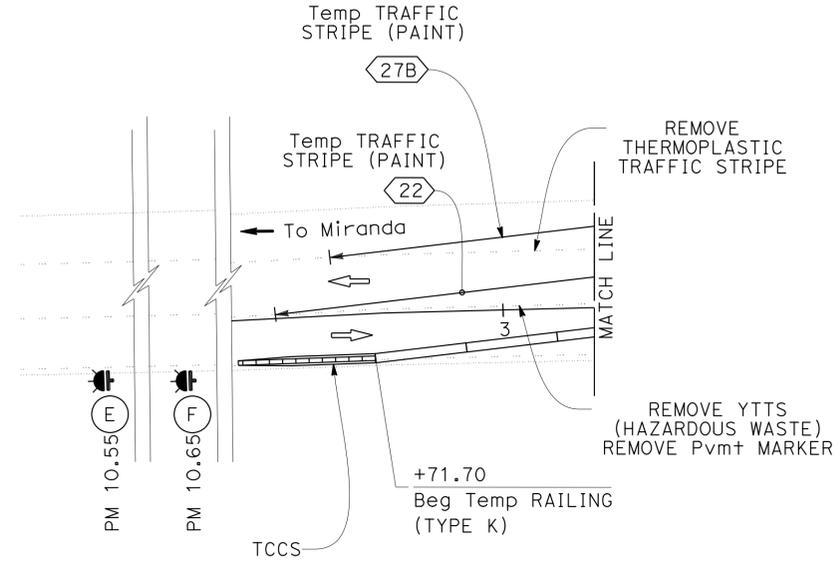
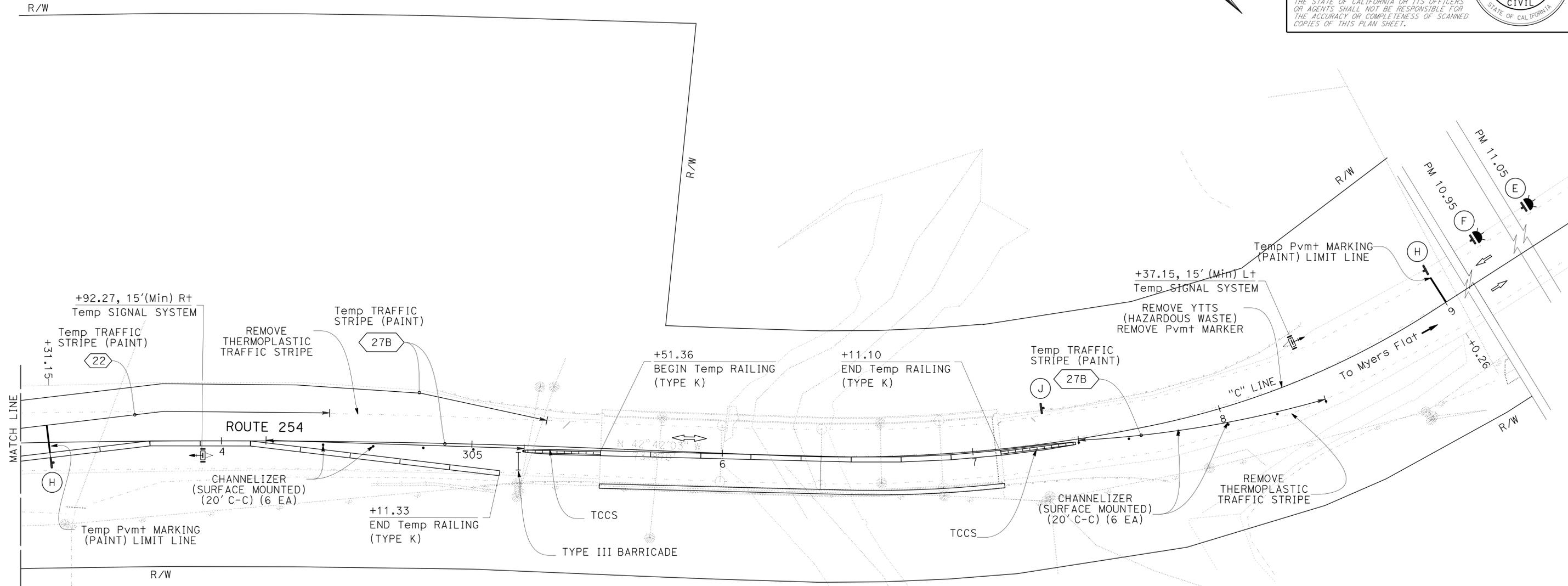
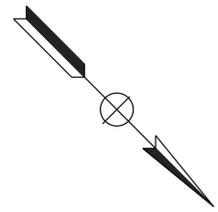
<i>Kelly B. Timmons</i>	09-27-16
REGISTERED CIVIL ENGINEER	DATE
06-20-16	
PLANS APPROVAL DATE	

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



NOTES:

- SIGNS (E) (F) (H) & (J) TO REMAIN COVERED UNLESS SIGNAL CONTROL IS IN EFFECT.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



TYPICAL SECTION

LOCATION 3
 BRIDGE CREEK BRIDGE
 NUMBER 04-0009
 PM 10.80

TRAFFIC HANDLING PLAN

SCALE: 1" = 20'

TH-3

APPROVED FOR TRAFFIC HANDLING WORK ONLY

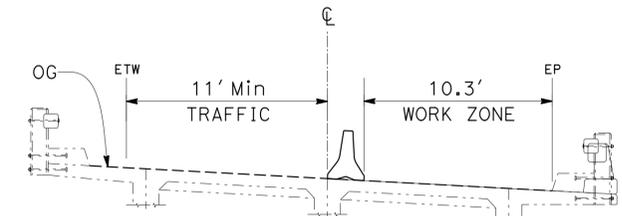
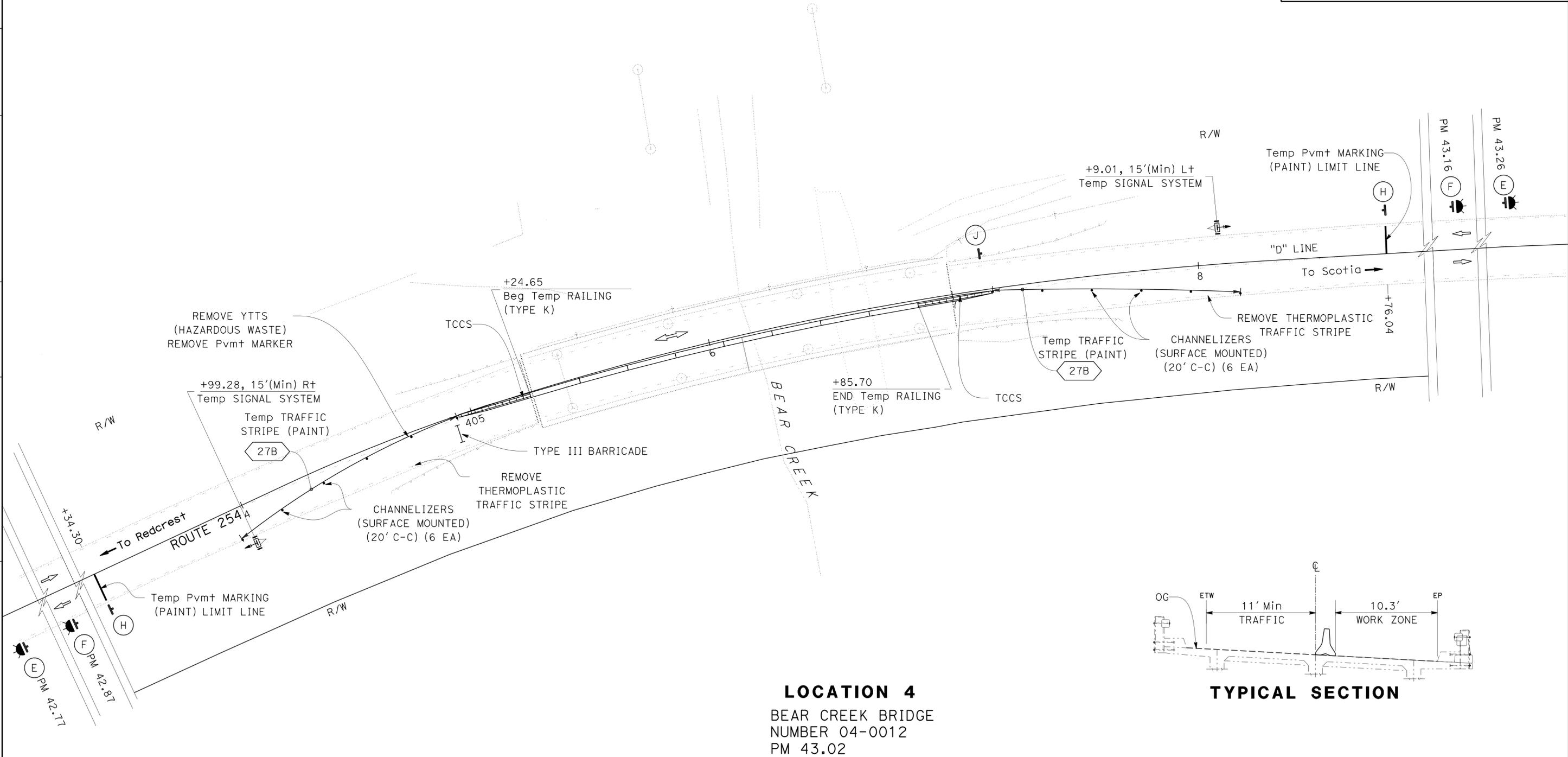
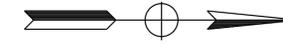
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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 FUNCTIONAL SUPERVISOR: KELLY B. TIMMONS
 CALCULATED/DESIGNED BY: KELLY B. TIMMONS
 CHECKED BY: ERIC SHADA
 REVISED BY: ERIC SHADA
 DATE REVISED:

LAST REVISION DATE PLOTTED => 30-SEP-2016
 09-27-16 TIME PLOTTED => 07:07

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	21	100
<i>Kelly B. Timmons</i> 09-27-16 REGISTERED CIVIL ENGINEER DATE			REGISTERED PROFESSIONAL ENGINEER KELLY B. TIMMONS No. C63672 Exp. 9-30-18 CIVIL STATE OF CALIFORNIA		
06-20-16			PLANS APPROVAL DATE		
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTES:

- SIGNS (E) (F) (H) & (J) TO REMAIN COVERED UNLESS SIGNAL CONTROL IS IN EFFECT.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



LOCATION 4
 BEAR CREEK BRIDGE
 NUMBER 04-0012
 PM 43.02

TRAFFIC HANDLING PLAN
 SCALE: 1" = 20'
TH-4

APPROVED FOR TRAFFIC HANDLING WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 KELLY B. TIMMONS
 FUNCTIONAL SUPERVISOR
 KELLY B. TIMMONS
 CALCULATED/DESIGNED BY
 CHECKED BY
 ERIC SHADA
 REVISOR BY
 DATE REVISED
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LAST REVISION | DATE PLOTTED => 30-SEP-2016
 09-27-16 | TIME PLOTTED => 07:07

NOTES:

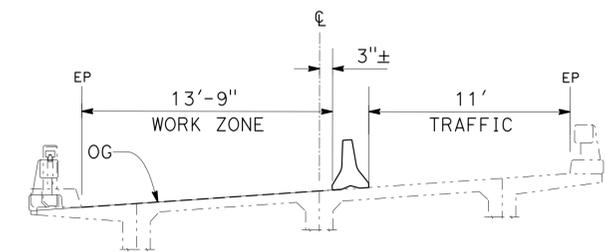
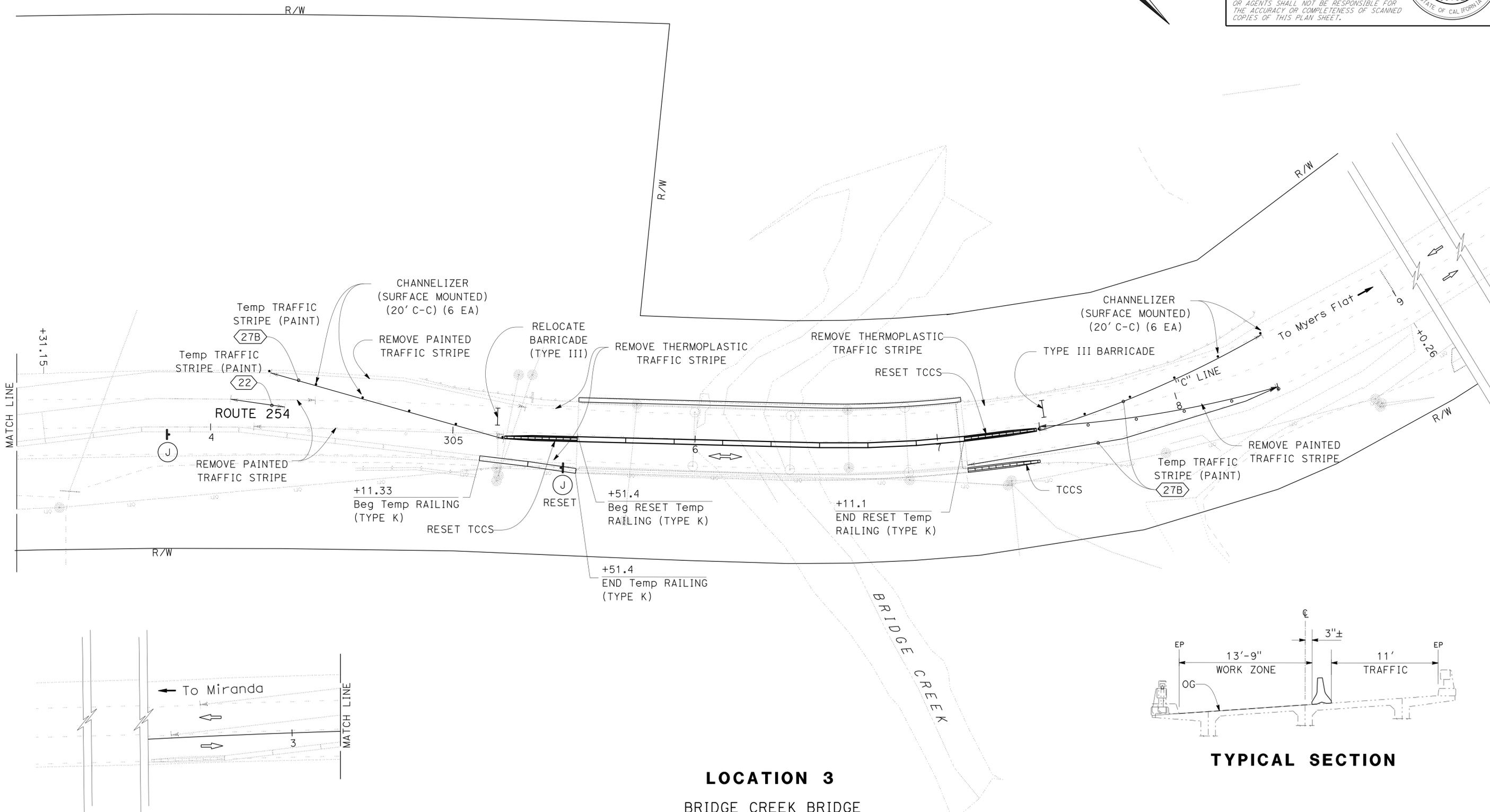
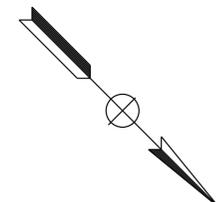
- SIGNS (E) (F) (H) & (J) TO REMAIN COVERED UNLESS SIGNAL CONTROL IS IN EFFECT.
- FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	24	100

Kelly B. Timmons 09-27-16
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 KELLY B. TIMMONS
 No. C63672
 Exp. 9-30-18
 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.



TYPICAL SECTION

LOCATION 3

BRIDGE CREEK BRIDGE
 NUMBER 04-0009
 PM 10.80

TRAFFIC HANDLING PLAN

SCALE: 1" = 20'

TH-7

APPROVED FOR TRAFFIC HANDLING WORK ONLY

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 Kelly B. Timmons
 Eric Shada
 Functional Supervisor
 Calculated/Designed By
 Checked By
 Revised By
 Date Revised
 USERNAME => s115152
 DGN FILE => 0100000186md007.dgn
 BORDER LAST REVISED 7/2/2010
 RELATIVE BORDER SCALE IS IN INCHES
 UNIT 0312
 PROJECT NUMBER & PHASE
 01 0000 0186 1

LAST REVISION | DATE PLOTTED => 30-SEP-2016
 09-27-16 | TIME PLOTTED => 07:07

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	25	100

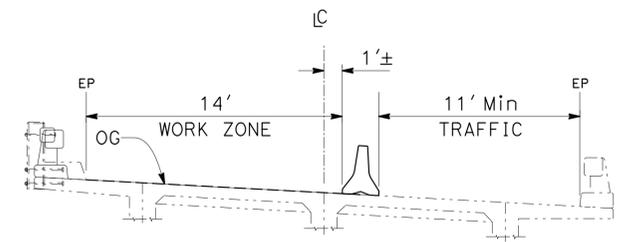
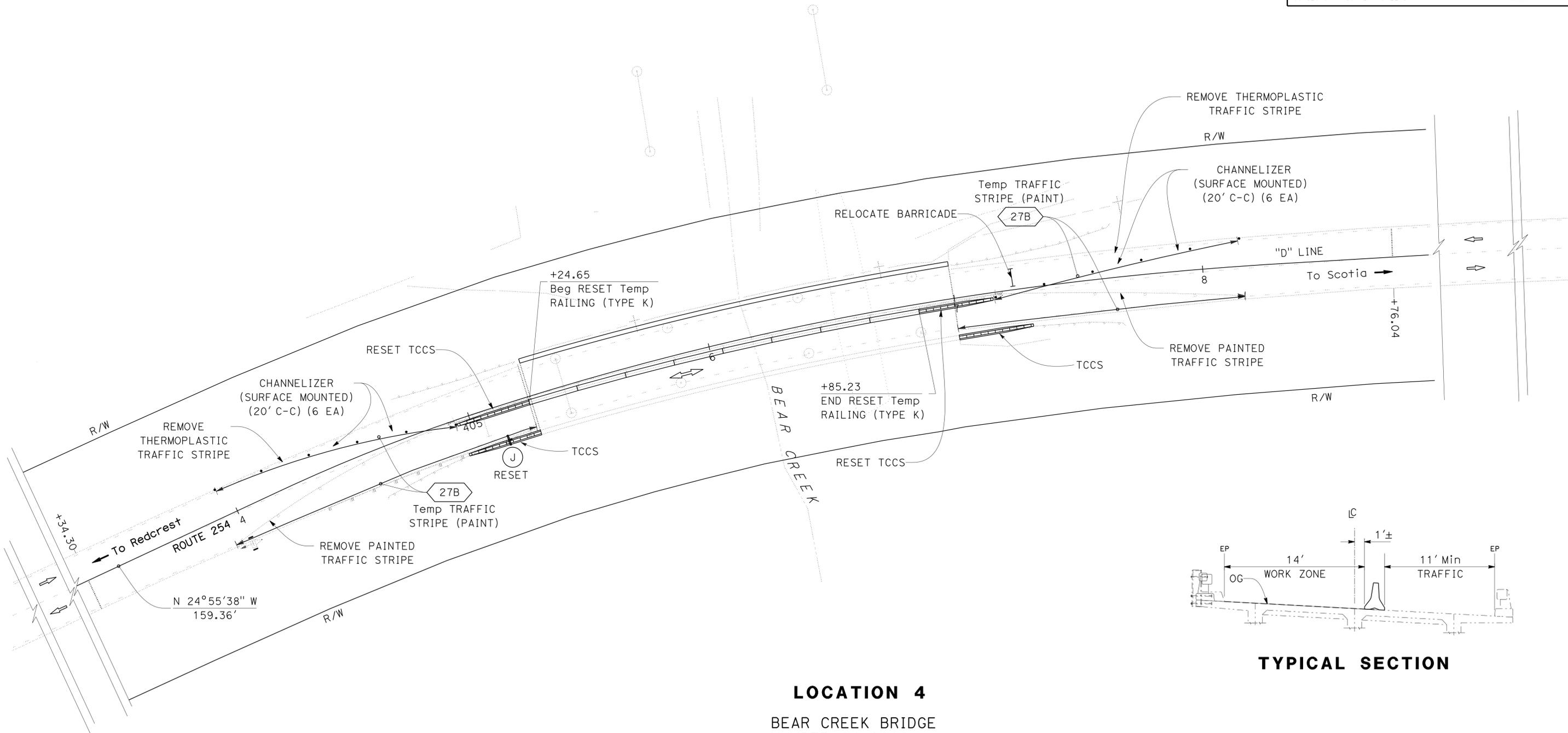
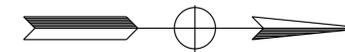
<i>Kelly B. Timmons</i>	09-27-16
REGISTERED CIVIL ENGINEER	DATE
06-20-16	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER
KELLY B. TIMMONS
No. C63672
Exp. 9-30-18
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. SIGNS (E) (F) (H) & (J) TO REMAIN COVERED UNLESS SIGNAL CONTROL IS IN EFFECT.
2. FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



TYPICAL SECTION

LOCATION 4
 BEAR CREEK BRIDGE
 NUMBER 04-0012
 PM 43.02

TRAFFIC HANDLING PLAN

SCALE: 1" = 20'

TH-8

APPROVED FOR TRAFFIC HANDLING WORK ONLY

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 Kelly B. Timmons
 Eric Shada
 Kelly B. Timmons
 Kelly B. Timmons
 Eric Shada
 Kelly B. Timmons
 Eric Shada

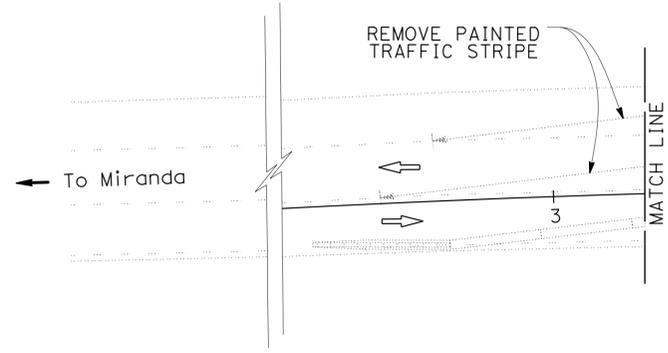
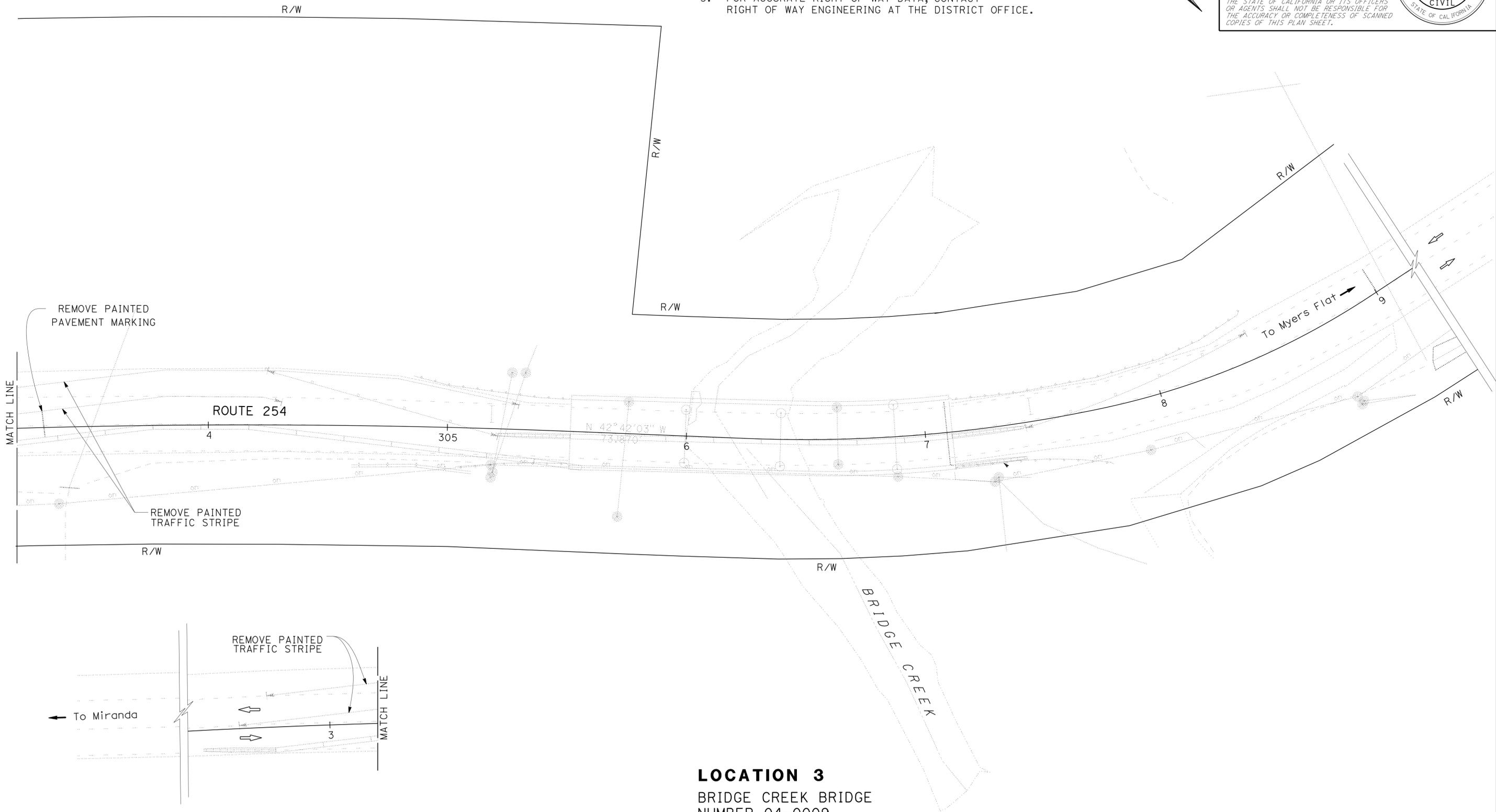
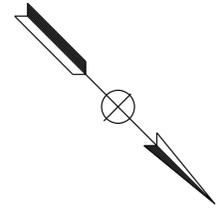
LAST REVISION | DATE PLOTTED => 30-SEP-2016
 09-27-16 | TIME PLOTTED => 07:07

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
 DESIGN
 FUNCTIONAL SUPERVISOR: KELLY B. TIMMONS
 CALCULATED/DESIGNED BY: KELLY B. TIMMONS
 CHECKED BY: ERIC SHADA
 REVISED BY: KELLY B. TIMMONS
 DATE REVISED: ERIC SHADA

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	26	100

09-27-16
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE
 KELLY B. TIMMONS
 No. C63672
 Exp. 9-30-18
 CIVIL
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

- NOTES:**
- SIGNS (E) (F) (H) & (J) TO REMAIN COVERED UNLESS SIGNAL CONTROL IS IN EFFECT.
 - FOR PERMANENT PAVEMENT DELINEATION, SEE PAVEMENT DELINEATION PLANS SHEETS.
 - FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



LOCATION 3
 BRIDGE CREEK BRIDGE
 NUMBER 04-0009
 PM 10.80

TRAFFIC HANDLING PLAN
 SCALE: 1" = 20'

TH-9

APPROVED FOR TRAFFIC HANDLING WORK ONLY

LAST REVISION | DATE PLOTTED => 30-SEP-2016
 09-27-16 | TIME PLOTTED => 07:08

NOTES:

1. CALIFORNIA CODES ARE DESIGNATED BY (CA). OTHERWISE, FEDERAL (MUTCD) CODES ARE SHOWN.
2. ALL SIGNS SHALL HAVE A BLACK LEGEND ON FLUORESCENT ORANGE BACKGROUND AND SHALL BE EQUIPPED WITH AT LEAST TWO 16" x 16" ORANGE FLAGS FOR DAYTIME CLOSURE OR FLASHING BEACONS FOR LANE CLOSURE DURING HOURS OF DARKNESS.
3. ALL CONES USED FOR LANE CLOSURES DURING THE HOURS OF DARKNESS SHALL BE FITTED WITH RETROREFLECTIVE BANDS OR SLEEVES.
4. WHEN A PILOT CAR IS USED, PLACE A C37 (CA) SIGN AT ALL INTERSECTIONS WITHIN TRAFFIC CONTROL AREA. WHERE VEHICULAR TRAFFIC CAN NOT EFFECTIVELY SELF-REGULATE, AT LEAST ONE FLAGGER SHALL BE USED AT EACH INTERSECTION WITHIN THE TRAFFIC CONTROL AREA.
5. FLAGGER SHOULD STAND IN A CONSPICUOUS PLACE, FACING TRAFFIC AT ALL TIMES, BE VISIBLE TO APPROACHING TRAFFIC AS WELL AS APPROACHING VEHICLES AFTER THE FIRST VEHICLE HAS STOPPED.
6. ADDITIONAL ADVANCE FLAGGERS ARE REQUIRED DURING HOURS OF DAYLIGHT. A FULL MATRIC PCMS IN PLACE OF EACH ADVANCE FLAGGER REQUIRED DURING HOURS OF DARKNESS.
7. WHEN FLAGGER IS NOT VISIBLE FROM THIS LOCATION PLACE A C29 (CA) SIGN BELOW THE C9A (CA) SIGN.

LEGEND

- TRAFFIC CONE
- ⊥ TEMPORARY SIGN
- ← DIRECTION OF TRAVEL
- ☼ PORTABLE FLASHING BEACON
- 🚧 FLAGGER

SIGN PANEL SIZE (MINIMUM)

- A 48" x 48" - SPEED OF 45 mph OR MORE
36" x 36" - SPEED LESS THAN 45 mph
- B 30" x 30"
- C UNUSED
- D UNUSED
- E 20" x 7"

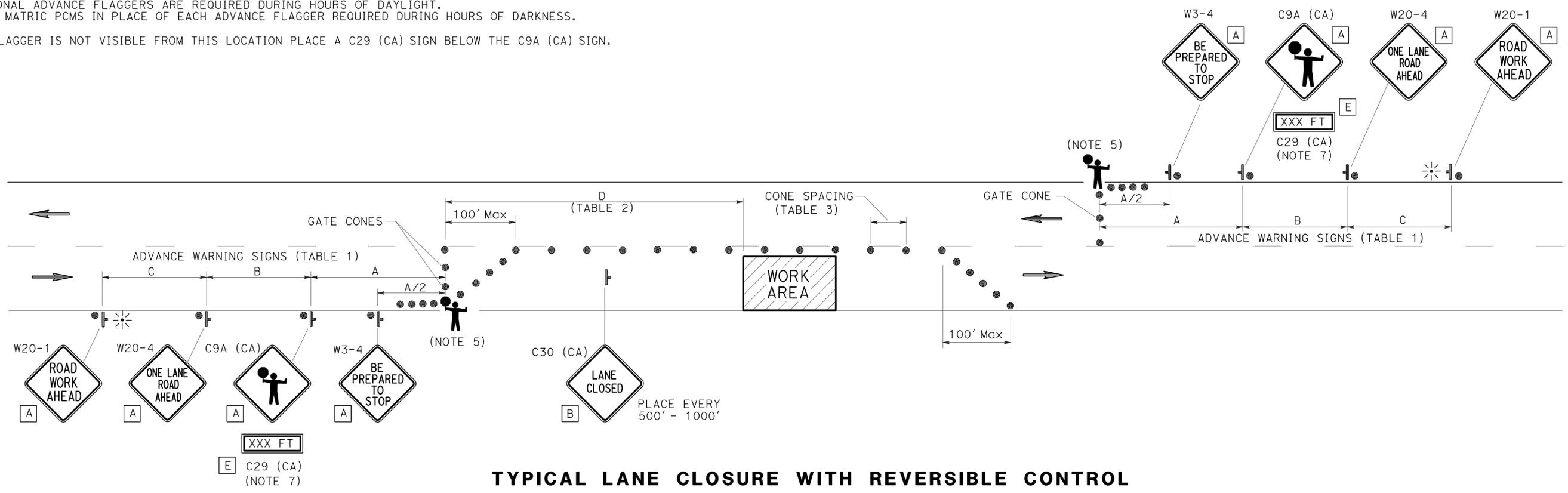
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	101	0.8/43.1	27	100

Sheri M. Rodriguez 09-27-16
 REGISTERED CIVIL ENGINEER DATE

06-20-16
 PLANS APPROVAL DATE

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

REGISTERED PROFESSIONAL ENGINEER
SHERI M. RODRIGUEZ
 No. C66861
 Exp. 9-30-18
 CIVIL
 STATE OF CALIFORNIA



TYPICAL LANE CLOSURE WITH REVERSIBLE CONTROL

TABLE 1

ADVANCE WARNING SIGN SPACING

ROAD TYPE	Min A	Min B	Min C
	ft		
URBAN (25 mph OR LESS)	100	100	100
URBAN (30 mph TO 40 mph)	250	250	250
URBAN (MORE THAN 40 mph)	350	350	350
RURAL	500	500	500
EXPRESSWAY / FREEWAY	1000	1500	2640

TABLE 2

BUFFER SPACE

APPROACH SPEED	Min D	DOWNGRADE Min D		
		-3%*	-6%*	-9%*
mph		ft		
25 & BELOW	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

* USE ON SUSTAINED DOWNGRADE STEEPER THAN -3 PERCENT AND LONGER THAN 1 MILE.

TABLE 3

Max CONE SPACING

POSTED SPEED	TAPER	TANGENT	CONFLICT*
mph		ft	
20	20	40	10
25	25	50	12
30	30	60	15
35	35	70	17
40	40	80	20
45	45	90	22
50	50	100	25
55	55	110	27
60	60	120	30
65	65	130	32

* USE WHERE THERE IS A CONFLICT BETWEEN EXISTING PAVEMENT MARKINGS AND CHANNELIZERS.

TRAFFIC HANDLING PLAN

NO SCALE

TH-10

APPROVED FOR TRAFFIC HANDLING WORK ONLY

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Caltrans® TRAFFIC OPERATIONS
 FUNCTIONAL SUPERVISOR
 RICHARD MULLEN
 CHECKED BY
 TROY A. ARSENEAU
 REVISOR
 SHERI M. RODRIGUEZ
 DATE REVISOR
 DATE

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
DESIGN
 FUNCTIONAL SUPERVISOR
 KELLY B. TIMMONS
 CALCULATED/DESIGNED BY
 CHECKED BY
 ERIC SHADA
 REVISOR
 DATE REVISOR
 KELLY B. TIMMONS
 ERIC SHADA

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	29	100

09-27-16
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 KELLY B. TIMMONS
 No. C63672
 Exp. 9-30-18
 CIVIL
 STATE OF CALIFORNIA

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TEMPORARY PAVEMENT MARKING

SHEET	STATION	L+RT	ORIENTATION	TYPE/LEGEND	PAINT
					SQFT
TH-1	"A" 104+62	R+	NB	LIMIT LINE	12
	"A" 108+61	L+	SB	LIMIT LINE	12
TH-2	"B" 204+05	R+	NB	LIMIT LINE	12
	"B" 207+86	L+	SB	LIMIT LINE	12
TH-3	"C" 303+31	R+	NB	LIMIT LINE	12
	"C" 309+00	L+	SB	LIMIT LINE	12
TH-4	"D" 403+34	R+	NB	LIMIT LINE	12
	"D" 408+76	L+	SB	LIMIT LINE	12
TOTAL					96

CHANNELIZER (SURFACE MOUNTED)

SHEET	STATION	EA
TH-1	"A" 104+62 TO "A" 105+60	6
	"A" 107+62 TO "A" 108+60	6
TH-2	"B" 204+05 TO "B" 205+05	6
	"B" 206+86 TO "B" 207+86	6
TH-3	"C" 304+18 TO "C" 305+21	6
	"C" 307+42 TO "C" 308+40	6
TH-4	"D" 403+94 TO "D" 404+94	6
	"D" 407+16 TO "D" 408+16	6
TH-5	"A" 104+61 TO "A" 105+61	6
	"A" 107+62 TO "A" 108+61	6
TH-6	"B" 204+06 TO "B" 205+05	6
	"B" 206+87 TO "B" 207+86	6
TH-7	"C" 304+25 TO "C" 305+21	6
	"C" 307+42 TO "C" 308+43	6
TH-8	"D" 403+96 TO "D" 404+94	6
	"D" 407+16 TO "D" 408+15	6
TOTAL		96

TEMPORARY TRAFFIC STRIPE

SHEET	STATION	L+RT	DETAIL No.	TEMPORARY TRAFFIC STRIPE (PAINT)	
				SOLID WHITE	SOLID YELLOW
				LF	LF
TH-1	"A" 104+62 TO "A" 105+60	R+	27B	100	
	"A" 107+62 TO "A" 108+60	R+	27B	100	
TH-2	"B" 204+05 TO "B" 205+04	R+	27B	100	
	"B" 206+86 TO "B" 207+86	R+	27B	100	
TH-3	"C" 302+63 TO "C" 305+30	L+	27B	267	
	"C" 302+50 TO "C" 304+43		22		386
	"C" 304+18 TO "C" 305+21	R+	27B	103	
TH-4	"D" 403+94 TO "D" 404+94	R+	27B	100	
	"D" 407+16 TO "D" 408+16	R+	27B	100	
	"A" 104+61 TO "A" 105+61	L+	27B	100	
TH-5	"A" 104+62 TO "A" 105+91	R+	27B	129	
	"A" 107+62 TO "A" 108+61	L+	27B	100	
	"A" 107+51 TO "A" 108+60	R+	27B	109	
TH-6	"B" 204+06 TO "B" 205+05	L+	27B	100	
	"B" 204+06 TO "B" 205+36	R+	27B	130	
	"B" 206+87 TO "B" 207+86	L+	27B	100	
TH-7	"B" 206+56 TO "B" 207+86	R+	27B	130	
	"C" 304+25 TO "C" 305+21	L+	27B	100	
	"C" 304+08 TO "C" 304+31		22		46
TH-8	"C" 307+42 TO "C" 308+43	L+	27B	100	
	"C" 307+11 TO "C" 308+41	R+	27B	129	
	"D" 403+94 TO "D" 404+94	L+	27B	100	
TH-8	"D" 403+94 TO "D" 405+25	R+	27B	131	
	"D" 407+16 TO "D" 408+16	L+	27B	100	
	"D" 407+00 TO "D" 408+16	R+	27B	116	
SUBTOTAL				2744	432
TOTAL				3176	

TRAFFIC HANDLING QUANTITIES

THQ-2

LAST REVISION DATE PLOTTED => 30-SEP-2016
 09-27-16 TIME PLOTTED => 07:08

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 Kelly B. Timmons
 Eric Shada
 Kelly B. Timmons

NOTES:

1. SHOULDER WIDENING AND ALL PAVING WORK ARE TO BE COMPLETED PRIOR TO PLACEMENT OF PERMANENT PAVEMENT DELINEATION.

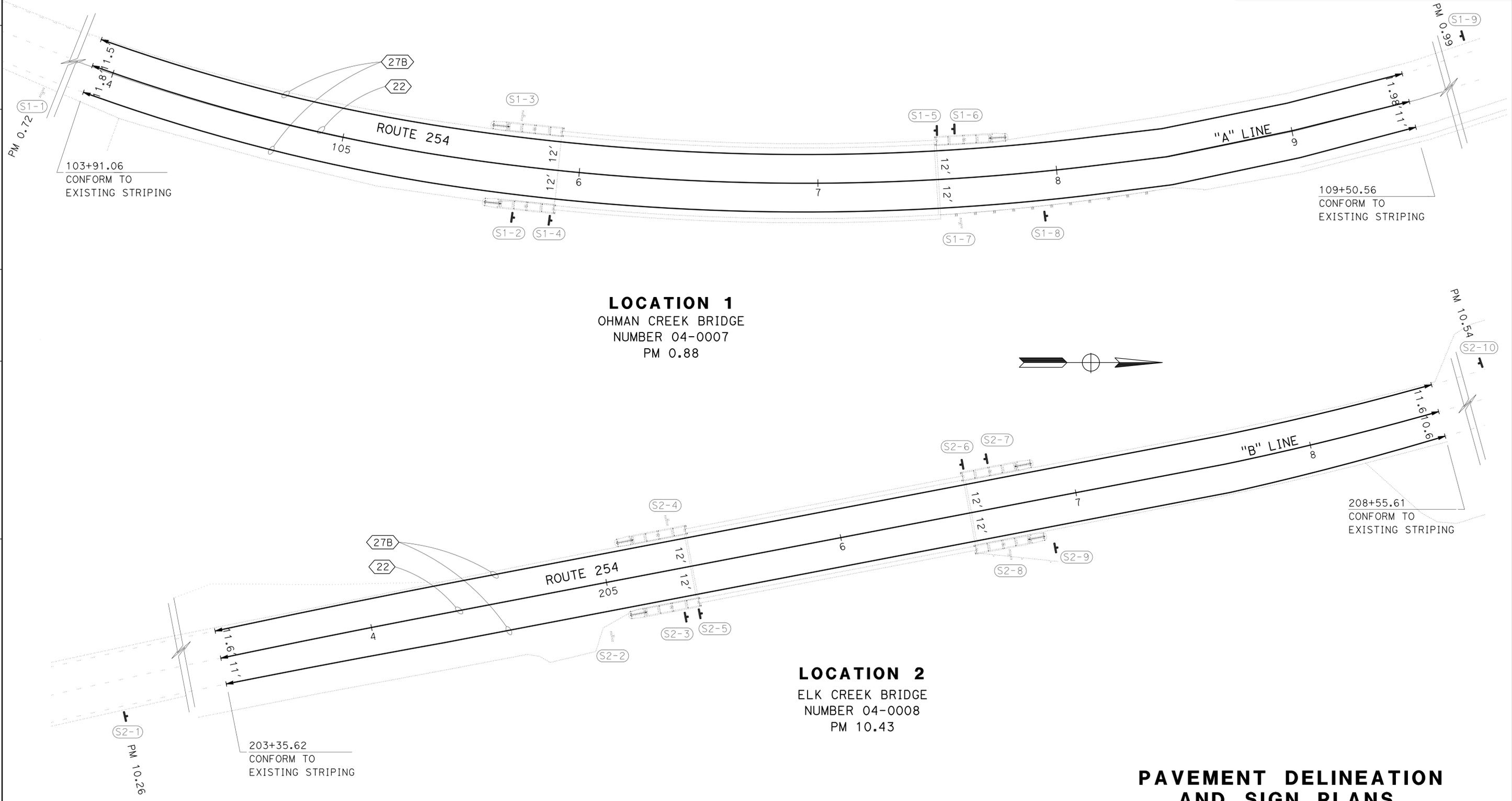
LEGEND:

- ▶ SINGLE STRIPE MARKER
- # PAVEMENT DELINEATION STRIPE DETAIL No.
- SIGN NUMBER

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	30	100

Kelly B. Timmons 09-27-16
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE
 Kelly B. Timmons
 No. C63672
 Exp. 9-30-18
 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.



LOCATION 1
 OHMAN CREEK BRIDGE
 NUMBER 04-0007
 PM 0.88

LOCATION 2
 ELK CREEK BRIDGE
 NUMBER 04-0008
 PM 10.43

PAVEMENT DELINEATION AND SIGN PLANS

SCALE: 1" = 20'

PD-1

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

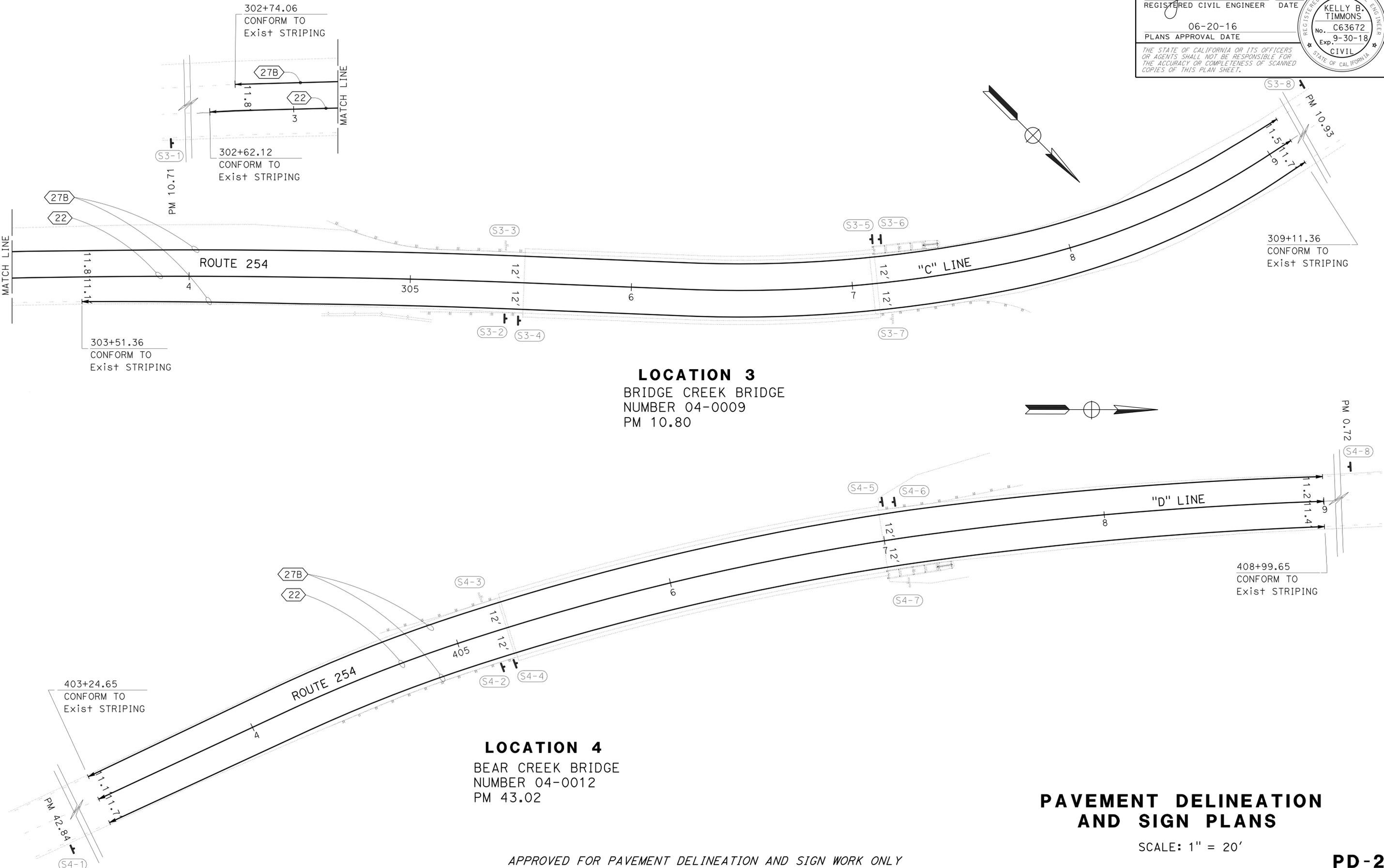
LAST REVISION DATE PLOTTED => 30-SEP-2016
 09-27-16 TIME PLOTTED => 07:08

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	31	100

<i>Kelly B. Timmons</i>	09-27-16
REGISTERED CIVIL ENGINEER	DATE
06-20-16	
PLANS APPROVAL DATE	

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

NOTE:
1. SHOULDER WIDENING WORK TO BE COMPLETED PRIOR TO PLACEMENT OF PERMANENT PAVEMENT DELINEATION.



LOCATION 3
BRIDGE CREEK BRIDGE
NUMBER 04-0009
PM 10.80

LOCATION 4
BEAR CREEK BRIDGE
NUMBER 04-0012
PM 43.02

**PAVEMENT DELINEATION
AND SIGN PLANS**

SCALE: 1" = 20'

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

PD-2

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 FUNCTIONAL SUPERVISOR: KELLY B. TIMMONS
 CHECKED BY: ERIC SHADA
 CALCULATED/DESIGNED BY: KELLY B. TIMMONS
 REVISOR: ERIC SHADA
 DATE: 06-20-16

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 Kelly B. Timmons
 Eric Shada
 Kelly B. Timmons
 Kelly B. Timmons
 DESIGN
 Caltrans

NOTES:
 1. EXACT LOCATION AND POSITION OF ROADSIDE SIGNS TO BE DETERMINED BY THE ENGINEER.

PAVEMENT DELINEATION

BRIDGE NUMBER	LOCATION		DETAIL OR MARKING	L+/R+	(N) LENGTH	4" THERMOPLASTIC TRAFFIC STRIPE		PAVEMENT MARKER (RETROREFLECTIVE)
	FROM	TO				WHITE	YELLOW	
1	"A"	103+91.06	"A" 109+50.56	27B	R+	560	560	EA
	"A"	103+91.06	"A" 109+50.56	22		560	1120	50
	"A"	103+91.06	"A" 109+50.56	27B	L+	560	560	
2	"B"	203+35.62	"B" 208+55.61	27B	R+	520	520	
	"B"	203+35.62	"B" 208+55.61	22		520	1040	46
	"B"	203+35.62	"B" 208+55.61	27B	L+	520	520	
3	"C"	302+74.06	"C" 309+11.36	27B	L+	637	637	
	"C"	302+62.12	"C" 309+11.36	22		649	1298	58
	"C"	303+51.46	"C" 309+11.36	27B	R+	560	560	
4	"D"	403+24.65	"D" 408+99.65	27B	R+	575	575	
	"D"	403+24.65	"D" 408+99.65	22		575	1150	50
	"D"	403+24.65	"D" 408+99.65	27B	L+	575	575	
SUBTOTAL						4507	4608	204
TOTAL						9115		204

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	32	100

Kelly B. Timmons 09-27-16
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE

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

ROADSIDE SIGN AND OBJECT MARKER

Loc	SIGN/MARKER	FACING	SIGN CODE	SIGN MESSAGE/ DESCRIPTION	PANEL SIZE	REMOVE ROADSIDE SIGN (WOOD POST)	ROADSIDE SIGN-ONE POST	FURNISH SINGLE SHEET ALUMINUM SIGN		RETRO-REFLECTIVE SHEETING (TYPE XI)	REMOVE MARKER	OBJECT MARKER	WEED CONTROL MAT (FIBER)*	RESET ROADSIDE SIGN (ONE POST)
						EA	EA	(0.063"-UNFRAMED) SQFT	(0.063"-FRAMED) SQFT	SQFT	EA	EA	SQYD	EA
1	S1-1	FNBT	W5-2	NARROW BRIDGE		1								
	S1-2	FNBT	OM3-R	TYPE P (CA) MARKER	12"X36"						1	1		
	S1-3	FNBT	OM3-L	TYPE P (CA) MARKER							1			
	S1-4	FNBT	G11-4 (CA)	OHMAN Cr Br #407, Hum 254 PM 0.88	36"X18"									1
	S1-5	FSBT	G11-4 (CA)	OHMAN Cr Br #407, Hum 254 PM 0.88	36"X18"									1
	S1-6	FSBT	OM3-R	TYPE P (CA) MARKER	12"X36"						1	1		
	S1-7	FSBT	OM3-L	TYPE P (CA) MARKER							1			
	S1-8	FNBT	G81-66 (CA)	REPORT DRUNK DRIVERS CALL 911	36"x36"	1	1	9		9			1.2	
	S1-9	FSBT	W5-2	NARROW BRIDGE		1								
2	S2-1	FNBT	W5-2	NARROW BRIDGE		1								
	S2-2	FNBT	SP	SPECIAL PARK SIGN		1								
	S2-3	FNBT	OM3-R	TYPE P (CA) MARKER	12"X36"						1	1		
	S2-4	FNBT	OM3-L	TYPE P (CA) MARKER							1			
	S2-5	FNBT	G11-4 (CA)	ELK Cr Br #407, Hum 254 PM 10.43	36"X18"									1
	S2-6	FSBT	G11-4 (CA)	ELK Cr Br #407, Hum 254 PM 10.43	36"X18"									1
	S2-7	FSBT	OM3-R	TYPE P (CA) MARKER	12"X36"						1	1		
	S2-8	FSBT	OM3-L	TYPE P (CA) MARKER							1			
	S2-9	FNBT	G8-22 (CA)	ELK CREEK ROAD	60"X30"	1	1	12.5		12.5			1.2	
	S2-10	FSBT	W5-2	NARROW BRIDGE		1								
3	S3-1	FNBT	W5-2	NARROW BRIDGE		1								
	S3-2	FNBT	OM3-R	TYPE P (CA) MARKER	12"X36"						1	1		
	S3-3	FNBT	OM3-L	TYPE P (CA) MARKER							1			1
	S3-4	FNBT	G11-4 (CA)	BRIDGE Cr Br #407, Hum 254 PM 10.80	44"X18"									
		FNBT	G11-6 (CA)	Hum 254 PM R10.80							1	1		
	S3-5	FSBT	G11-4 (CA)	BRIDGE Cr Br #407, Hum 254 PM 10.80	44"X18"									1
		FSBT	G11-6 (CA)	Hum 254 PM R10.80							1	1		
	S3-6	FSBT	OM3-R	TYPE P (CA) MARKER	12"X36"						1	1		
S3-7	FSBT	OM3-L	TYPE P (CA) MARKER							1				
S3-8	FSBT	W5-2	NARROW BRIDGE		1									
4	S4-1	FNBT	W5-2	NARROW BRIDGE		1								
	S4-2	FNBT	OM3-R	TYPE P (CA) MARKER	12"X36"						1	1		
	S4-3	FNBT	OM3-L	TYPE P (CA) MARKER	12"X36"						1			
	S4-4	FNBT	G11-4 (CA)	BEAR Cr Br #407, Hum 254 PM 43.02	36"X18"									1
	S4-5	FSBT	G11-4 (CA)	BEAR Cr Br #407, Hum 254 PM 43.02	36"X18"									1
	S4-6	FSBT	OM3-R	TYPE P (CA) MARKER	12"X36"						1	1		
	S4-7	FSBT	OM3-L	TYPE P (CA) MARKER	12"X36"						1			
	S4-8	FSBT	W5-2	NARROW BRIDGE		1								
TOTAL						11	2	9	12.5	21.5	18	10	2.4	8

* TOTAL INCLUDED ON GUARD RAILING QUANTITY

PAVEMENT DELINEATION AND SIGN QUANTITIES

PDQ-1

LAST REVISION DATE PLOTTED => 30-SEP-2016 09-27-16 TIME PLOTTED => 07:08

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 USERNAME => s115152
 DGN FILE => 0100000186pa001.dgn
 RELATIVE BORDER SCALE IS IN INCHES
 UNIT 0312
 PROJECT NUMBER & PHASE 01 0000 0186 1
 Q-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 FUNCTIONAL SUPERVISOR: KELLY B. TIMMONS
 CALCULATED/DESIGNED BY: KELLY B. TIMMONS
 CHECKED BY: ERIC SHADA
 REVISIONS: REVISED BY: DATE REVISED:

NOTE:

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	33	100

09-27-16
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE

KELLY B. TIMMONS
 No. C63672
 Exp. 9-30-18
 CIVIL

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

GUARD RAILING

LOCATION	STATION		SIDE	REMOVE GUARDRAIL	TREATED WOOD WASTE	MIDWEST GUARDRAIL SYSTEM	WEED CONTROL MAT (FIBER)	ALTERNATIVE CRASH CUSHION SYSTEM	BURIED POST END ANCHOR (N)	A1+ FLARED TERMINAL SYSTEM	TRANSITION RAILING (TYPE WB-31)	DELINEATOR (CLASS 1)	COMMENTS	
	FROM	TO												
1	"A" 105+24	"A" 105+91	L+	62.5	1039			1						
	"A" 105+77	"A" 105+91	R+	12.5	574			1						
	"A" 107+51	"A" 107+76	R+				12.8				1			
	"A" 107+51	"A" 108+04	L+	50.0	879			1						
	"A" 107+51	"A" 107+79	R+	25.0	559									
	"A" 107+76	"A" 108+51	R+			75.0	36.6		1					
2	"B" 204+45	"B" 205+36	L+	87.5	1358			1						
	"B" 204+96	"B" 205+36	R+	37.5	719			1						
	"B" 206+56	"B" 207+06	L+	50.0	879			1						
	"B" 206+56	"B" 207+06	R+	50.0	879			1						
3	"C" 304+76	"C" 305+13	L+				17.5			1				
	"C" 304+86	"C" 305+51	L+	62.5	1039									
	"C" 305+01	"C" 305+26	R+			25.0	11.6		1		1	TYPE F		
	"C" 305+04	"C" 305+51	R+	50.0	799									
	"C" 305+13	"C" 305+26	L+			12.5	6.2							
	"C" 305+26	"C" 305+51	L+				12.8				1			
	"C" 305+26	"C" 305+51	R+				13.8				1			
	"C" 307+11	"C" 308+44	L+	125.0	2077			1						
	"C" 307+11	"C" 307+75	R+	62.5	1278									
	"C" 307+11	"C" 307+36	R+				12.9				1			
4	"D" 404+58	"D" 405+25	R+	62.5	799									
	"D" 404+76	"D" 405+25	L+	50.0	1199									
	"D" 404+63	"D" 405+00	R+				12.5			1				
	"D" 404+88	"D" 405+00	L+			12.5	4.2		1					
	"D" 405+00	"D" 405+25	L+				13.2				1			
	"D" 405+00	"D" 405+25	R+				12.8				1	1	TYPE F	
	"D" 407+00	"D" 407+25	L+				12.8				1	1	TYPE F	
	"D" 407+00	"D" 407+65	L+	62.5	1034									
	"D" 407+00	"D" 407+67	R+	62.5	959			1						
	"D" 407+25	"D" 407+62	L+				41.5			1				
	SUBTOTAL THIS TABLE				912.5	16,070	137.5	296.6	9	3	4	7	3	
	SUBTOTAL STRUCTURES					51,430								
SUBTOTAL SHEET PDQ-1							2.4							
GRAND TOTAL				912.5	67,500	137.5	299.0	9	3	4	7	3		

ROADWAY QUANTITIES

LOCATION	STATION		SIDE	COLD PLANE ASPHALT CONCRETE PAVEMENT	CLASS 2 AGGREGATE BASE (CY)	ROADWAY EXCAVATION	HOT MIX ASPHALT (TYPE A)	TACK COAT	GEOSYNTHETIC PAVEMENT INTERLAYER (PAVING FABRIC)	ASPHALT BINDER (GEOSYNTHETIC PAVEMENT INTERLAYER)
	FROM	TO								
1	"A" 103+91	"A" 105+91		589.8			57.3	0.07		
	"A" 103+91	"A" 105+91	L+		12.2	26.9	13.0		88.9	.05
	"A" 105+74	"A" 105+91	R+		0.7	1.4	0.7		7.6	.05
	"A" 107+51	"A" 109+51		671.0			65.2	0.09		
	"A" 107+51	"A" 107+72	L+		1.1	1.9	1.2		9.8	.05
	"A" 107+51	"A" 108+47	R+		3.9	7.2	4.2		42.7	.05
2	"B" 203+36	"B" 205+36		736.7			71.6	0.09		
	"B" 203+74	"B" 205+36	L+		6.6	11.5	7.0		71.6	.05
	"B" 205+09	"B" 205+36	R+		1.1	2.1	1.1		11.6	.05
	"B" 206+56	"B" 208+56		526.4			51.2	0.06		
3	"B" 206+56	"B" 207+60	L+		4.2	8.8	4.5		46.2	.05
	"B" 206+56	"B" 208+21	R+		6.7	11.5	7.1		73.3	.05
	"C" 303+51	"C" 305+51		671.2			65.2	0.09		
	"C" 305+19	"C" 305+51	L+		3.0	4.1	2.1		14.2	.05
	"C" 303+51	"C" 305+51	R+		18.9	25.7	13.0		88.9	.05
	"C" 307+11	"C" 309+11		596.4			58.0	0.07		
4	"C" 307+11	"C" 307+84	L+		4.5	7.4	3.1		32.0	.05
	"C" 307+11	"C" 307+75	R+		4.0	5.4	2.8		28.4	.05
	"D" 403+25	"D" 405+25		502.8			48.9	0.07		
	"D" 403+25	"D" 405+25	L+		18.1	21.0	15.1		88.9	.05
	"D" 404+94	"D" 405+25	R+		1.6	2.1	1.3		13.3	.05
	"D" 407+00	"D" 409+00		516.8			50.2	0.06		
SUBTOTAL THIS TABLE				4811.1	102.2	156.4	556.8	0.60	728.5	0.80
SUBTOTAL DIKE QUANTITIES TABLE							1.3			
TOTAL				4811.1	102.2	156.4	558.1	0.60	728.5	0.80

SUMMARY OF QUANTITIES

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	34	100

Kelly B. Timmons 09-27-16
 REGISTERED CIVIL ENGINEER DATE

06-20-16
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
 KELLY B. TIMMONS
 No. C63672
 Exp. 9-30-18
 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.

FENCING

LOCATION	STATIONING		L+/R+	TEMPORARY FENCE (TYPE ESA)
	FROM	TO		LF
1	"A" 104+89	"A" 105+61	L+	70
	"A" 105+62	"A" 106+96	L+	45
	"A" 107+46	"A" 107+68	R+	40
2	"B" 205+16	"B" 205+41	L+	40
	"B" 205+16	"B" 205+41	R+	45
	"B" 206+51	"B" 206+66	L+	35
	"B" 206+51	"B" 206+84	R+	45
	"B" 206+67	"B" 211+01	L+	445
3	"B" 206+99	"B" 208+22	R+	125
	"C" 304+86	"C" 305+49	L+	65
	"C" 305+21	"C" 305+56	R+	50
	"C" 307+06	"C" 307+35	R+	45
4	"C" 307+13	"C" 308+01	L+	85
	"D" 400+19	"D" 400+54	R+	90
	"D" 407+10	"D" 408+66	L+	200
	"D" 407+00	"D" 407+66	R+	65
TOTAL				1490

BOLLARD

STATIONING	REMOVE BOLLARD (WOOD)
	EA
"D" 403+19 TO "D" 403+65 (R+)	14
TOTAL	14

EROSION CONTROL

LOCATION	STATIONING	L+/R+	TEMPORARY GRAVEL BAG BERM	TEMPORARY FIBER ROLL	TEMPORARY DRAINAGE INLET PROTECTION	WOOD MULCH	COMMENTS
			LF	LF	EA	CY	
1	"A" 102+52	R+			1		
	"A" 103+52	R+			1		TYPE OMP
	"A" 103+91 TO "A" 108+47	L+/R+				6	
	"A" 110+25	R+			1		TYPE G1
2	"B" 203+74 TO "A" 208+21	L+/R+				5	
	"C" 300+26	R+			1		WOOD COVER
3	"C" 300+33 TO "C" 304+84	L+		456			
	"C" 303+45 TO "C" 305+33	R+	190				
	"C" 303+51 TO "C" 307+84	L+/R+				5	
	"C" 309+02	R+	4				INLET RISER
	"C" 309+06	L+			1		
4	"D" 401+59	L+			1		
	"D" 403+18 TO "D" 405+25	L+	210				
	"D" 403+25 TO "D" 409+00	L+/R+				6	
	"D" 407+66 TO "D" 409+02	R+	135				
	"D" 408+21 TO "D" 409+06	L+	85				
TOTAL			624	456	6	22	

DIKE QUANTITIES

LOCATION	REMOVE AC DIKE	PLACE HMA DIKE (TYPE A)	HMA
	LF	LF	TON
"A" 108+51 TO "A" 109+51	100	100	1.3
TOTAL	100	100	1.3

SUMMARY OF QUANTITIES

Q-2

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 STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 DESIGN
 Kelly B. Timmons
 FUNCTIONAL SUPERVISOR
 Kelly B. Timmons
 CALCULATED/DESIGNED BY
 Eric Shada
 REVISOR
 Kelly B. Timmons
 REVISIONS
 Eric Shada
 DATE REVISION
 Eric Shada

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	35	100

<i>Brian T. Finck</i> 09-27-16	
REGISTERED ELECT ENGINEER	DATE
06-20-16	
PLANS APPROVAL DATE	

REGISTERED PROFESSIONAL ENGINEER	BRIAN T. FINCK
No. E17756	Exp. 6-30-18
ELECT	

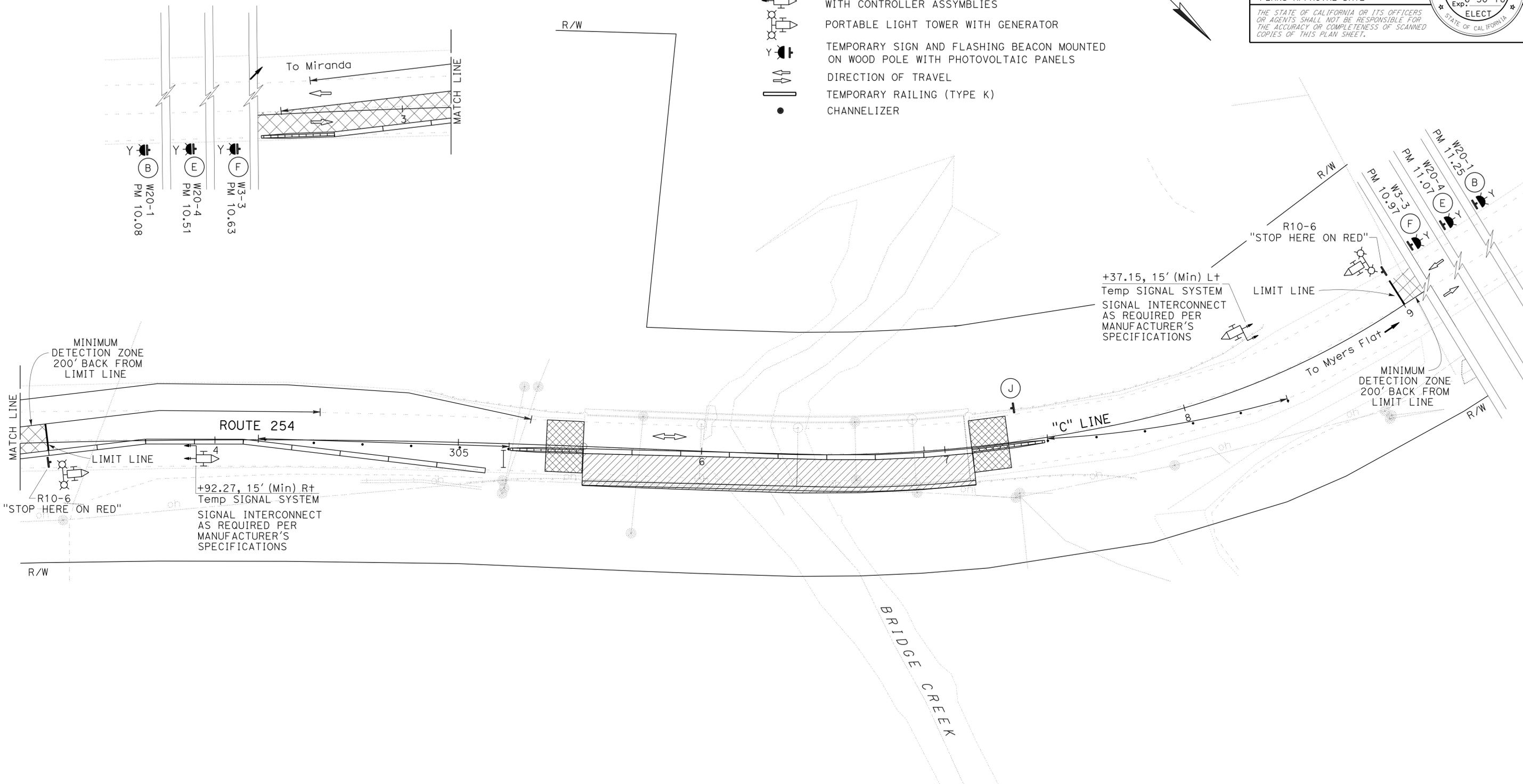
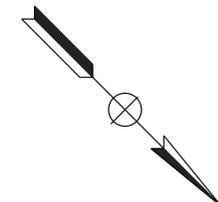
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

NOTE:

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

LEGEND:

-  WORK AREA
-  VEHICLE DETECTION AREA
-  TEMPORARY PORTABLE TRAFFIC SIGNAL WITH CONTROLLER ASSEMBLIES
-  PORTABLE LIGHT TOWER WITH GENERATOR
-  TEMPORARY SIGN AND FLASHING BEACON MOUNTED ON WOOD POLE WITH PHOTOVOLTAIC PANELS
-  DIRECTION OF TRAVEL
-  TEMPORARY RAILING (TYPE K)
-  CHANNELIZER



LOCATION 3

BRIDGE CREEK BRIDGE
 NUMBER 04-0009
 PM 10.80

TEMPORARY PORTABLE SIGNAL SYSTEM

SCALE: 1" = 20'

E-1

APPROVED FOR ELECTRICAL WORK ONLY

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 ELECTRICAL
 FUNCTIONAL SUPERVISOR TROY ARSENEAU
 CALCULATED/DESIGNED BY
 CHECKED BY
 BRIAN FINCK
 WILLIAM BARTLEY
 REVISOR BY DATE
 REVISOR BY DATE
 USERNAME => s115152
 DGN FILE => 0100000186ua001.dgn

LAST REVISION DATE PLOTTED => 30-SEP-2016
 05-25-16 TIME PLOTTED => 07:08

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	37	100

Brian T. Finck 09-27-16
 REGISTERED ELECT ENGINEER DATE

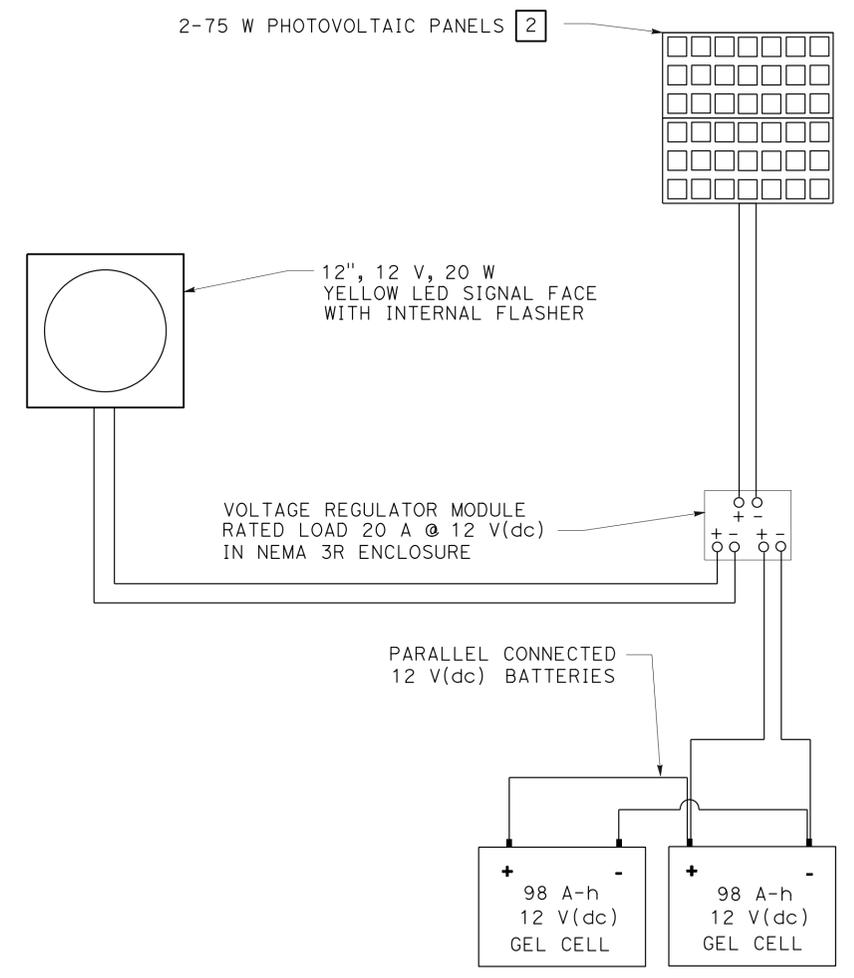
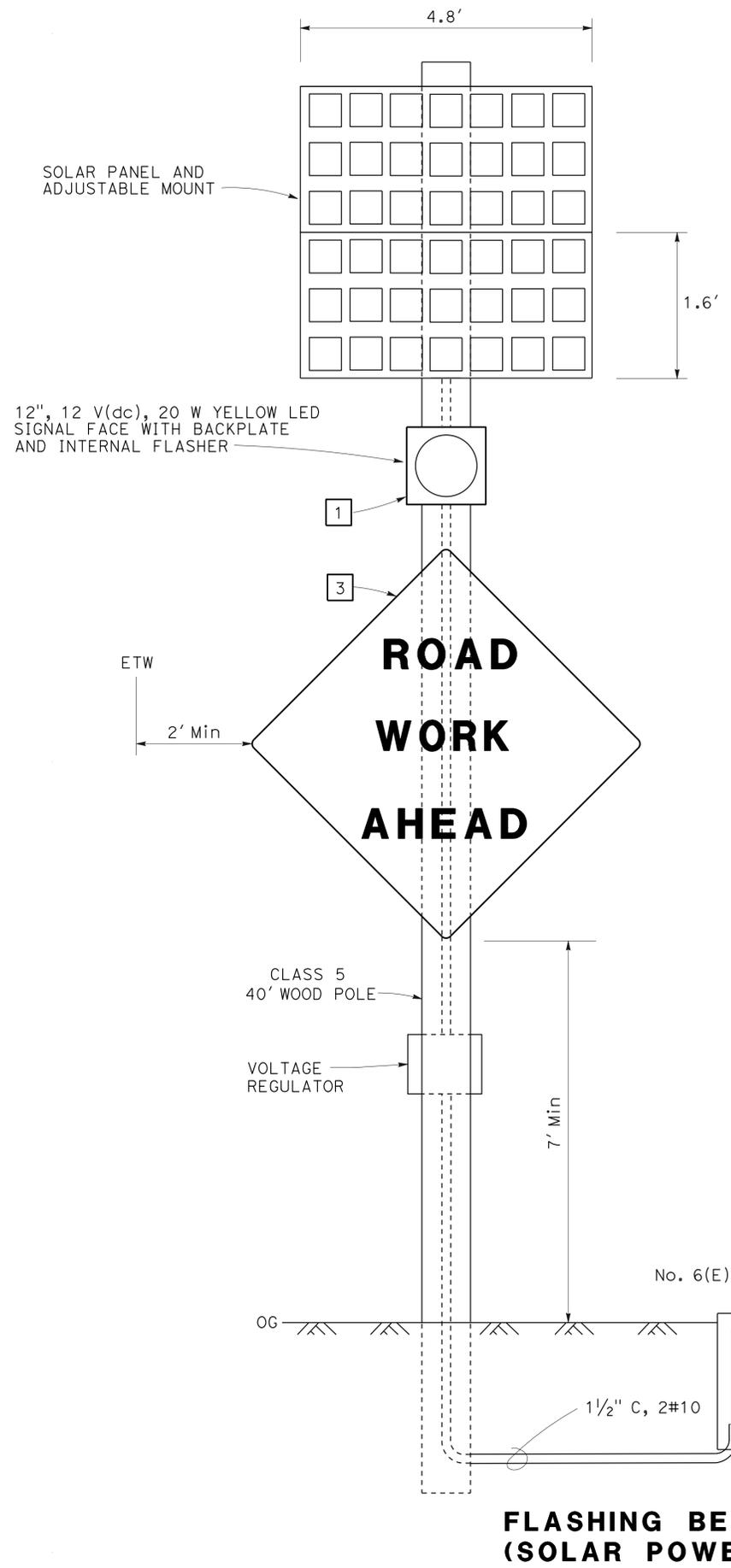
06-20-16
 PLANS APPROVAL DATE

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BRIAN T. FINCK
 No. E17756
 Exp. 6-30-18
 ELECT

LEGEND:
 A-h AMPERE HOUR

- NOTES: (THIS SHEET ONLY)**
- 1 A HOOD MUST BE INSTALLED ON EACH FLASHER HEAD TO SHIELD THE MODULE FROM DIRECT EXPOSURE TO SOLAR RADIATION.
 - 2 PHOTOVOLTAIC PANELS MUST BE LOCATED IN AN UNSHADED AREA. WOOD POLE WITH PHOTOVOLTAIC PANELS MUST BE LOCATED OUTSIDE THE CLEAR RECOVERY ZONE OR PROTECTED IN PLACE.



CONNECTION DIAGRAM

TEMPORARY PORTABLE SIGNAL SYSTEM

SHEET No.	TEMPORARY SIGNAL SYSTEM	TEMPORARY LIGHTING SYSTEM	FBCA	No. 10 CONDUCTORS	NEMA 3R SERVICE ENCLOSURE	No. 6 (E) PULL BOX	1 SECTION SIGNAL HEAD	REGULATION LOAD/CHARGE CONTROLLER	98 A-h 12 V (dc) GEL CELL	75 W PHOTOVOLTAIC PANELS	WOOD POLE
	EA	EA	EA	LF	EA	EA	EA	EA	EA	EA	EA
E-1	2	2	6	600	6	6	6	6	12	12	6
E-2	2	2	6	600	6	6	6	6	12	12	6

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

ELECTRICAL DETAILS

NO SCALE

E-3

APPROVED FOR ELECTRICAL WORK ONLY

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

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

	S	
S	SOUTH, SUPPLEMENT	
SAE	STRUCTURE APPROACH EMBANKMENT	
Salv	SALVAGE	
SAPP	STRUCTURAL ALUMINUM PLATE PIPE	
SB	SOUTHBOUND	
SC	SAND CUSHION	
SCSP	SLOTTED CORRUGATED STEEL PIPE	
SD	STORM DRAIN	
Sec	SECOND, SECTION	
Sep	SEPARATION	
SG	SUBGRADE	
Shld	SHOULDER	
Sht	SHEET	
Sim	SIMILAR	
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	
	T	
T	SEMI-TANGENT	
Tan	TANGENT	
TBB	THRIE BEAM BARRIER	
Tbr	TIMBER	
TC	TOP OF CURB	
TCB	TRAFFIC CONTROL BOX	
TCE	TEMPORARY CONSTRUCTION EASEMENT	
TeI	TELEPHONE	
Temp	TEMPORARY	
TG	TOP OF GRADE	
Tot	TOTAL	
TP	TELEPHONE POLE	
TPB	TREATED PERMEABLE BASE	
TPM	TREATED PERMEABLE MATERIAL	
Trans	TRANSITION	

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	38	100

Grace M. Tsushima
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 06-20-16

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 ³ , 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

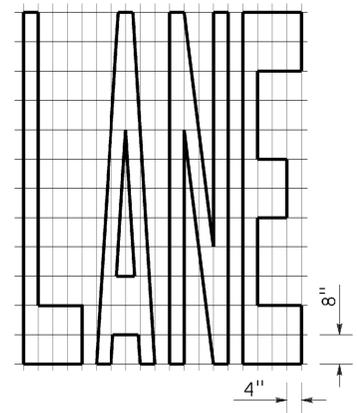
**ABBREVIATIONS
(SHEET 2 OF 2)**

NO SCALE

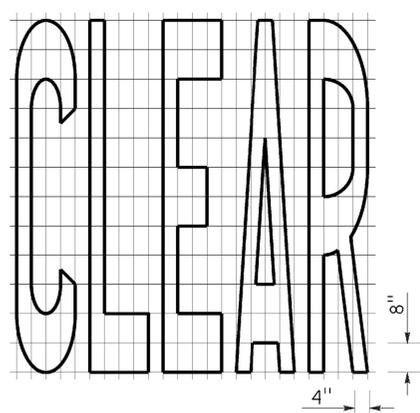
RSP A10B DATED JULY 19, 2013 SUPERSEDES STANDARD PLAN A10B
DATED MAY 20, 2011 - PAGE 2 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A10B

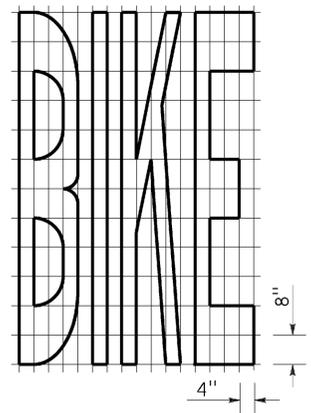
TO ACCOMPANY PLANS DATED 06-20-16



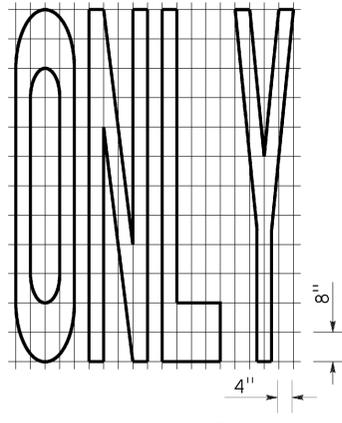
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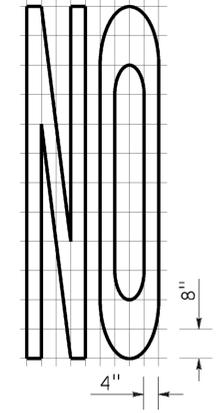
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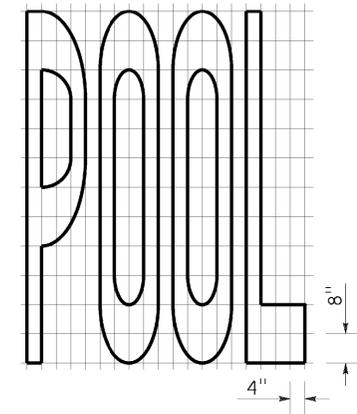
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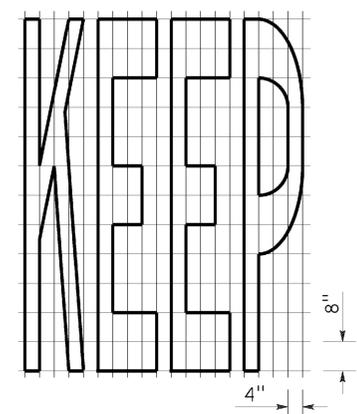
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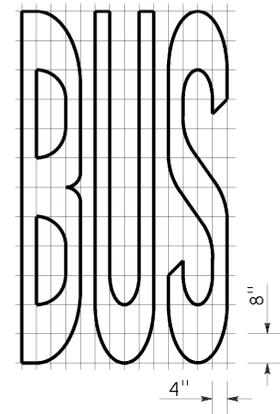
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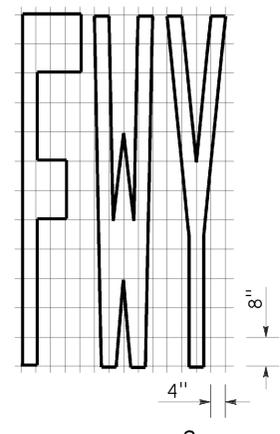
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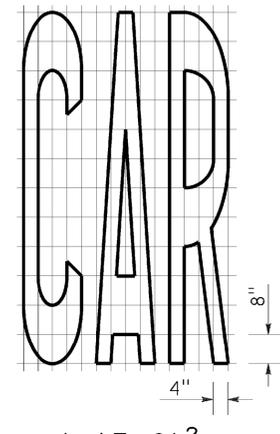
A=24 ft²



A=20 ft²

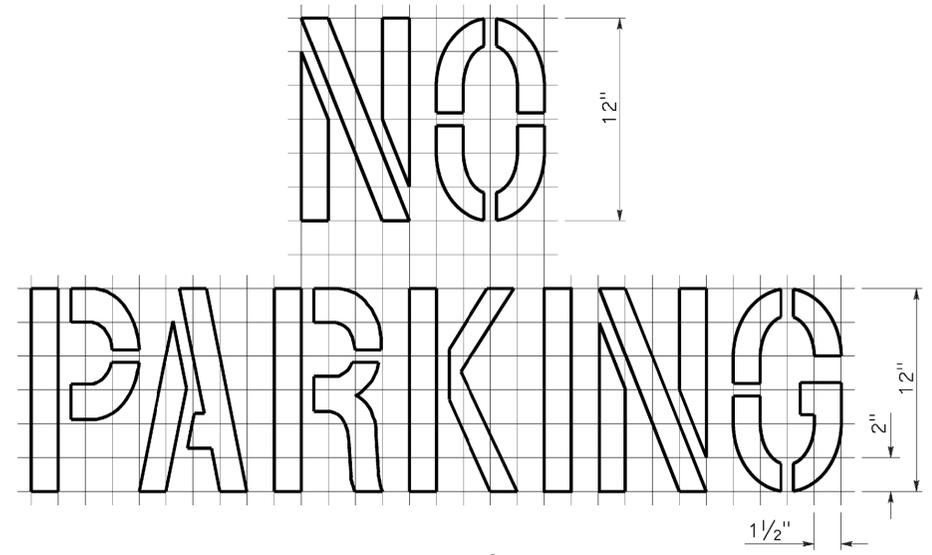


A=16 ft²

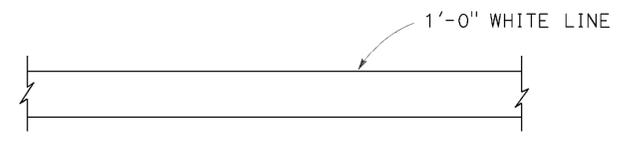


A=17 ft²

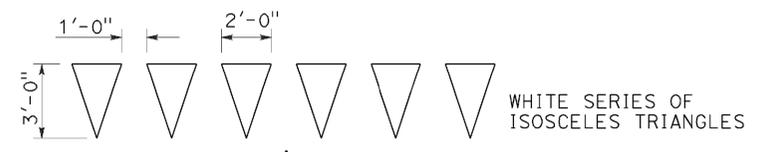
WORD MARKINGS			
ITEM	ft ²	ITEM	ft ²
LANE	24	NO	14
POOL	23	BIKE	21
CAR	17	BUS	20
CLEAR	27	ONLY	22
KEEP	24	FWY	16



A=2 ft²
See Notes 6 and 7



LIMIT LINE (STOP LINE)



DIRECTION OF TRAVEL
YIELD LINE

NOTES:

- If a message consists of more than one word, it should read "UP", i.e., the first word should be nearest the driver.
- 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.
- Minor variations in dimensions may be accepted by the Engineer.
- Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.
- The words "NO PARKING" pavement marking is to be used for parking facilities. For typical locations of markings, see Standard Plans A90A and A90B.
- 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

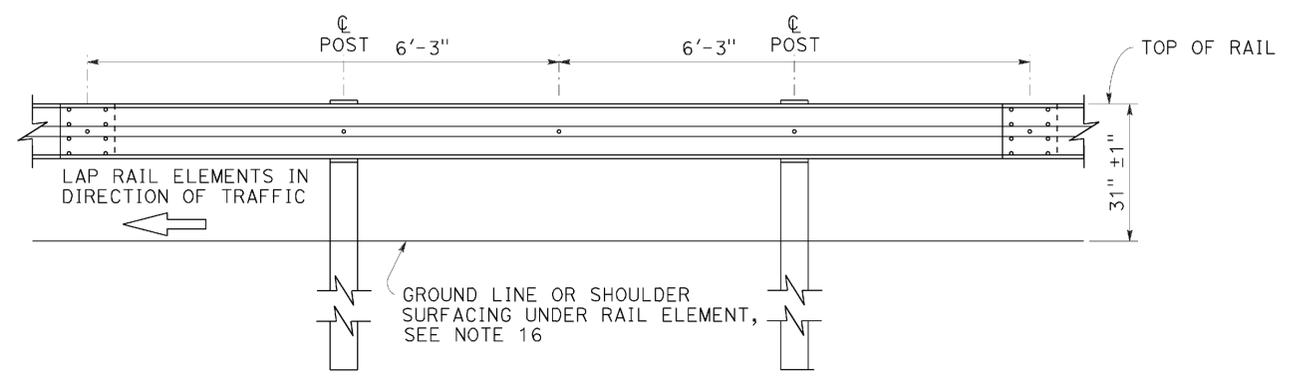
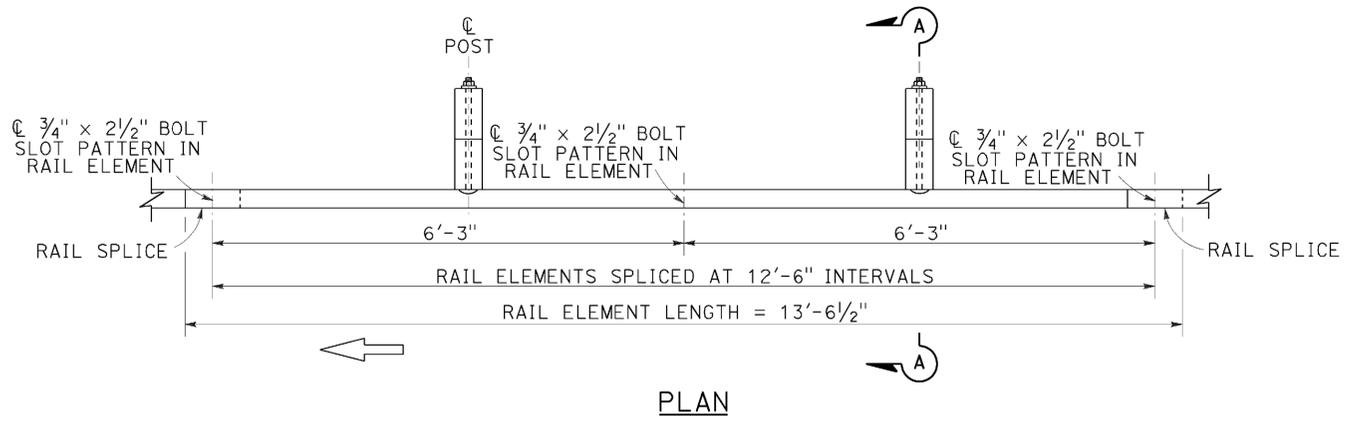
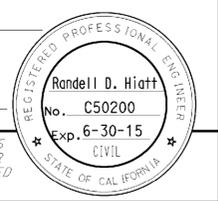
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	40	100

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

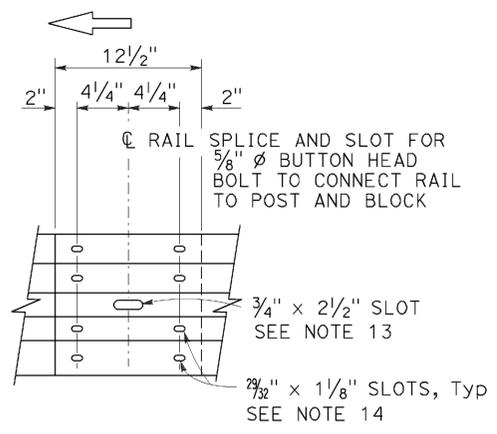
July 19, 2013
PLANS APPROVAL DATE

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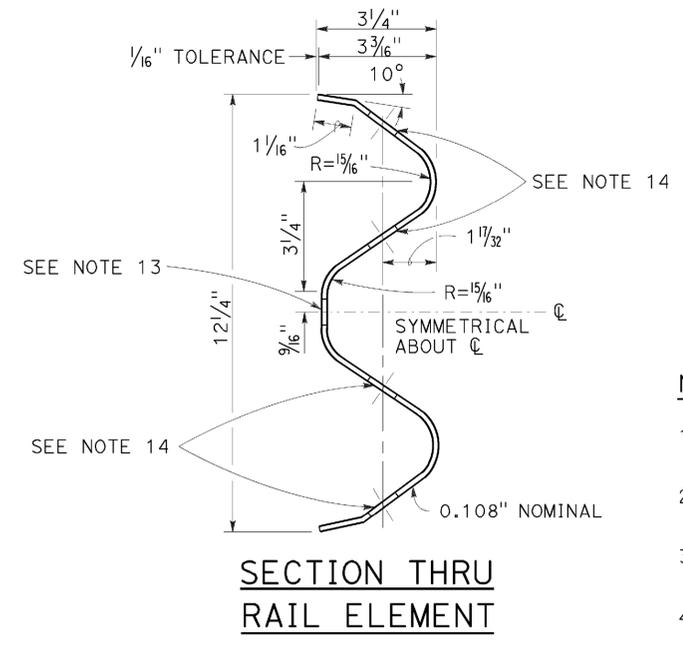
TO ACCOMPANY PLANS DATED 06-20-16



MIDWEST GUARDRAIL SYSTEM WITH WOOD POST AND BLOCKS

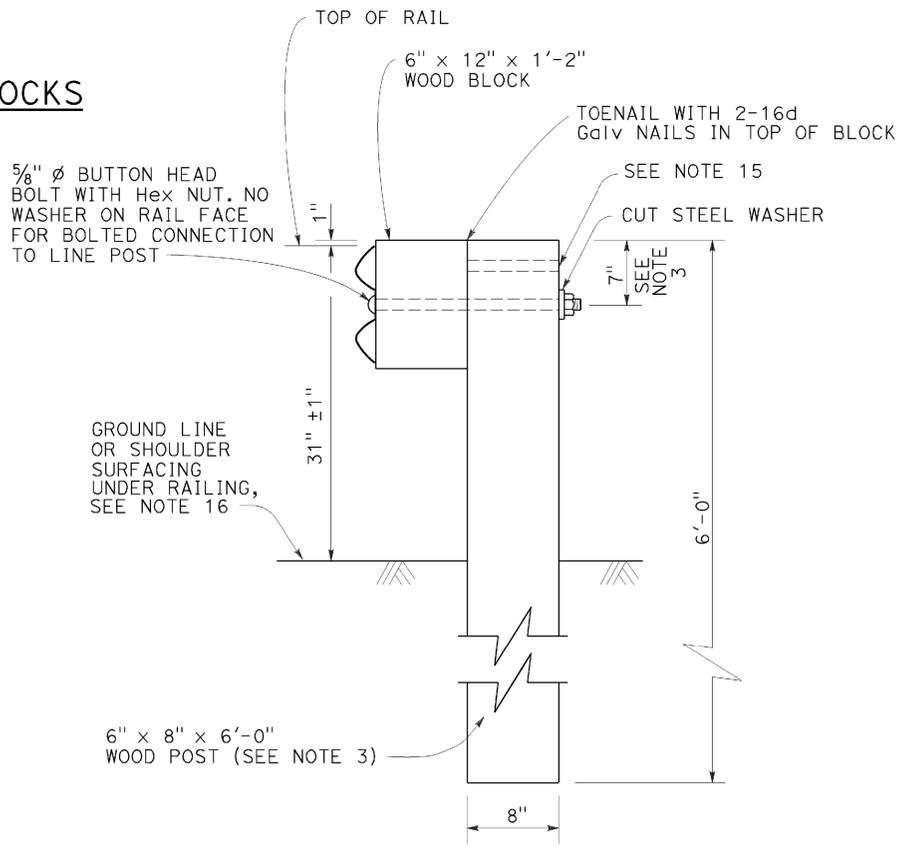


- Connect the over lapped end of the rail elements with $\frac{5}{8}$ " ϕ x $1\frac{3}{8}$ " button head oval shoulder splice bolts inserted into the $\frac{7}{32}$ " x $1\frac{1}{8}$ " slots and bolted together with $\frac{5}{8}$ " ϕ recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



NOTES:

- For details of steel post installations, see Revised Standard Plan RSP A77L2.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of wood posts and wood blocks used to construct MGS, see Revised Standard Plan RSP A77N1.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MSG connection to bridge railing, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For MGS connection details to abutments and walls, see Revised Standard Plan RSP A77U3.
- For typical MGS delineation and dike positioning details, see Revised Standard Plan RSP A77N4.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Additional hole in uppermost portion of line post is for potential future adjustments of railing height. See Revised Standard Plan RSP A77N1.
- Install posts in soil.



SECTION A-A
TYPICAL WOOD LINE POST INSTALLATION
See Note 4

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
STANDARD RAILING SECTION
(WOOD POST WITH
WOOD BLOCK)**

NO SCALE

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

REVISED STANDARD PLAN RSP A77L1

2010 REVISED STANDARD PLAN RSP A77L1

DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:09

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	41	100

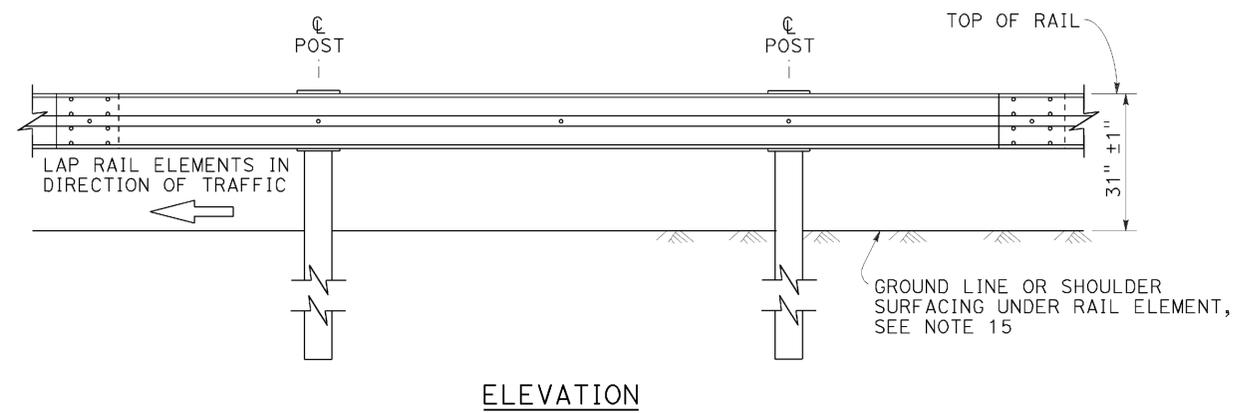
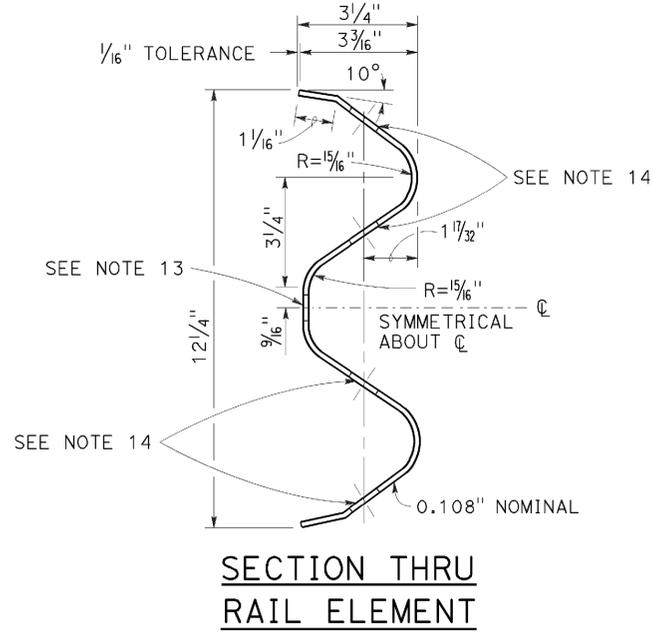
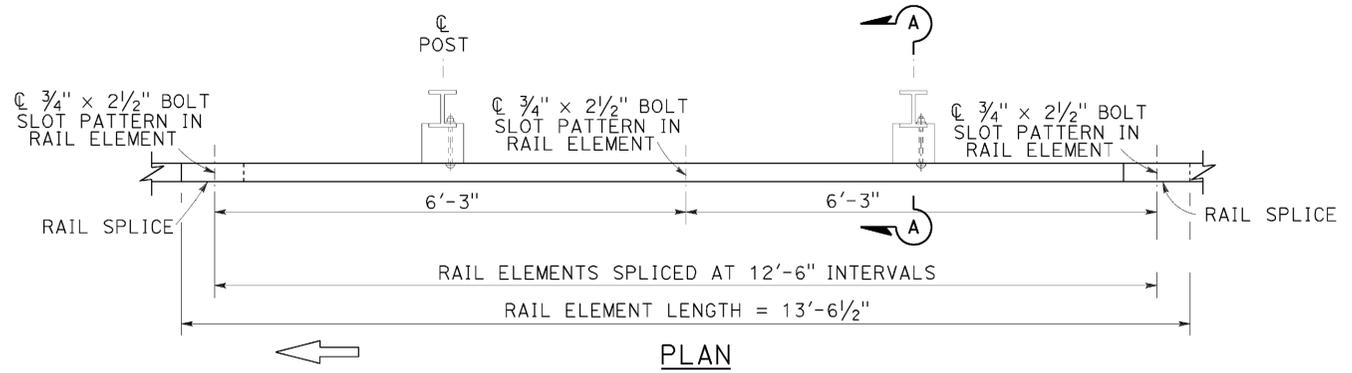
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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TO ACCOMPANY PLANS DATED 06-20-16

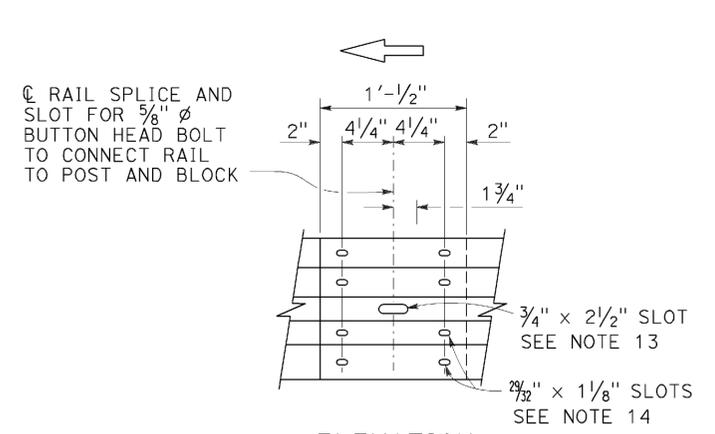
2010 REVISED STANDARD PLAN RSP A77L2



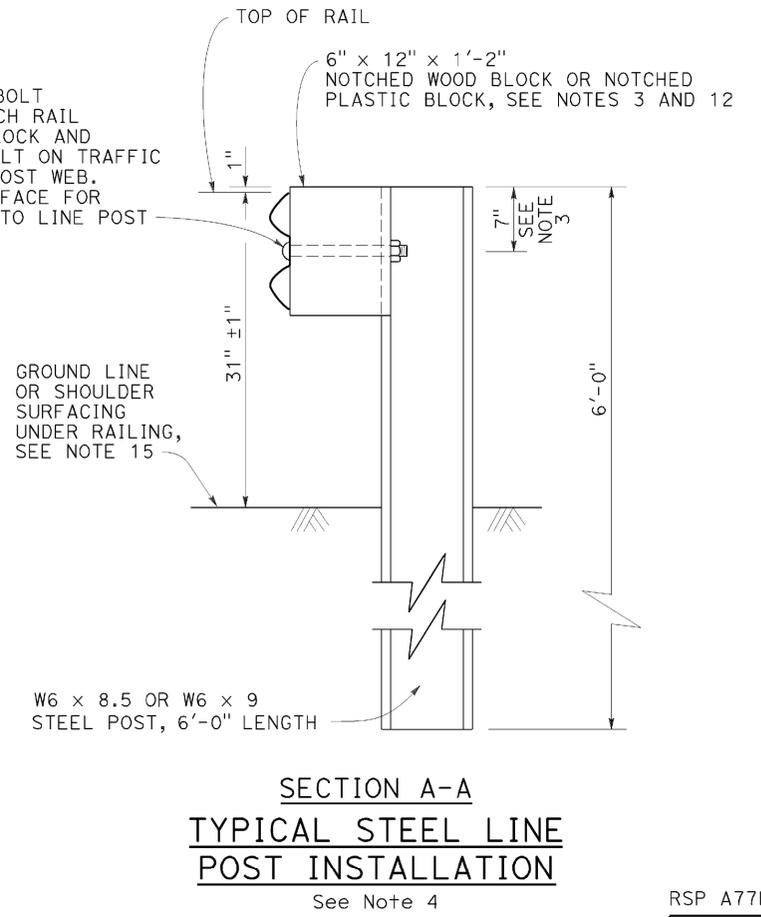
MIDWEST GUARDRAIL SYSTEM WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS

NOTES:

- For details of wood post installations, see Revised Standard Plan RSP A77L1.
- For details of standard hardware used to construct MGS, see Revised Standard Plan RSP A77M1.
- For details of steel posts and notched wood blocks used to construct MGS, see Revised Standard Plan RSP A77N2.
- For additional installation details, see Revised Standard Plan RSP A77N3.
- MGS post spacing to be 6'-3" center to center, except as otherwise noted.
- For MGS typical layouts, see the A77P, A77Q and A77R Series of Standard Plans.
- If railing is connected to terminal system end treatment, use 31" height terminal system end treatment.
- For MGS end anchor details, see Revised Standard Plans RSP A77S1 and RSP A77T2.
- For details of MGS transition to bridge railing, see Revised Standard Plan RSP A77U4.
- For additional details of MGS connection to bridge railings, see Revised Standard Plans RSP A77U1, RSP A77U2 and RSP A77V1.
- For dike positioning and MGS delineation details, see Revised Standard Plan RSP A77N4.
- Notched face of block faces steel post.
- Slotted hole for bolted connection of rail element to block and post. See "Section Thru Rail Element".
- Slotted holes for splice bolts to overlap ends of rail element. See "Section Thru Rail Element".
- Install posts in soil.



- Connect the overlapped end of the rail elements with 5/8" Ø x 1 3/8" button head oval shoulder splice bolts inserted into the 2 7/32" x 1 1/8" slots and bolted together with 5/8" Ø recessed hex nuts. Recess of hex nut points toward rail element. A total of 8 bolts and nuts are to be used at each rail splice connection.
- The ends of the rail elements are to be overlapped in the direction of traffic (see details).
- Where end cap is to be attached to the end of a rail element, a total of 4 of the above described splice bolts and nuts are to be used.



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM STANDARD RAILING SECTION (STEEL POST WITH NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCK)

NO SCALE

RSP A77L2 DATED JULY 19, 2013 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77L2

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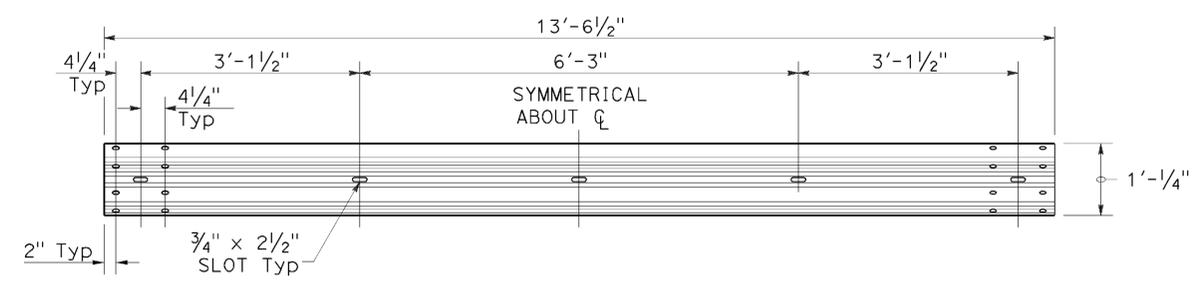
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

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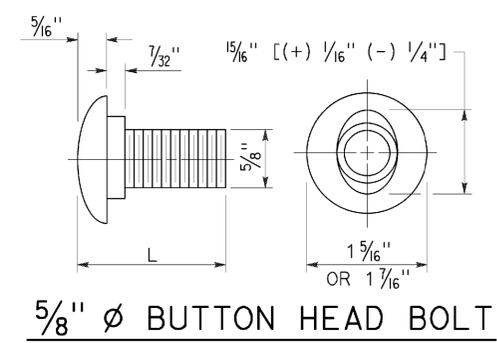
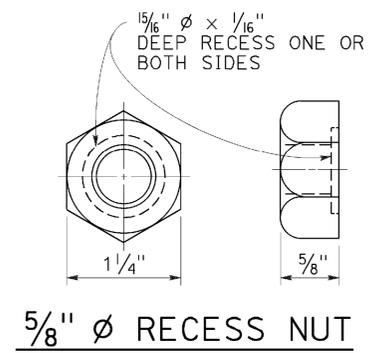
TO ACCOMPANY PLANS DATED 06-20-16



TYPICAL RAIL ELEMENT

NOTE:

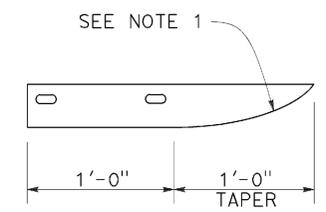
1. Slotted holes for splice bolts to overlap ends of rail element.



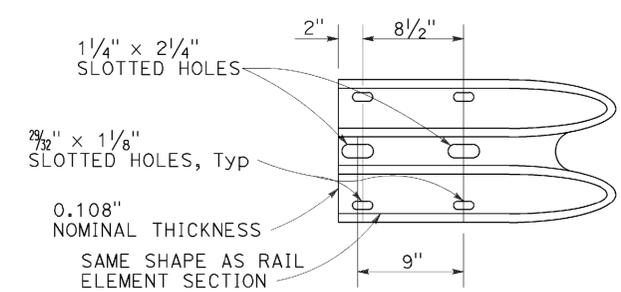
BUTTON HEAD BOLT

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

** For nested rail applications.



PLAN



**ELEVATION
END CAP
(TYPE A)**

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
STANDARD HARDWARE**

NO SCALE

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

REVISED STANDARD PLAN RSP A77M1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	43	100

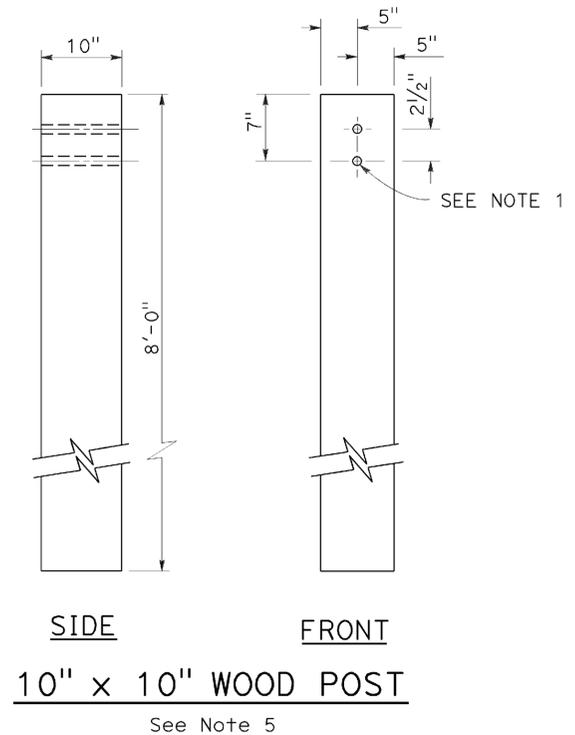
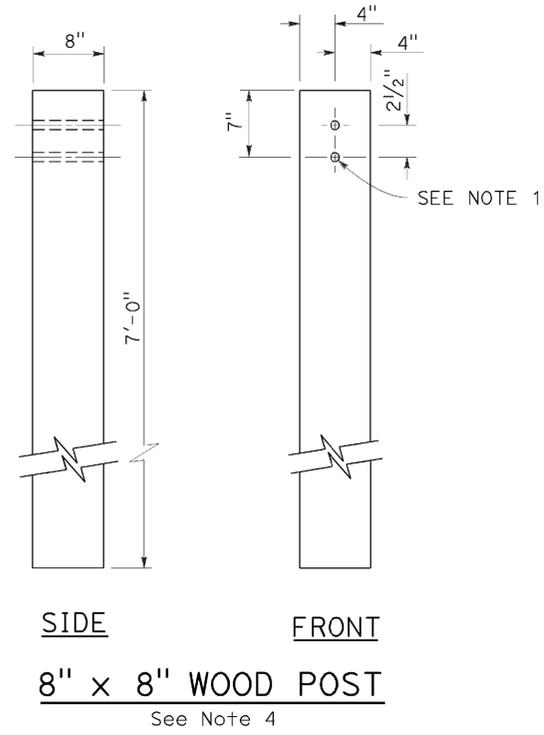
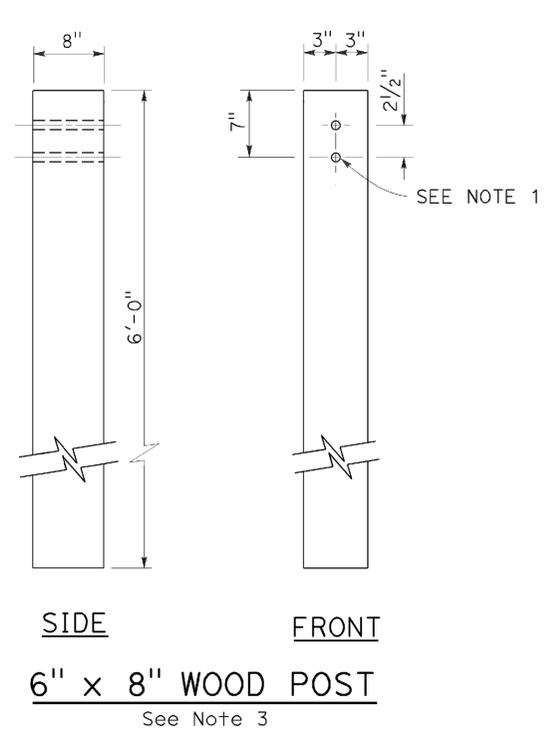
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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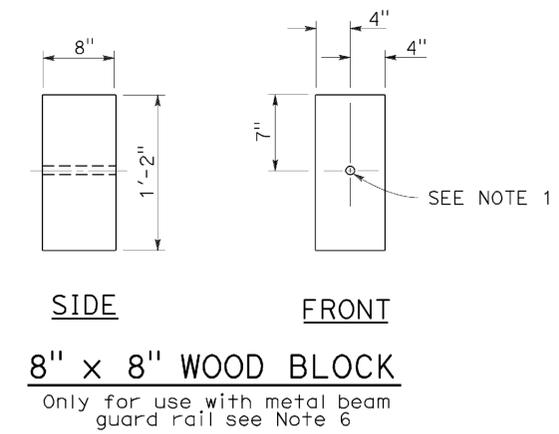
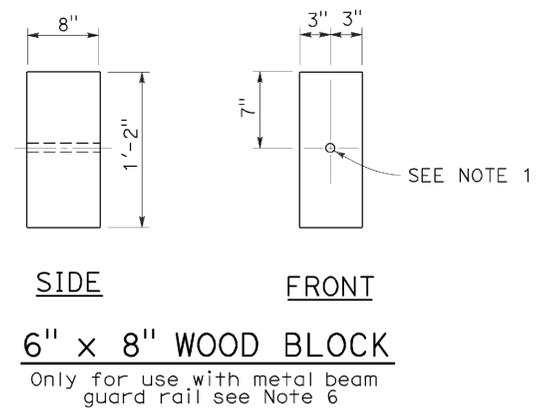
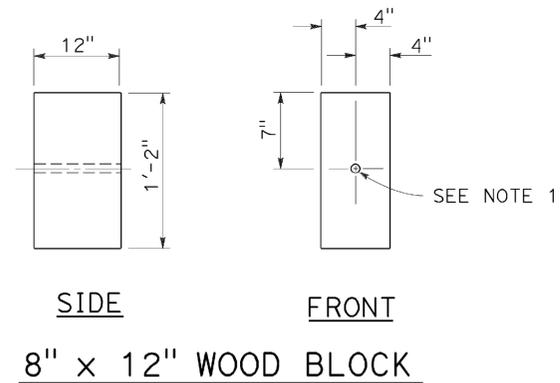
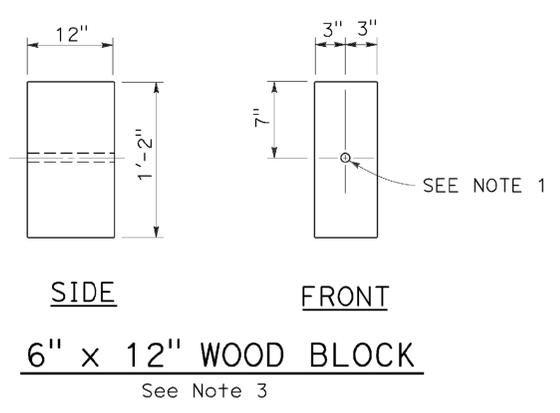
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 06-20-16



NOTES:

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



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77N1

2010 REVISED STANDARD PLAN RSP A77N1

DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:10

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	254	0.8/43.1	44	100

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

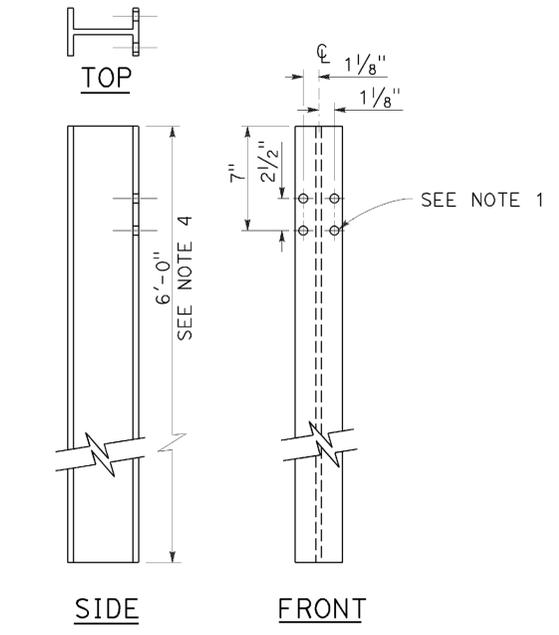
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

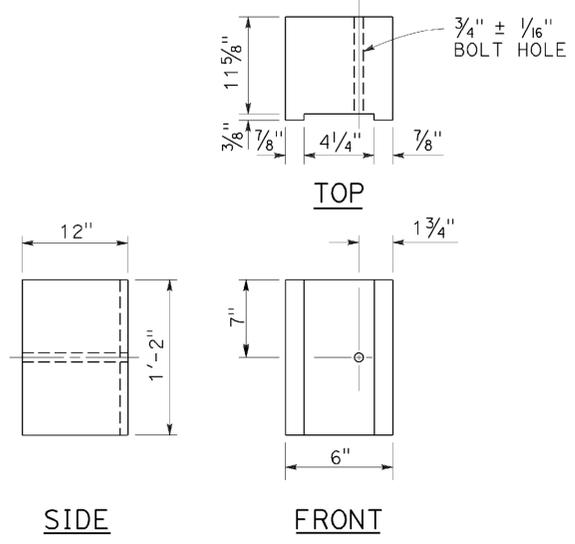
TO ACCOMPANY PLANS DATED 06-20-16

NOTES:

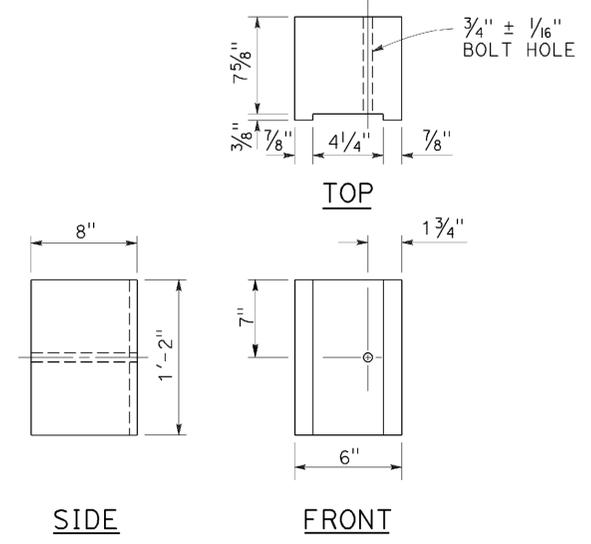
1. All holes in steel post shall be 1 3/8" Dia maximum.
2. Dimensions shown for wood block are nominal.
3. Notched face of block faces steel post.
4. 6'-0" length posts to be used for typical roadway installation. See Revised Standard Plan RSP A77N3.
5. See Revised Standard Plan RSP A77L3 for use of 6" x 8" and 8" x 8" notched wood blocks.
6. This post and 8" x 12" block combination to be used for line post sections of MGS on narrow roadways and where strengthened line post sections of MGS are warranted to shield fixed objects.



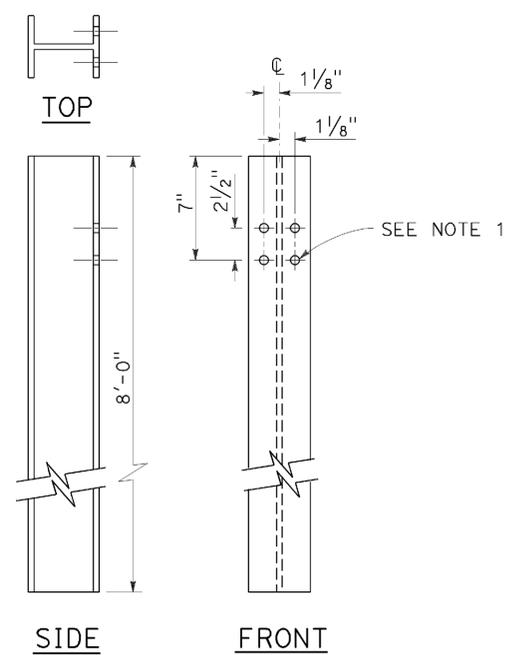
W6 x 9 OR W6 x 8.5
STEEL POST
See Note 4



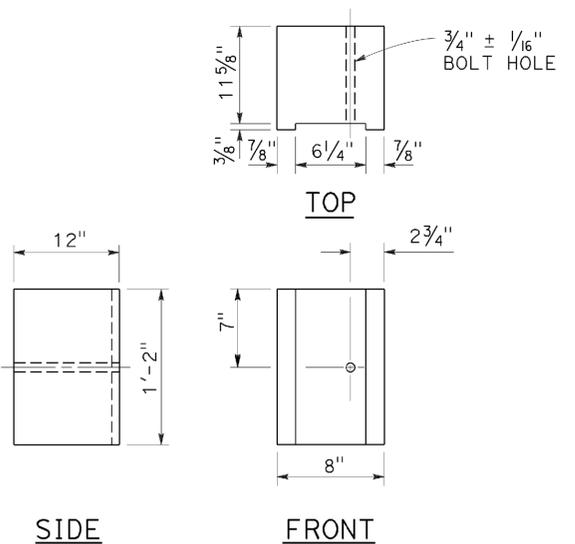
6" x 12"
NOTCHED WOOD BLOCK
See Notes 2 and 3



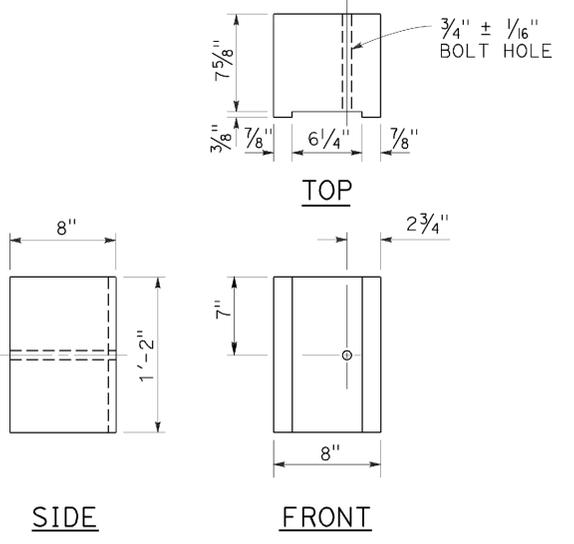
6" x 8"
NOTCHED WOOD BLOCK
Only for use with metal beam guard railing. See Note 5



W6 x 15
STEEL POST
See Note 6



8" x 12"
NOTCHED WOOD BLOCK
See Notes 2 and 3



8" x 8"
NOTCHED WOOD BLOCK
Only for use with metal beam guard railing. See Note 5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

MIDWEST GUARDRAIL SYSTEM
STEEL POST AND
NOTCHED WOOD BLOCK DETAILS

NO SCALE

RSP A77N2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77N2
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77N2

2010 REVISED STANDARD PLAN RSP A77N2

DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:11

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	45	100

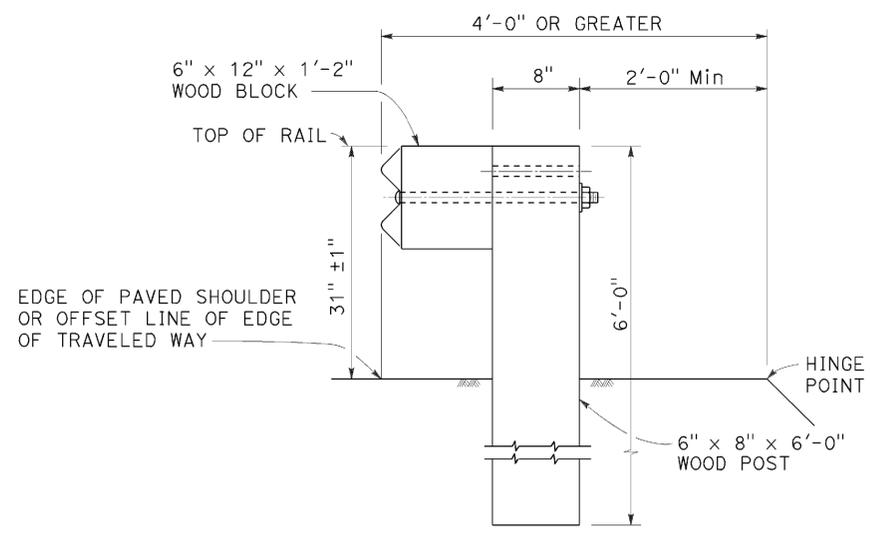
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

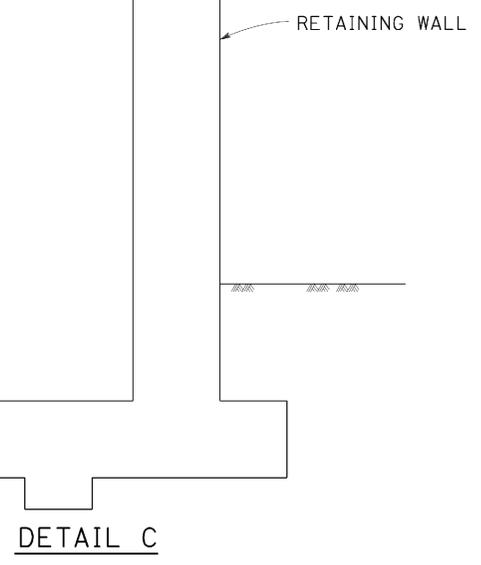
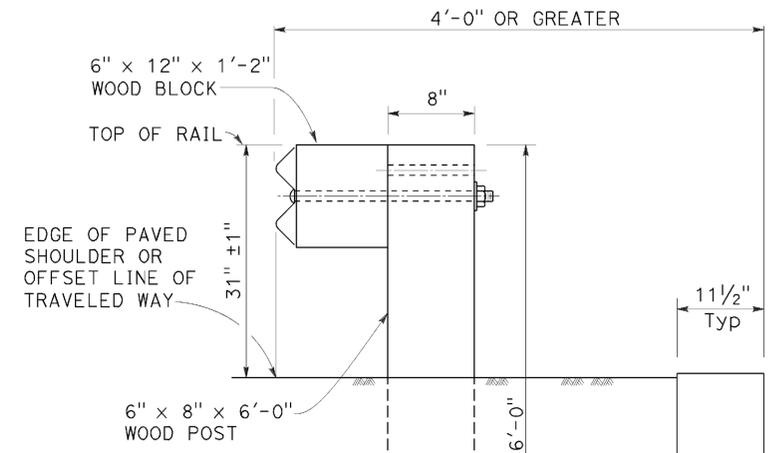
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

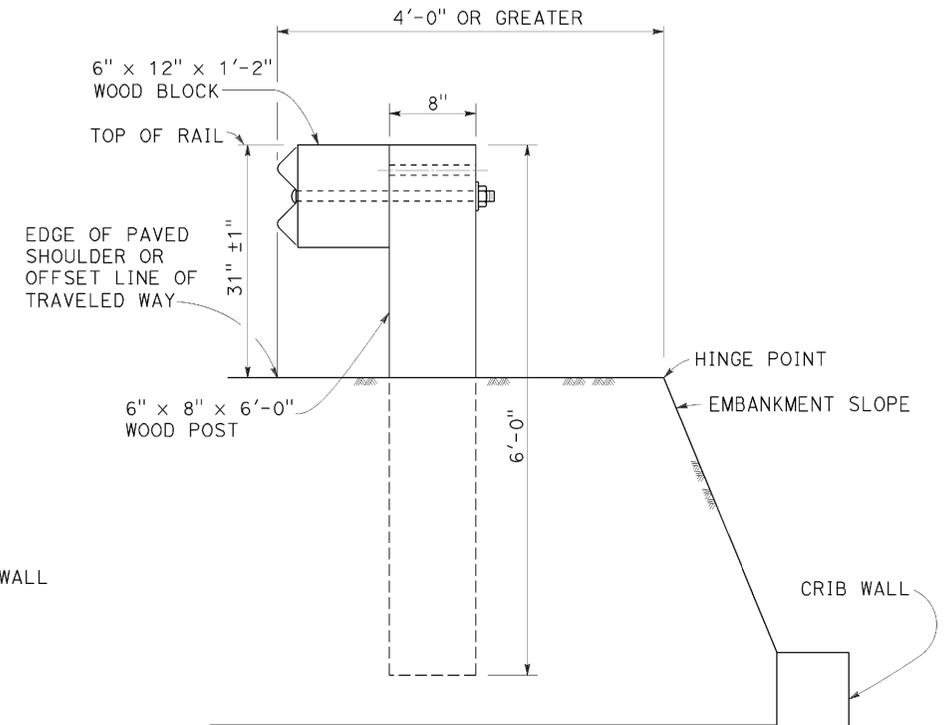
TO ACCOMPANY PLANS DATED 06-20-16



DETAIL A
TYPICAL ROADWAY
INSTALLATION
See Note 1



DETAIL B
NARROW ROADWAY
INSTALLATION
See Note 1



INSTALLATION AT EARTH RETAINING WALLS

DETAIL D

NOTES:

1. These installation details also applicable to steel line post installations. For Detail A, C, and D, where steel line post installations are constructed, W6 x 8.5 or W6 x 9 steel post, 6'-0" in length, with 6" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For Detail B, where steel line post installations are constructed, W6 x 15 steel post, 8'-0" in length, with 8" x 12" x 1'-2" notched wood blocks or notched recycled plastic blocks are to be used in place of the size of wood post and wood block shown. For additional installation details, see Revised Standard Plan RSP A77L1 and RSP A77L2.
2. Where the distance between the face of the rail and the hinge point is less than 2'-6", see the Project Plans for special details.
3. For dike positioning with MGS installations, see Revised Standard Plan RSP A77N4.

POST EMBEDMENT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77N3

2010 REVISED STANDARD PLAN RSP A77N3

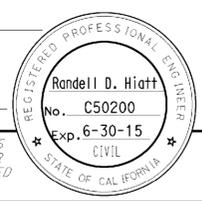
DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:11

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	46	100

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

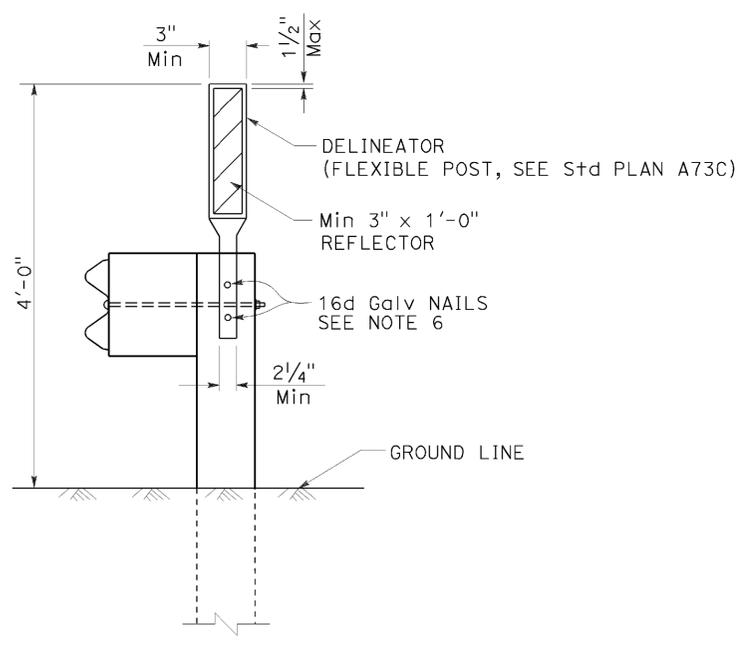
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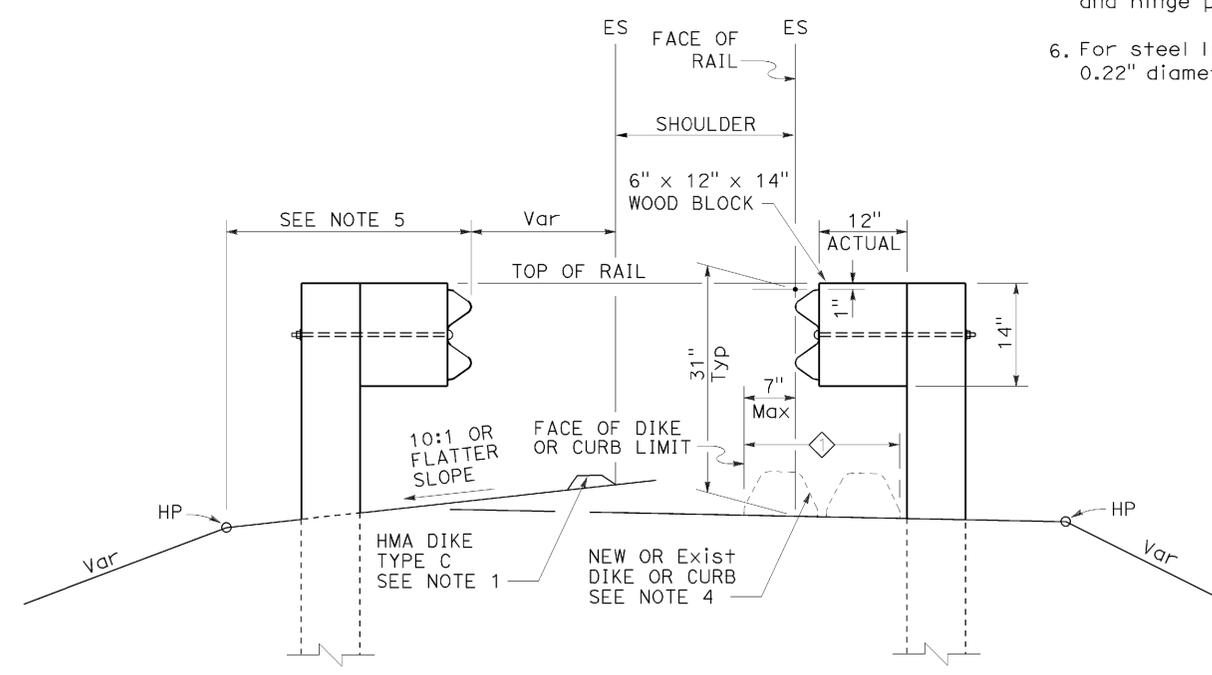
TO ACCOMPANY PLANS DATED 06-20-16

NOTES:

- When necessary to place dike more than 7" in front of face of MGS, only Type C dike may be used. For dike details, see Revised Standard Plan RSP A87B.
- For standard railing post embedment, see Revised Standard Plan RSP A77N3.
- MGS delineation to be used where shown on the Project Plans.
- When dike or curb is placed under MGS, the maximum height of the dike or curb shall be 6". Mountable dike should not be used. For dike and curb details, see Revised Standard Plans RSP A87A and RSP A87B.
- For details of typical distance between the face of rail and hinge point, see Revised Standard Plan RSP A77N3.
- For steel line posts, use 1/4" - 20 self-tapping screws in 0.22" diameter holes or 1/4" bolts in 5/32" diameter holes.



MGS DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

◇ PERMISSIBLE DIKE OR CURB PLACEMENT AREA

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

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

REVISED STANDARD PLAN RSP A77N4

2010 REVISED STANDARD PLAN RSP A77N4

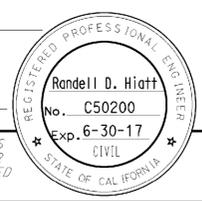
DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:11

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	47	100

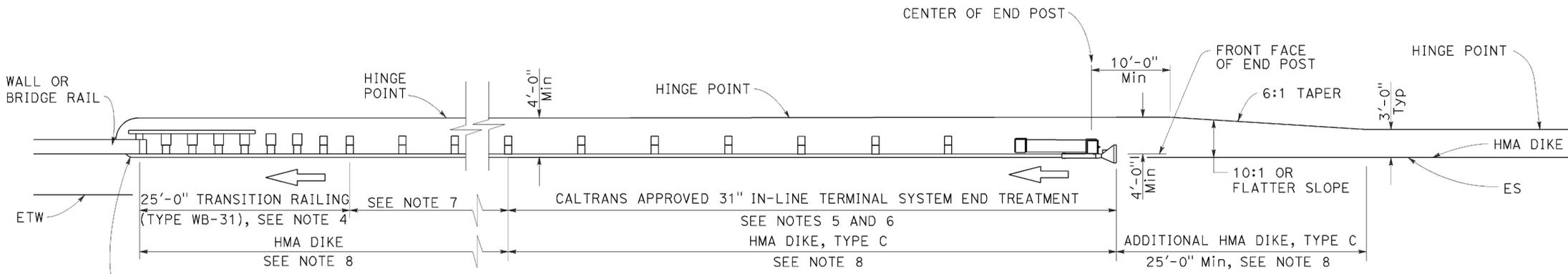
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

August 14, 2015
PLANS APPROVAL DATE

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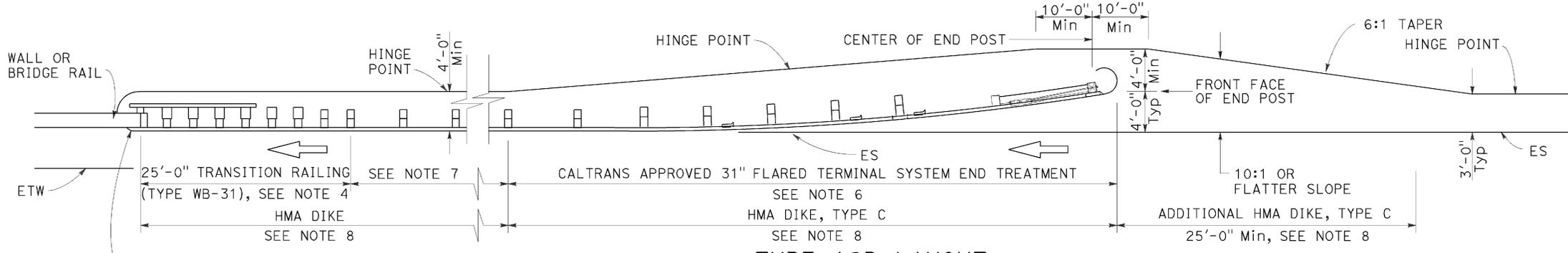


TO ACCOMPANY PLANS DATED 06-20-16



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

2010 REVISED STANDARD PLAN RSP A77Q1

DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:12

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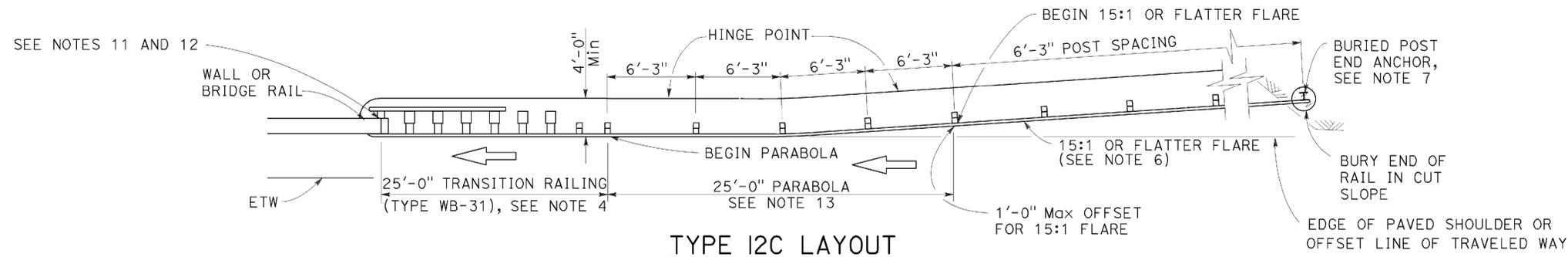
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

August 14, 2015
PLANS APPROVAL DATE

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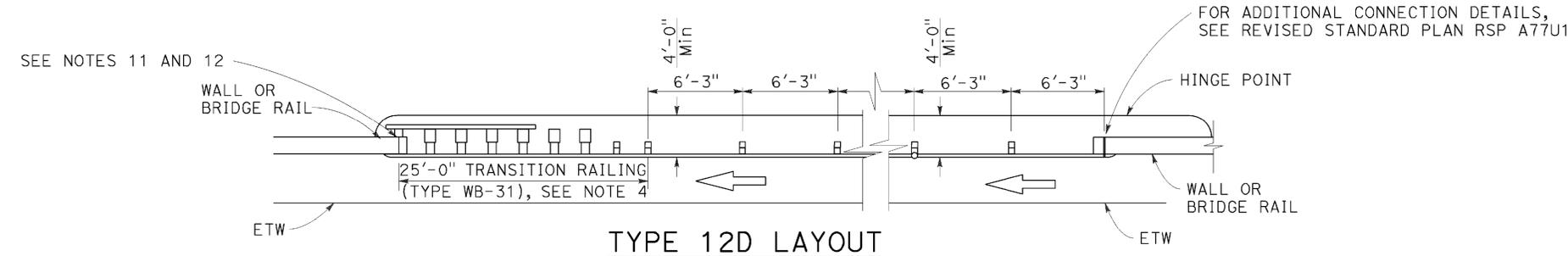
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 06-20-16



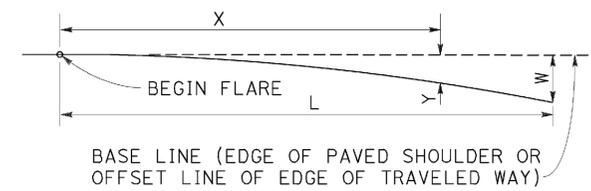
TYPE 12C LAYOUT

(MGS installation at structure approach with a Buried end anchor treatment at traffic approach end of railing)
See Notes 8 and 9



TYPE 12D LAYOUT

(Continuous MGS installation between structures)
See Notes 5 and 9

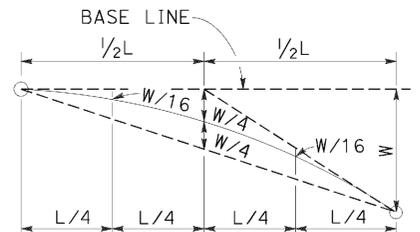


BASE LINE (EDGE OF PAVED SHOULDER OR OFFSET LINE OF EDGE OF TRAVELED WAY)

Y = OFFSET FROM BASE LINE
W = MAXIMUM OFFSET
X = DISTANCE ALONG BASE LINE
L = LENGTH OF FLARE

PARABOLIC FLARE OFFSETS

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



TYPICAL PARABOLIC LAYOUT

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" m 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 12C and 12D Layouts, see Revised Standard Plan RSP A77U4.
- Type 12D layout is typically used where continuous MGS is recommended between structures.
- The 15:1 or flatter flare for Type 12C Layout is based on the edge of the paved shoulder or offset line of edge of the traveled way. The length of MGS with the 15:1 or flatter flare is based on site conditions and should be a length equal to multiples of 12'-6".
- For details of the buried post end anchor used with Type 12C Layout, see Revised Standard Plan RSP A77T2.
- Where placement of dike is required with MGS installations, see Revised Standard Plan RSP A77N4 for dike positioning details.
- Type 12C Layout is typically used:
 - To the right of approaching traffic, at the end of the 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 each 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.
- For typical flare offsets for 25'-0" length parabola with maximum offset of 1'-0", see Revised Standard Plan RSP A77P1.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**MIDWEST GUARDRAIL SYSTEM
TYPICAL LAYOUTS FOR
STRUCTURE APPROACH
AND BETWEEN STRUCTURES**

NO SCALE

RSP A77Q2 DATED AUGUST 14, 2015 SUPERSEDES RSP A77Q2 DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

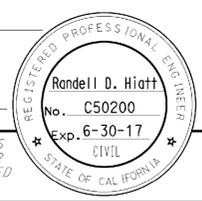
REVISED STANDARD PLAN RSP A77Q2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	49	100

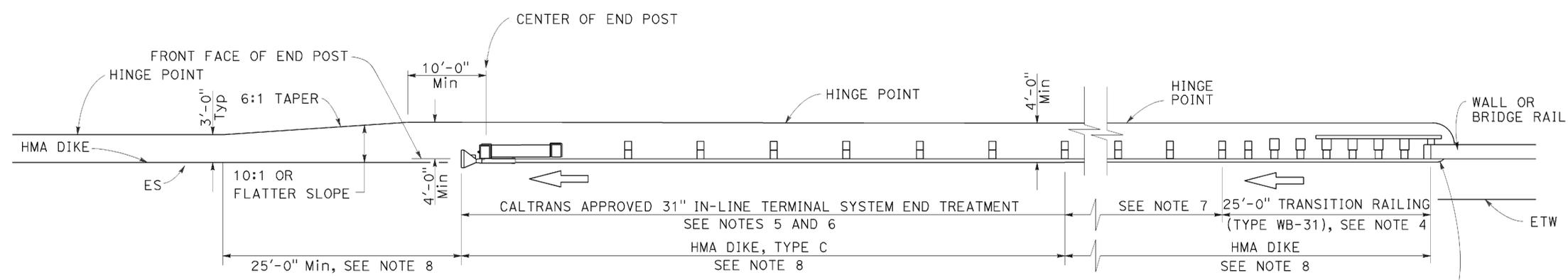
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

August 14, 2015
PLANS APPROVAL DATE

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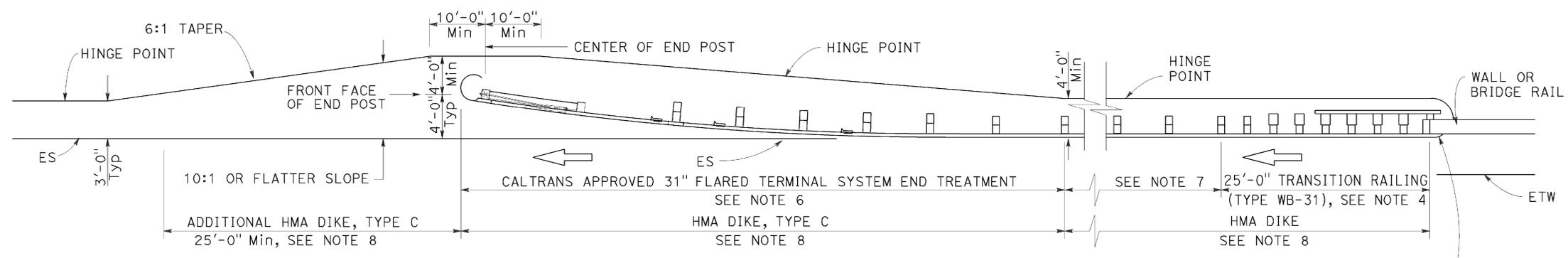


TO ACCOMPANY PLANS DATED 06-20-16



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.

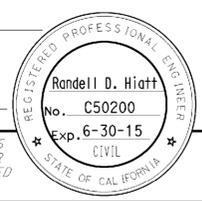
REVISED STANDARD PLAN RSP A77Q4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	50	100

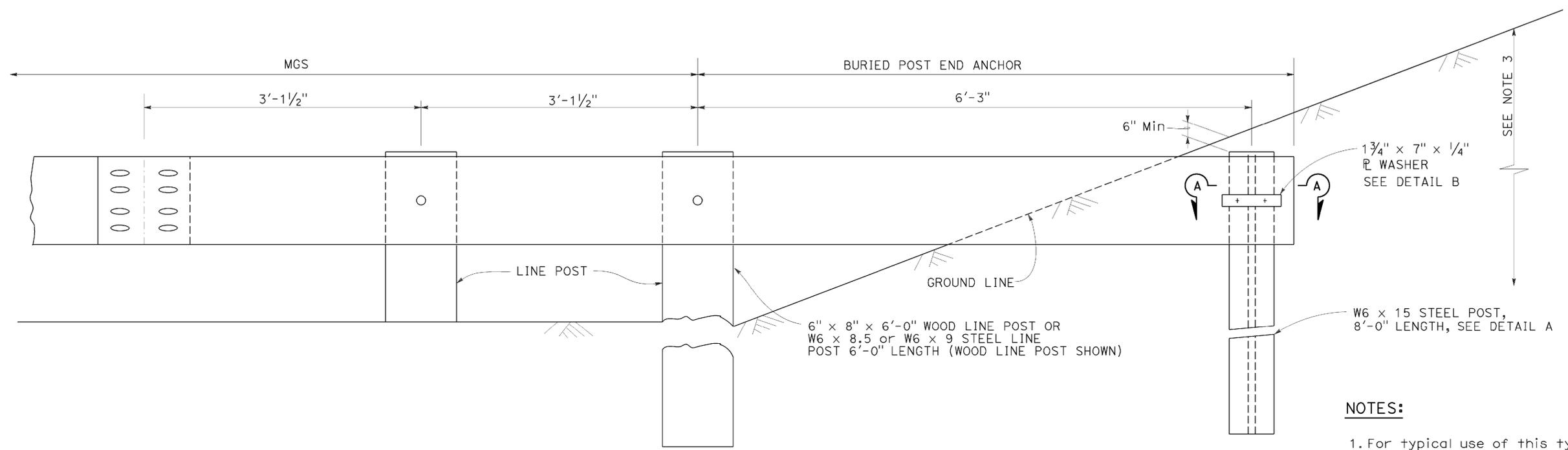
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

November 15, 2013
PLANS APPROVAL DATE

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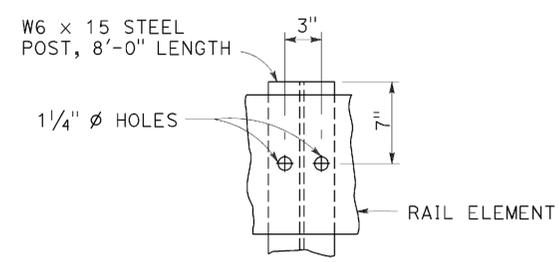
TO ACCOMPANY PLANS DATED 06-20-16



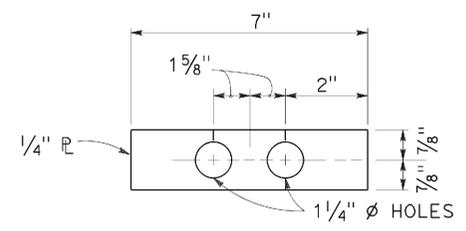
BURIED POST END ANCHOR
See Note 3

NOTES:

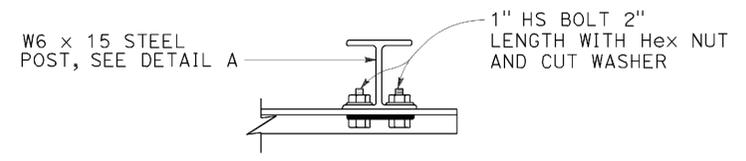
1. For typical use of this type of end anchor with MGS see the A77P, A77Q and A77R Series of the Standard Plans.
2. Holes excavation in the slope to construct the buried post end anchor shall be backfilled with selected earth, placed in layers approximately 1'-0" thick. Each layer shall be moistened and thoroughly compacted.
3. The buried post end anchor shall only be constructed at those locations where the slope perpendicular to the roadway is non-traversable.



DETAIL A



DETAIL B



SECTION A-A

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
**MIDWEST GUARDRAIL SYSTEM
BURIED POST END ANCHOR**
NO SCALE

RSP A77T2 DATED NOVEMBER 15, 2013 SUPERSEDES RSP A77T2
DATED JULY 19, 2013 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP A77T2

2010 REVISED STANDARD PLAN RSP A77T2
DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:13

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	51	100

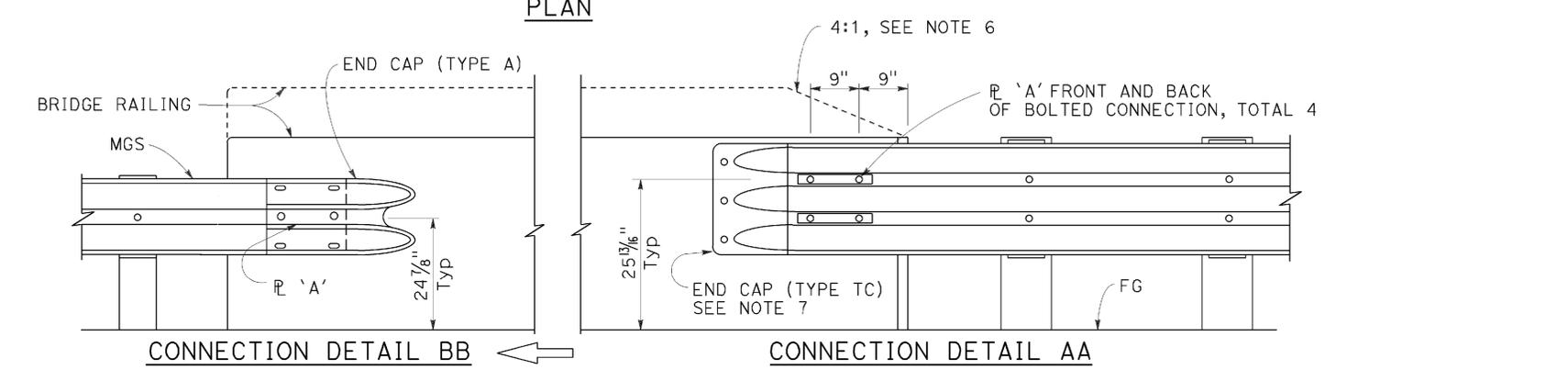
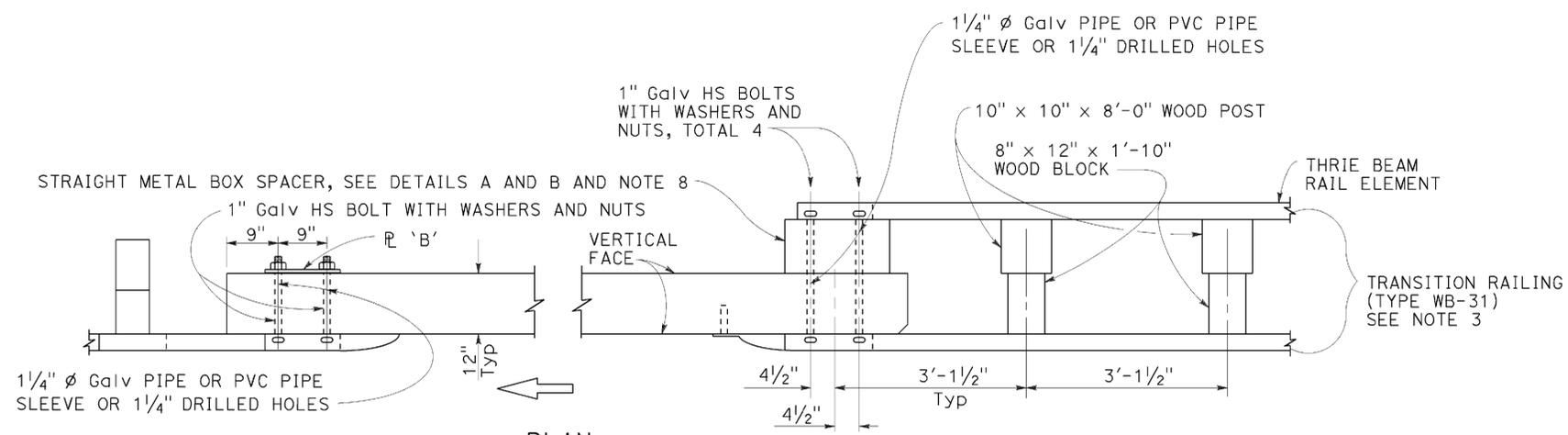
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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

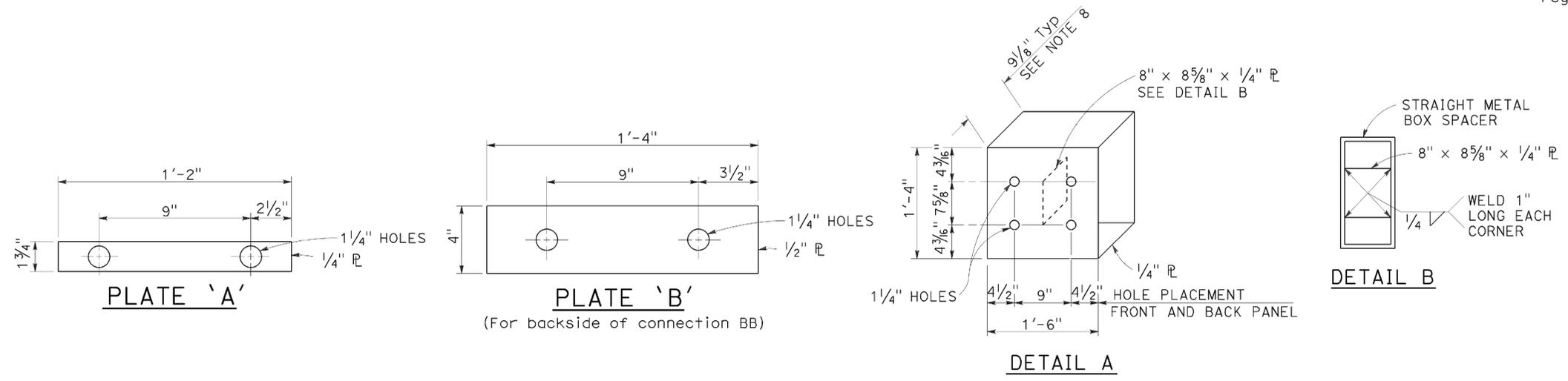
TO ACCOMPANY PLANS DATED 06-20-16



MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

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



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

NO SCALE

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

REVISED STANDARD PLAN RSP A77U1

2010 REVISED STANDARD PLAN RSP A77U1

DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:14

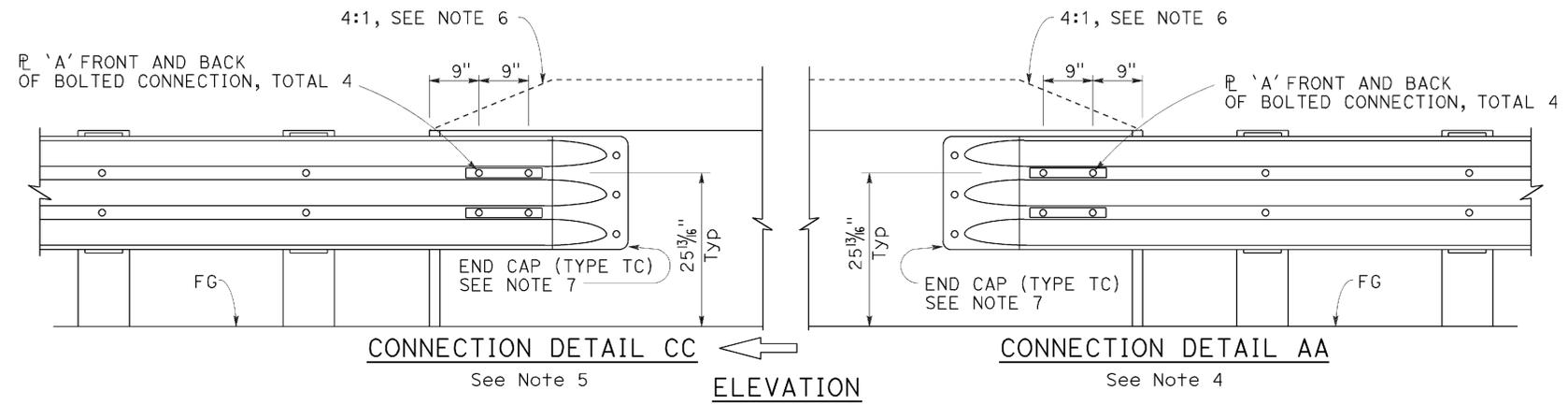
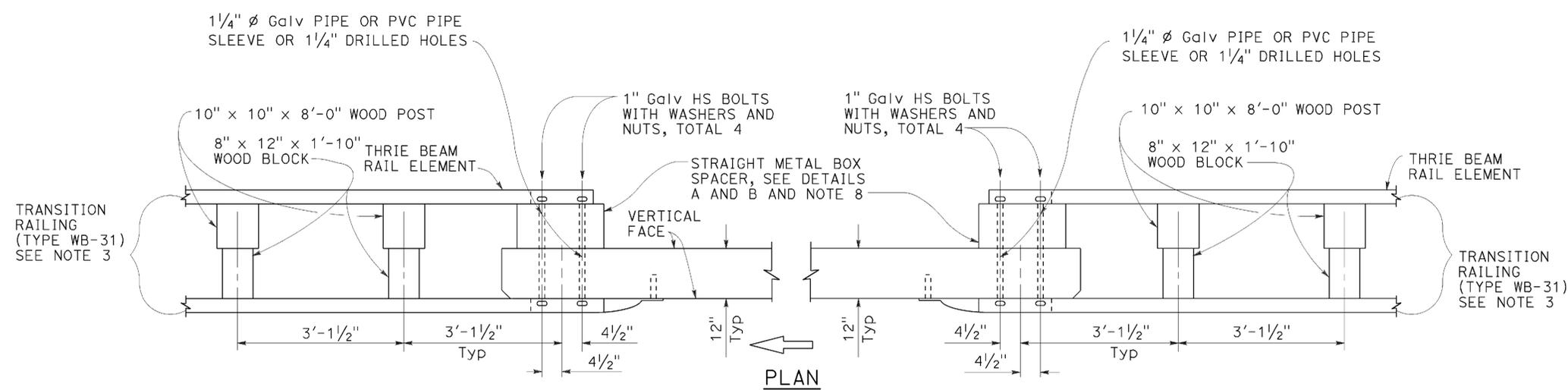
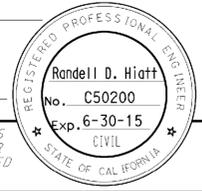
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	254	0.8/43.1	52	100

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

July 19, 2013
PLANS APPROVAL DATE

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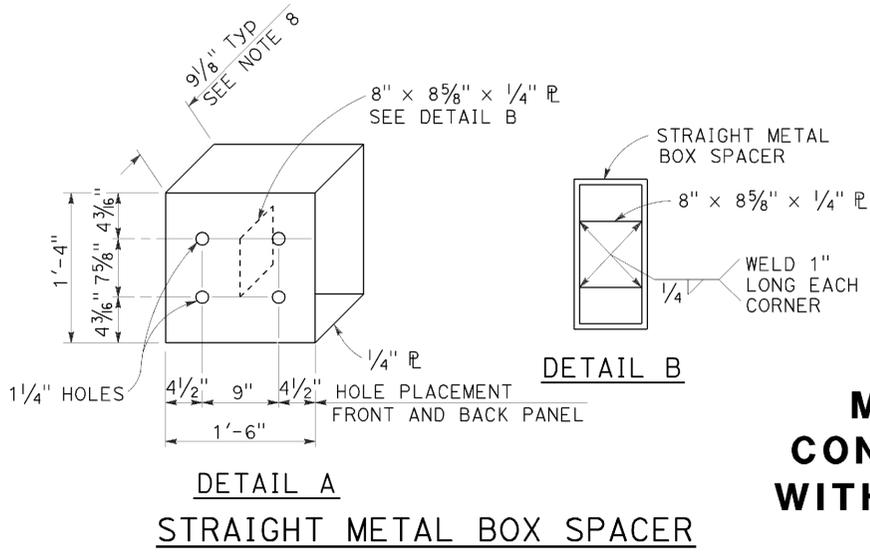
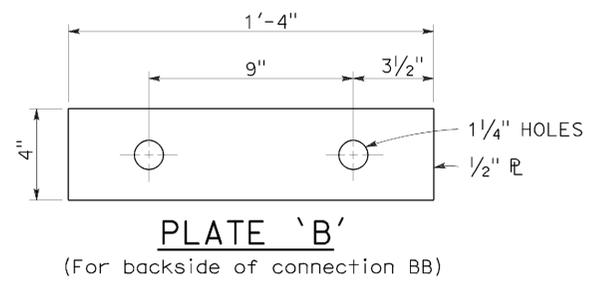
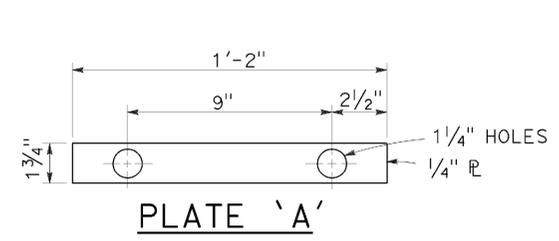
TO ACCOMPANY PLANS DATED 06-20-16



MIDWEST GUARDRAIL SYSTEM CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

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



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77U2

2010 REVISED STANDARD PLAN RSP A77U2

DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:14

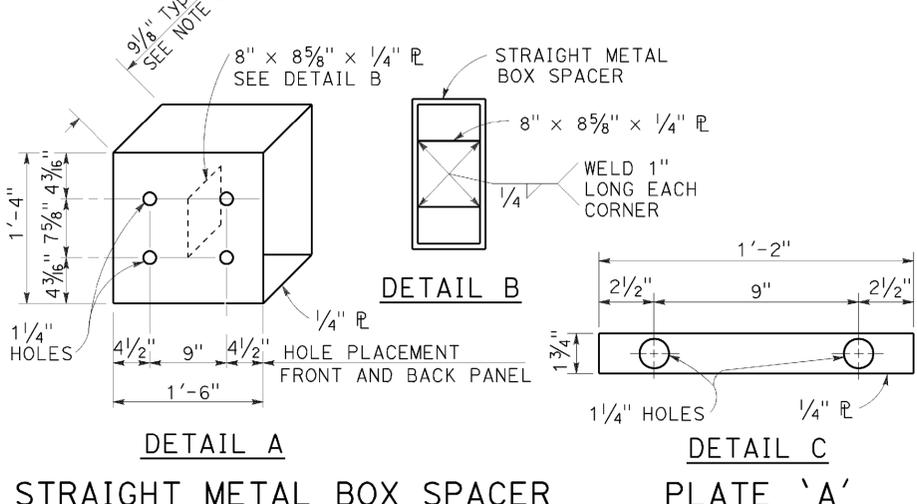
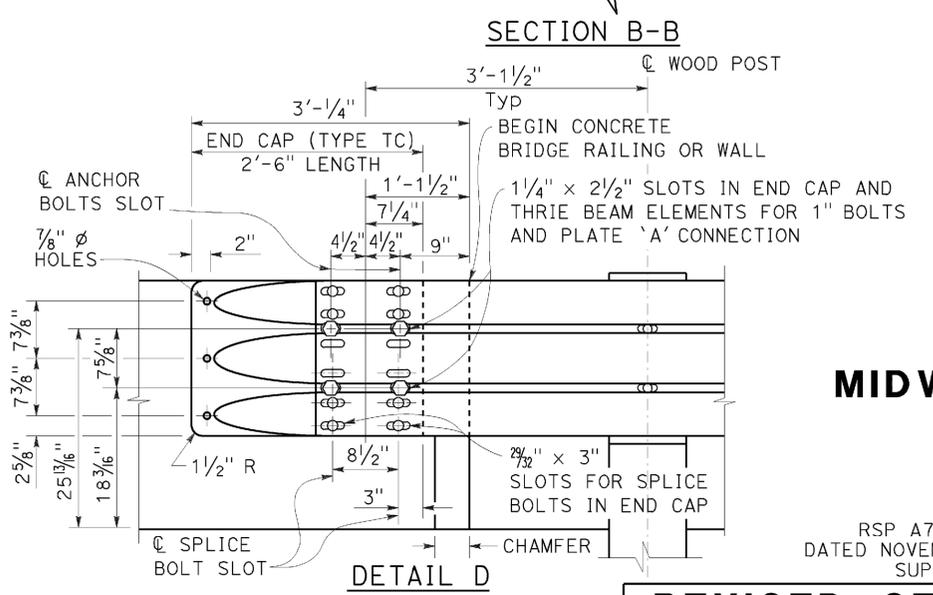
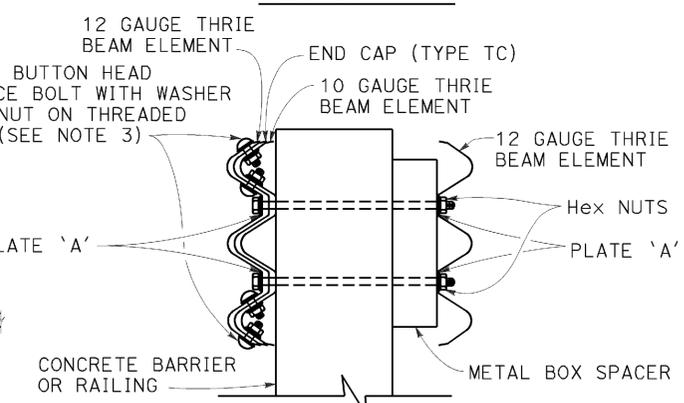
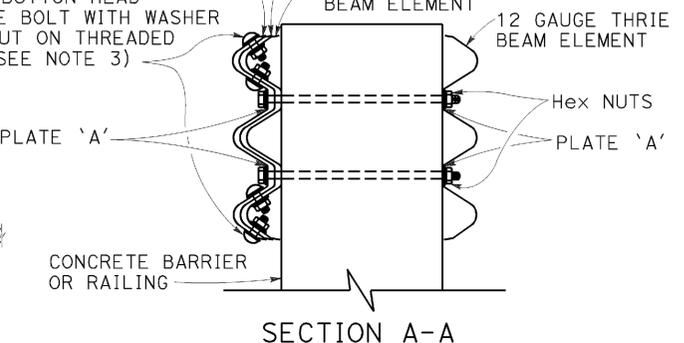
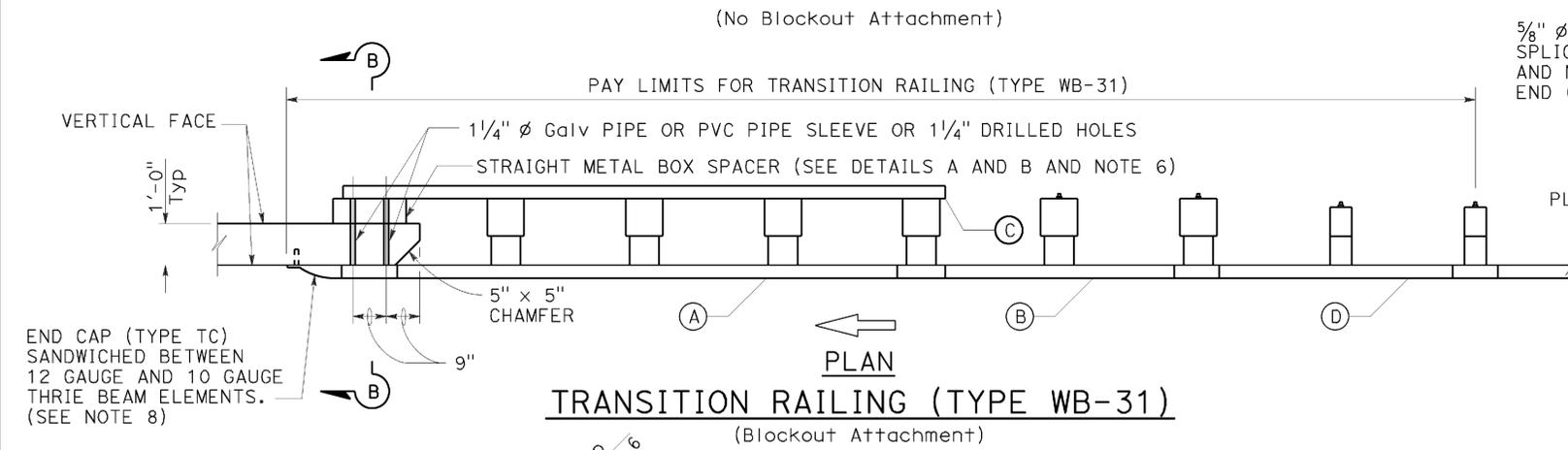
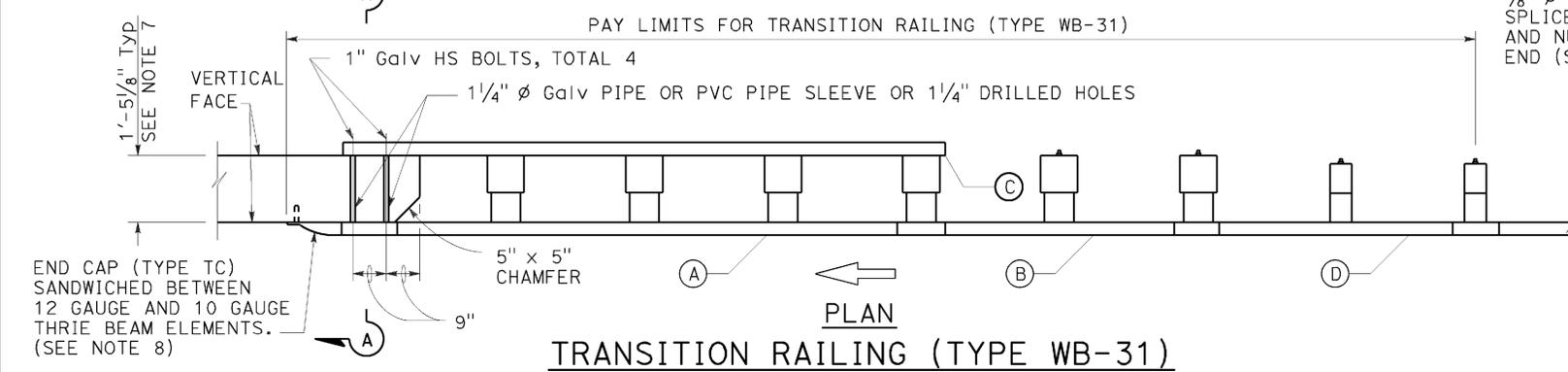
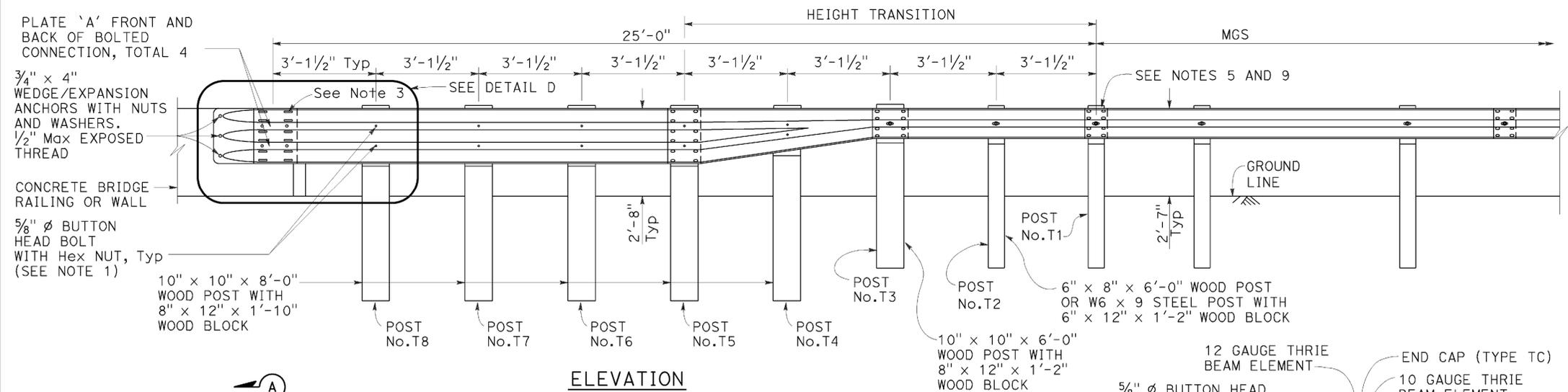
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	53	100

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 06-20-16
1. Use 5/8" ø Button head bolts and hex nuts for connections to posts. No washer on rail face for bolted connections to post.
 2. The nested rail elements, end cap, and 'W' beam to thrie beam element may be spliced together prior to bolting the elements to the wood post and concrete barrier or railing.
 3. Exterior splice bolt holes for rail element splices at Post No. T5 and the connection to the concrete barrier or railing shall be the standard 29/32" x 1 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1 1/4" ø. 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

DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:15

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	254	0.8/43.1	54	100

Srikanth N. Balasubramanian
REGISTERED CIVIL ENGINEER

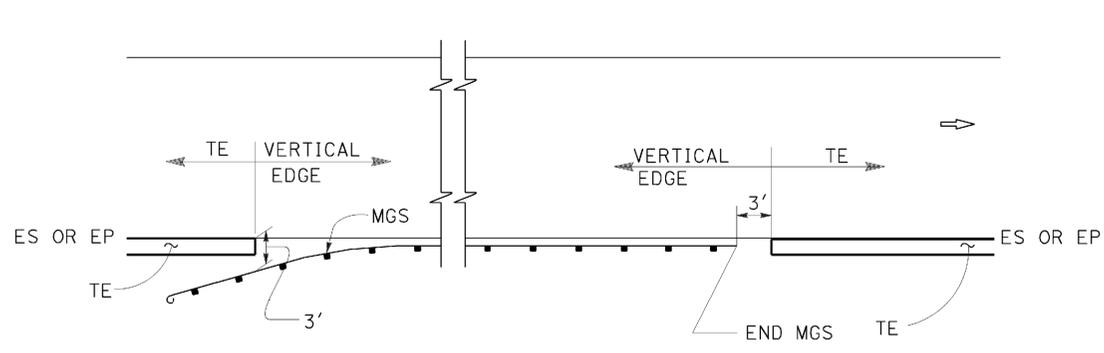
October 30, 2015
PLANS APPROVAL DATE

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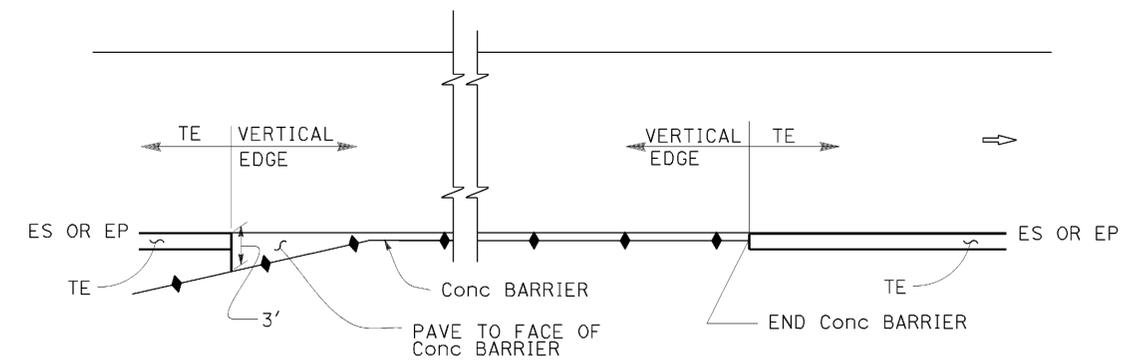
REGISTERED PROFESSIONAL ENGINEER
Srikanth N. Balasubramanian
No. C56426
Exp. 6-30-17
CIVIL
STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 06-20-16

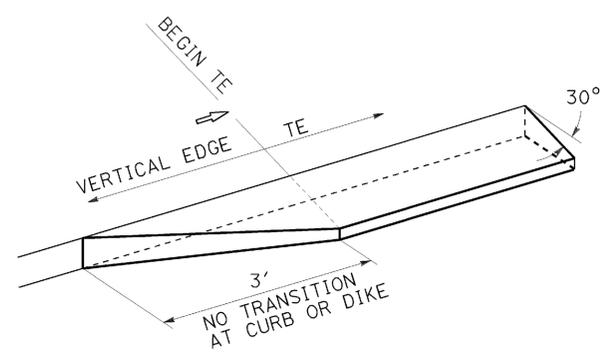
ABBREVIATIONS:
TE TAPERED EDGE



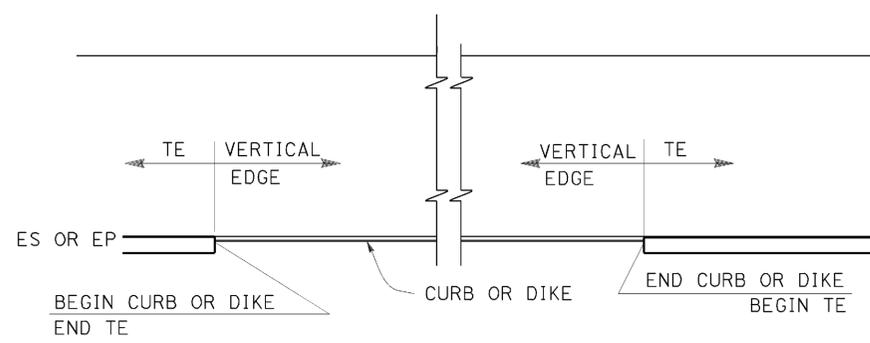
MGS



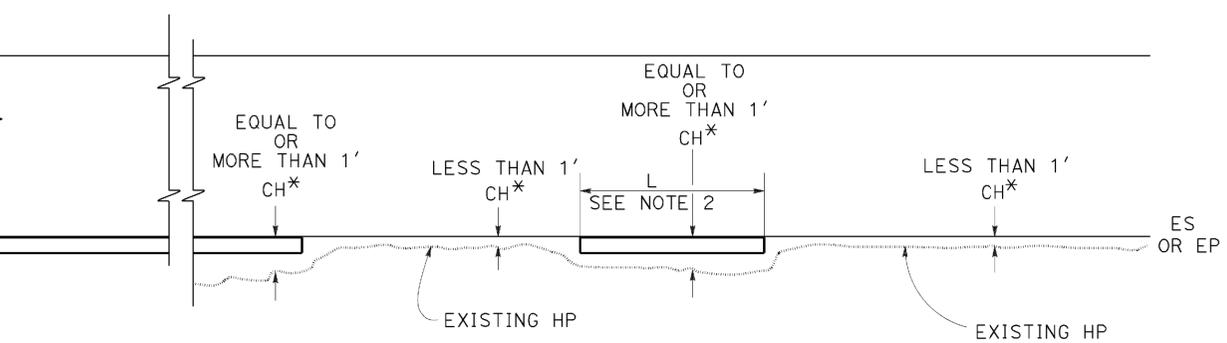
CONCRETE BARRIER



TRANSITION DETAIL FOR CONCRETE ONLY

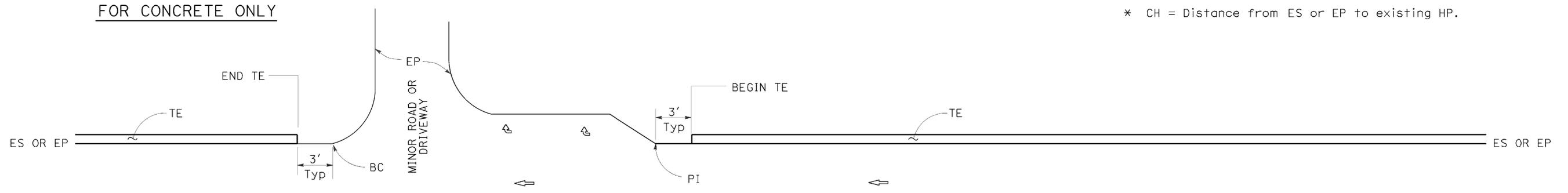


CURB OR DIKE

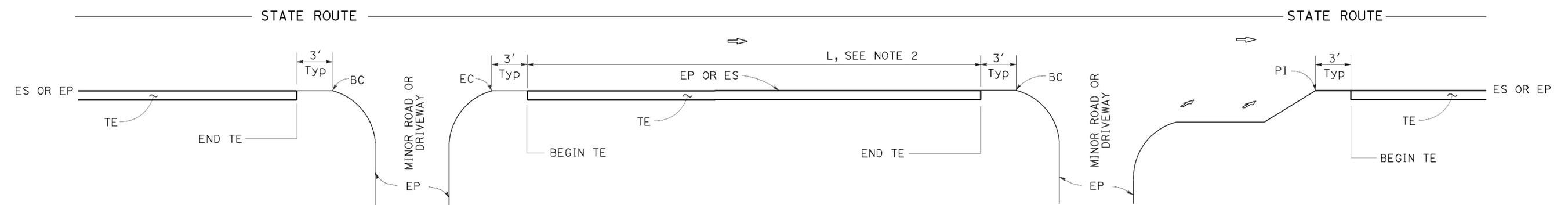


NARROW SIDE SLOPE

* CH = Distance from ES or EP to existing HP.



STATE ROUTE



INTERSECTION

DRIVEWAY AND INTERSECTION

MINOR ROADWAY OR DRIVEWAY

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

PAVEMENT EDGE TREATMENTS

NO SCALE

NOTES:

1. For details not shown, see Revised Standard Plans RSP P75 and RSP P76.
2. Tapered edge is optional when L is less than 30'.

RSP P74 DATED OCTOBER 30, 2015 SUPERSEDES RSP P74 DATED NOVEMBER 15, 2013 AND RSP P74 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P74

2010 REVISED STANDARD PLAN RSP P74

DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:15

TO ACCOMPANY PLANS DATED 06-20-16

ADDITIONAL HMA OR CONCRETE QUANTITIES FOR TE/SIDE/MILE

TYPICAL CROSS SECTION	TT	TOTAL ADDITIONAL MATERIAL FOR TE/SIDE/MILE		
		HMA (TON)	CONCRETE (CY)*	CONCRETE (CY)**
	0.15'	7.7	NA	NA
	0.20'	13.7	NA	NA
	0.30'	30.9	NA	NA
	0.40'	54.9	NA	NA
	0.45'	69.4	NA	NA
	0.50'	84.2	NA	NA
	0.60'	113.9	NA	NA
	0.70'	143.6	70.9	94.2
	0.80'	173.3	85.6	112.2
	0.90'	203.0	100.3	130.2
	1.00'	232.7	114.9	148.2
	1.10'	262.4	129.6	166.2
1.20'	292.1	144.3	184.2	

* For Detail "A"
** For Optional Detail "A"

LEGEND:

HMA OVERLAY

HMA OR CONCRETE OVERLAY

CONCRETE OVERLAY

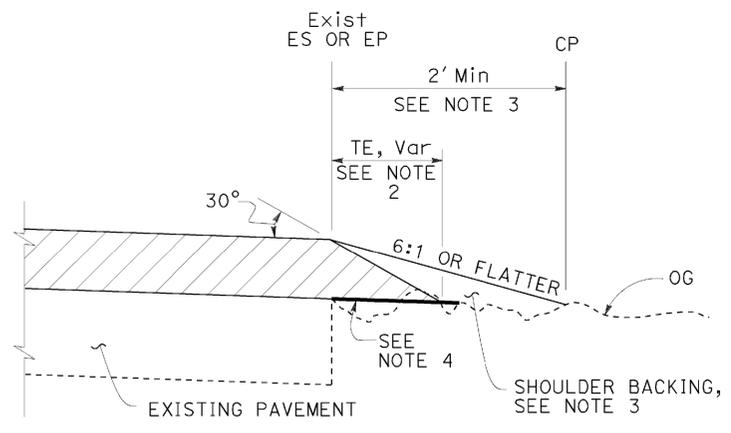
ABBREVIATIONS:

TE TAPERED EDGE

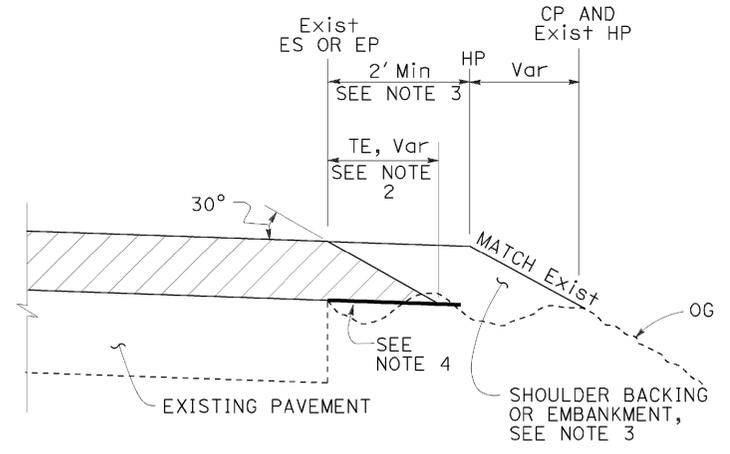
TT TOTAL THICKNESS OF TE

TABLE A
EDGE TREATMENT FOR VARIOUS OVERLAY THICKNESS AND CONDITIONS

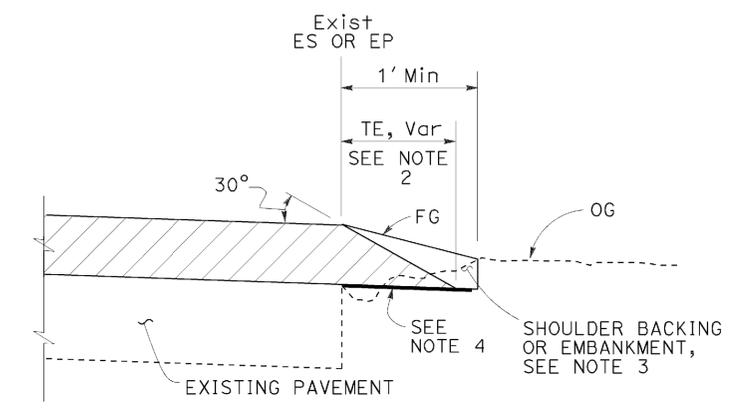
FIELD CONDITION	OVERLAY THICKNESS	
	LESS THAN 0.15'	0.15' OR MORE
Exist SLOPE 6:1 OR FLATTER	CASE E	CASE A
Exist SLOPE 3:1 TO 6:1	CASE E	CASE B
Exist SLOPE STEEPER THAN 3:1	CASE F	CASE F
CUT SECTION (REPLACE, COLD PLANE, MILL PAVEMENT)	CASE D	CASE C



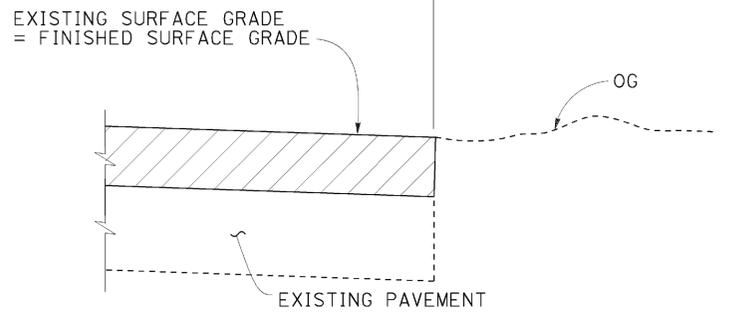
CASE A
Tapered Edge



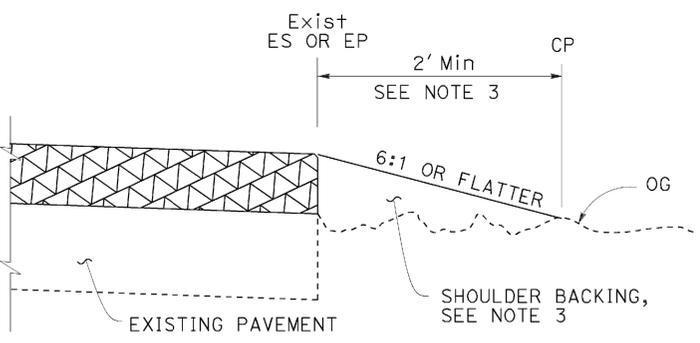
CASE B
Tapered Edge



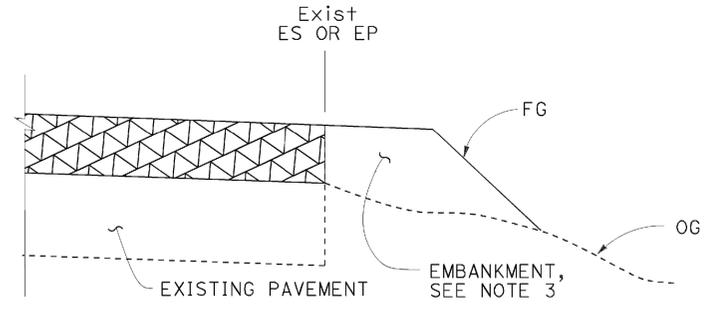
CASE C
Tapered Edge



CASE D
Vertical Edge

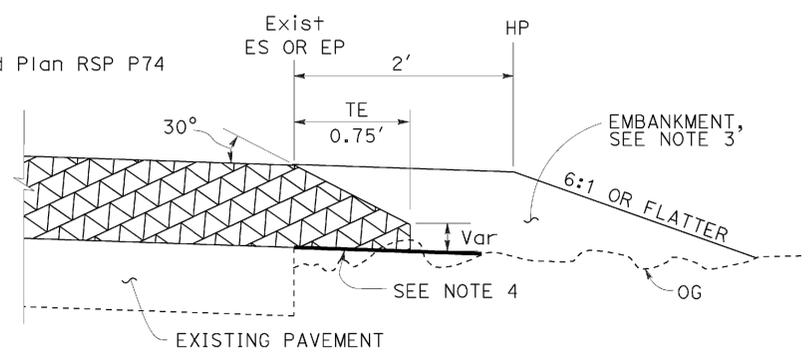


CASE E
Vertical Edge



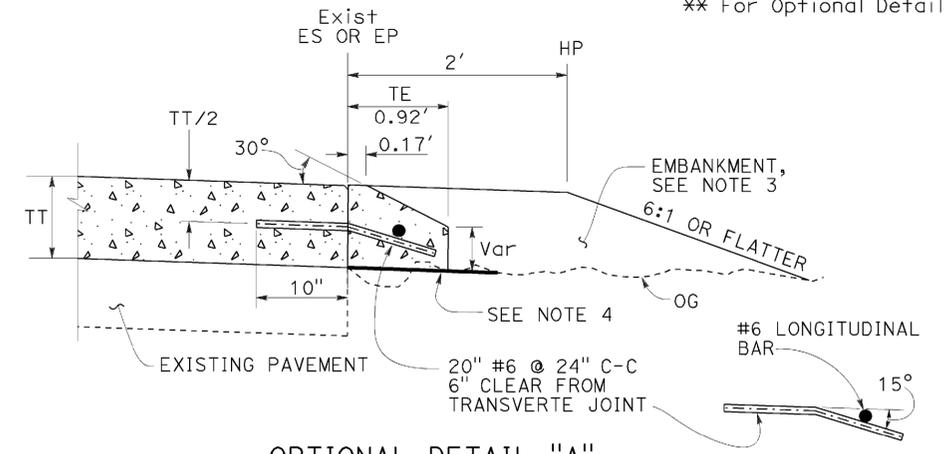
CASE F
Vertical Edge
* See Table A and Revised Std Plan RSP P74

- NOTES:**
- For limits of tapered edge and vertical edge treatments, see Revised Standard Plan RSP P74.
 - Details shown for HMA overlay thickness less than 0.43'. See Detail "A" for HMA overlay thickness more than 0.43' or concrete overlay.
 - For locations and limits of shoulder backing or embankment see project plans.
 - Grade existing ground to place tapered edge. 1' minimum width
 - Tapered edge transverse joint must match overlay transverse joint. End of #6 longitudinal bar must be 2" ± 1/2" clear from transverse joint.
 - Tapered edge is not needed in the area of MGS, barrier, right turn lane and acceleration lane. See Revised Standard Plan RSP P74.



DETAIL "A"

For HMA overlay thickness more than 0.43' or concrete overlay



OPTIONAL DETAIL "A"
For concrete overlay
See Note 5

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**PAVEMENT EDGE TREATMENTS-
OVERLAYS**

NO SCALE

RSP P75 DATED OCTOBER 30, 2015 SUPERSEDES RSP P75 DATED NOVEMBER 15, 2013 AND RSP P75 DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP P75

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

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

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	57	100

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

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

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

TO ACCOMPANY PLANS DATED 06-20-16

SOFFIT AND WALL-MOUNTED LUMINAIRES

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

NOTE:
Arrow indicates "street side" of luminaire.

COMMONLY USED SYMBOLS FOR UNITED STATES CUSTOMARY UNITS OF MEASUREMENT:

SYMBOL	DEFINITIONS
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 LEGEND)
		CITY ELECTROLIER
		ELECTROLIER FOUNDATION (FUTURE INSTALLATION)

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

STANDARD ELECTROLIER

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**

NO SCALE

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

REVISED STANDARD PLAN RSP ES-1A

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	58	100

Theresa Gabriel
REGISTERED ELECTRICAL ENGINEER

October 30, 2015
PLANS APPROVAL DATE

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

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TO ACCOMPANY PLANS DATED 06-20-16

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
		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

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

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

		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:

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

ILLUMINATED OVERHEAD SIGN

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(LEGEND AND ABBREVIATIONS)**

NO SCALE

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

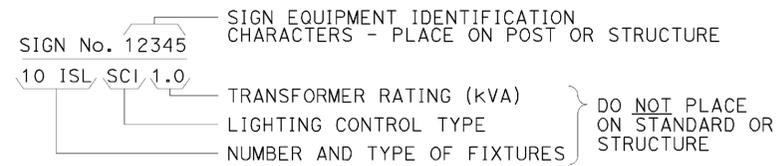
REVISED STANDARD PLAN RSP ES-1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	59	100

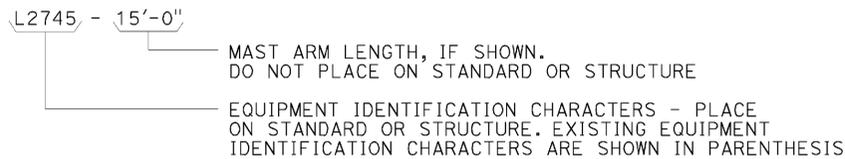
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

EQUIPMENT IDENTIFICATION

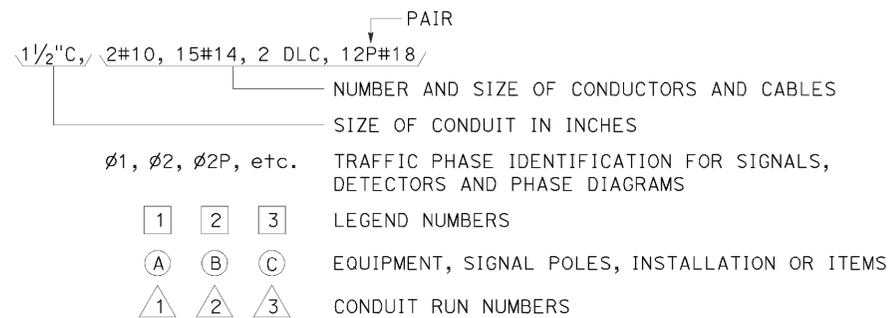
ILLUMINATED SIGN IDENTIFICATION:



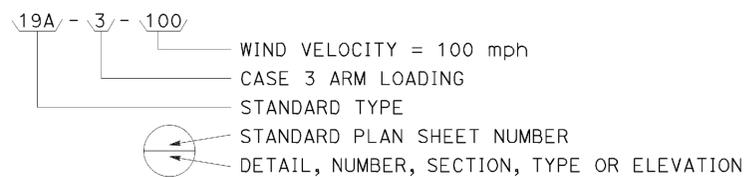
ELECTROLIER OR EQUIPMENT IDENTIFICATION:



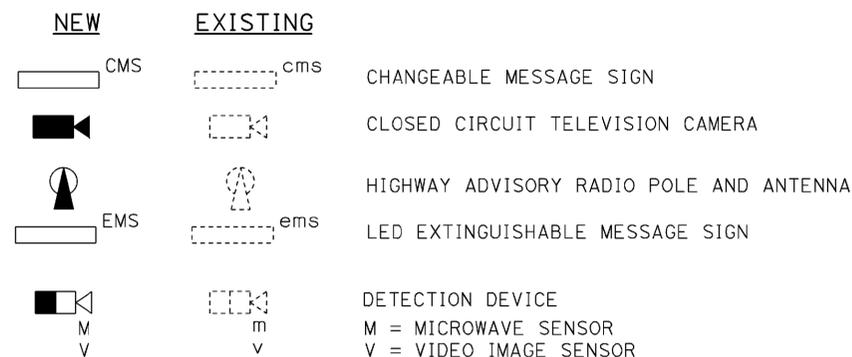
CONDUIT AND CONDUCTOR IDENTIFICATION:



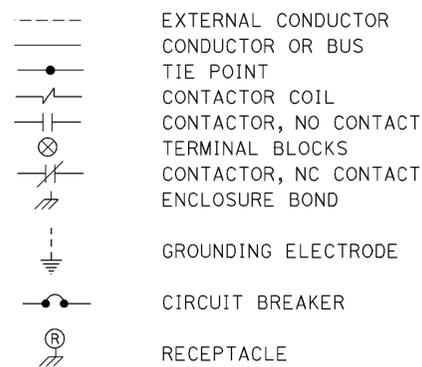
SIGNAL AND LIGHTING STANDARD (TYPICAL DESIGNATION):



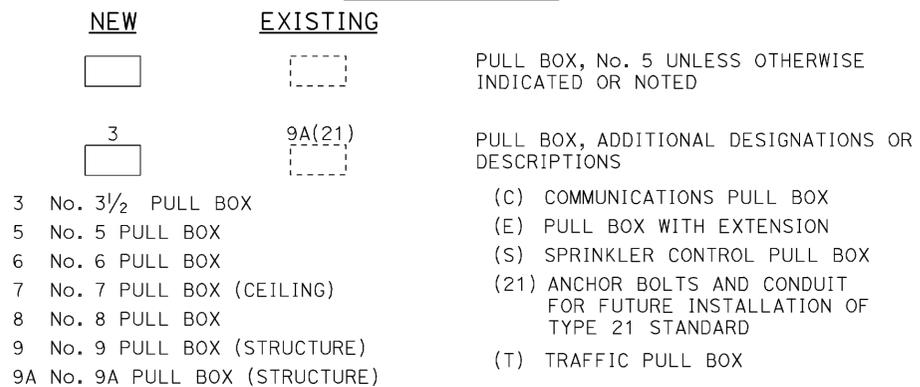
MISCELLANEOUS EQUIPMENT



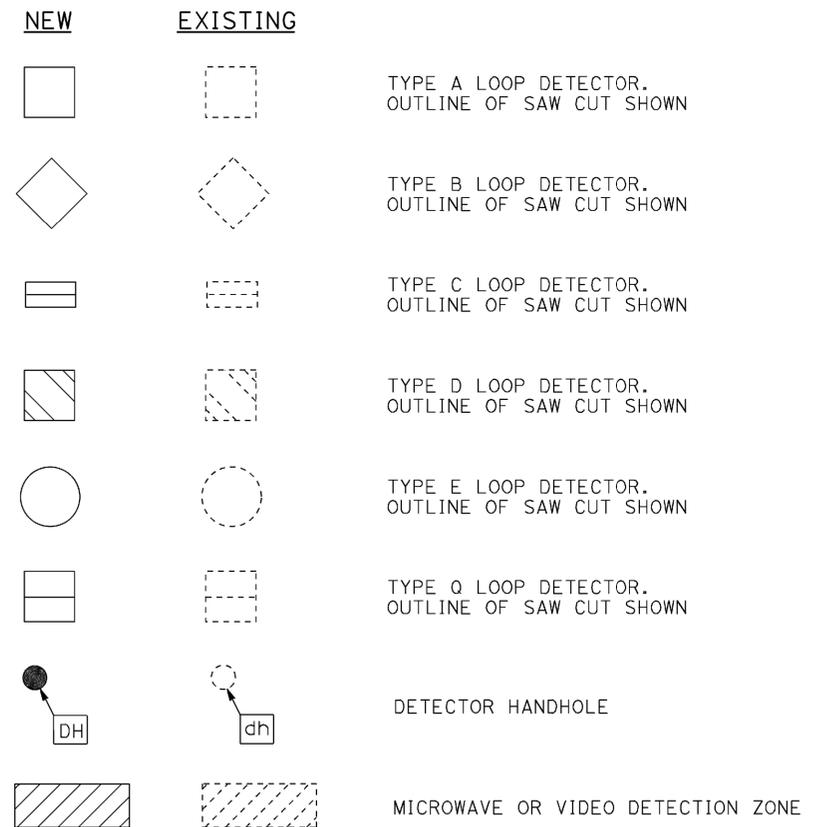
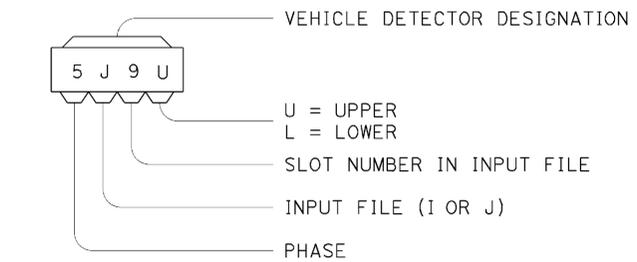
WIRING DIAGRAM LEGEND



PULL BOXES



VEHICLE DETECTORS



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

ELECTRICAL SYSTEMS (LEGEND AND ABBREVIATIONS)

NO SCALE

RSP ES-1C DATED APRIL 15, 2016 SUPERSEDES RSP ES-1C DATED OCTOBER 30, 2015 AND RSP ES-1C DATED JULY 19, 2013 AND STANDARD PLAN ES-1C DATED MAY 20, 2011 - PAGE 427 OF THE STANDARD PLANS BOOK DATED 2010.

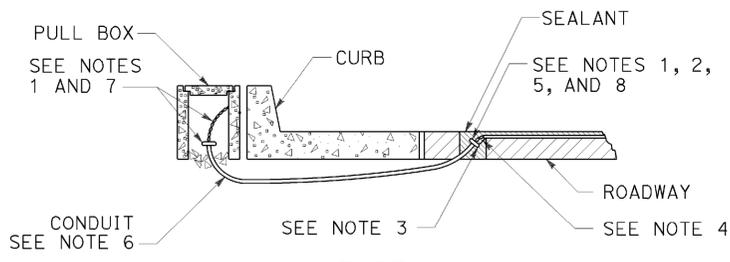
REVISED STANDARD PLAN RSP ES-1C

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	60	100

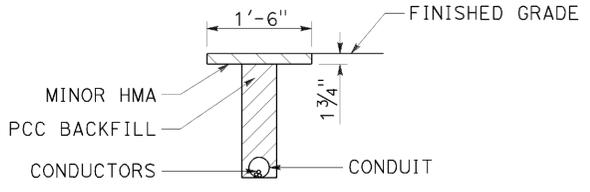
Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 October 30, 2015
 PLANS APPROVAL DATE
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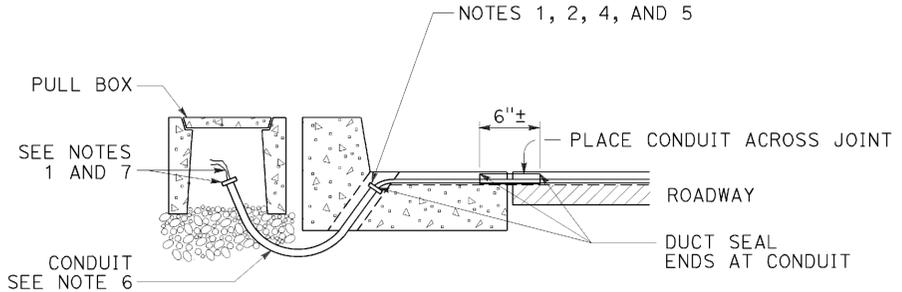
TO ACCOMPANY PLANS DATED 06-20-16



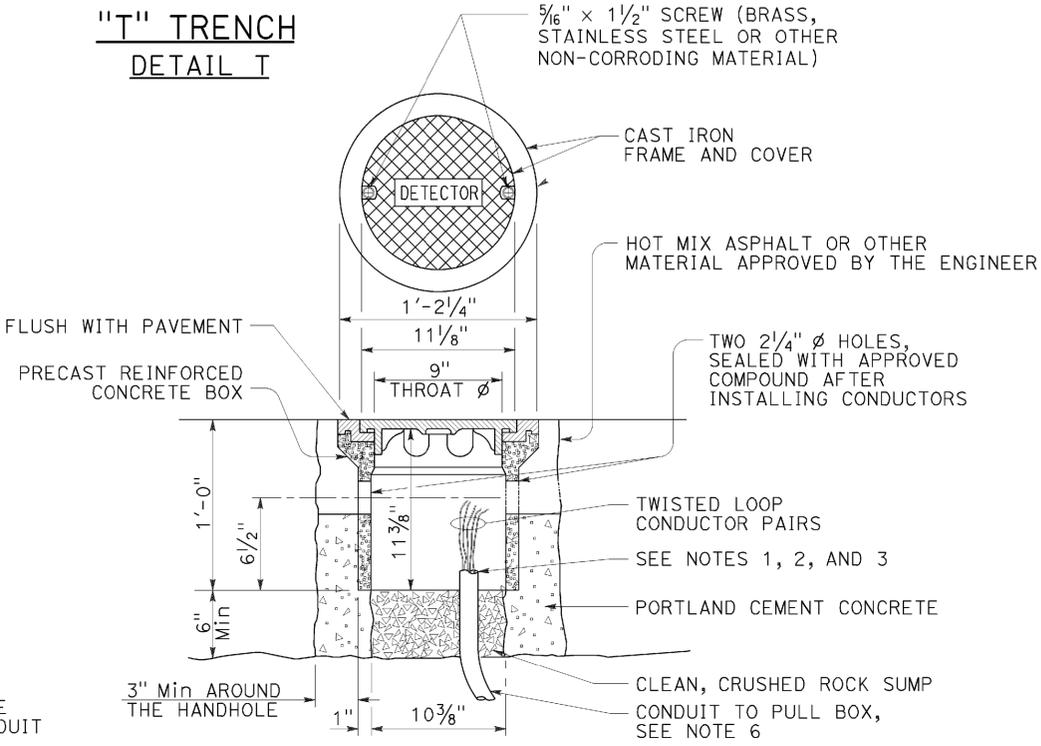
**TYPE A
CURB TERMINATION DETAIL**



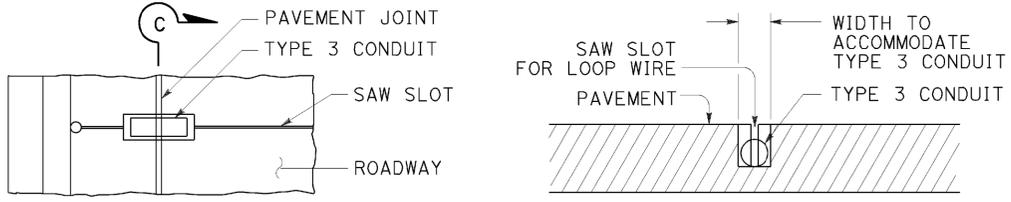
**"T" TRENCH
DETAIL 1**



CROSS SECTION



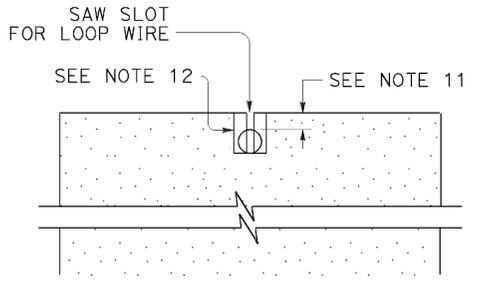
DETECTOR HANDHOLE DETAIL



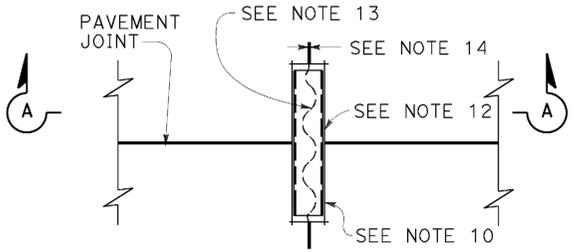
PLAN VIEW

SECTION C-C

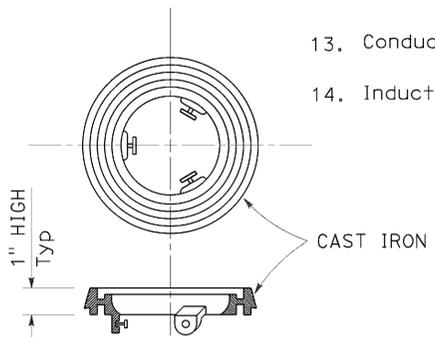
**TYPE B
CURB TERMINATION DETAIL**



SECTION A-A



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



LOCKING GRADE RING

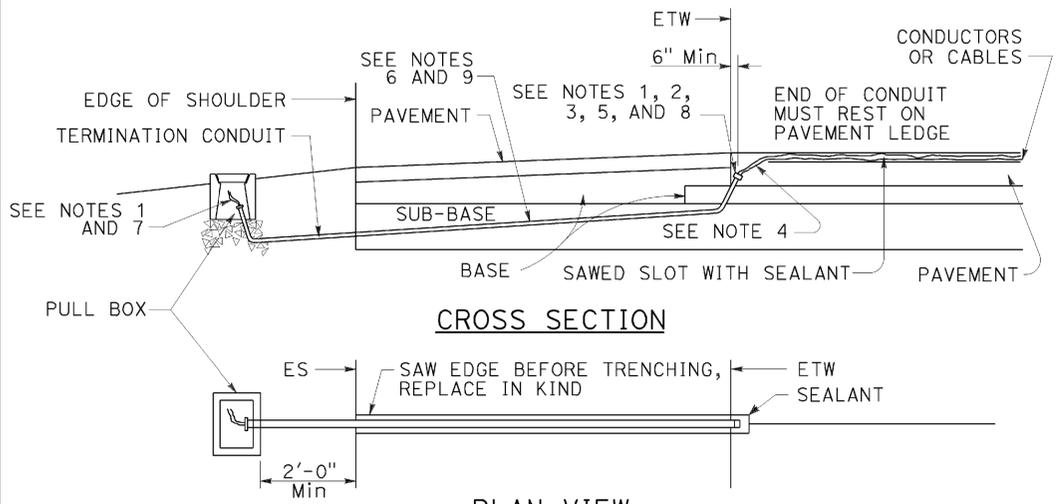
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP ES-5D



CROSS SECTION

**PLAN VIEW
SHOULDER TERMINATION DETAILS**

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.

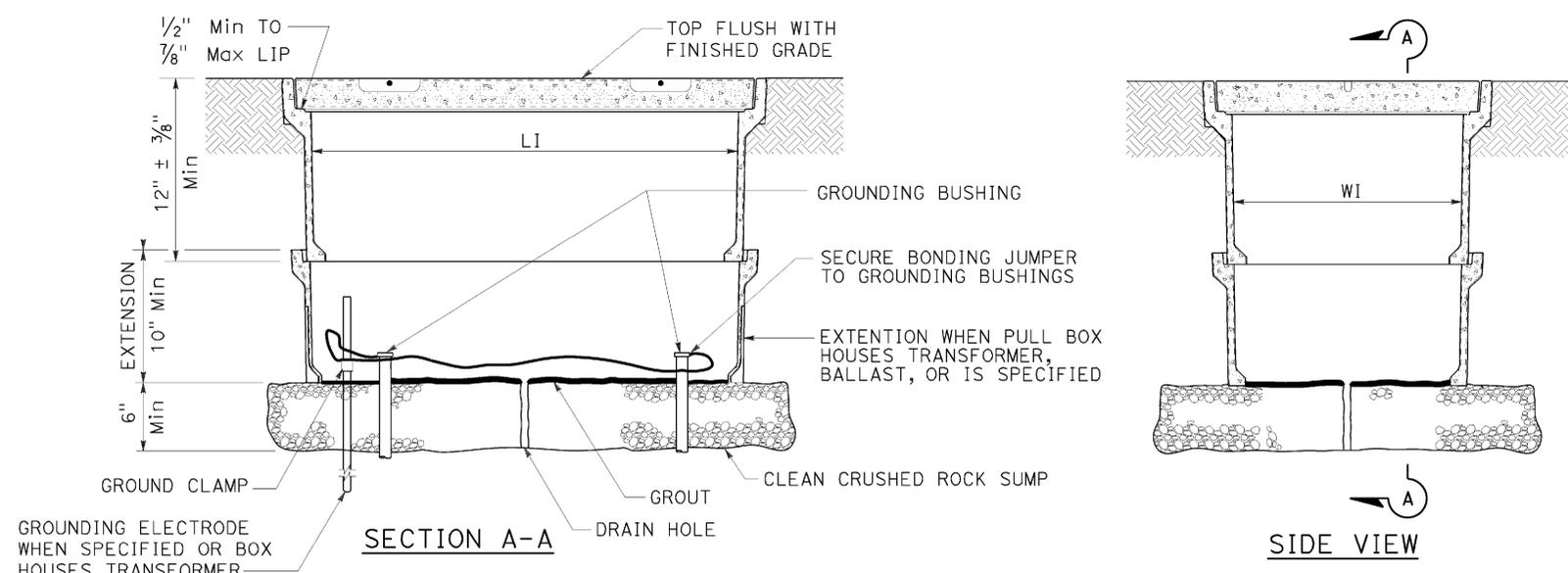
2010 REVISED STANDARD PLAN RSP ES-5D

DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:19

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	254	0.8/43.1	61	100

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 PLANS APPROVAL DATE
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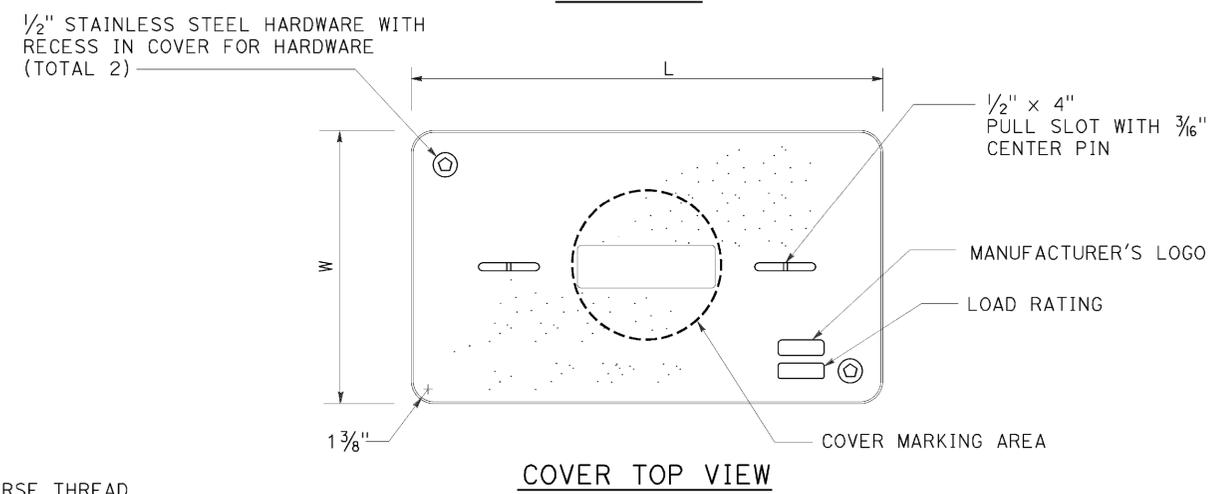
TO ACCOMPANY PLANS DATED 06-20-16



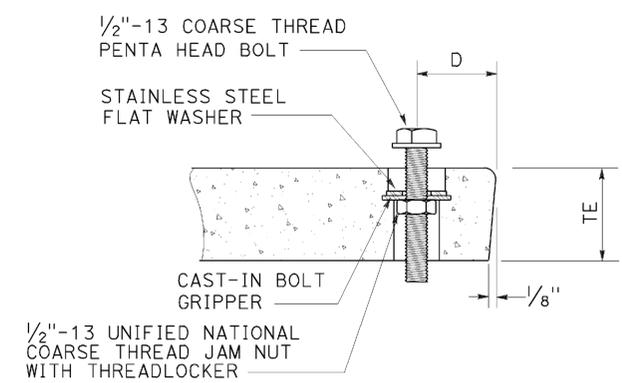
INSTALLATION DETAILS
DETAIL A

NOTES:

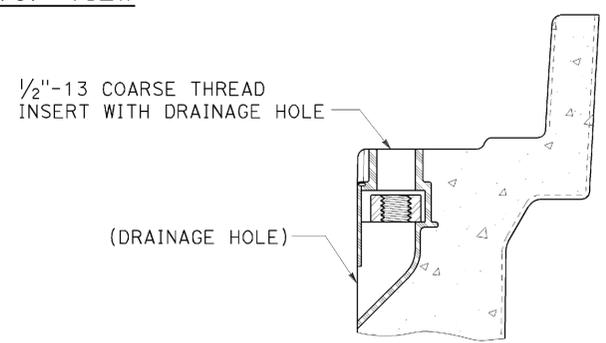
1. The nominal dimensions of the opening in which the cover sets shall be the same as the cover dimensions except the length and width dimensions shall be 1/8" greater.
2. Covers and boxes shall be interchangeable with California standard male and female gages. When interchanged with a standard male 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.
3. Dimensions for the cover for non-traffic pull box are nominal values.



COVER TOP VIEW



TYPICAL COVER CAPTIVE BOLT
OR SIMILAR



TYPICAL THREADED INSERT
OR SIMILAR

DIMENSION TABLE										
PULL BOX	PULL BOX			COVER						
	MINIMUM DEPTH BOX	MINIMUM DEPTH EXTENSION	MINIMUM WEIGHT	LI Min	WI Min	TE	D	L	W	MINIMUM WEIGHT
No. 3 1/2	12"	N/A	40 lb	1' - 3"	9"	1 3/4"	1 3/4"	1' - 3 1/4" - 1' - 3 3/8"	10" - 10 1/8"	30 lb
No. 5	12"	10"	55 lb	1' - 8"	11"	2"	1 3/4"	1' - 11 1/4"	1' - 1 3/4"	60 lb
No. 6	12"	10"	70 lb	2' - 4 1/4"	1' - 3 1/4"	2"	2"	2' - 6 1/2"	1' - 5 1/2"	85 lb

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

RSP ES-8A DATED APRIL 15, 2016 SUPERSEDES RSP ES-8A DATED OCTOBER 30, 2015 AND RSP ES-8A DATED JULY 19, 2013 AND RSP ES-8A DATED JANUARY 20, 2012 THAT SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-8A

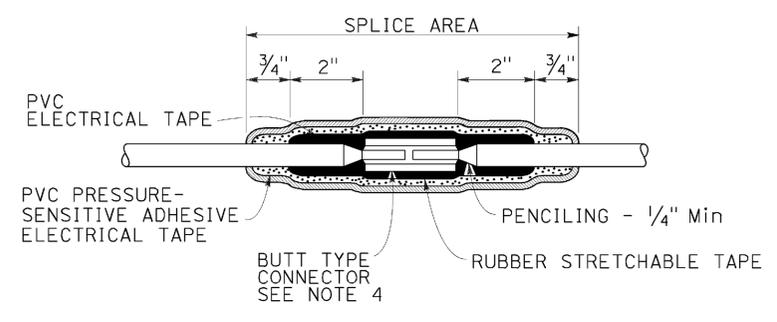
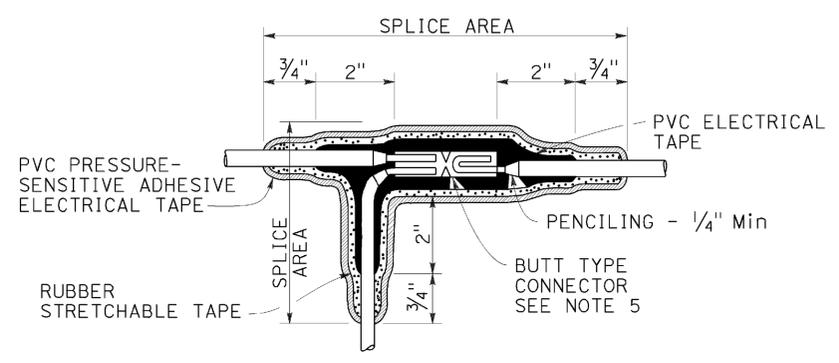
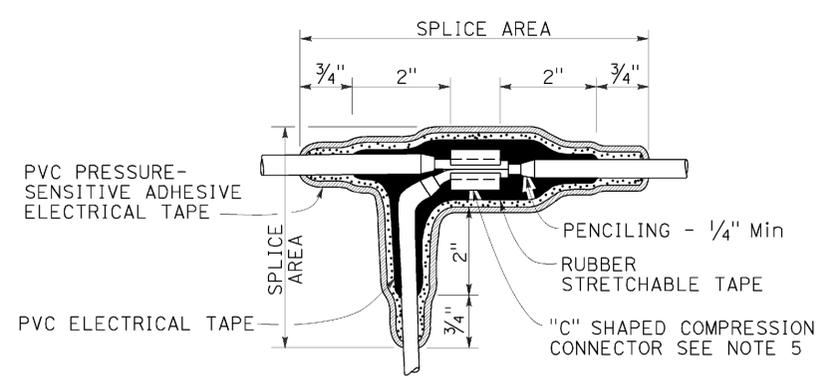
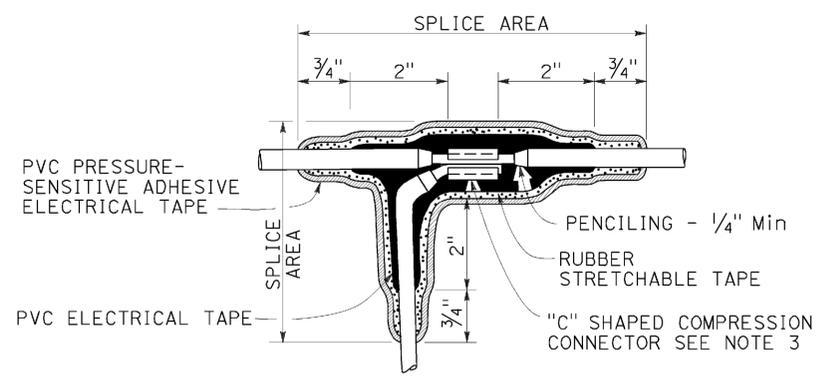
2010 REVISED STANDARD PLAN RSP ES-8A

DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:19

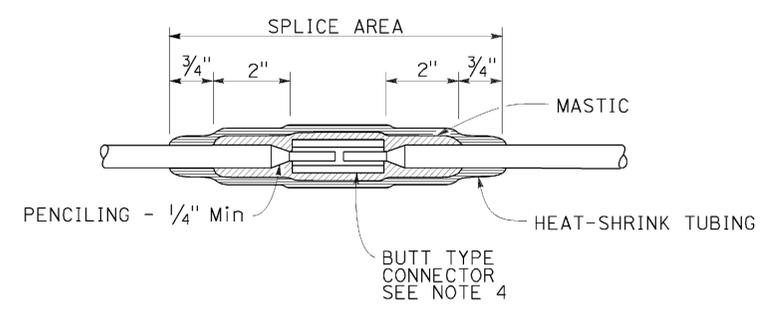
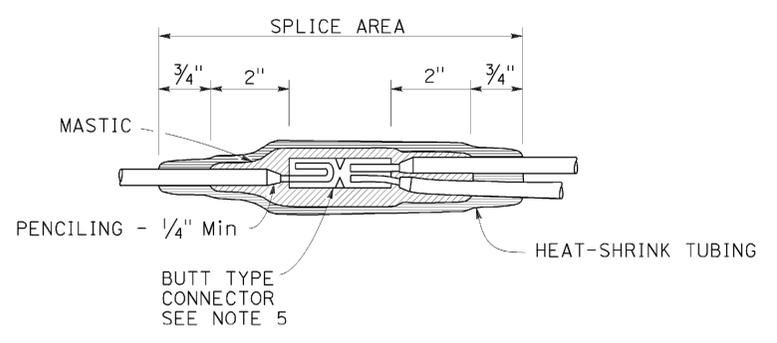
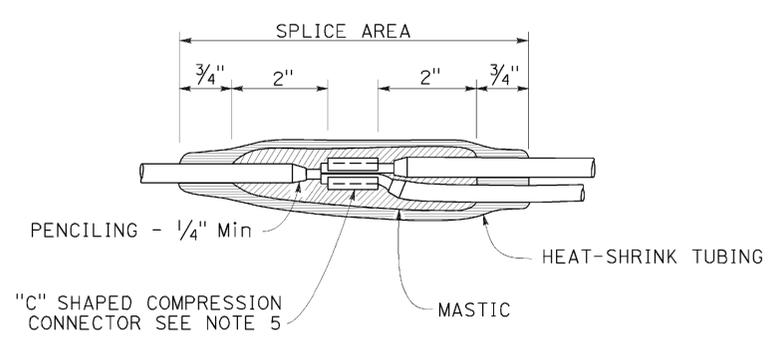
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
01	Hum	254	0.8/43.1	62	100

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 PLANS APPROVAL DATE
 No. E15129
 Exp. 6-30-16
 ELECTRICAL
 STATE OF CALIFORNIA

TO ACCOMPANY PLANS DATED 06-20-16



TYPICAL SPLICE INSULATION METHOD B



TYPICAL SPLICE INSULATION HEAT-SHRINK TUBING

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**ELECTRICAL SYSTEMS
(SPLICE INSULATION METHODS DETAILS)**

NO SCALE

RSP ES-13A DATED APRIL 15, 2016 SUPERSEDES RSP ES-13A DATED OCTOBER 30, 2015 AND STANDARD PLAN ES-13A DATED MAY 20, 2011 - PAGE 491 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-13A

2010 REVISED STANDARD PLAN RSP ES-13A

DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:20

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	63	100

Theresa Gabriel
 REGISTERED ELECTRICAL ENGINEER
 April 15, 2016
 PLANS APPROVAL DATE

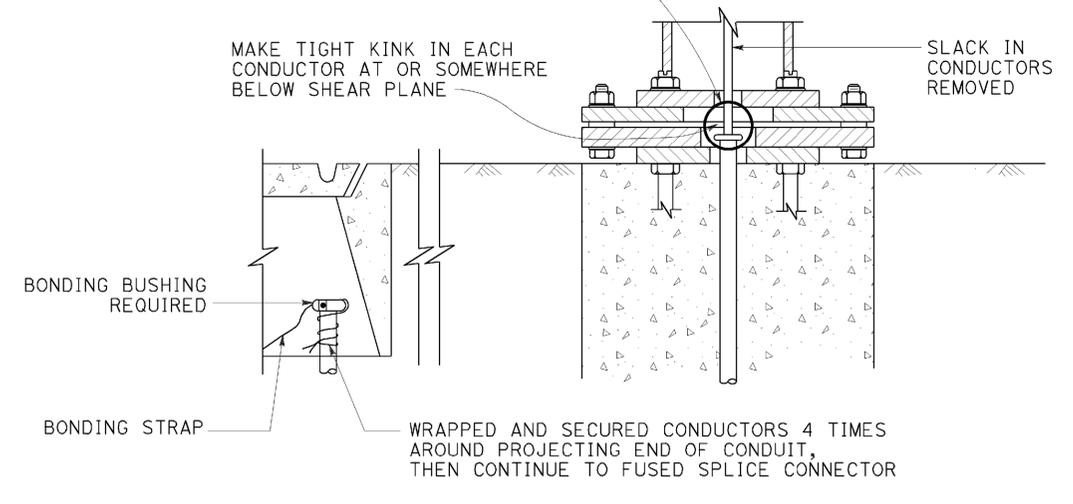
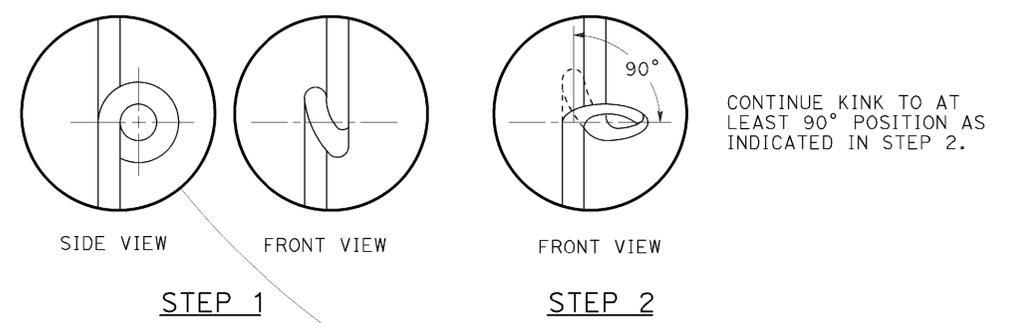
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED 06-20-16

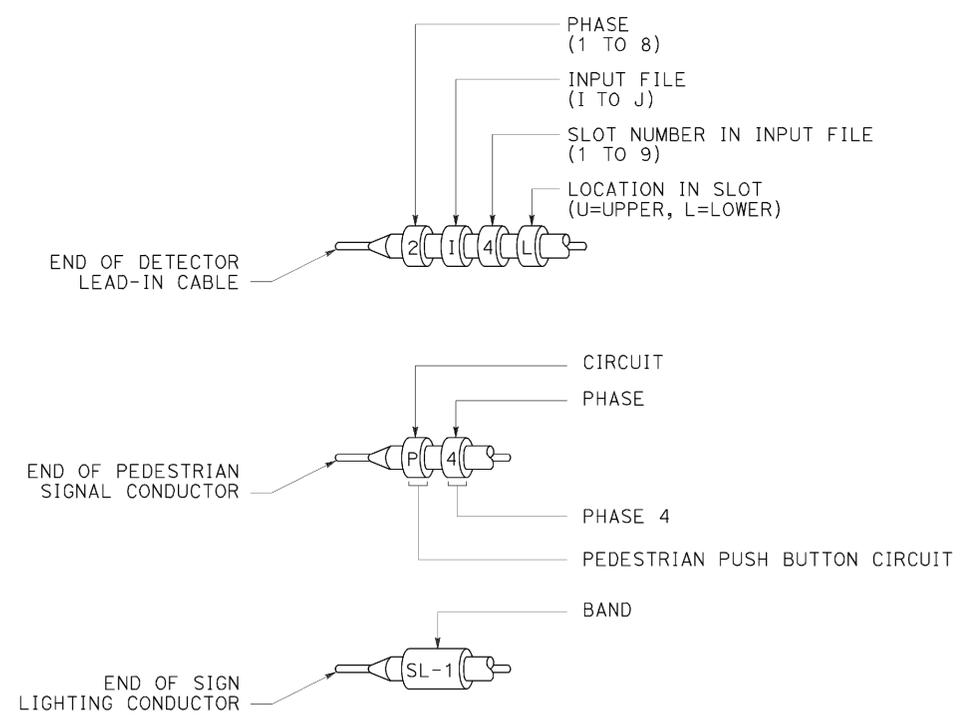
CIRCUIT VOLTAGE	FUSE VOLTAGE RATING	FUSE CURRENT RATING						
		HPS LAMP BALLAST		LOW PRESSURE SODIUM BALLAST	INDUCTION SIGN LIGHTING	SINGLE PHASE (TWO WIRE) TRANSFORMERS (PRIMARY SIDE)		
		70 W	100 W	180 W	85 W	1 KVA	2 KVA	3 KVA
120 V	250 V	5 A	5 A	5 A	5 A	10 A	20 A	30 A
240 V	250 V	5 A	5 A	5 A	5 A	6 A	10 A	20 A
480 V	500-600 V	5 A	5 A	3 A	1 A (SEE NOTE 2)	3 A	6 A	10 A

- NOTES:**
- Primary lines of multiple ballasts shall be provided with fused connectors. Fuse ratings shall be as noted above.
 - See Revised Standard Plan RSP ES-15D, Type SC3 control.

FUSE RATINGS FOR FUSED CONNECTORS



KINKING DETAIL FOR SLIP BASE STANDARDS
DETAIL A



TYPICAL BANDING DETAILS
DETAIL B

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION
ELECTRICAL SYSTEMS
(FUSE RATING, KINKING AND BANDING DETAIL)

NO SCALE

RSP ES-13B DATED APRIL 15, 2016 SUPERSEDES STANDARD PLAN ES-13B DATED MAY 20, 2011 - PAGE 492 OF THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP ES-13B

2010 REVISED STANDARD PLAN RSP ES-13B

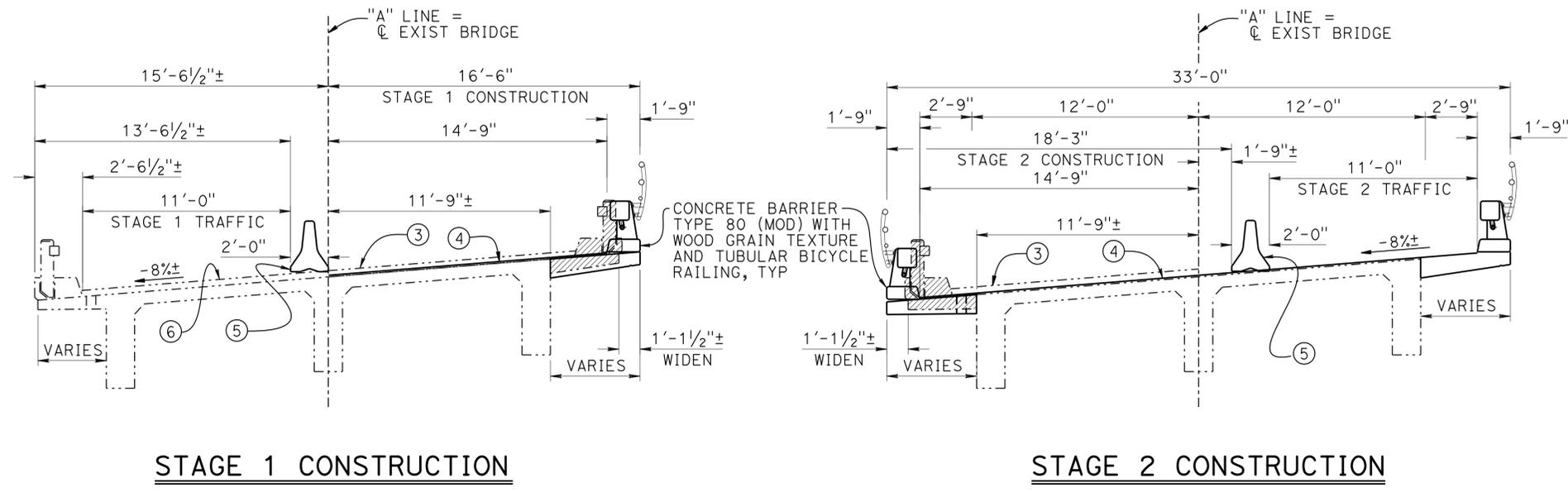
DATE PLOTTED => 30-SEP-2016
TIME PLOTTED => 07:20

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	65	100

2-19-15
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE

Eric G. Burgeson
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

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TYPICAL SECTION
 $\frac{1}{4}'' = 1'-0''$

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

Joseph E. Downing DESIGN ENGINEER	DESIGN	BY Ali Asnaashari	CHECKED Eric Burgeson	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	04-0007	
	DETAILS	BY Jay Reid / Liang Ma	CHECKED Eric Burgeson	LAYOUT	BY Eric Burgeson			CHECKED Ali Asnaashari	POST MILE	0.88
	QUANTITIES	BY Mufeed Khalaf	CHECKED Pyo Hong	SPECIFICATIONS	BY Tina Chen			CHECKED Tina Chen	PLANS AND SPECS COMPARED	

WIDEN/BARRIER REPLACEMENT	
OHMAN CREEK BRIDGE	
GENERAL PLAN NO. 2	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3
 UNIT: 3578
 PROJECT NUMBER & PHASE: 01000001861
 CONTRACT NO.: 01-430604
 DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET	OF
5-20-14 5-27-14 1-22-15 5-18-16	2	9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	66	100

2-19-15
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE

Eric G. Burgeson
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

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GENERAL NOTES

EXISTING STRUCTURE

SPECIFICATIONS:

DESIGN:

AASHTO dated 1935 with revisions, and as Supplemented by Bridge Planing and Design Manual

CONSTRUCTION:

Standard Specifications, Division of Highways, dated August 1935 and the Special Provisions

LIVE LOADING:

H-15

UNIT STRESSES:

Reinforced Concrete:

$f_s = 18,000$ psi
 $f_c = 1000$ psi
 $n = 10$

NEW CONSTRUCTION

DESIGN:

Bridge Design Specifications, LFD Version April 2000 (1996 AASHTO with Interims and Revisions by CALTRANS)

DEAD LOAD:

Includes 35 PSF of deck wear surface
No future additional deck wear surface allowed.

LIVE LOADING:

HS20-44 design load.

REINFORCED CONCRETE:

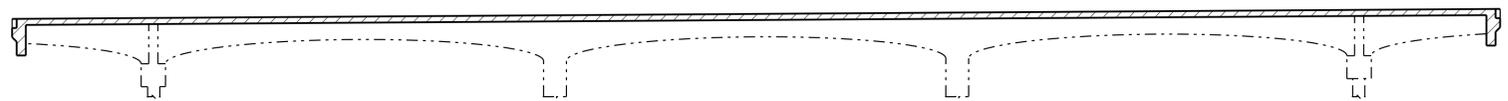
$f_y = 60$ ksi
 $f'_c = 3600$ ksi
 $n = 9$

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN NO. 1
2	GENERAL PLAN NO. 2
3	INDEX TO PLANS
4	FOUNDATION PLAN
5	ABUTMENT DETAILS
6	TYPICAL SECTION
7	MISCELLANEOUS DETAILS
8	BARRIER TEXTURE DETAILS
9	TUBULAR BICYCLE RAILING DETAILS

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)
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B0-5	BRIDGE DETAILS
B0-13	BRIDGE DETAILS
B7-8	DECK DRAINAGE DETAILS
RSP B11-60	CONCRETE BARRIER TYPE 80

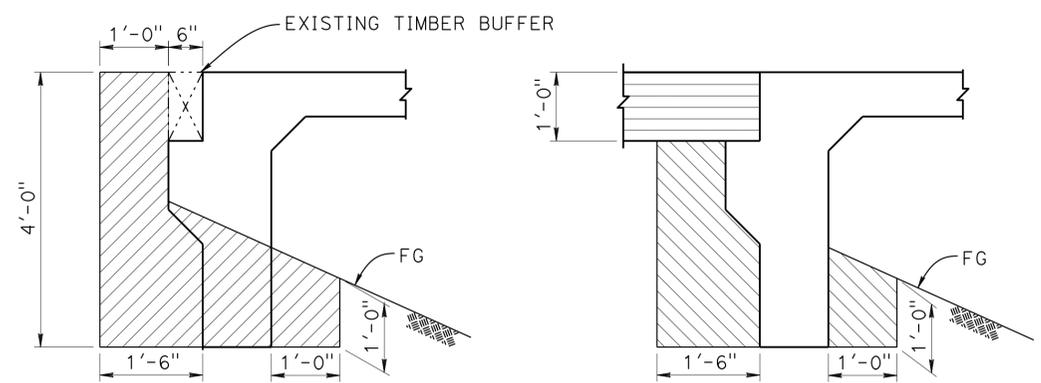


LEDGEND:

STRUCTURAL CONCRETE, BRIDGE
 (3,600 PSI AT 28 DAYS)

CONCRETE STRENGTH AND TYPE LIMITS

1" = 10'



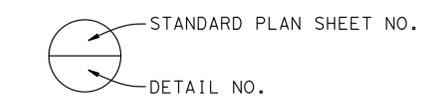
LEDGEND:

INDICATES STRUCTURE EXCAVATION
 INDICATES STRUCTURE BACKFILL
 INDICATES STRUCTURAL ROADWAY SECTION SEE "ROADWAY PLANS"

LIMITS OF EXCAVATION AND BACKFILL

3/4" = 1'-0"

NOTE:
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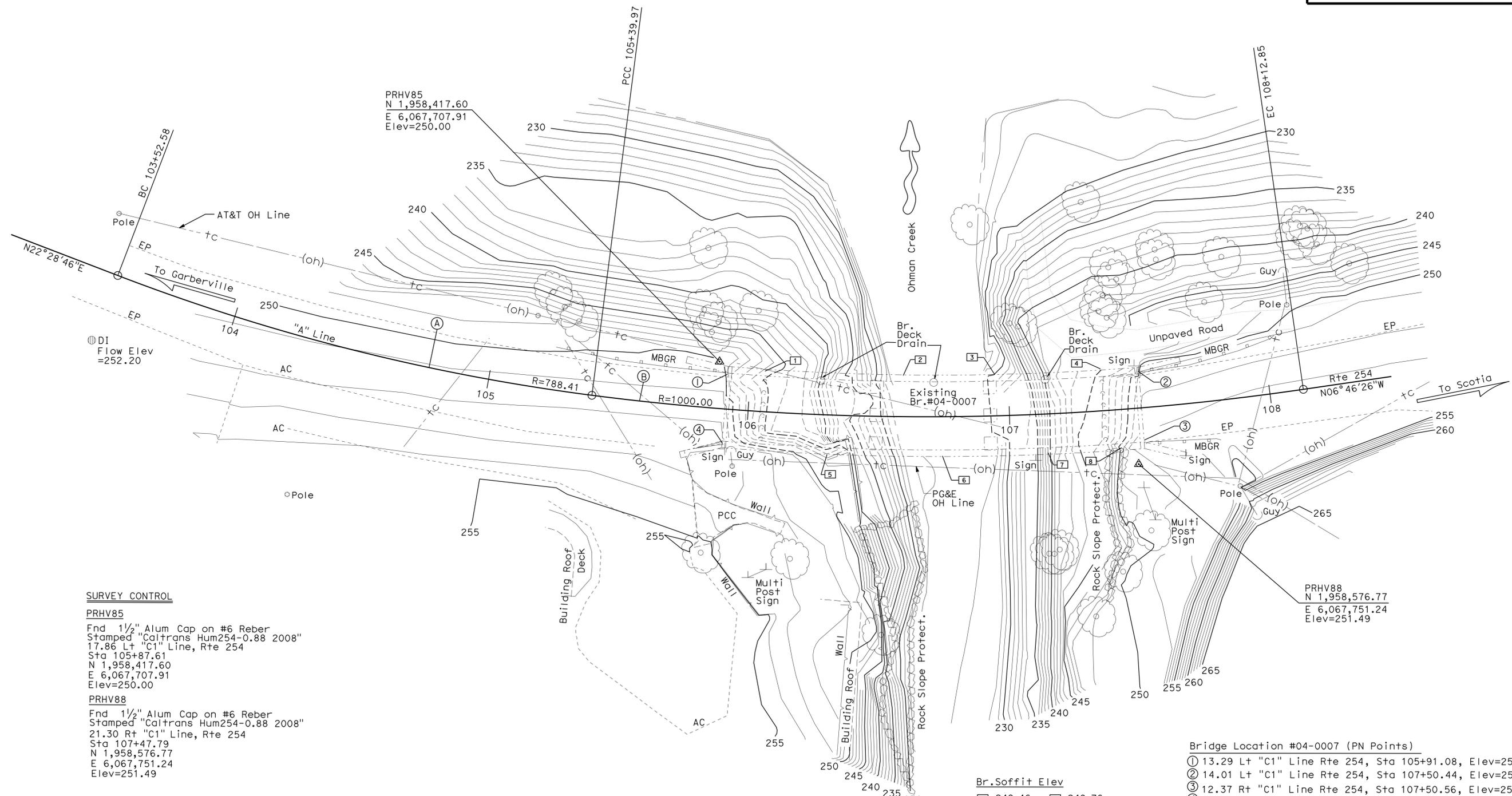
DESIGN BY Ali Asnaashari CHECKED Eric Burgeson				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	WIDEN/BARRIER REPLACEMENT OHMAN CREEK BRIDGE INDEX TO PLANS		
DETAILS BY Jay Reid / Liang Ma CHECKED Eric Burgeson						04-0007			
QUANTITIES BY Mufeed Khalaf CHECKED Pyo Hong						POST MILE 0.88			
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		0 1 2 3	UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 5-20-14 5-27-14 1-22-15	SHEET 3 OF 9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	67	100

2-19-15
 REGISTERED CIVIL ENGINEER DATE
 Eric G. Burgess
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
 06-20-16
 PLANS APPROVAL DATE
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CURVE DATA

No.	R	Δ	T	L
A	788.41	13°37'06"	94.14	187.39
B	1000.00	15°38'06"	137.29	272.88



SURVEY CONTROL

PRHV85
 Fnd 1 1/2" Alum Cap on #6 Reber Stamped "Caltrans Hum254-0.88 2008" 17.86 Lt "C1" Line, Rte 254
 Sta 105+87.61
 N 1,958,417.60
 E 6,067,707.91
 Elev=250.00

PRHV88
 Fnd 1 1/2" Alum Cap on #6 Reber Stamped "Caltrans Hum254-0.88 2008" 21.30 Rt "C1" Line, Rte 254
 Sta 107+47.79
 N 1,958,576.77
 E 6,067,751.24
 Elev=251.49

- Bridge Location #04-0007 (PN Points)
- ① 13.29 Lt "C1" Line Rte 254, Sta 105+91.08, Elev=250.08±
 - ② 14.01 Lt "C1" Line Rte 254, Sta 107+50.44, Elev=250.85±
 - ③ 12.37 Rt "C1" Line Rte 254, Sta 107+50.56, Elev=252.85±
 - ④ 13.06 Rt "C1" Line Rte 254, Sta 105+91.15, Elev=252.23±

Br. Soffit Elev

1	249.46	2	249.76
3	249.99	4	250.16
5	252.05	6	252.34
7	252.47	8	252.49

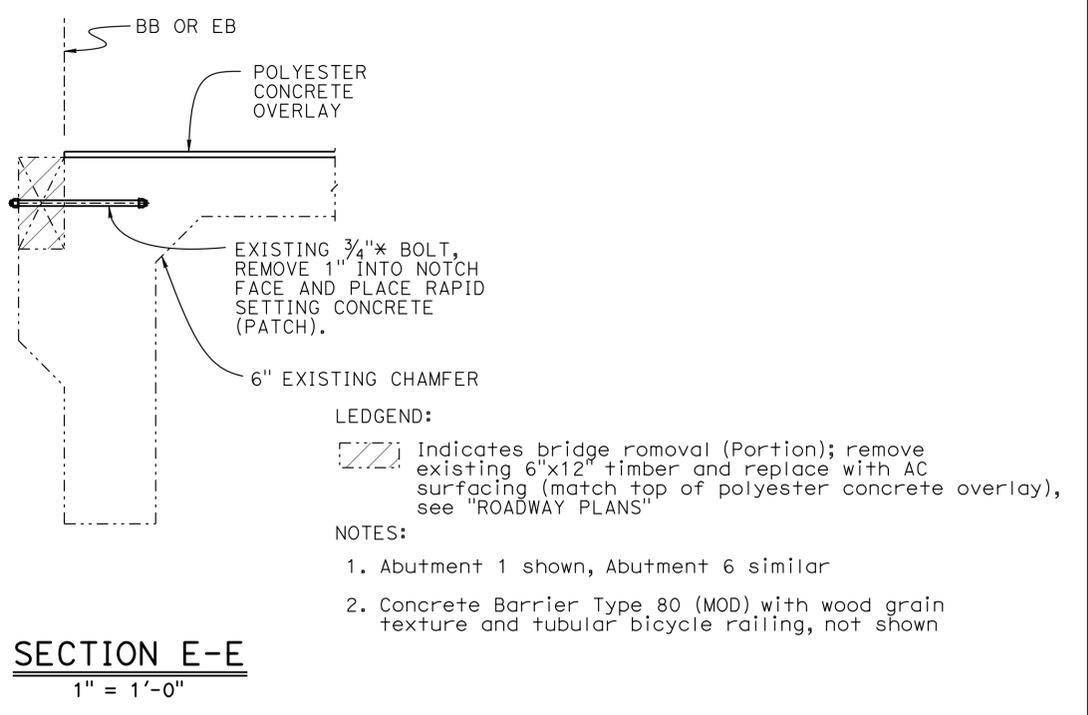
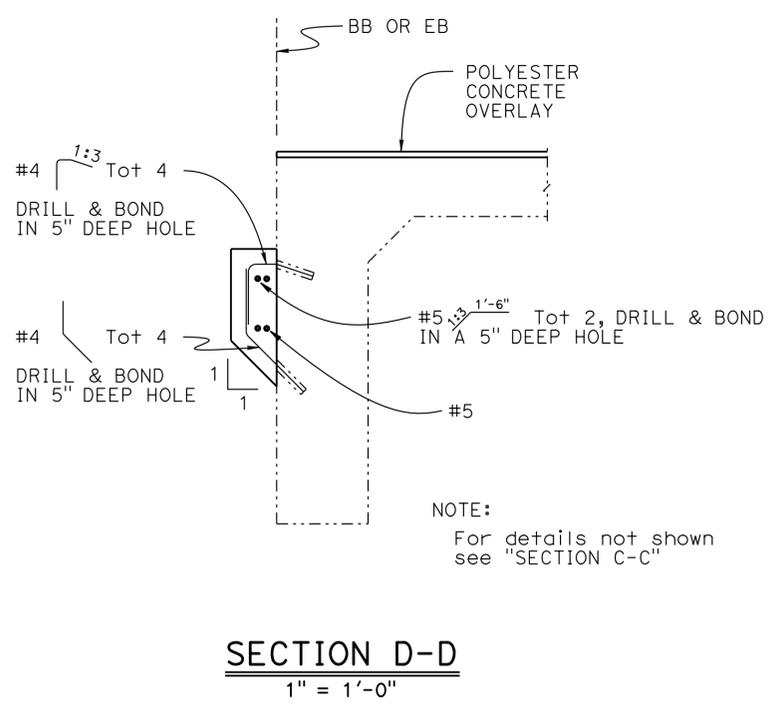
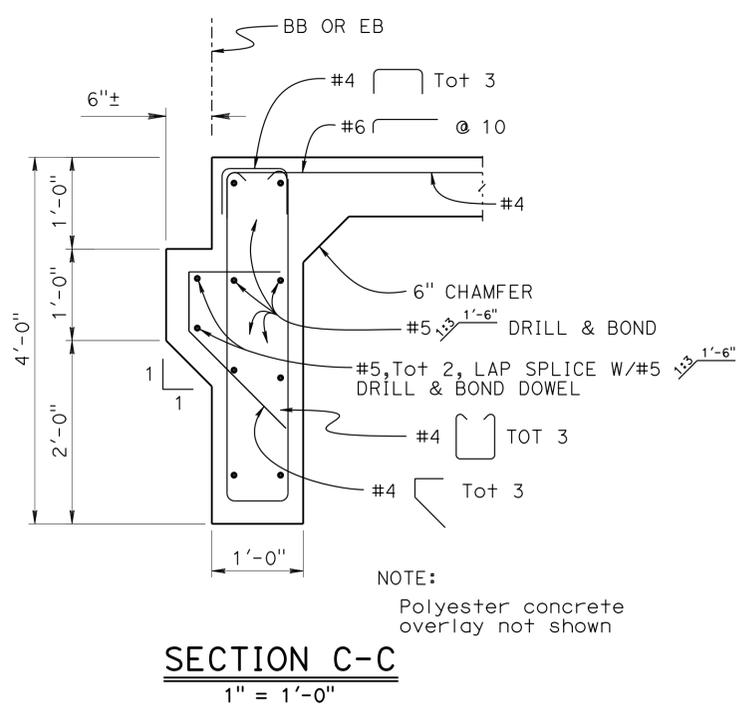
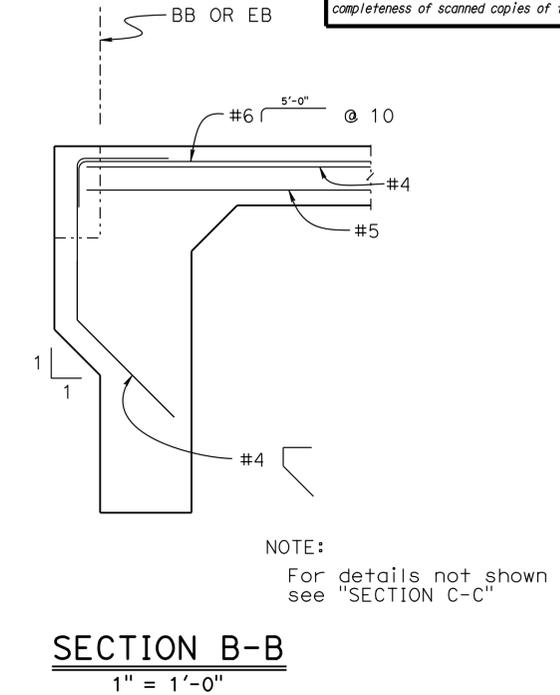
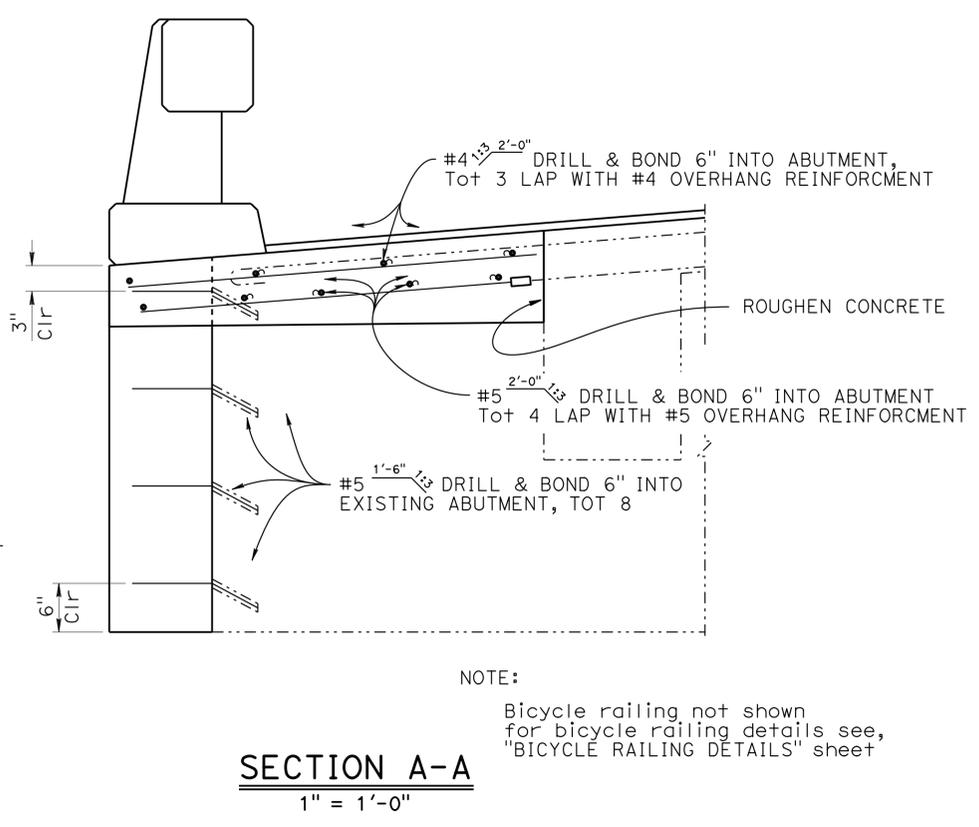
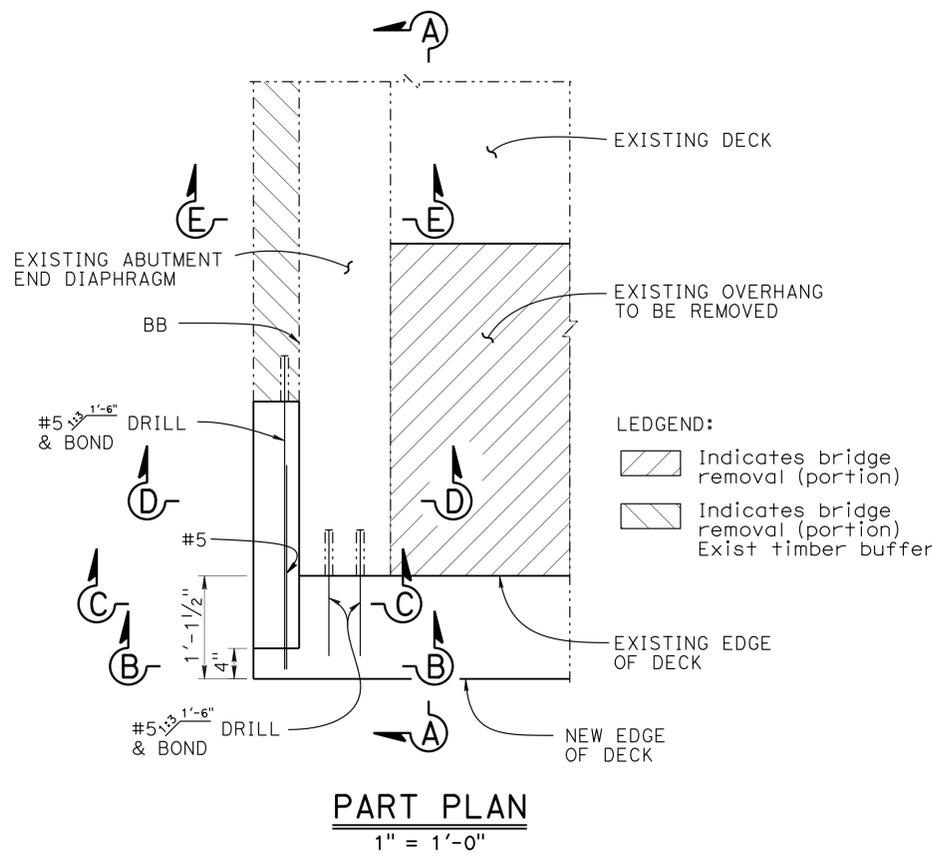
NOTE:
 THE CONTRACTOR MUST BE VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

PRELIMINARY INVESTIGATION SECTION				DESIGN BY Ali Asnaashari	CHECKED Eric Burgesson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 04-0007	WIDEN/BARRIER REPLACEMENT OHMAN CREEK BRIDGE FOUNDATION PLAN
SCALE VERT. DATUM NAVD 88	PHOTOGRAMMETRY AS OF: X	DETAILS BY Liang Ma	CHECKED Eric Burgesson	POST MILE 0.88					
1"=20'	HORIZ. DATUM NAD83 (1991.35)	QUANTITIES BY Mufeed Khalaf	CHECKED Pyo Hong						
ALIGNMENT TIES Dist. Traverse Sheet		DRAFTED BY Sharon Zheng 04/2011	CHECKED BY Jim Pallares 04/2011	UNIT: 3646		PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 3/8/2011 04/2/13 11/10/14 SHEET 4 OF 9

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	68	100

2-19-15
 REGISTERED CIVIL ENGINEER DATE
 Eric G Burgeson
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
 06-20-16
 PLANS APPROVAL DATE
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NOTE:
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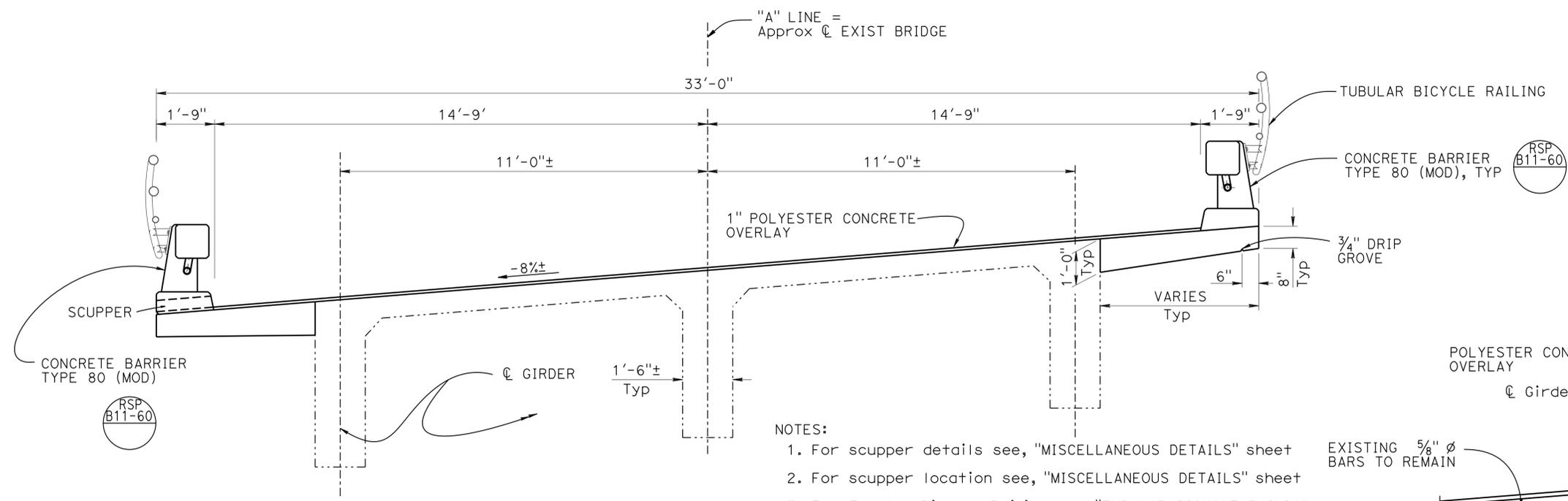
DESIGN BY Ali Asnaashari		CHECKED Eric Burgeson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 04-0007	WIDEN/BARRIER REPLACEMENT		
DETAILS BY Jay Reid / Liang Ma		CHECKED Eric Burgeson			POST MILE 0.88	OHMAN CREEK BRIDGE		
QUANTITIES BY Mufeed Khalaf		CHECKED Pyo Hong			ABUTMENT DETAILS			
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)				ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604	DISREGARD PRINTS BEARING EARLIER REVISION DATES	
					REVISION DATES	SHEET 5	OF 9	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	69	100

2-19-15
 REGISTERED CIVIL ENGINEER DATE
 Eric G. Burgeson
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

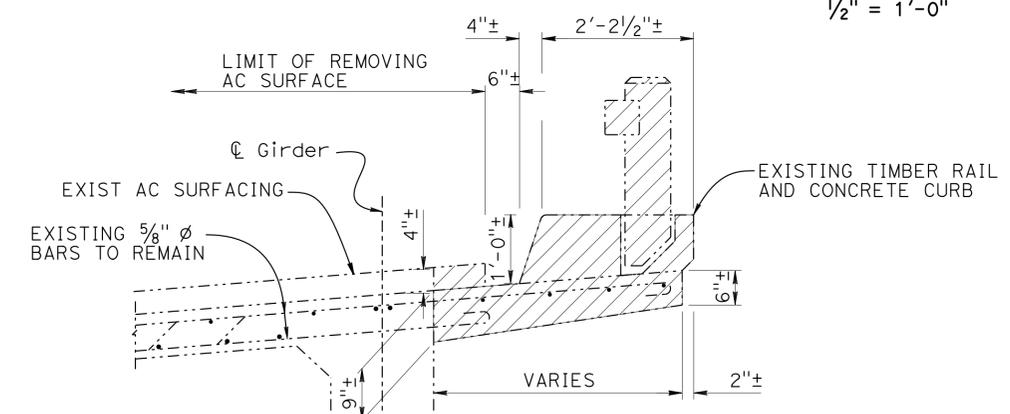
06-20-16
 PLANS APPROVAL DATE

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- NOTES:
1. For scupper details see, "MISCELLANEOUS DETAILS" sheet
 2. For scupper location see, "MISCELLANEOUS DETAILS" sheet
 3. For Tubular Bicycle Railing see "TUBULAR BICYCLE RAILING DETAILS" sheet

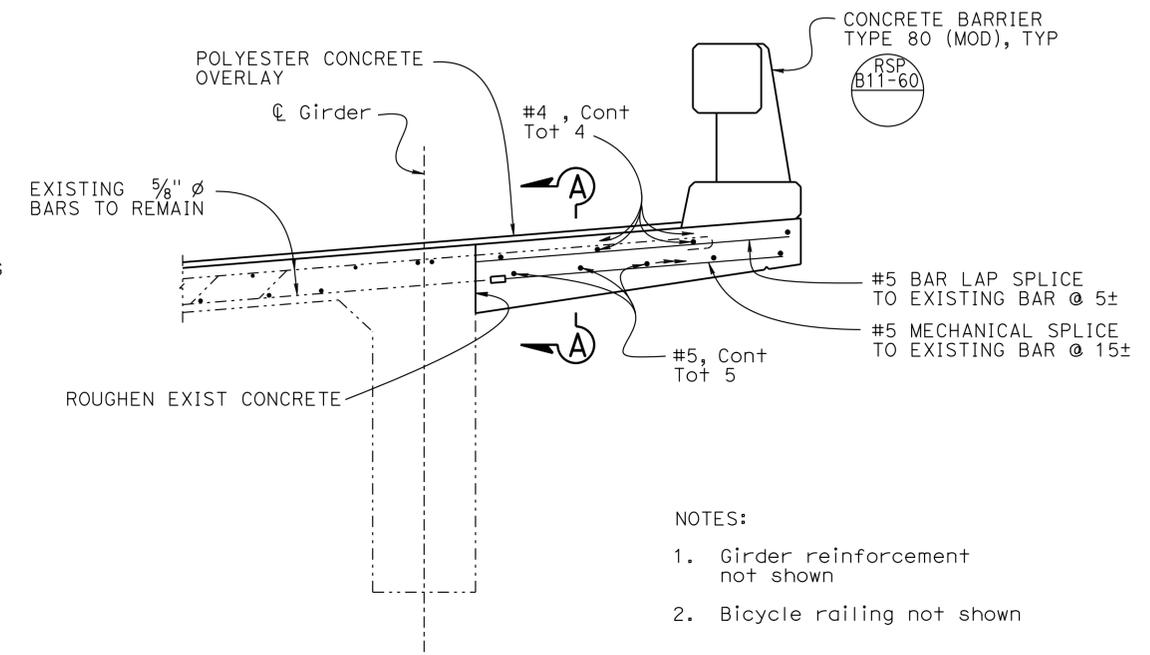
TYPICAL SECTION
1/2" = 1'-0"



LEDGEND:
 [Hatched Box] INDICATES BRIDGE REMOVAL (PORTION)
 NOTE:
 GIRDER REINFORCEMENT NOT SHOWN

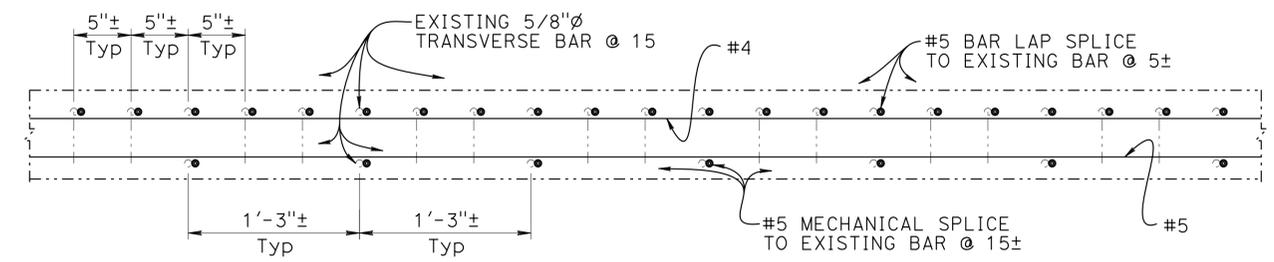
REMOVAL DETAIL
3/4" = 1'-0"

NOTE:
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- NOTES:
1. Girder reinforcement not shown
 2. Bicycle railing not shown

PART TYPICAL SECTION
3/4" = 1'-0"



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

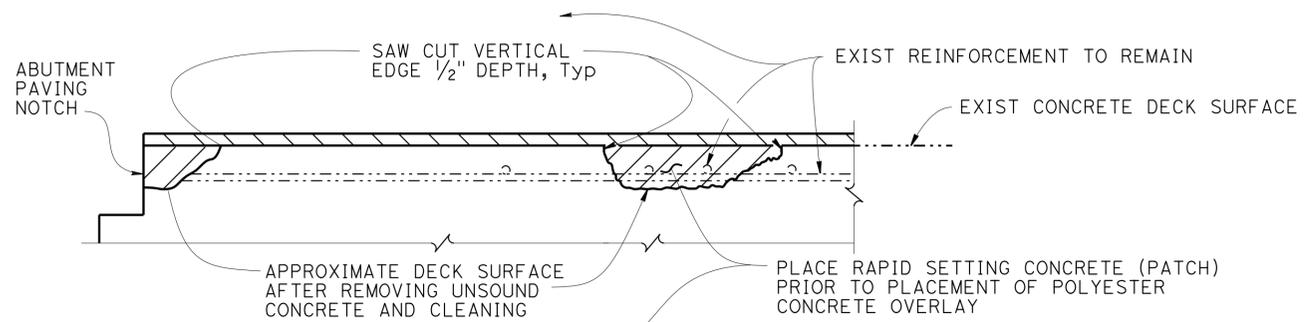
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Ali Asnaashari	CHECKED Eric Burgeson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	04-0007	WIDEN/BARRIER REPLACEMENT OHMAN CREEK BRIDGE TYPICAL SECTION	
	DETAILS	BY Jay Reid / Liang Ma	CHECKED Eric Burgeson			POST MILE	0.88		
	QUANTITIES	BY Mufeed Khalaf	CHECKED Pyo Hong			CONTRACT NO.:	01-430604		
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 5-20-14 5-27-14 1-22-15 5-18-16	SHEET 6 OF 9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	70	100

2-19-15
 REGISTERED CIVIL ENGINEER DATE
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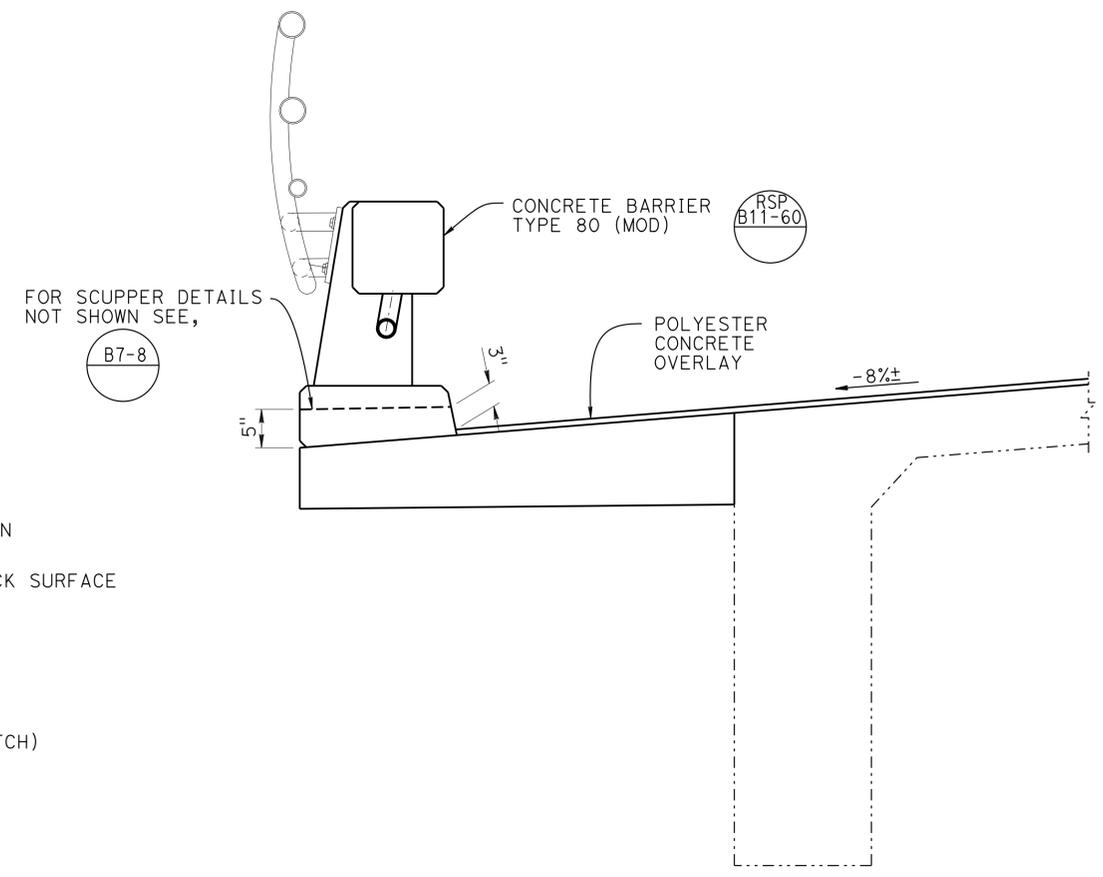
BRIDGE DECK REPAIR TABLE			
APPROXIMATE AREA DAMAGED (%)	APPROXIMATE DEPTH (in)	REMOVE UNSOUND CONCRETE f+3	RAPID SETTING CONCRETE (PATCH) f+3
5%	3"	60	60

LEDGEND:
 Area of unsound concrete removal
 Polyester concrete overlay

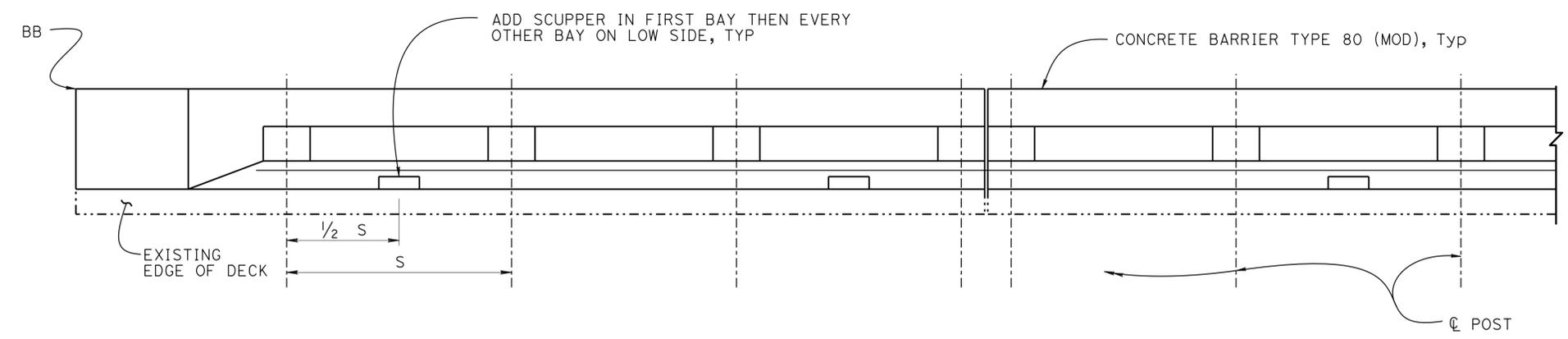


DECK REPAIR DETAIL
No Scale

LOCATIONS TO BE DETERMINED BY THE ENGINEER. REINFORCEMENT MAY BE ENCOUNTERED DURING DECK CONCRETE REMOVAL AND IS TO REMAIN UNDAMAGED



SCUPPER DETAIL
1" = 1'-0"



SCUPPER LOCATION DETAIL (RSP B11-60)
1/2" = 1'-0"

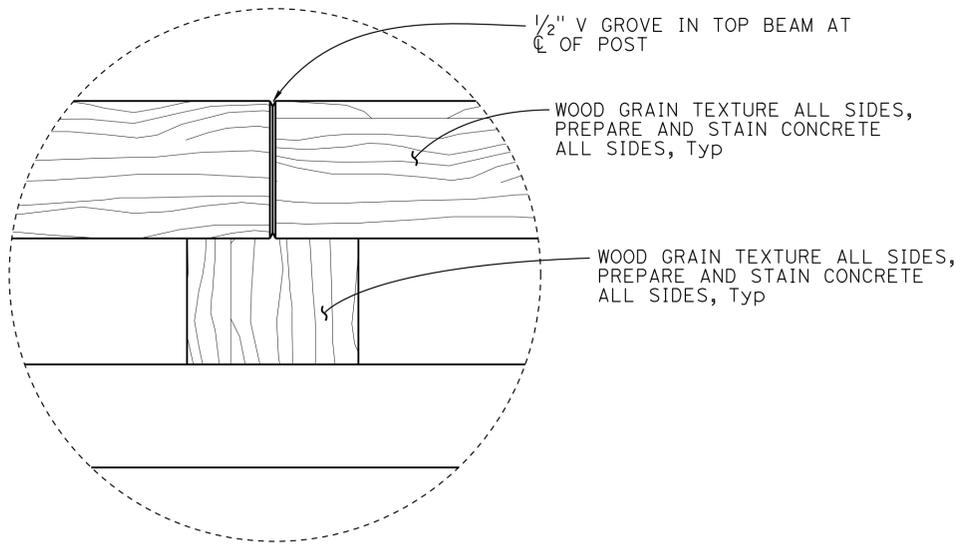
- NOTES:
1. Bicycle railing not shown
 2. Wood grain texture not shown
 3. Polyester concrete overlay not shown

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

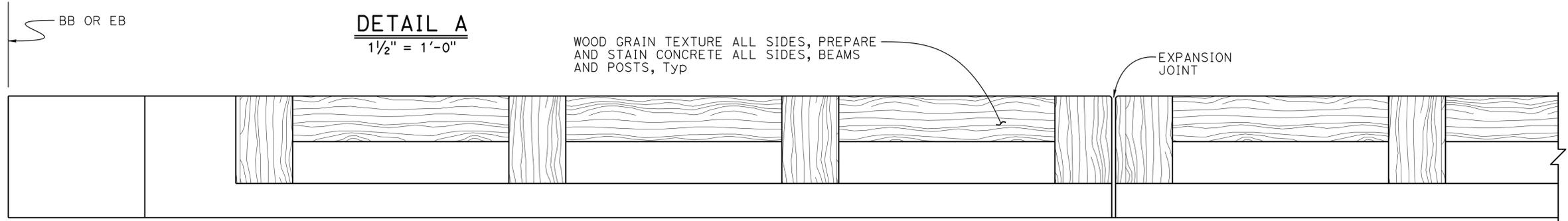
DESIGN BY Ali Asnaashari		CHECKED Eric Burgeson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 04-0007	WIDEN/BARRIER REPLACEMENT OHMAN CREEK BRIDGE MISCELLANEOUS DETAILS
DETAILS BY Jay Reid / Liang Ma		CHECKED Eric Burgeson			POST MILE 0.88	
QUANTITIES BY Mufeed Khalaf		CHECKED Pyo Hong				

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3 UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861 CONTRACT NO.: 01-430604 DISREGARD PRINTS BEARING EARLIER REVISION DATES 5-20-14 5-27-14 1-22-15 SHEET 7 OF 9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	71	100
			2-19-15	REGISTERED CIVIL ENGINEER DATE	
			06-20-16	PLANS APPROVAL DATE	
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

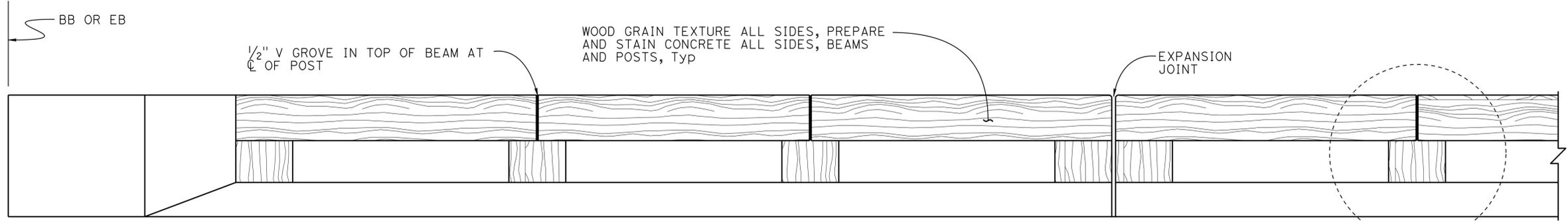


DETAIL A
1 1/2" = 1'-0"



TYPE 80 (MOD) CONCRETE BARRIER
EXTERIOR ELEVATION
3/4" = 1'-0"

- NOTE:
1. Tubular bicycle railing not shown
 2. Scuppers not shown
 3. Polyester concrete overlay not shown



TYPE 80 (MOD) CONCRETE BARRIER
INTERIOR ELEVATION
3/4" = 1'-0"

- NOTE:
1. Tubular bicycle railing not shown
 2. Scuppers not shown
 3. Polyester concrete overlay not shown

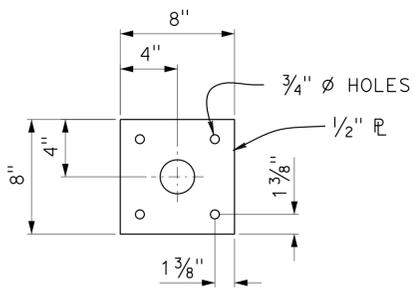
NOTE:
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STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION				DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3		WIDEN/ BARRIER REPLACEMENT OHMAN CREEK BRIDGE BARRIER TREATMENT DETAILS	
DESIGN BY Stephan Heath	CHECKED BY Eric Burgeson	BRIDGE NO. 04-0007					
DETAILS BY Jay Reid / Liang Ma	CHECKED BY Eric Burgeson	POST MILE 0.88					
QUANTITIES BY Mufeed Khalaf	CHECKED BY Pyo Hong						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3		UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604	DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES 5-20-14 5-27-14 1-22-15	SHEET OF 8 9

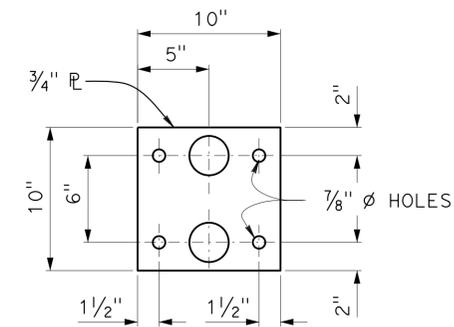
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	72	100

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 No. 67450
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LOWER RAIL ANCHOR PLATE DETAIL
NO SCALE

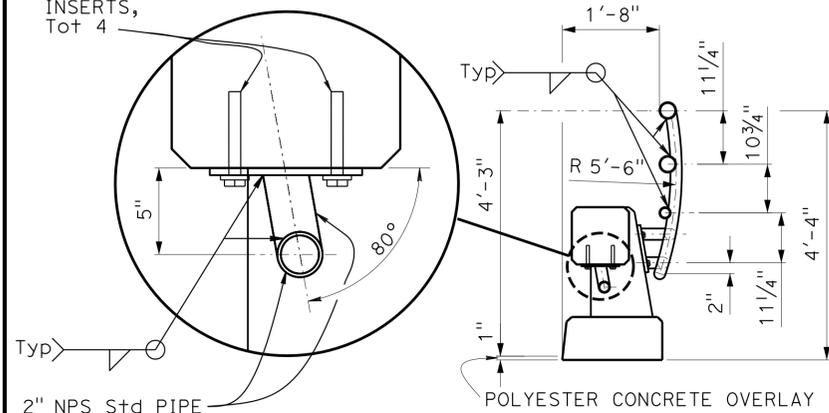


POST ANCHOR PLATE
NO SCALE

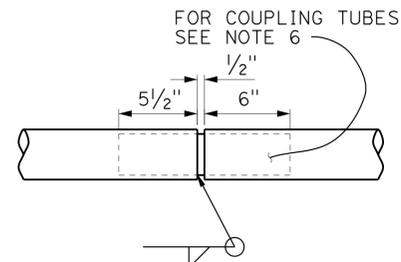
NOTES:

- Galvanize rail assembly after fabrication.
- Post must be normal to railing.
- Rail tubes must be shop bent or fabricated to fit horizontal curve when radius is less than 950.00'
- Tube expansion joint must be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length correspondingly.
- Top rail tube must be continuous over not less than two posts except a short post spacing is permitted near deck or wall joints, electroliers, or other rail discontinuities as noted.
- For 3 NPS XS pipe rails use 2.5 NPS STD pipe for inner coupling tube and for 2 NPS STD pipe use 1.5 NPS STD pipe for coupling tube railing.

1/2" Ø X 4" HS BOLT w/WASHER IN A CAST IN PLACE CONCRETE INSERTS, Tot 4

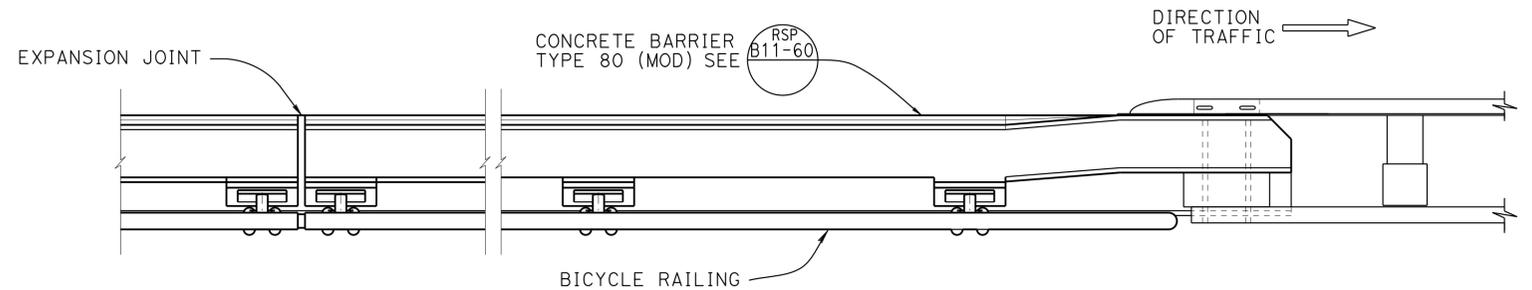


SECTION A-A
NO SCALE

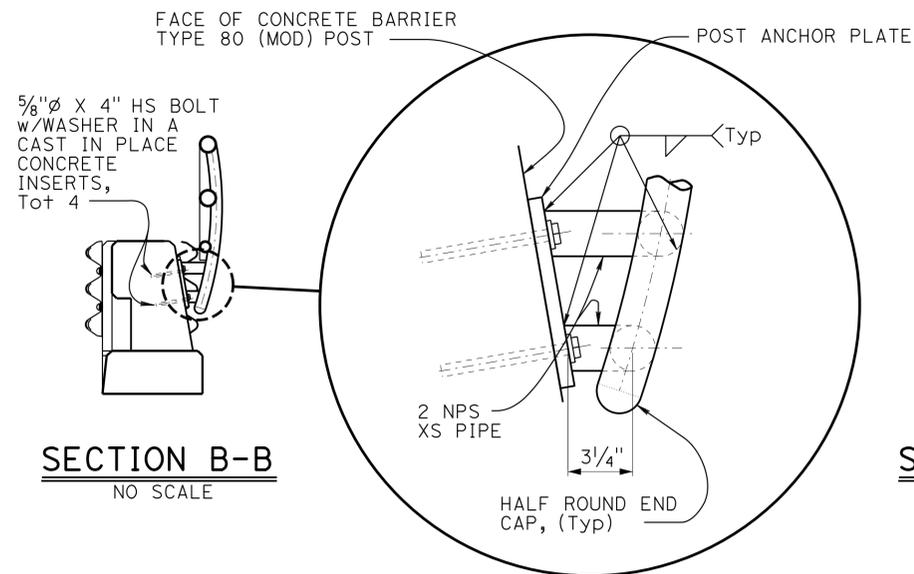


NOTE: Coupling tube welded to one rail only so as to allow for expansion and contraction.

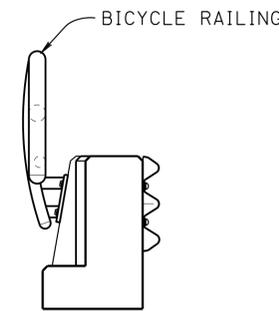
TUBE EXPANSION JOINT
NO SCALE



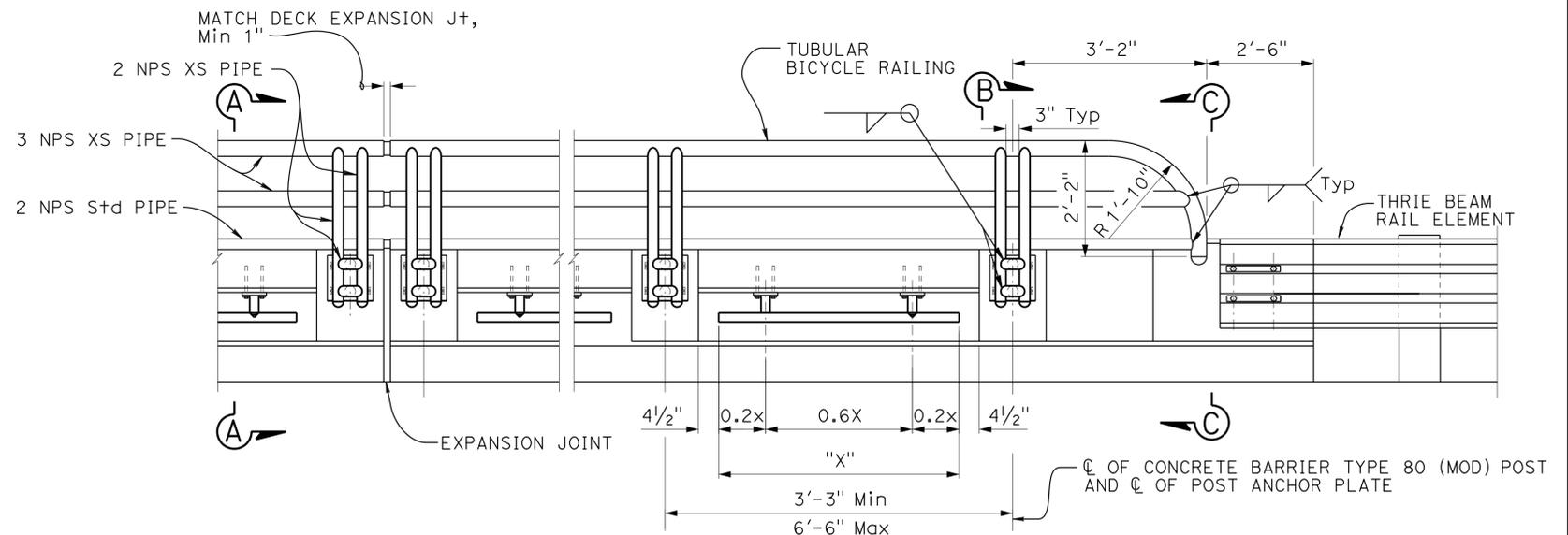
PLAN
NO SCALE



SECTION B-B
NO SCALE



SECTION C-C
(END VIEW)
NO SCALE



ELEVATION
NO SCALE

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

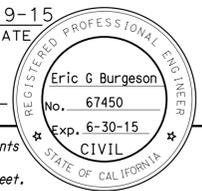
DESIGN	BY Ali Asnaashari	CHECKED Eric Burgeson
DETAILS	BY Jay Reid / Liang Ma	CHECKED Eric Burgeson
QUANTITIES	BY Mufeed Khalaf	CHECKED Pyo Hong

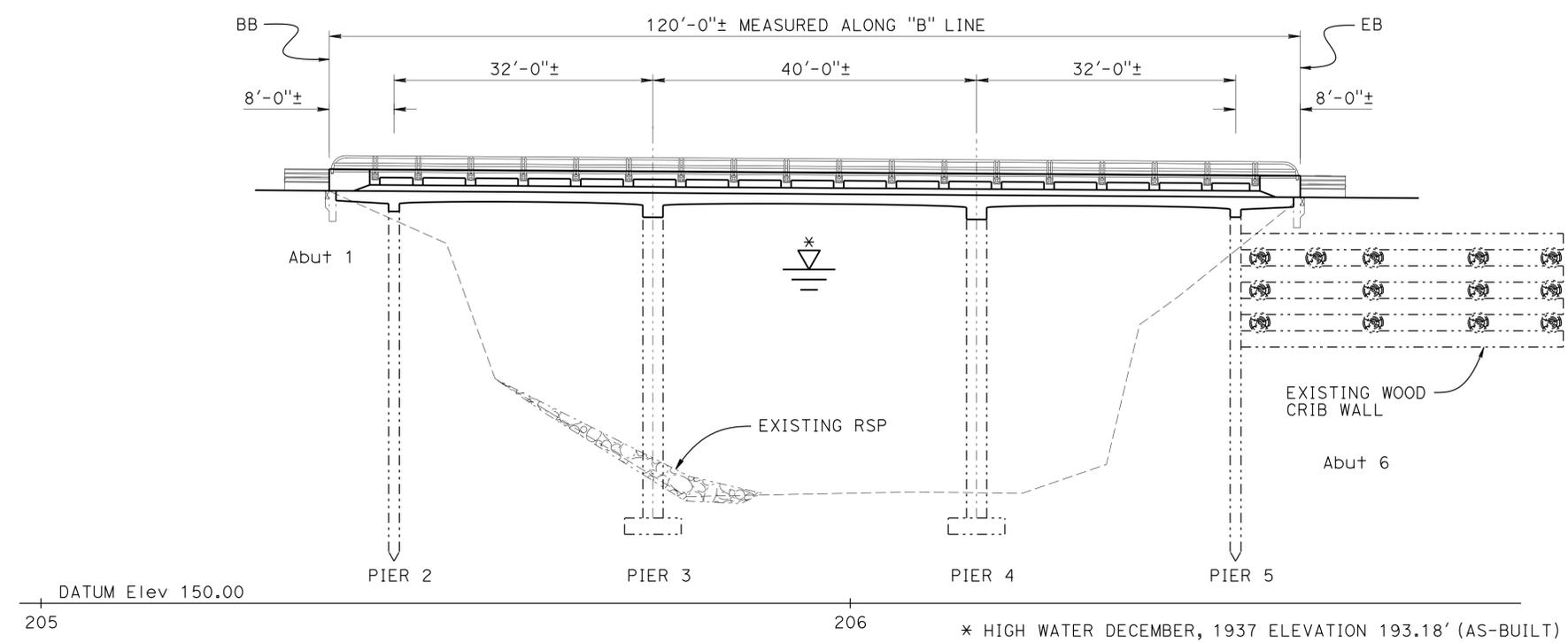
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 3

BRIDGE NO.	04-0007
POST MILE	0.88

WIDEN/BARRIER REPLACEMENT
OHMAN CREEK BRIDGE
TUBULAR BICYCLE RAILING DETAILS

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	73	100
			2-19-15	REGISTERED CIVIL ENGINEER DATE	
			06-20-16	PLANS APPROVAL DATE	
					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

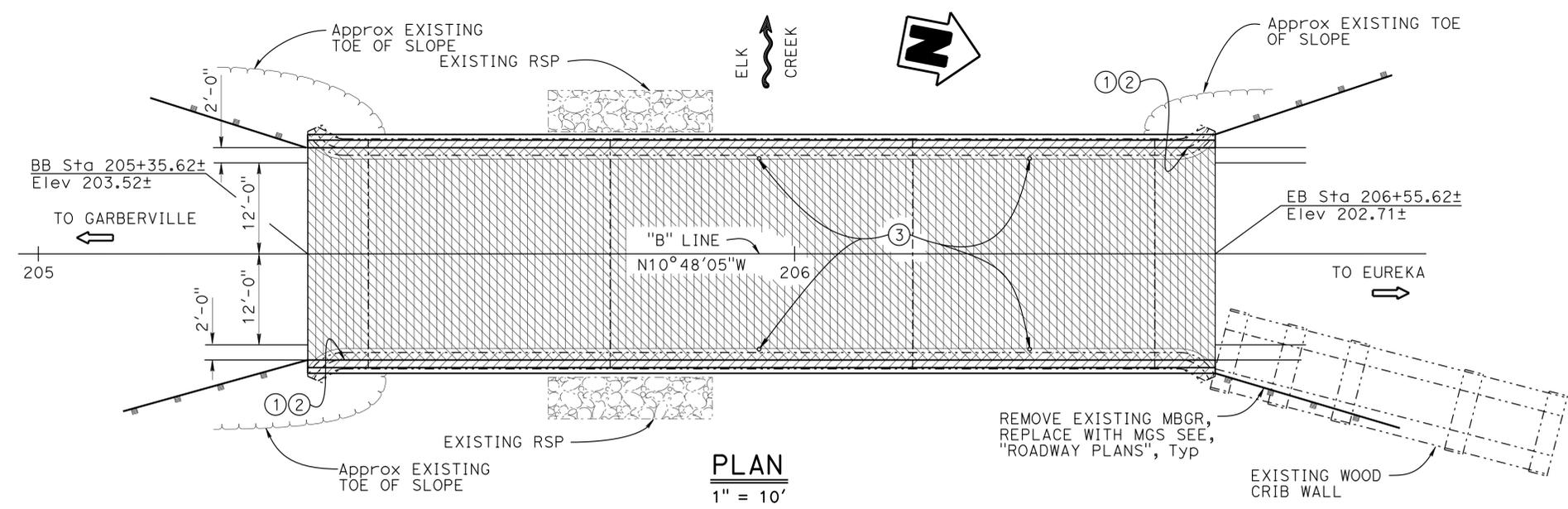


ELEVATION
1" = 10'

- LEGEND:**
- Indicates existing structure
 - Indicates new structure
 -  Indicates remove AC surfacing 1 1/2"±
 -  Indicates bridge removal (Portion)
 -  Indicates limits of prepare concrete bridge deck surface. Furnish and place polyester concrete overlay. Remove unsound concrete and patch with rapid setting concrete prior to bridge deck treatment.

- NOTES:**
- ① Paint "Bridge NO. 04-0008"
 - ② Paint "ELK CREEK BRIDGE"
 - ③ Plug deck drains, Tot 4

- NOTES:**
1. For INDEX TO PLANS, see "INDEX TO PLANS" sheet
 2. For TYPICAL SECTION, see "GENERAL PLAN NO. 2" sheet



PLAN
1" = 10'

QUANTITIES

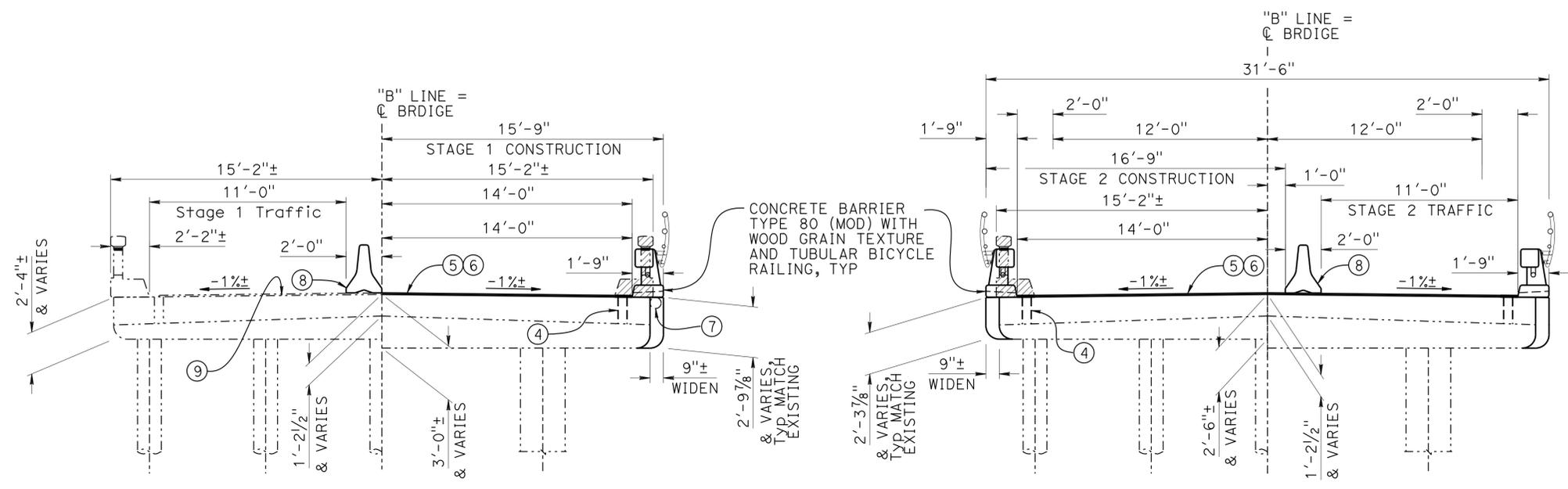
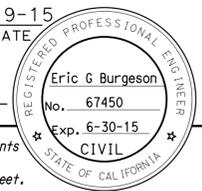
LEAD COMPLIANCE PLAN	LUMP SUM
TREATED WOOD WASTE	1,030 LB
PLUG DECK DRAINS	4 EA
RAPID SETTING CONCRETE (PATCH)	42 CF
REMOVE ASPHALT CONCRETE SURFACING	3,120 SQFT
REMOVE UNSOUND CONCRETE	42 CF
PREPARE CONCRETE BRIDGE DECK SURFACE	3,360 SQFT
FURNISH POLYESTER CONCRETE OVERLAY	280 CF
PLACE POLYESTER CONCRETE OVERLAY	3,360 SQFT
BRIDGE REMOVAL (PORTION), LOCATION B	LUMP SUM
STRUCTURAL CONCRETE, BRIDGE	8 CY
DRILL AND BOND DOWEL (CHEMICAL ADHESIVE)	690 EA
BAR REINFORCING STEEL (BRIDGE)	6,220 LB
PREPARE AND STAIN CONCRETE	525 SQFT
TUBULAR BICYCLE RAILING	230 LF
CONCRETE BARRIER (TYPE 80 MODIFIED)	240 LF

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

DESIGN ENGINEER Joseph E. Downing	DESIGN	BY Mufeed Khalaf	CHECKED Ali Asnaashari	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	04-0008
	DETAILS	BY Jay Reid / Liang Ma	CHECKED Ali Asnaashari	LAYOUT	BY Eric Burgeson			POST MILE	10.43
	QUANTITIES	BY Mufeed Khalaf	CHECKED Pyo Hong	SPECIFICATIONS	BY Tina Chen				

WIDEN/BARRIER REPLACEMENT
ELK CREEK BRIDGE
GENERAL PLAN NO. 1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	74	100
			2-19-15	REGISTERED CIVIL ENGINEER DATE	
			06-20-16	PLANS APPROVAL DATE	
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STAGE 1 CONSTRUCTION

STAGE 2 CONSTRUCTION

TYPICAL SECTION
1/4" = 1'-0"

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

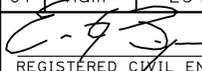
- NOTES:**
- Plug deck drains, typ, see "EXISTING DRAIN PLUG DETAIL" on "MISCELLANEOUS DETAILS NO. 2" sheet
 - Remove Existing 1/2" AC surfacing
 - Furnish and place 1" polyester concrete overlay. Remove unsound concrete and patch with rapid setting concrete prior to bridge deck treatment.
 - Remove existing abandoned Utility Line
 - Temporary Railing (Type K), see "ROADWAY PLANS"
 - Exist 1/2" AC Surfacing

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

Joseph E. Downing DESIGN ENGINEER	DESIGN	BY Mufeed Khalaf	CHECKED Ali Asnaashari	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	04-0008	
	DETAILS	BY Jay Reid / Liang Ma	CHECKED Ali Asnaashari	LAYOUT	BY Eric Burgeson			CHECKED Mufeed Khalaf	POST MILE	10.43
	QUANTITIES	BY Mufeed Khalaf	CHECKED Pyo Hong	SPECIFICATIONS	BY Tina Chen			CHECKED Tina Chen		

WIDEN/BARRIER REPLACEMENT
ELK CREEK BRIDGE
GENERAL PLAN NO. 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	75	100

 2-19-15
 REGISTERED CIVIL ENGINEER DATE

06-20-16
 PLANS APPROVAL DATE

Eric G. Burgeson
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

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GENERAL NOTES

EXISTING STRUCTURE

All concrete to be class "A" Portland Cement Concrete

Reinforcing steel to be structural steel grade deformed bars of the sizes called for on the plans. Bars to be lapped a minimum of 40 diameters at all splices

DESIGN LOAD:

H-15
 $f_s = 18000 \text{ lb/in}^2$
 $f_c = 1000 \text{ lb/in}^2$
 $n = 10$
 Equivalent Fluid Pressure = 36 lb/in^2 Per Foot at height
 Maximum Soil Bearing = 3 tons per Square feet

PILE LOADING:

30 Tons per pile

NEW CONSTRUCTION
LOAD FACTOR DESIGN

DESIGN:

Bridge Design Specifications LFD Version, April 2000
 (1996 AASHTO with Interims and Revisions by Caltrans)

DEAD LOAD:

Includes 35 psf of deck wear surface
 No future additional deck wear surface allowed.

LIVE LOADING:

HS20-44

CONCRETE:

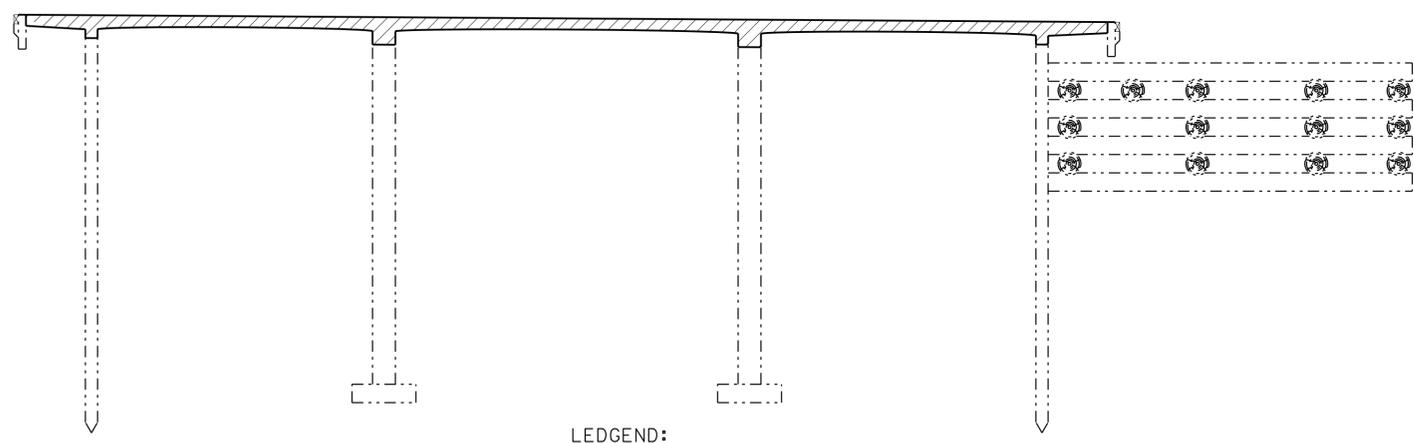
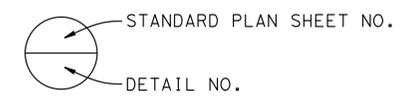
$f_y = 60 \text{ ksi}$
 $f'_c = 3600 \text{ psi}$
 $n = 9$

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN NO. 1
2	GENERAL PLAN NO. 2
3	INDEX TO PLANS
4	FOUNDATION PLAN
5	ABUTMENT DETAILS
6	TYPICAL SECTION NO. 1
7	TYPICAL SECTION NO. 2
8	MISCELLANEOUS DETAILS NO. 1
9	MISCELLANEOUS DETAILS NO. 2
10	BARRIER TEXTURE DETAILS
11	TUBULAR BICYCLE RAILING DETAILS

STANDARD PLANS DATED 2010

RSP 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)
B7-8	DECK DRAINAGE DETAILS
RSP B11-60	CONCRETE BARRIER TYPE 80



LEDGEND:

 Structural concrete bridge
 (3600 psi @ 28 days)

CONCRETE STRENGTH AND TYPE LIMITS

1" = 10'

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

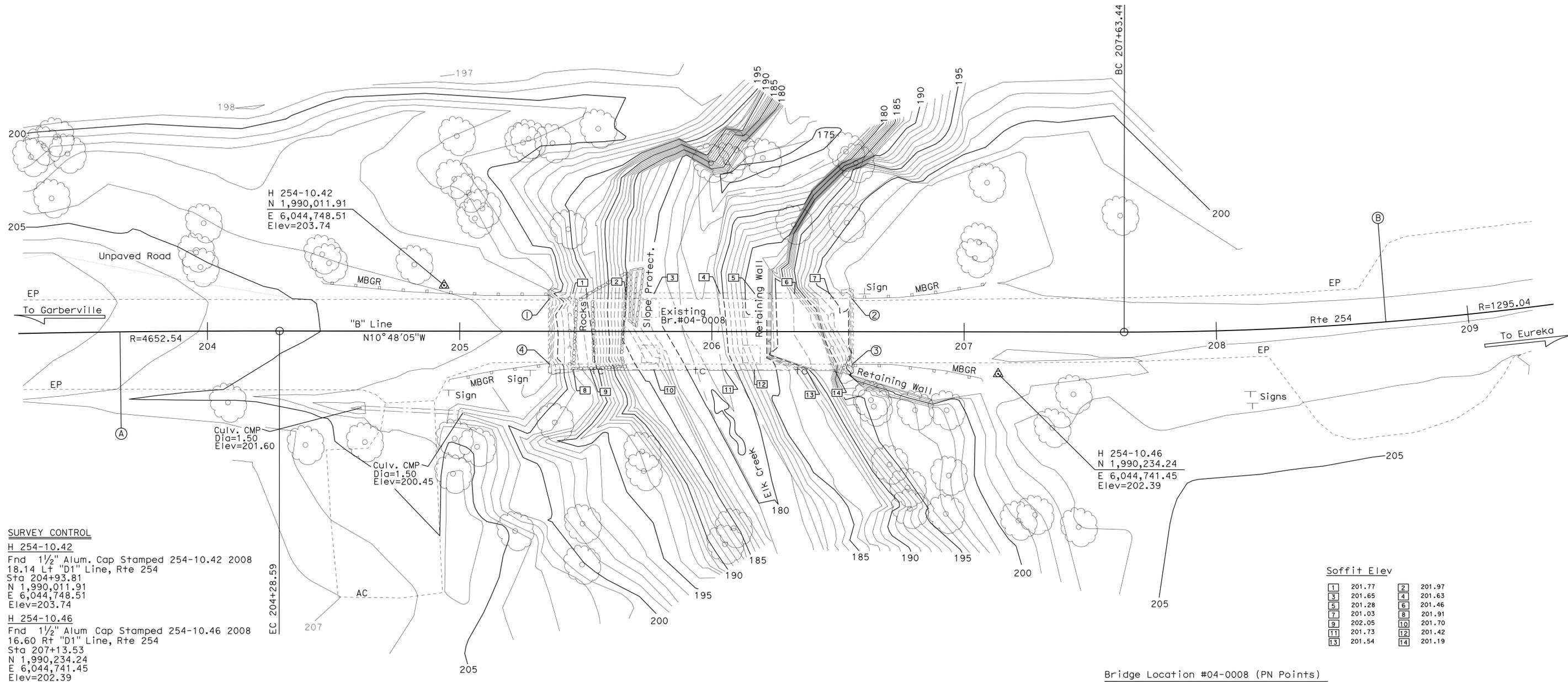
DESIGN BY Mufeed Khalaf CHECKED Ali Asnaashari DETAILS BY Jay Reid / Liang Ma CHECKED Ali Asnaashari QUANTITIES BY Mufeed Khalaf CHECKED Pyo Hong				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3		BRIDGE NO. 04-0008 POST MILE 10.43		WIDEN/BARRIER REPLACEMENT ELK CREEK BRIDGE INDEX TO PLANS							
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861		CONTRACT NO.: 01-430604		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES: 5-28-14, 5-22-14, 1-22-15, 2-19-15		SHEET 3 OF 11	

CURVE DATA

No.	R	Δ	T	L
A	4652.54	03°17'59"	134.01	267.94
B	1295.04	17°36'54"	200.66	398.14

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	76	100

2-19-15
 REGISTERED CIVIL ENGINEER DATE
 Eric G. Burgess
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
 06-20-16
 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.



SURVEY CONTROL

H 254-10.42
 Fnd 1 1/2" Alum. Cap Stamped 254-10.42 2008
 18.14 Lt "D1" Line, Rte 254
 Sta 204+93.81
 N 1,990,011.91
 E 6,044,748.51
 Elev=203.74

H 254-10.46
 Fnd 1 1/2" Alum. Cap Stamped 254-10.46 2008
 16.60 Rt "D1" Line, Rte 254
 Sta 207+13.53
 N 1,990,234.24
 E 6,044,741.45
 Elev=202.39

Soffit Elev

1	201.77	2	201.97
3	201.65	4	201.63
5	201.28	6	201.46
7	201.03	8	201.91
9	202.05	10	201.70
11	201.73	12	201.42
13	201.54	14	201.19

Bridge Location #04-0008 (PN Points)

① 13.05 Lt "D1" Line Rte 254 Sta 205+35.68, Elev=203.34±
 ② 13.00 Lt "D1" Line Rte 254 Sta 206+55.57, Elev=202.48±
 ③ 13.03 Rt "D1" Line Rte 254 Sta 206+55.53, Elev=202.59±
 ④ 13.04 Rt "D1" Line Rte 254 Sta 205+35.71, Elev=203.40±

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

PRELIMINARY INVESTIGATION SECTION			
SCALE	VERT. DATUM	PHOTOGRAMMETRY	AS OF: X
1"=20'	HORIZ. DATUM NAD83 (1991.35)	SURVEYED	BY District
ALIGNMENT TIES	Dist. Traverse Sheet	DRAFTED	BY Sharon Zheng 04/2011
		CHECKED	BY Jim Pallares 04/2011

DESIGN	BY Mufeed Khalaf	CHECKED	Ali Asnaashari
DETAILS	BY Liang Ma	CHECKED	Ali Asnaashari
QUANTITIES	BY Mufeed Khalaf	CHECKED	Pyo Hong

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

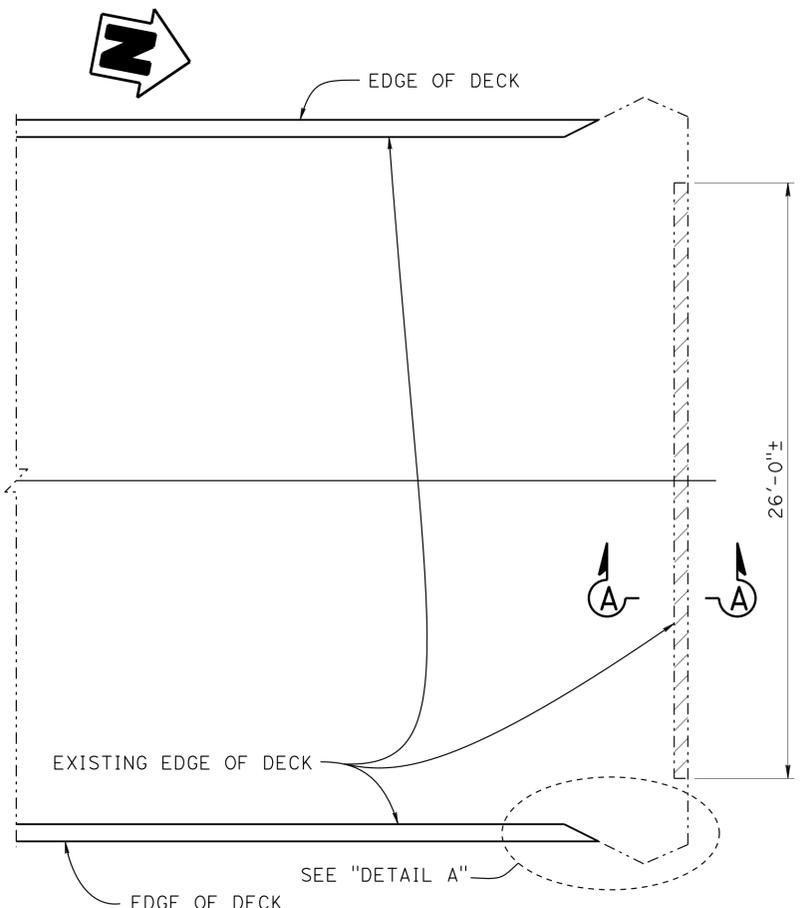
DIVISION OF ENGINEERING SERVICES
 STRUCTURE DESIGN
 DESIGN BRANCH 3

BRIDGE NO.	04-0008
POST MILE	10.43

**WIDEN/BARRIER REPLACEMENT
 ELK CREEK BRIDGE (WIDENING)
 FOUNDATION PLAN**

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	77	100

2-19-15
 REGISTERED CIVIL ENGINEER DATE
 Eric G. Burgeson
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
 06-20-16
 PLANS APPROVAL DATE
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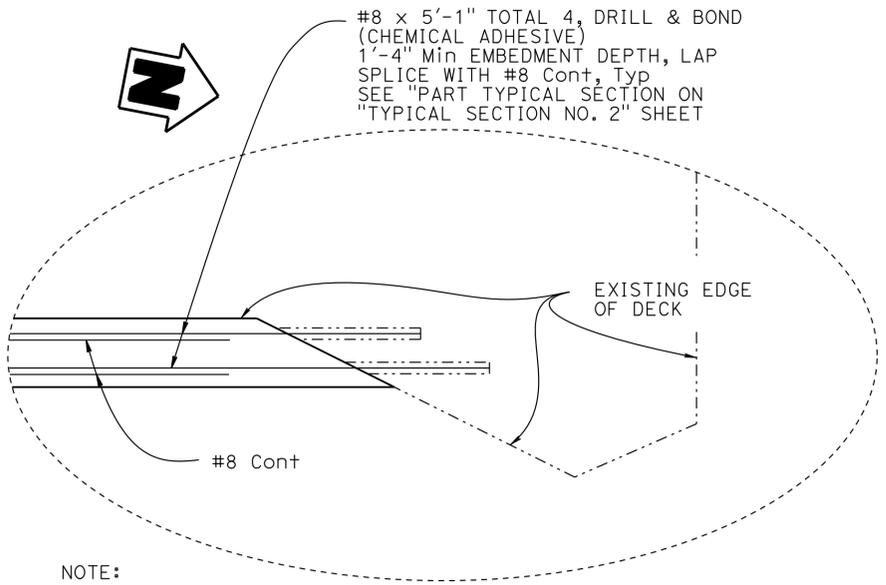
- NOTES:
- Barrier not shown
 - Existing wood crib wall not shown

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

LEDGEND:
 Bridge removal (Portion); remove existing 6"x12" timber buffer, replace with AC surfacing (Match top of polyester concrete overlay) see "ROADWAY PLANS"

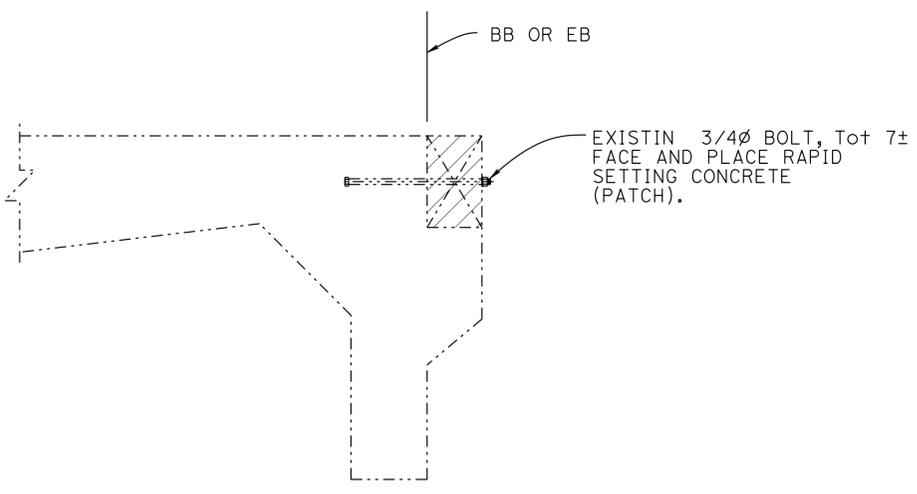
- NOTES:
- Abutment 6 shown, Abutment 1 similar
 - Concrete Barrier Type 80 (MOD) with wood grain texture and bicycle railing, not shown
 - Surface overlay not shown

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



NOTE:
 BARRIER NOT SHOWN

DETAIL A
 1" = 1'-0"



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

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Mufeed Khalaf	CHECKED Ali Asnaashari	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	04-0008	WIDEN/BARRIER REPLACEMENT ELK CREEK BRIDGE ABUTMENT DETAILS
	DETAILS	BY Jay Reid / Liang Ma	CHECKED Ali Asnaashari			POST MILE	10.43	
	QUANTITIES	BY Mufeed Khalaf	CHECKED Pyo Hong			UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604	

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

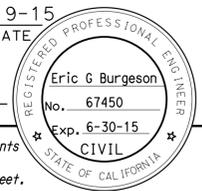


DISREGARD PRINTS BEARING EARLIER REVISION DATES

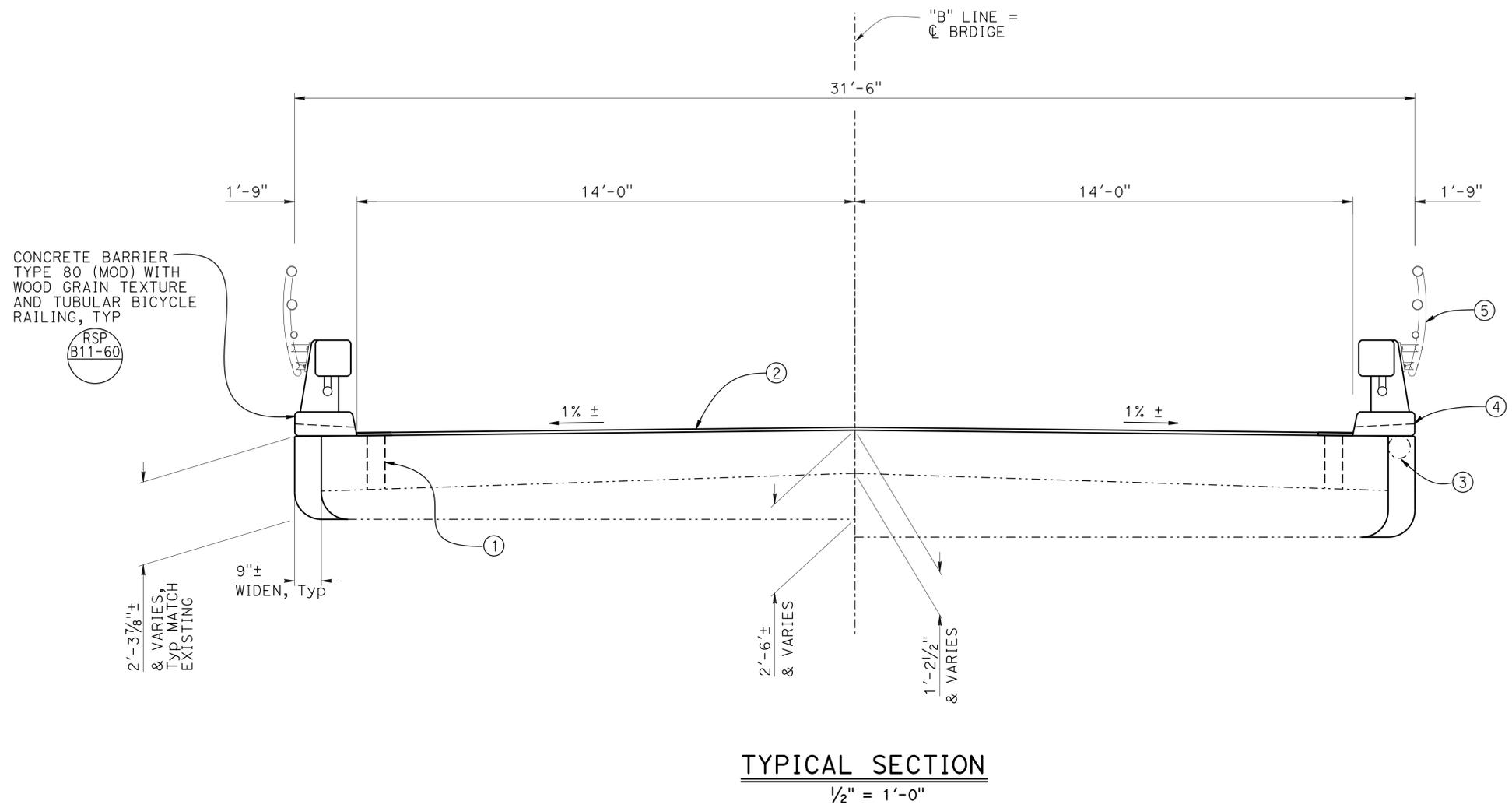
5-28-14	5-22-14	1-22-15	2-19-15
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07221
 TIME PLOTTED =>
 30-SEP-2016
 USERNAME => s115152

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	78	100
			2-19-15	REGISTERED CIVIL ENGINEER DATE	
			06-20-16	PLANS APPROVAL DATE	



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- LEGEND:**
- Indicates Existing structure
 - Indicates new construction
- NOTES:**
- ① Plug deck drains, typ, see "EXISTING DRAIN PLUG DETAIL on "DETAILS NO. 2" sheet
 - ② 1" polyester concrete overlay
 - ③ Remove existing abandoned utility line
 - ④ Scupper, Typ, for scupper details and locations see, "DETAILS NO. 2" sheet
 - ⑤ Tubular Bicycle Railing, for details see "TUBULAR BICYCLE RAILING DETAILS" sheet

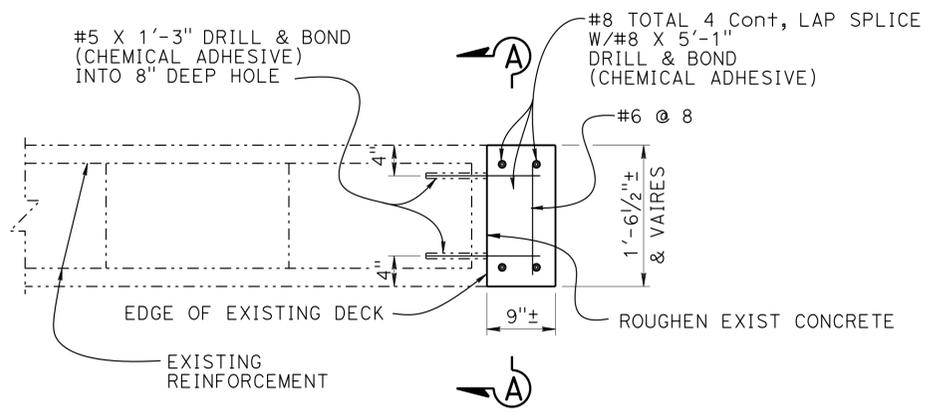
TYPICAL SECTION
1/2" = 1'-0"

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

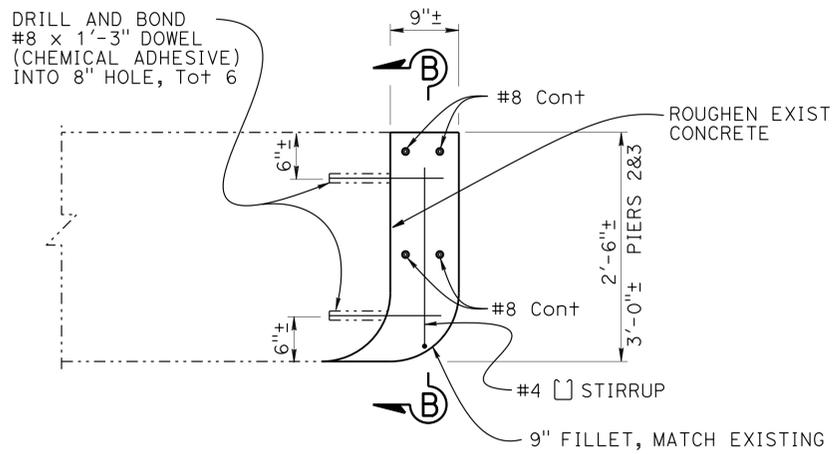
DESIGN BY Mufeed Khalaf CHECKED Ali Asnaashari		STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3		BRIDGE NO.	WIDEN/BARRIER REPLACEMENT ELK CREEK BRIDGE TYPICAL SECTION NO. 1
					04-0008	
DETAILS BY Jay Reid / Liang Ma CHECKED Ali Asnaashari				POST MILE		
QUANTITIES BY Mufeed Khalaf CHECKED Pyo Hong				10.43		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604
					DISREGARD PRINTS BEARING EARLIER REVISION DATES	
					REVISION DATES: 5-28-14, 5-22-14, 1-22-15, 2-19-15	
					SHEET	OF
					6	11

USERNAME => s115152 DATE PLOTTED => 30-SEP-2016 TIME PLOTTED => 07:21

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	79	100
				2-19-15	DATE
REGISTERED CIVIL ENGINEER				Eric G. Burgeson No. 67450 Exp. 6-30-15 CIVIL STATE OF CALIFORNIA	
PLANS APPROVAL DATE 06-20-16					
<i>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.</i>					

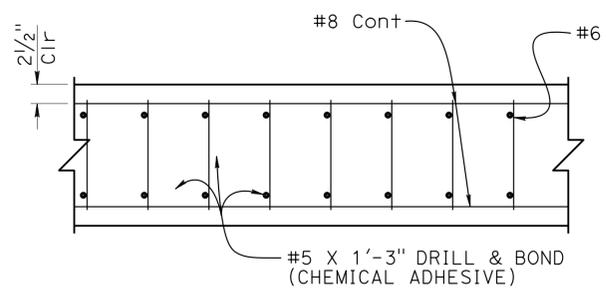


PART TYPICAL SECTION
1" = 1'-0"

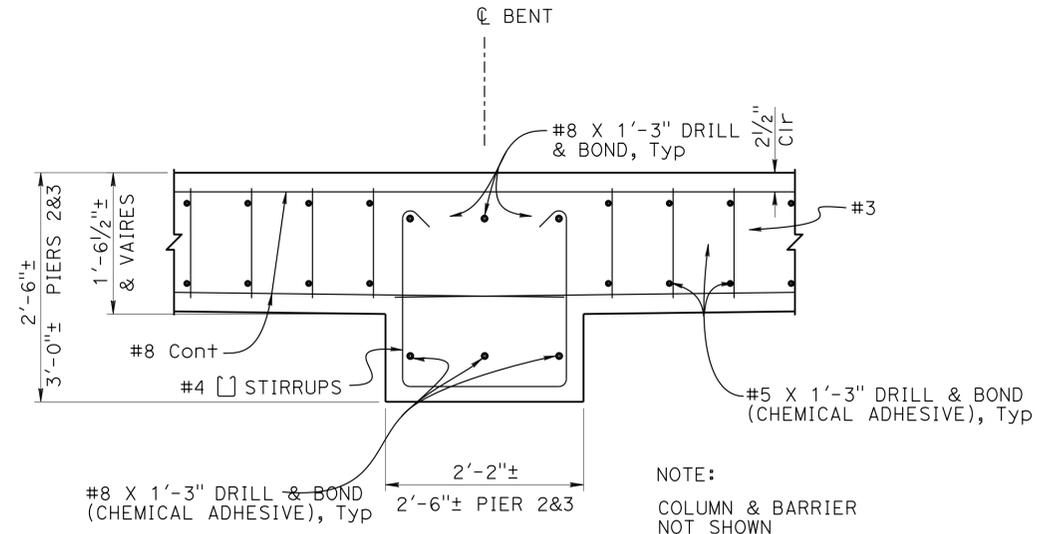


NOTE:
COLUMN, BARRIER, AND BARRIER REINFORCEMENT NOT SHOWN

PART SECTION @ PIERS
1" = 1'-0"



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



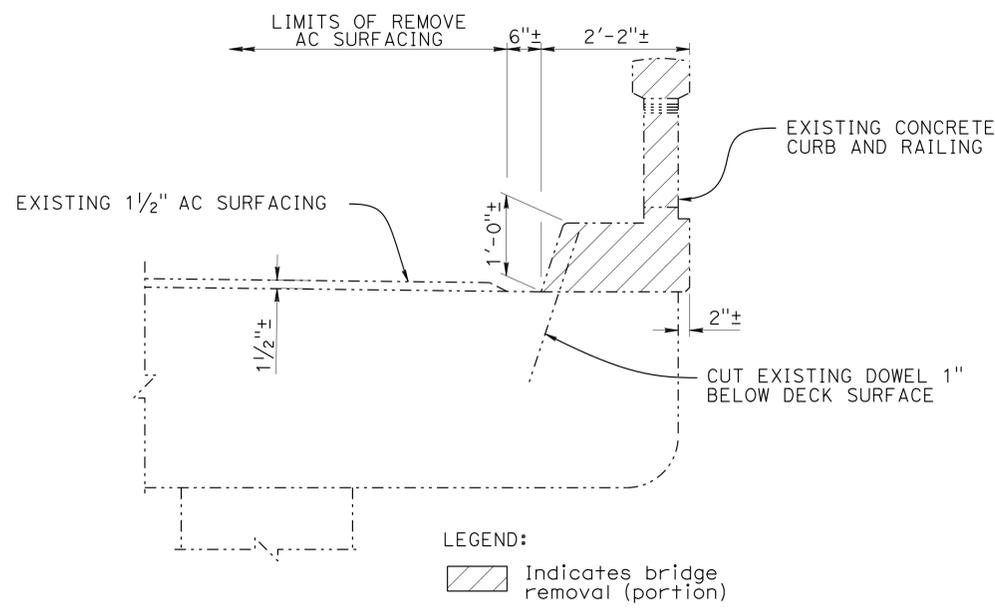
NOTE:
COLUMN & BARRIER NOT SHOWN

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

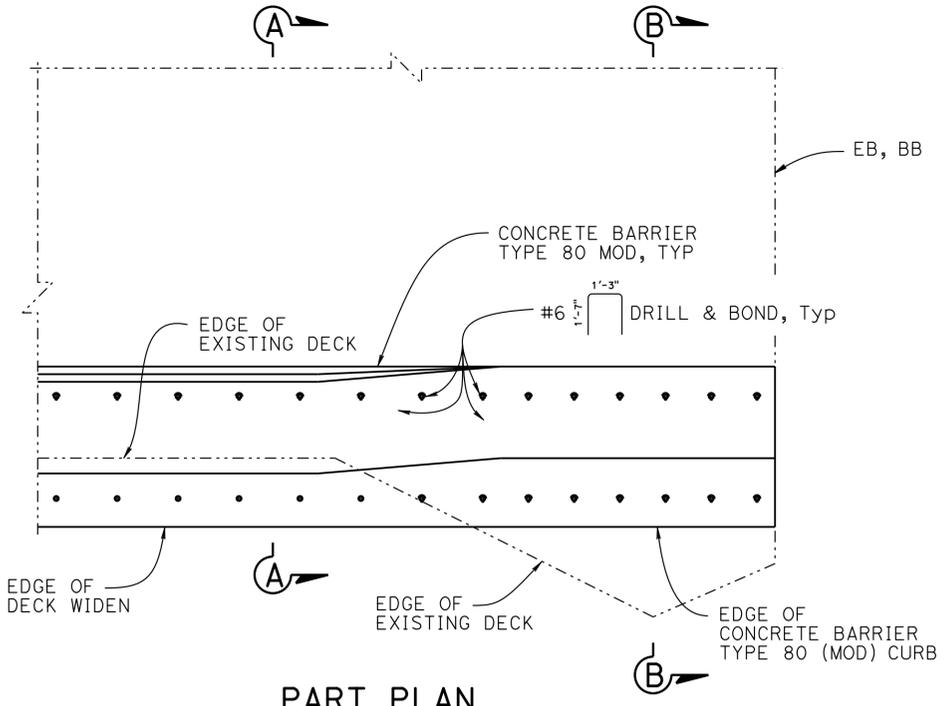
NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN BY Mufeed Khalaf CHECKED Ali Asnaashari DETAILS BY Jay Reid / Liang Ma CHECKED Ali Asnaashari QUANTITIES BY Mufeed Khalaf CHECKED Pyo Hong				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3		BRIDGE NO. 04-0008 POST MILE 10.43		WIDEN/BARRIER REPLACEMENT ELK CREEK BRIDGE TYPICAL SECTION NO. 2		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861		CONTRACT NO.: 01-430604		DISREGARD PRINTS BEARING EARLIER REVISION DATES		
						0 1 2 3		REVISION DATES: 5-28-14, 5-22-14, 1-22-15, 2-19-15		SHEET 7 OF 11		

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	80	100
			2-19-15	DATE	
			06-20-16	DATE	
Eric G. Burgeson No. 67450 Exp. 6-30-15 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.					

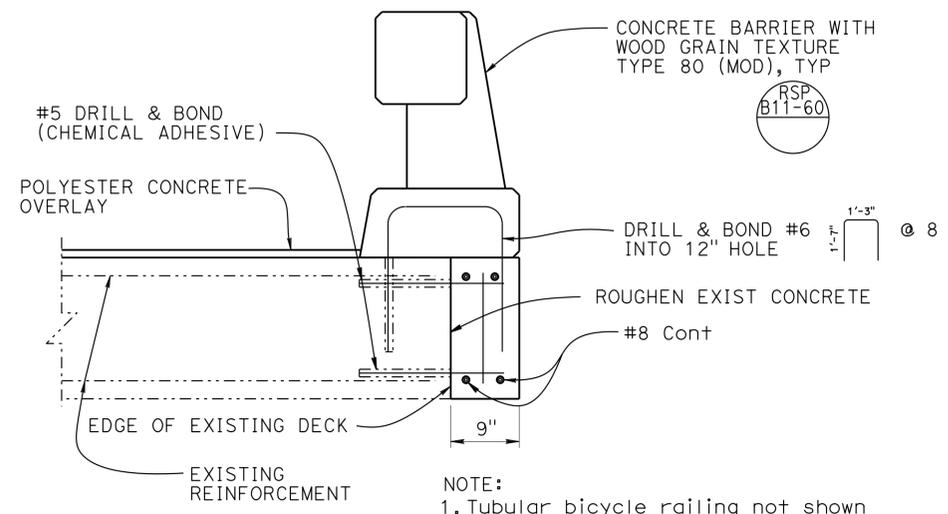


BARRIER REMOVAL DETAIL
3/4" = 1'-0"



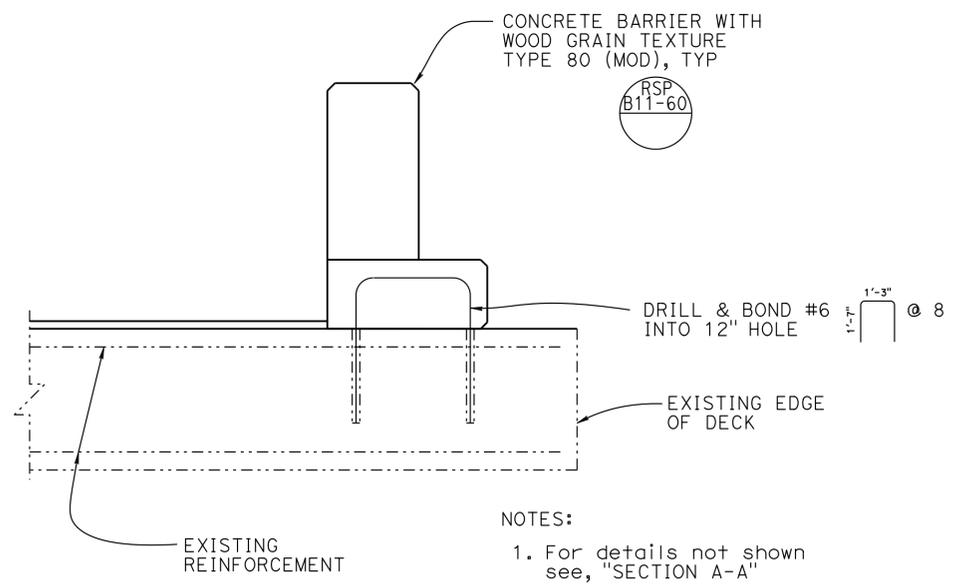
PART PLAN
BARRIER ATTACHMENT
1" = 1'-0"

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



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

- NOTE:
1. Tubular bicycle railing not shown
 2. Scupper not shown, for scupper details and location see, "MISCELLANEOUS DETAILS NO.2" sheet



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

- NOTES:
1. For details not shown see, "SECTION A-A"
 2. Bicycle railing not shown

DESIGN BY Mufeed Khalaf CHECKED Ali Asnaashari DETAILS BY Jay Reid / Liang Ma CHECKED Ali Asnaashari QUANTITIES BY Mufeed Khalaf CHECKED Pyo Hong				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3		BRIDGE NO. 04-0008 POST MILE 10.43		WIDEN/BARRIER REPLACEMENT ELK CREEK BRIDGE MISCELLANEOUS DETAILS NO. 1	
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861 CONTRACT NO.: 01-430604		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES SHEET OF 5-28-14 5-22-14 1-22-15 2-19-15 8 11	

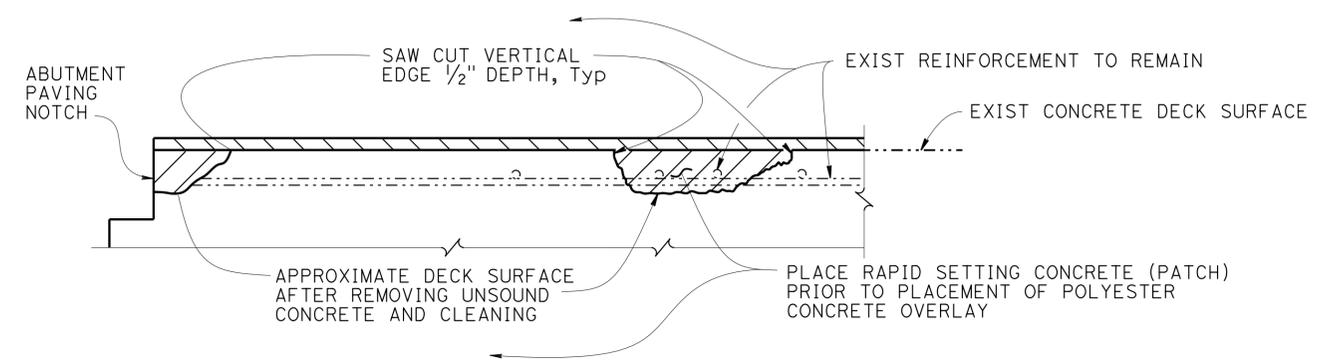
USERNAME => s1151522 DATE PLOTTED => 30-SEP-2016 TIME PLOTTED => 07:22

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	81	100

2-19-15
 REGISTERED CIVIL ENGINEER DATE
 Eric G. Burgess
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
 06-20-16
 PLANS APPROVAL DATE
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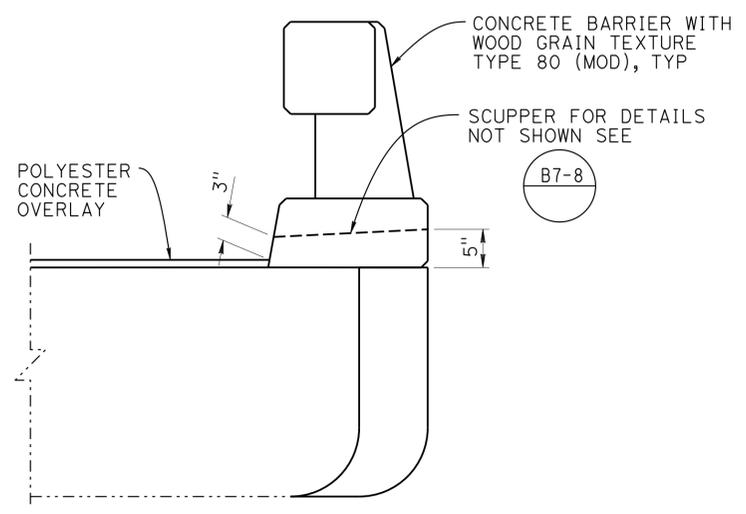
BRIDGE DECK REPAIR TABLE			
APPROXIMATE AREA DAMAGED (%)	APPROXIMATE DEPTH (in)	REMOVE UNSOUND CONCRETE f+3	RAPID SETTING CONCRETE (PATCH) f+3
5%	3"	42	42

- Area of unsound concrete removal
- Polyester concrete overlay



DECK REPAIR DETAIL
No Scale

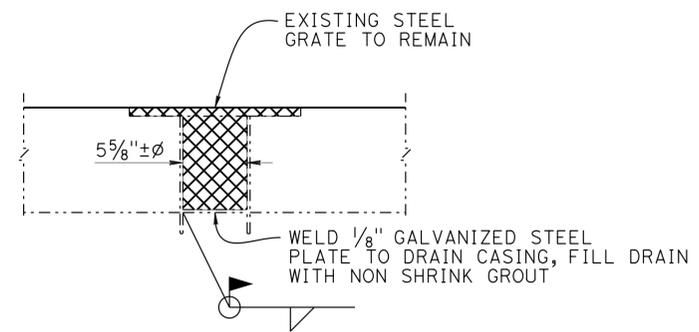
LOCATIONS TO BE DETERMINED BY THE ENGINEER. REINFORCEMENT MAY BE ENCOUNTERED DURING DECK CONCRETE REMOVAL AND IS TO REMAIN UNDAMAGED



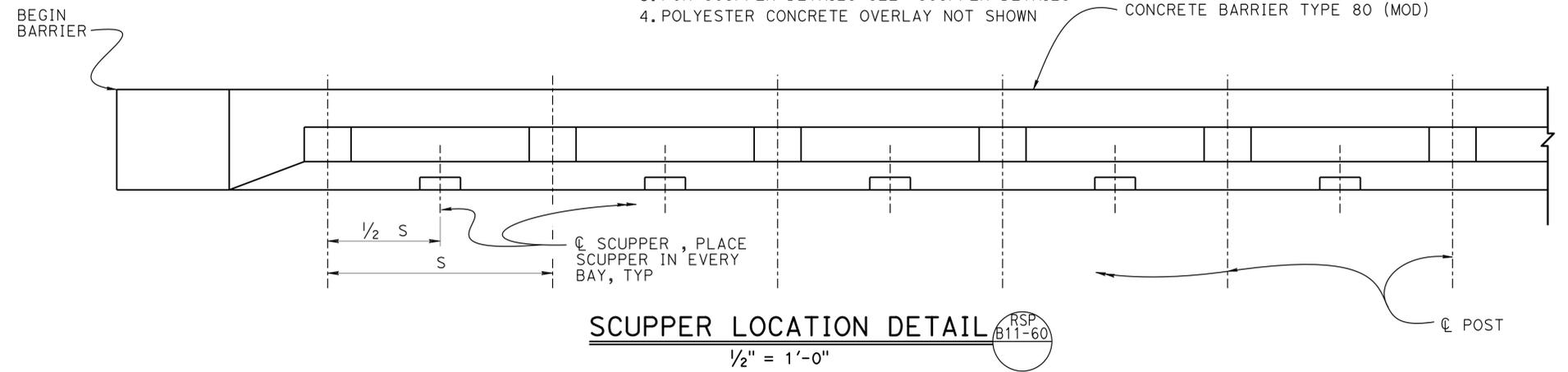
NOTE:
Tubular bicycle railing not shown

SCUPPER DETAIL
1" = 1'-0"

- NOTE:
- TUBULAR BICYCLE RAILING NOT SHOWN
 - WOOD GRAIN TEXTURE NOT SHOWN
 - FOR SCUPPER DETAILS SEE "SCUPPER DETAILS"
 - POLYESTER CONCRETE OVERLAY NOT SHOWN



EXISTING DRAIN PLUG DETAIL
1/2" = 1'-0"

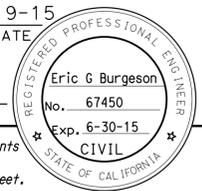


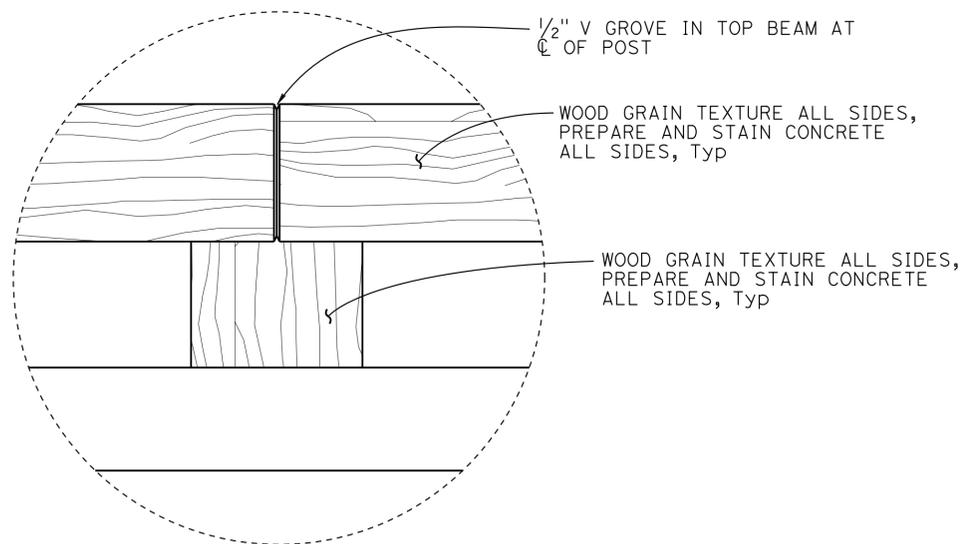
SCUPPER LOCATION DETAIL
1/2" = 1'-0"

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

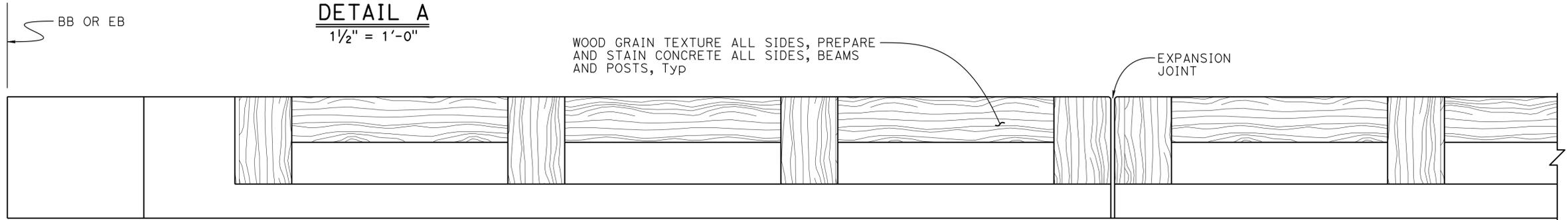
DESIGN BY Mufeed Khalaf CHECKED Ali Asnaashari DETAILS BY Jay Reid / Liang Ma CHECKED Ali Asnaashari QUANTITIES BY Mufeed Khalaf CHECKED Pyo Hong	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	04-0008	WIDEN/ BARRIER REPLACEMENT ELK CREEK BRIDGE MISCELLANEOUS DETAILS NO. 2						
			POST MILE	10.43							
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861		CONTRACT NO.: 01-430604						
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			DISREGARD PRINTS BEARING EARLIER REVISION DATES		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>REVISION DATES</th> <th>SHEET</th> <th>OF</th> </tr> <tr> <td>5-28-14 5-22-14 1-22-15 2-19-15</td> <td style="text-align: center;">9</td> <td style="text-align: center;">11</td> </tr> </table>	REVISION DATES	SHEET	OF	5-28-14 5-22-14 1-22-15 2-19-15	9	11
REVISION DATES	SHEET	OF									
5-28-14 5-22-14 1-22-15 2-19-15	9	11									

07422
 TIME PLOTTED =>
 30-SEP-2016
 DATE PLOTTED =>
 8:11:51 AM

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	82	100
				2-19-15	
REGISTERED CIVIL ENGINEER				DATE	
06-20-16					
PLANS APPROVAL DATE					
					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					

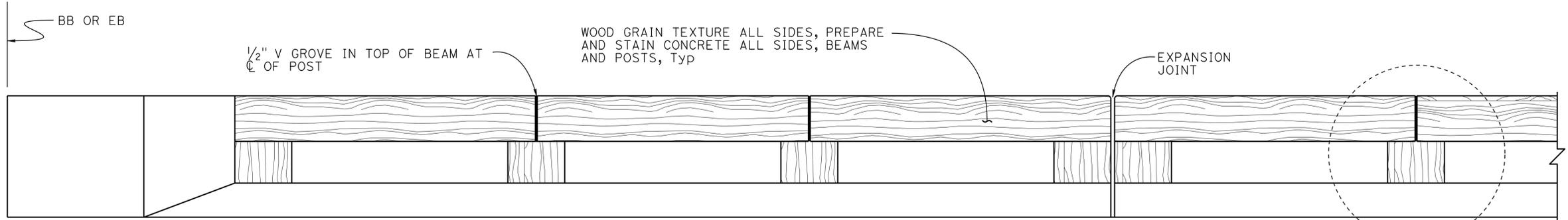


DETAIL A
1/2" = 1'-0"



**TYPE 80 (MOD) CONCRETE BARRIER
EXTERIOR ELEVATION**
3/4" = 1'-0"

- NOTE:
1. Tubular bicycle railing not shown
 2. Scuppers not shown
 3. Polyester concrete overlay not shown



**TYPE 80 (MOD) CONCRETE BARRIER
INTERIOR ELEVATION**
3/4" = 1'-0"

SEE, "DETAIL A"

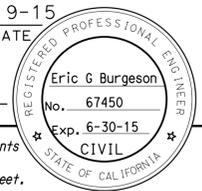
- NOTE:
1. Tubular bicycle railing not shown
 2. Scuppers not shown
 3. Polyester concrete overlay not shown

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

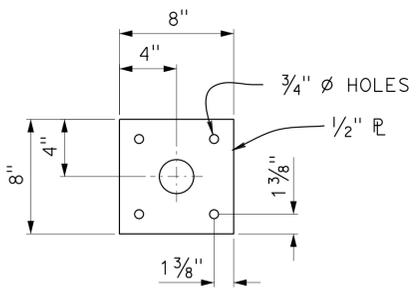
DESIGN BY Stephan Heath		CHECKED Eric Burgeson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 04-0008	WIDEN/BARRIER REPLACEMENT ELK CREEK BRIDGE BARRIER TEXTURE DETAILS	
DETAILS BY Jay Reid / Liang Ma		CHECKED Eric Burgeson			POST MILE 10.43		
QUANTITIES BY Mufeed Khalaf		CHECKED Pyo Hong					
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 5-20-14 5-27-14 1-22-15 SHEET 10 OF 11

USERNAME => s115152 DATE PLOTTED => 30-SEP-2016 TIME PLOTTED => 07:22

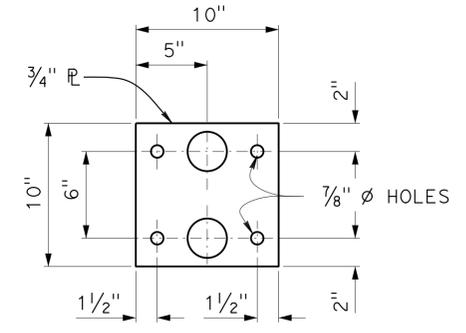
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	83	100
			2-19-15	DATE	
			06-20-16	DATE	
			PLANS APPROVAL DATE		
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- NOTES:
- Galvanize rail assembly after fabrication.
 - Post must be normal to railing.
 - Rail tubes must be shop bent or fabricated to fit horizontal curve when radius is less than 950.00'
 - Tube expansion joint must be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length correspondingly.
 - Top rail tube must be continuous over not less than two posts except a short post spacing is permitted near deck or wall joints, electroliers, or other rail discontinuities as noted.
 - For 3 NPS XS pipe rails use 2.5 NPS STD pipe for inner coupling tube and for 2 NPS STD pipe use 1.5 NPS STD pipe for coupling tube railing.

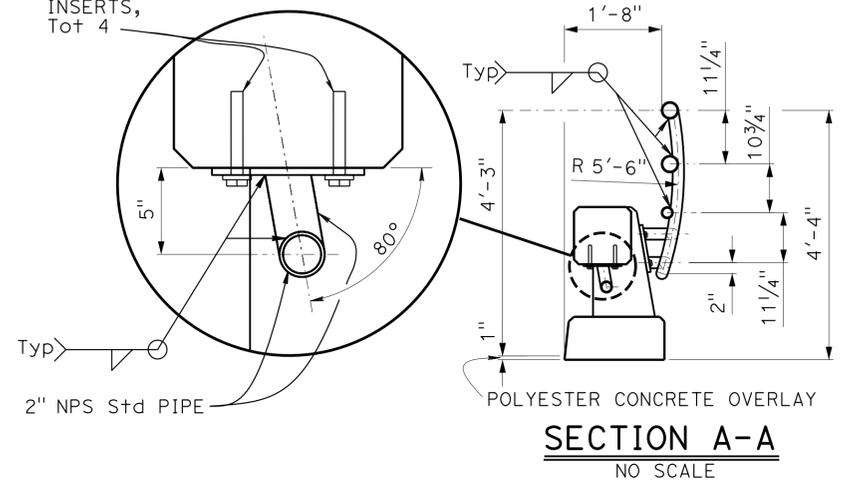


LOWER RAIL ANCHOR PLATE DETAIL
NO SCALE

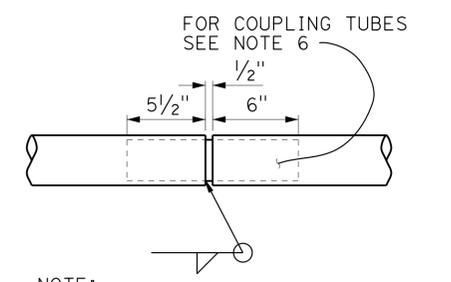


POST ANCHOR PLATE
NO SCALE

1/2" Ø X 4" HS BOLT w/WASHER IN A CAST IN PLACE CONCRETE INSERTS, Tot 4

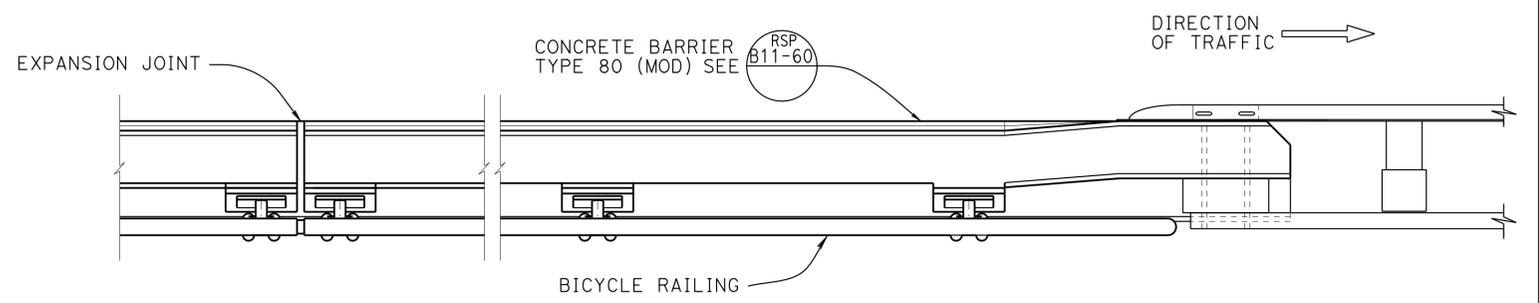


SECTION A-A
NO SCALE

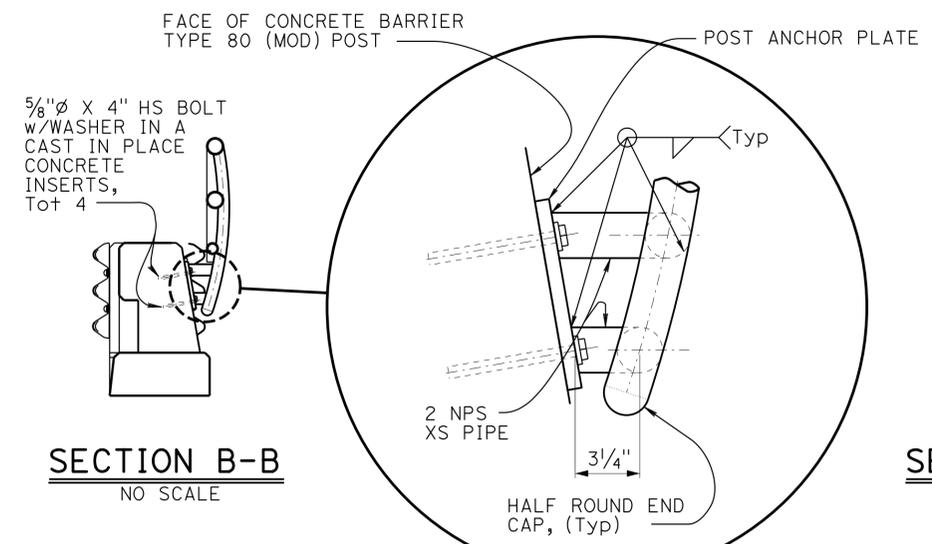


NOTE: Coupling tube welded to one rail only so as to allow for expansion and contraction.

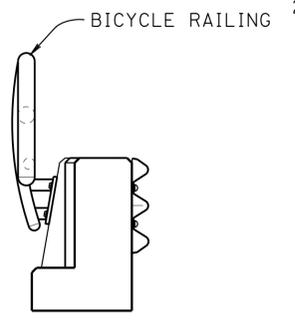
TUBE EXPANSION JOINT
NO SCALE



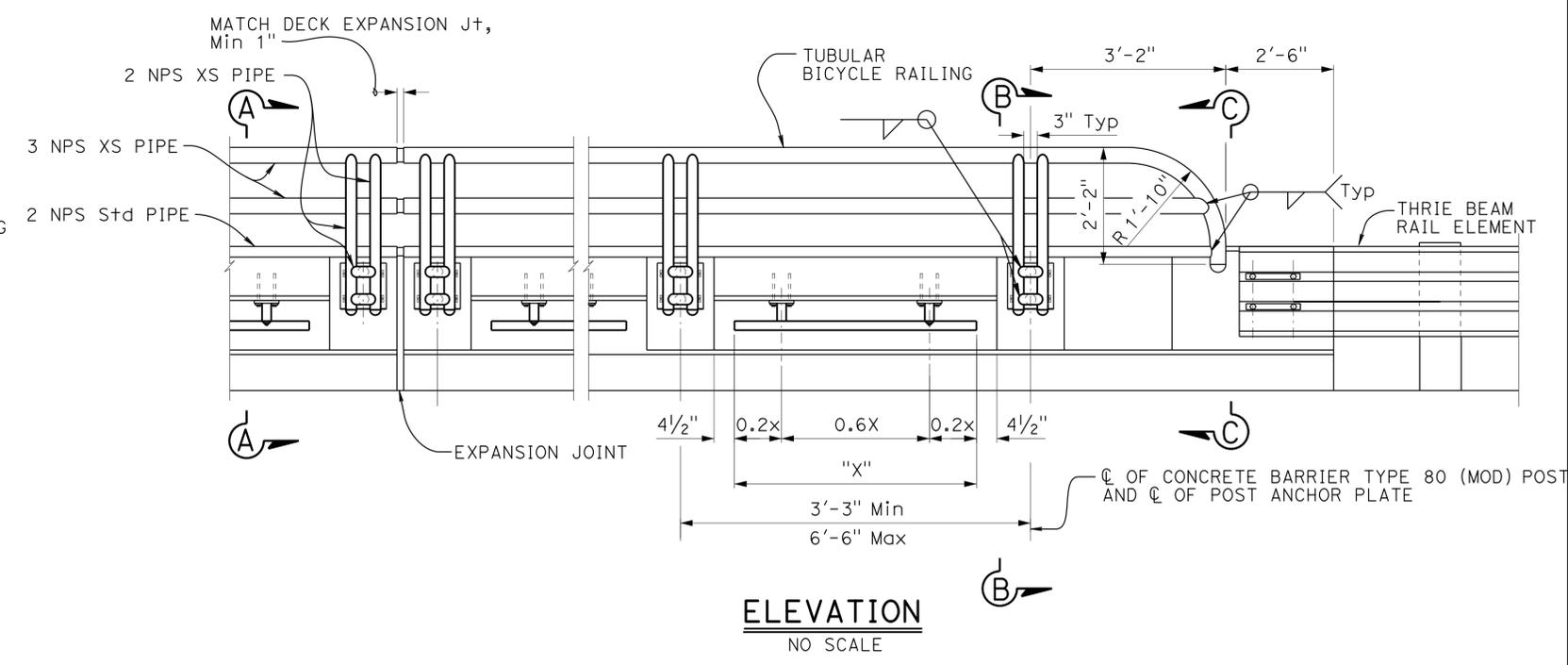
PLAN
NO SCALE



SECTION B-B
NO SCALE



SECTION C-C
(END VIEW)
NO SCALE



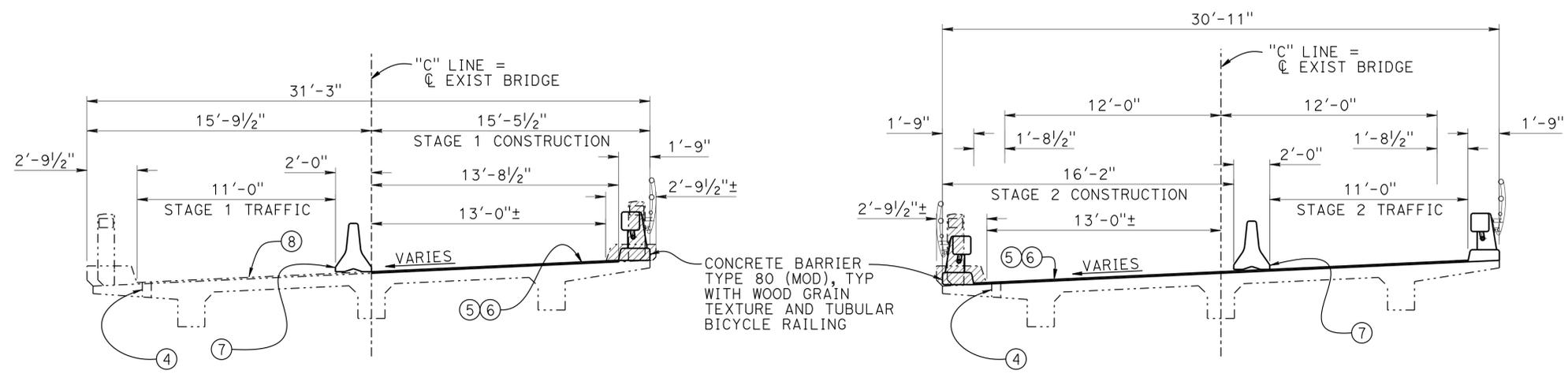
ELEVATION
NO SCALE

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

DESIGN	BY	Tillat Satter	CHECKED	Eric Burgeson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	04-0008	WIDEN/BARRIER REPLACEMENT ELK CREEK BRIDGE TUBULAR BICYCLE RAILING DETAILS	
	DETAILS	BY	Jay Reid / Liang Ma	CHECKED			Eric Burgeson	POST MILE		10.43
	QUANTITIES	BY	Mufeed Khalaf	CHECKED			Pyo Hong			

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	85	100

2-19-15
 REGISTERED CIVIL ENGINEER DATE
 Eric G. Burgeson
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
 06-20-16
 PLANS APPROVAL DATE
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STAGE 1 CONSTRUCTION

STAGE 2 CONSTRUCTION

TYPICAL SECTION

1/4" = 1'-0"

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

- NOTES:**
- ④ Plug deck drains, typ, see "EXISTING DRAIN PLUG DETAIL" on "MISCELLANEOUS DETAILS" sheet
 - ⑤ Remove existing AC surfacing
 - ⑥ Furnish and place 1" polyester concrete overlay. Remove unsound concrete and patch with rapid setting concrete prior to bridge deck treatment.
 - ⑦ Temporary Railing (Type K), see "ROADWAY PLANS"
 - ⑧ Exist 1 1/2" AC Surfacing

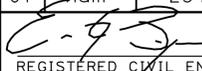
NOTE:
 THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN ENGINEER Joseph E. Downing	DESIGN	BY Eric Burgeson	CHECKED Quang Nguyen	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44 AND ALTERNATIVE AND PERMIT DESIGN LOAD	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	04-0009		
	DETAILS	BY Jay Reid / Liang Ma	CHECKED Quang Nguyen	LAYOUT				BY Eric Burgeson	CHECKED Quang Nguyen	POST MILE	10.80
	QUANTITIES	BY Mufeed Khalaf	CHECKED Pyo Hong	SPECIFICATIONS				BY Tina Chen	CHECKED Tina Chen		

BARRIER REPLACEMENT
BRIDGE CREEK BRIDGE
GENERAL PLAN NO. 2

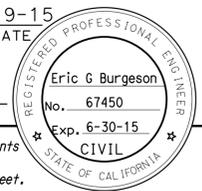
USERNAME => s115152 DATE PLOTTED => 30-SEP-2016 TIME PLOTTED => 07:22

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	86	100

 2-19-15
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06-20-16
 PLANS APPROVAL DATE

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GENERAL NOTES

EXISTING STRUCTURE

1. All reinforcing steel shall be structural steel grade deformed bars, embedded at least two diameters
2. All splice shall be 30 or 45 diameter if clear once is less than 3 diameter.
3. All concrete shall be class "A" Portland Cement Concrete
4. All railing shall be dense, select, all-heart structural Redwood.

DESIGN LOAD:
H-15

UNIT STRESSES:
 $f_s = 18000 \text{ #/in}^2$
 $f_c = 1000 \text{ #/in}^2$
 $n = 10$

NEW CONSTRUCTION
LOAD FACTOR DESIGN

DESIGN:
 Bridge Design Specifications, LFD Version, April 2000
 (1996 AASHTO with Interims and Revisions by Caltrans)

DEAD LOAD:
 Includes 35 psf of deck wear surface
 No future additional deck wear surface allowed.

LIVE LOADING:
HS20-44

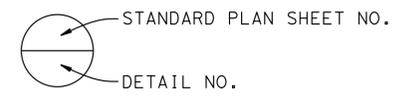
CONCRETE:
 $f_y = 60 \text{ ksi}$
 $f'_c = 3600 \text{ psi}$
 $n = 9$

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN NO. 1
2	GENERAL PLAN NO. 2
3	INDEX TO PLANS
4	FOUNDATION PLAN
5	TYPICAL SECTION
6	MISCELLANEOUS DETAILS
7	BARRIER TEXTURE DETAILS
8	TUBULAR BICYCLE RAILING DETAILS

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)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE
B7-8	DECK DRAINAGE DETAILS
RSP B11-60	CONCRETE BARRIER TYPE 80



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

STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Eric Burgeson	CHECKED Quang Nguyen	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	BARRIER REPLACEMENT BRIDGE CREEK BRIDGE INDEX TO PLANS			
	DETAILS	BY Jay Reid / Liang Ma	CHECKED Quang Nguyen			04-0009				
	QUANTITIES	BY Mufeed Khalaf	CHECKED Pyo Hong			POST MILE 10.80				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3578	PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 3 OF 8

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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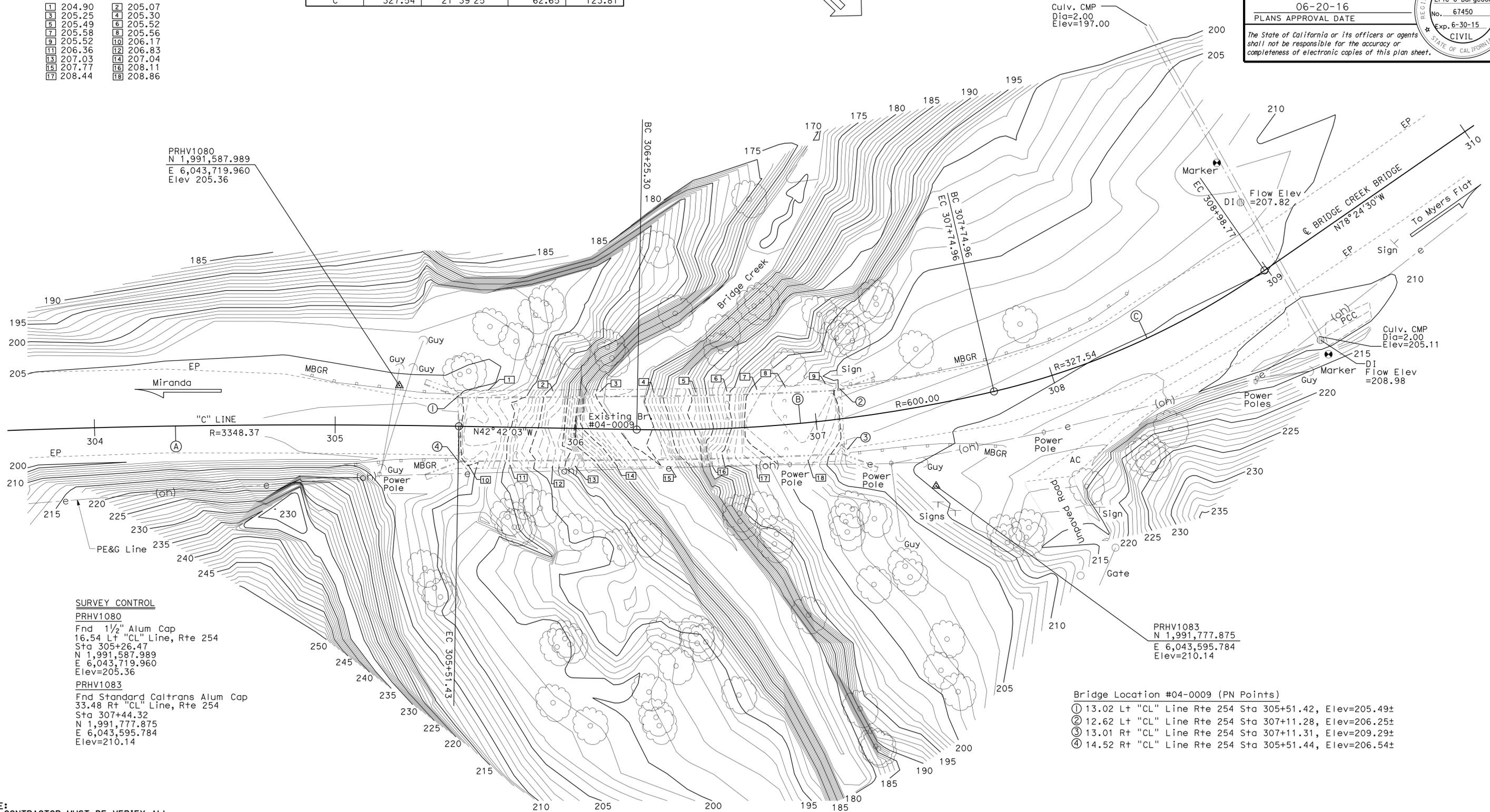
2-19-15
 REGISTERED CIVIL ENGINEER DATE
 Eric G Burgeson
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
 06-20-16
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CURVE DATA

No.	R	Δ	T	L
A	3348.37	08°27'40"	247.68	494.47
B	600.00	14°17'28"	75.22	149.66
C	327.54	21°39'25"	62.65	123.81

Soffit Elev

1	204.90	2	205.07
3	205.25	4	205.30
5	205.49	6	205.52
7	205.58	8	205.56
9	205.52	10	206.17
11	206.36	12	206.83
13	207.03	14	207.04
15	207.77	16	208.11
17	208.44	18	208.86



PRHV1080
 N 1,991,587.989
 E 6,043,719.960
 Elev 205.36

SURVEY CONTROL

PRHV1080
 Fnd 1/2" Alum Cap
 16.54 Lt "CL" Line, Rte 254
 Sta 305+26.47
 N 1,991,587.989
 E 6,043,719.960
 Elev=205.36

PRHV1083
 Fnd Standard Caltrans Alum Cap
 33.48 Rt "CL" Line, Rte 254
 Sta 307+44.32
 N 1,991,777.875
 E 6,043,595.784
 Elev=210.14

Bridge Location #04-0009 (PN Points)

- ① 13.02 Lt "CL" Line Rte 254 Sta 305+51.42, Elev=205.49±
- ② 12.62 Lt "CL" Line Rte 254 Sta 307+11.28, Elev=206.25±
- ③ 13.01 Rt "CL" Line Rte 254 Sta 307+11.31, Elev=209.29±
- ④ 14.52 Rt "CL" Line Rte 254 Sta 305+51.44, Elev=206.54±

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

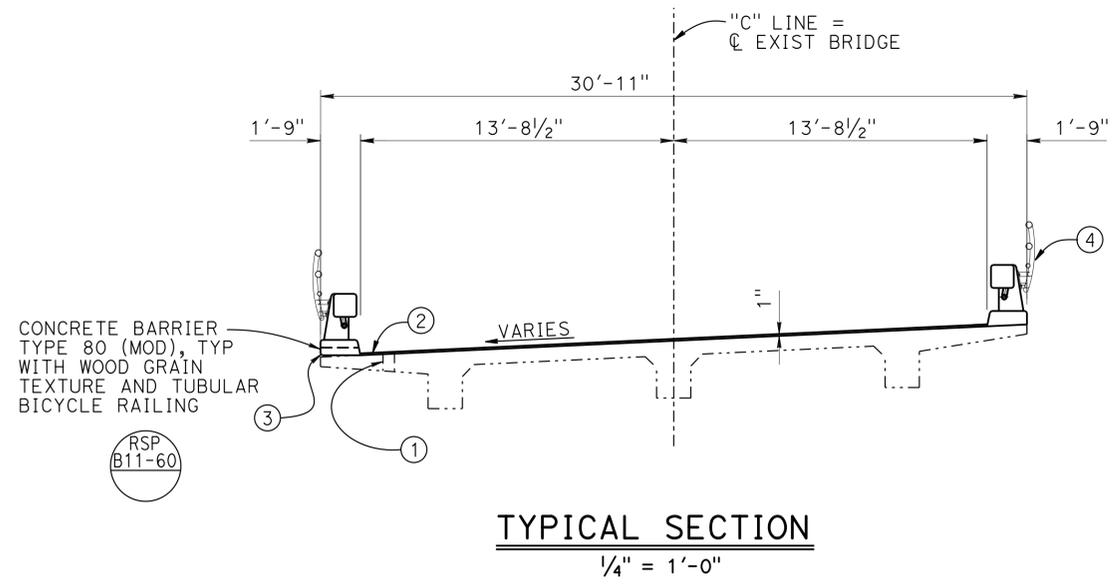
PRELIMINARY INVESTIGATION SECTION				DESIGN BY Eric Burgeson	CHECKED Ali Asnaashari	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 04-0009	BARRIER REPLACEMENT BRIDGE CREEK BRIDGE FOUNDATION PLAN			
SCALE 1"=20'	VERT. DATUM NAVD 88	PHOTOGRAMMETRY AS OF: X	DETAILS BY Liang Ma	CHECKED Ali Asnaashari	POST MILE 10.80							
ALIGNMENT TIES	Dist. Traverse Sheet	SURVEYED BY District	CHECKED BY Sharon Zheng 04/2011	CHECKED BY Jim Pallares 04/2011	QUANTITIES BY Mufeed Khalaf		CHECKED Pyo Hong					
STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)						ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3646	PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES	SHEET 4 OF 8

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
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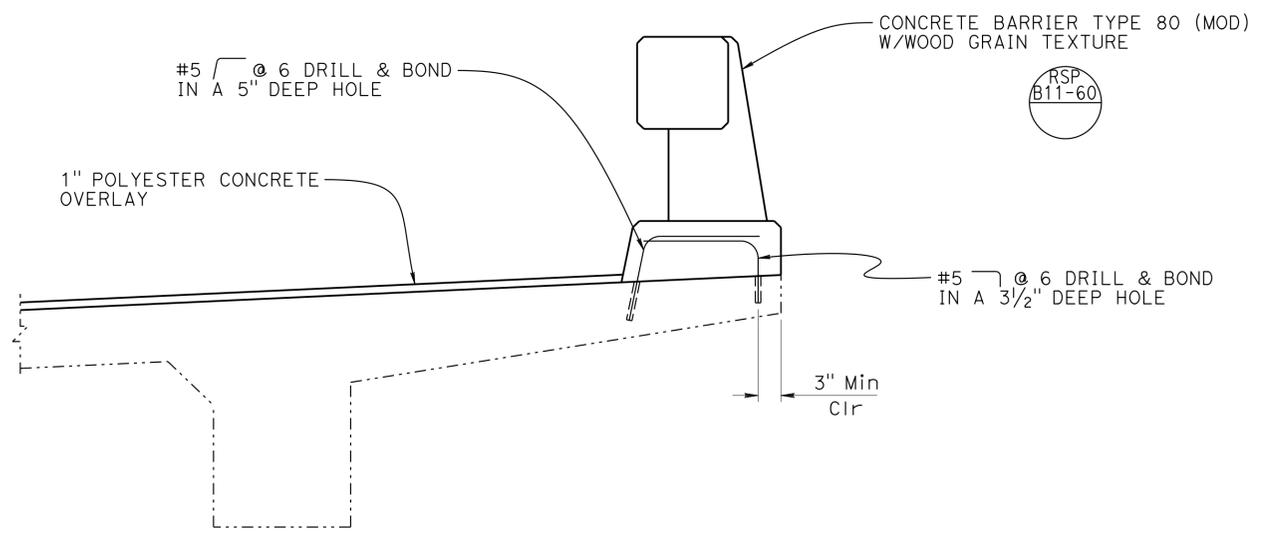
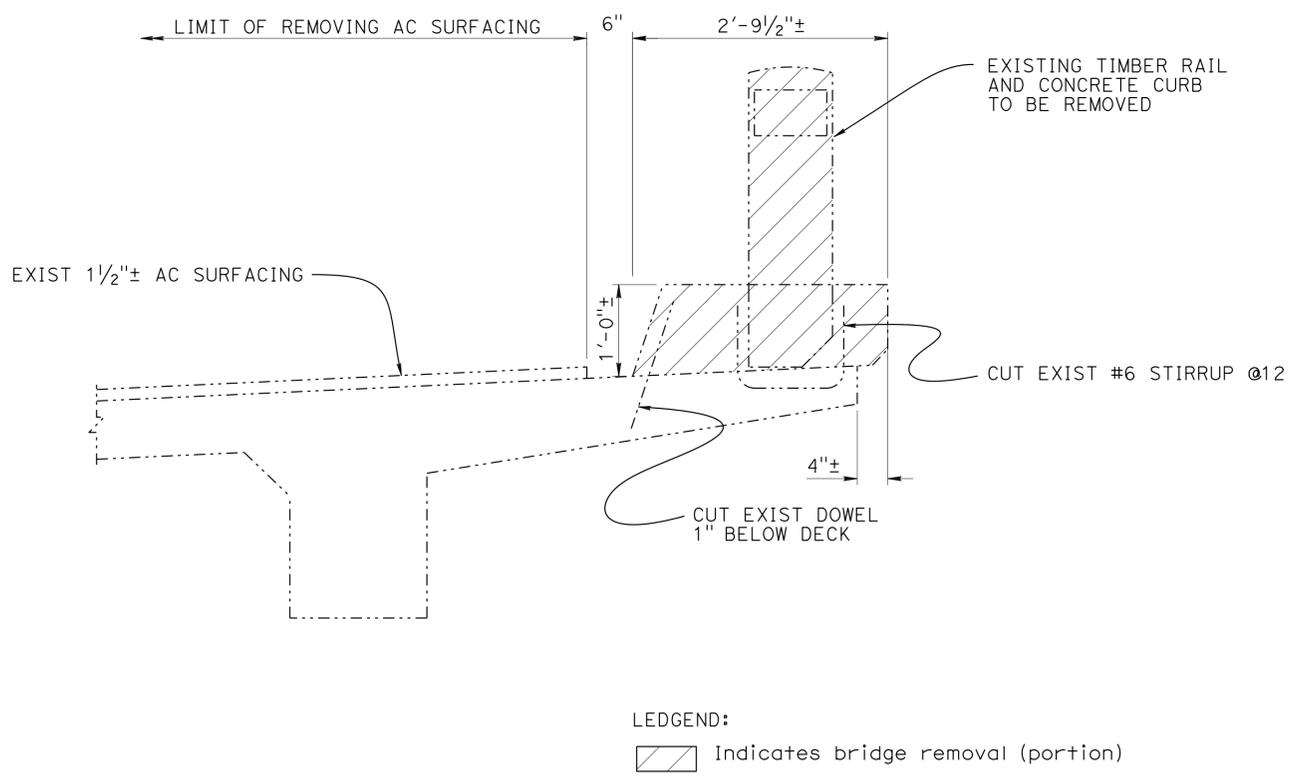
2-19-15
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 STATE OF CALIFORNIA

06-20-16
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- LEGEND:**
- Indicates Existing structure
 - Indicates new construction
- NOTES:**
- ① Plug deck drains, typ, see "EXISTING DRAIN PLUG DETAIL" on "MISCELLANEOUS DETAILS" sheet
 - ② Polyester concrete overlay
 - ③ Scupper see, "SCUPPER DETAIL" on "MISCELLANEOUS DETAILS" sheet
 - ④ Tubular Bicycle Railing For details see "TUBULAR BICYCLE RAILING DETAILS" sheet



NOTES:
Tubular bicycle railing not shown

PART TYPICAL SECTION (REMOVAL)
1" = 1'-0"

PART TYPICAL SECTION (NEW)
1" = 1'-0"

NOTE:
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STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN BY Eric Burgeson CHECKED Quang Nguyen	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 04-0009	BARRIER REPLACEMENT BRIDGE CREEK BRIDGE TYPICAL SECTION
	DETAILS BY Jay Reid / Liang Ma CHECKED Quang Nguyen			POST MILE 10.80	
	QUANTITIES BY Mufeed Khalaf CHECKED Pyo Hong				
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604	DISREGARD PRINTS BEARING EARLIER REVISION DATES
				REVISION DATES 5-28-14 5-22-14 1-20-15 2-19-15	SHEET 5 OF 8

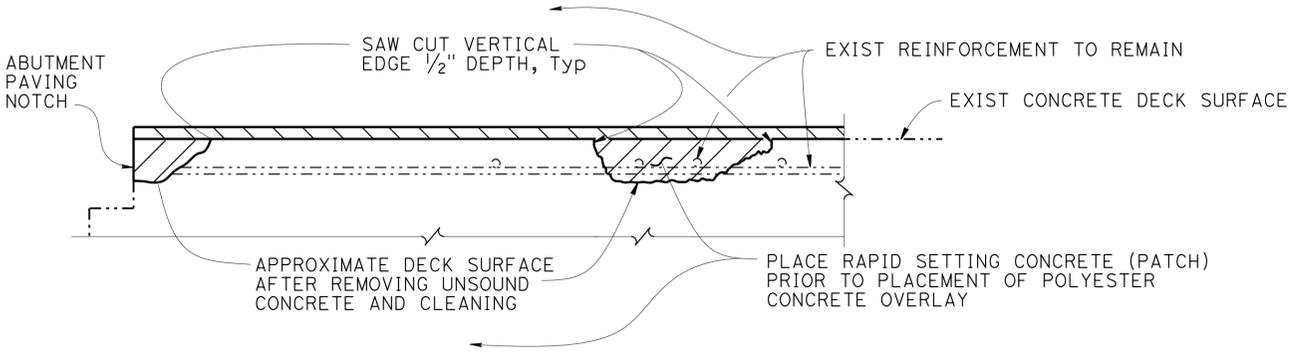
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	89	100

2-19-15
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 PLANS APPROVAL DATE
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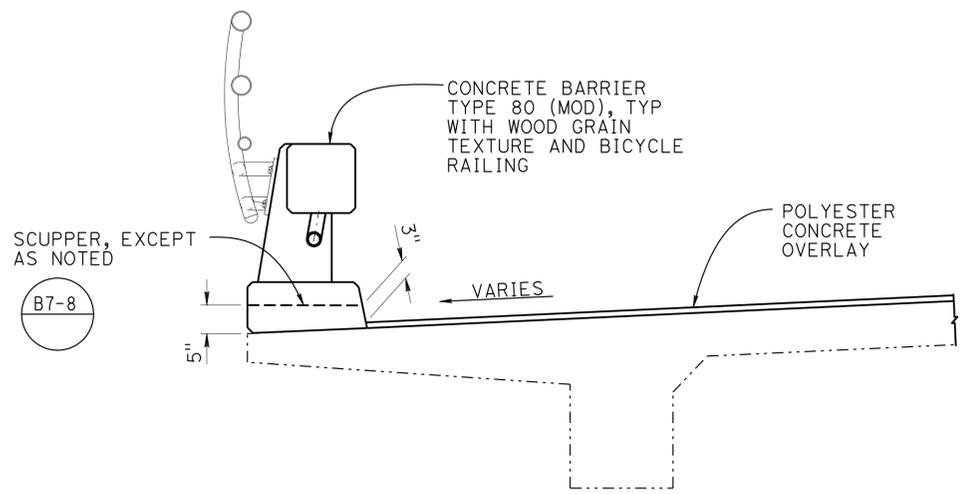
BRIDGE DECK REPAIR TABLE			
APPROXIMATE AREA DAMAGED (%)	APPROXIMATE DEPTH (in)	REMOVE UNSOUND CONCRETE f+3	RAPID SETTING CONCRETE (PATCH) f+3
5%	3"	55	55

 Area of unsound concrete removal
 Polyester concrete overlay

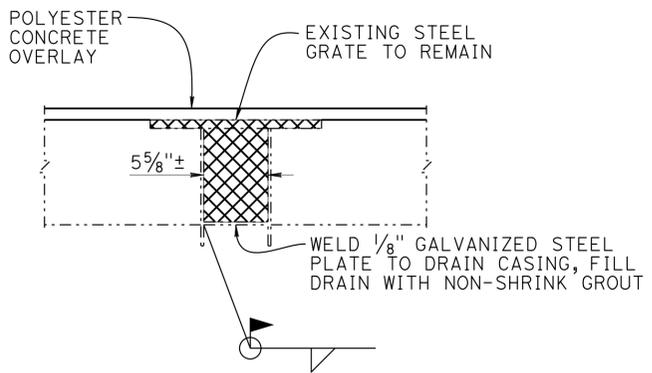


DECK REPAIR DETAIL
No Scale

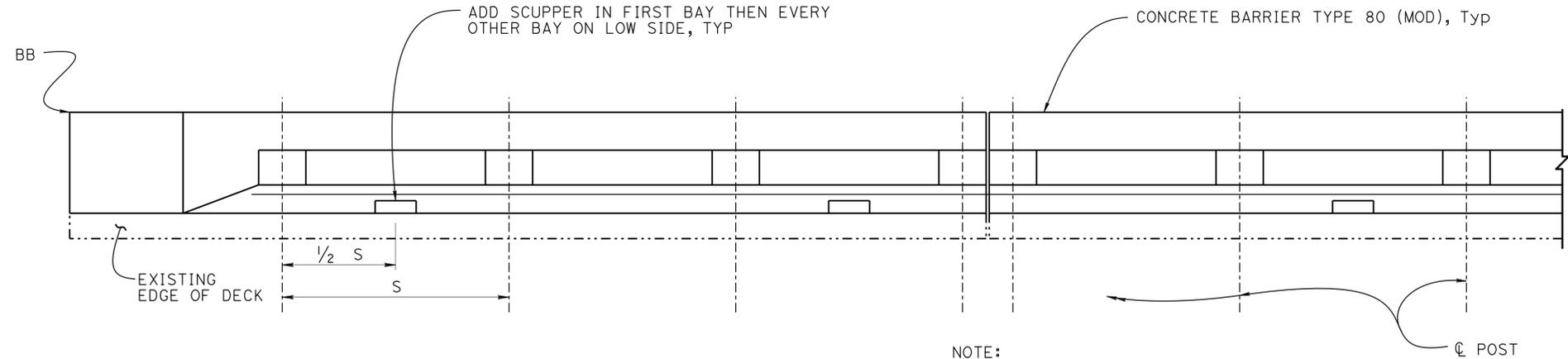
LOCATIONS TO BE DETERMINED BY THE ENGINEER. REINFORCEMENT MAY BE ENCOUNTERED DURING DECK CONCRETE REMOVAL AND IS TO REMAIN UNDAMAGED



SCUPPER DETAIL
3/4" = 1'-0"



EXISTING DRAIN PLUG DETAIL
1/2" = 1'-0"



SCUPPER LOCATION DETAIL
1/2" = 1'-0"

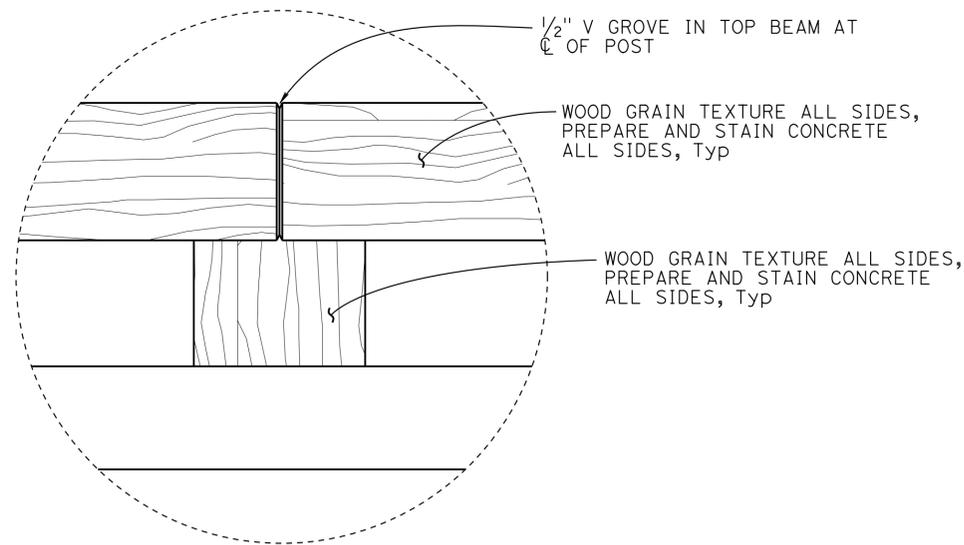
- NOTE:
1. Tubular bicycle railing not shown
 2. For Scupper details see "SCUPPER DETAILS"
 3. Wood Grain Texture not shown

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

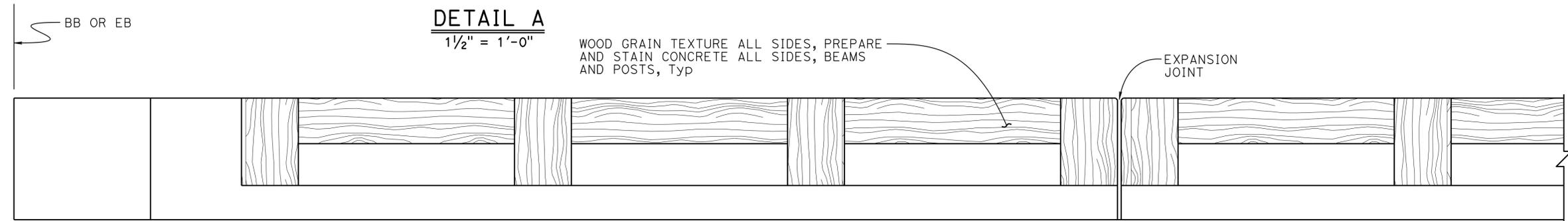
DESIGN BY Eric Burgeson CHECKED Quang Nguyen DETAILS BY Jay Reid / Liang Ma CHECKED Quang Nguyen QUANTITIES BY Mufeed Khalaf CHECKED Pyo Hong	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 04-0009	BARRIER REPLACEMENT BRIDGE CREEK BRIDGE MISCELLANEOUS DETAILS	
			POST MILE 10.80		
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604	DISREGARD PRINTS BEARING EARLIER REVISION DATES REVISION DATES: 5-28-14, 5-18-16, 1-20-15, 2-19-15 SHEET 6 OF 8

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	90	100
			2-19-15	DATE	
			06-20-16	DATE	
			REGISTÉRED CIVIL ENGINEER		
			PLANS APPROVAL DATE		
			Eric G. Burgeson		
			No. 67450		
			Exp. 6-30-15		
			CIVIL		
			STATE OF CALIFORNIA		

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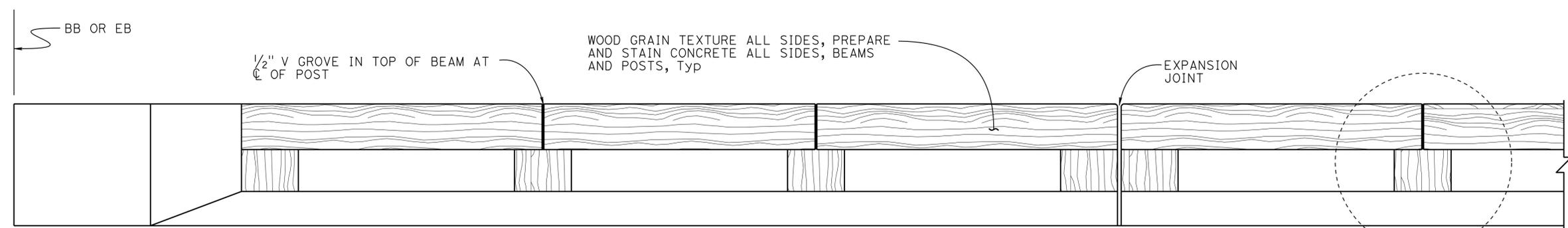


DETAIL A
1/2" = 1'-0"



**TYPE 80 (MOD) CONCRETE BARRIER
EXTERIOR ELEVATION**
3/4" = 1'-0"

- NOTE:
1. Tubular bicycle railing not shown
 2. Scuppers not shown
 3. Polyester concrete overlay not shown



**TYPE 80 (MOD) CONCRETE BARRIER
INTERIOR ELEVATION**
3/4" = 1'-0"

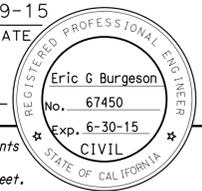
- NOTE:
1. Tubular bicycle railing not shown
 2. Scuppers not shown
 3. Polyester concrete overlay not shown

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

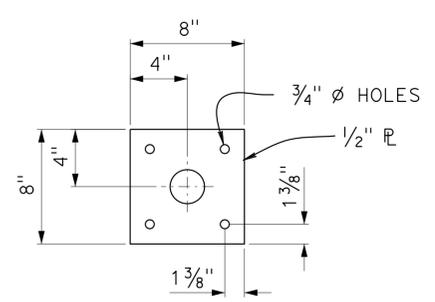
DESIGN BY Stephan Heath		CHECKED Eric Burgeson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 04-0009	BARRIER REPLACEMENT BRIDGE CREEK BRIDGE BARRIER TEXTURE DETAILS		
DETAILS BY Jay Reid / Liang Ma		CHECKED Eric Burgeson			POST MILE 10.80			
QUANTITIES BY Mufeed Khalaf		CHECKED Pyo Hong						
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	UNIT: 3578 PROJECT NUMBER & PHASE: 01000001864	CONTRACT NO.: 01-430601	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 5-20-14 5-27-14 1-22-15	SHEET 7 OF 8

FILE => 04-0009-1-archdet.dgn

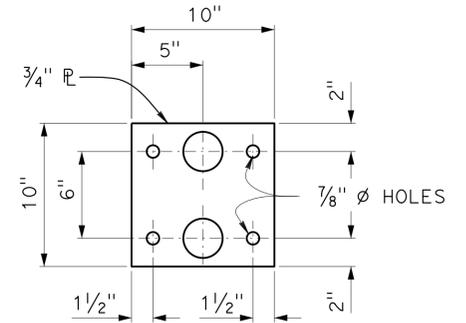
07422 TIME PLOTTED => 30-SEP-2016 USERNAME => s115152

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	91	100
			2-19-15	DATE	
			06-20-16	DATE	
			PLANS APPROVAL DATE		
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					
					

- NOTES:
- Galvanize rail assembly after fabrication.
 - Post must be normal to railing.
 - Rail tubes must be shop bent or fabricated to fit horizontal curve when radius is less than 950.00'
 - Tube expansion joint must be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length correspondingly.
 - Top rail tube must be continuous over not less than two posts except a short post spacing is permitted near deck or wall joints, electroliers, or other rail discontinuities as noted.
 - For 3 NPS XS pipe rails use 2.5 NPS STD pipe for inner coupling tube and for 2 NPS STD pipe use 1.5 NPS STD pipe for coupling tube railing.

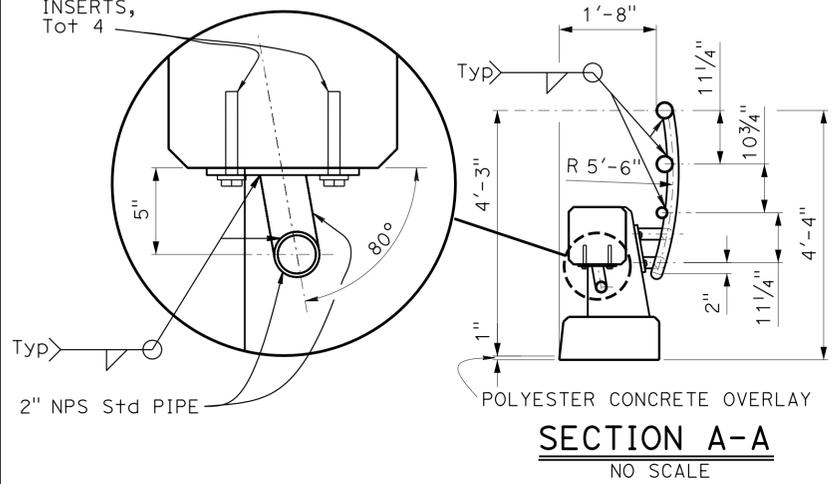


LOWER RAIL ANCHOR PLATE DETAIL
NO SCALE

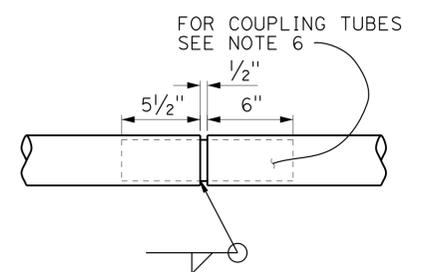


POST ANCHOR PLATE
NO SCALE

1/2" ϕ X 4" HS BOLT w/WASHER IN A CAST IN PLACE CONCRETE INSERTS, Tot 4

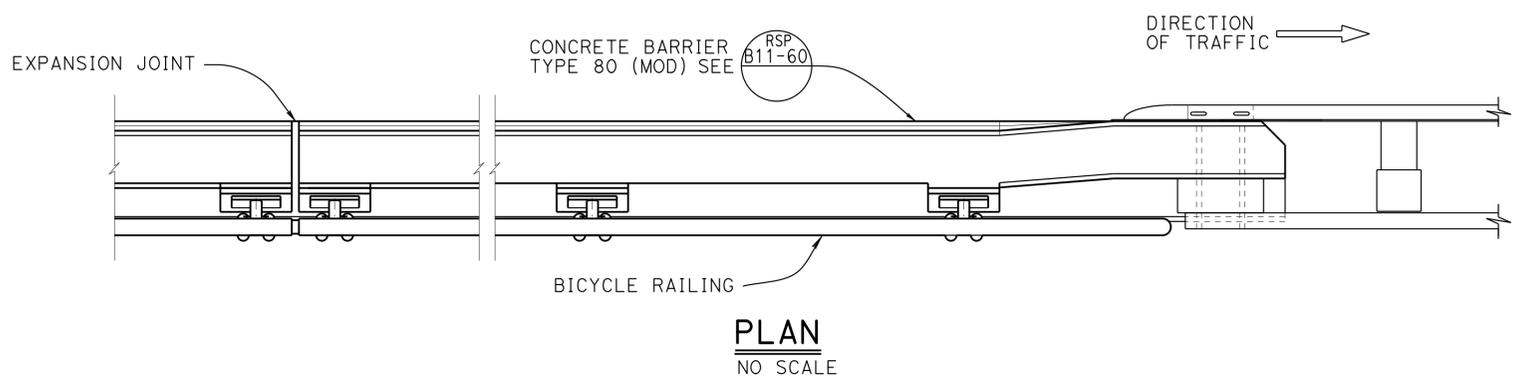


SECTION A-A
NO SCALE

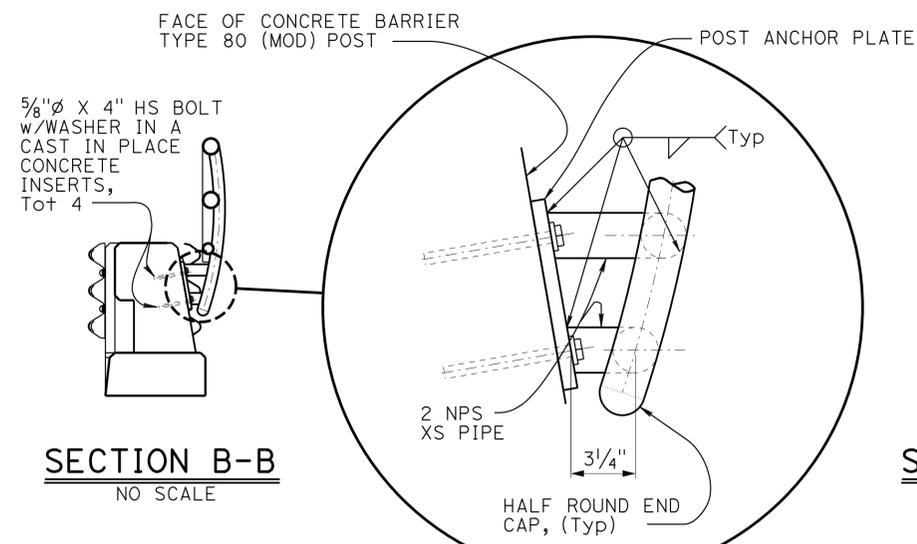


NOTE: Coupling tube welded to one rail only so as to allow for expansion and contraction.

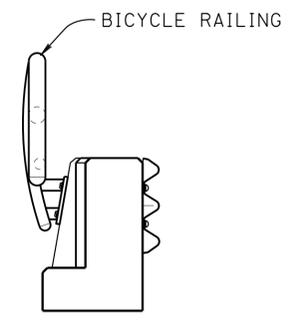
TUBE EXPANSION JOINT
NO SCALE



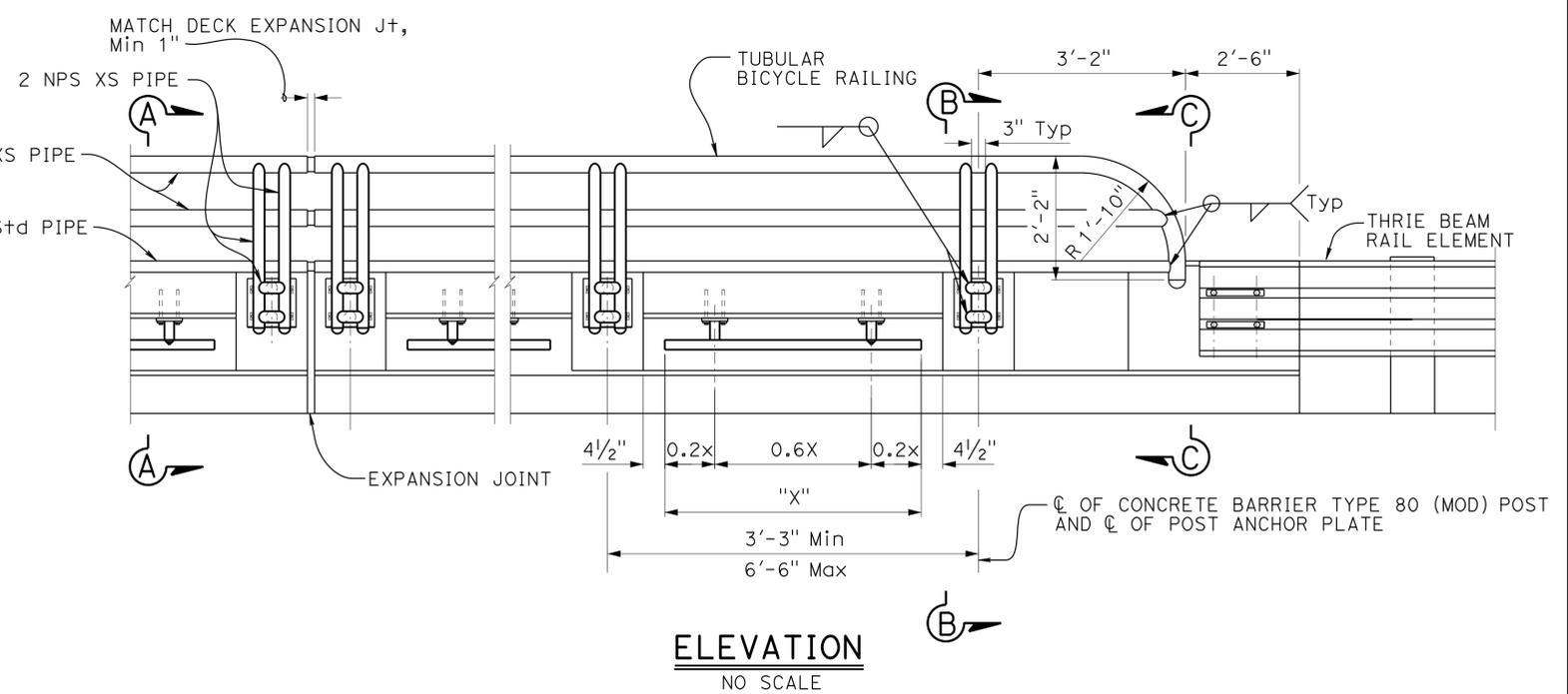
PLAN
NO SCALE



SECTION B-B
NO SCALE



SECTION C-C
(END VIEW)
NO SCALE



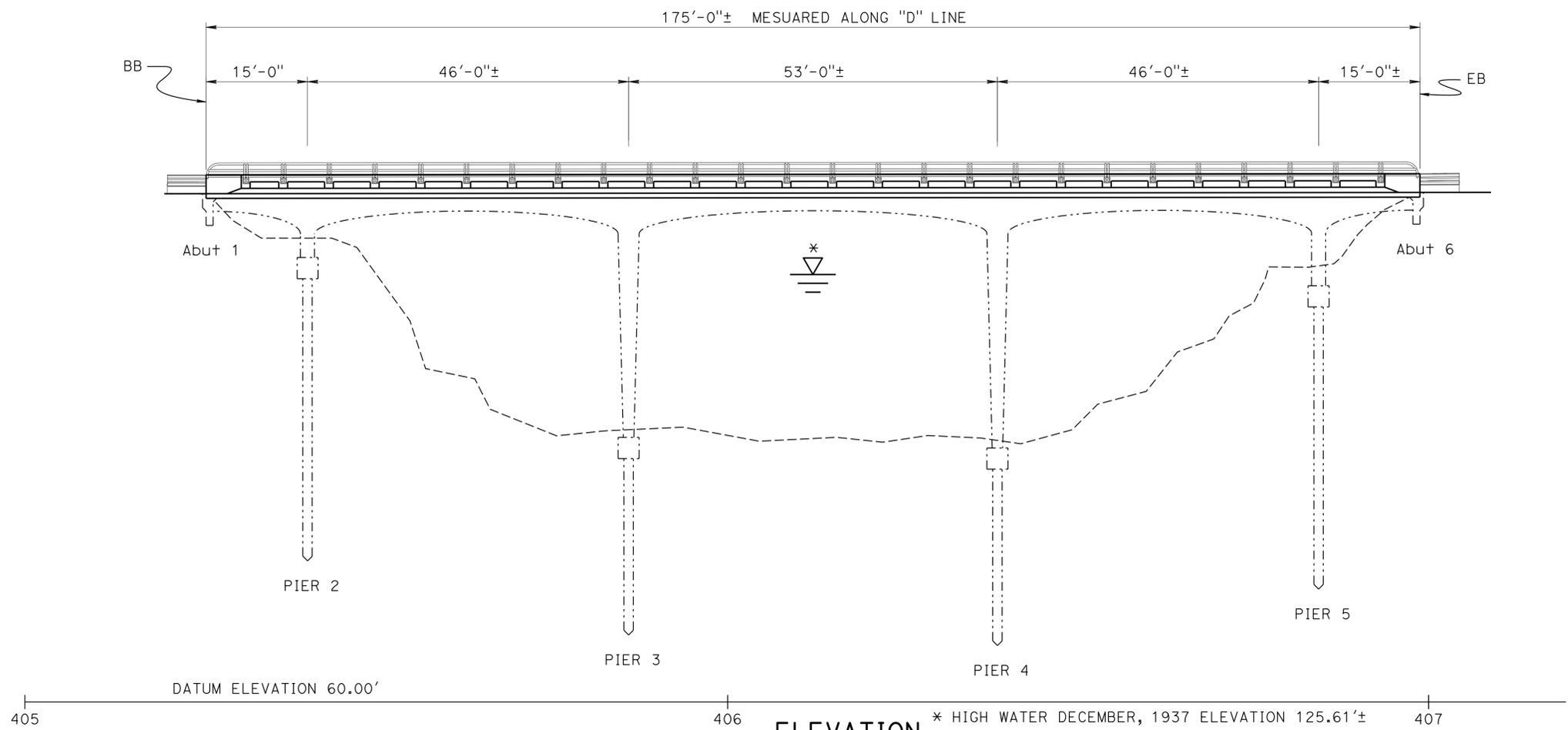
ELEVATION
NO SCALE

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

DESIGN BY Tillat Satter		CHECKED Eric Burgeson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 04-0009	BARRIER REPLACEMENT BRIDGE CREEK BRIDGE TUBULAR BICYCLE RAILING DETAILS			
DETAILS BY Jay Reid / Liang Ma		CHECKED Eric Burgeson			POST MILE 10.80				
QUANTITIES BY Mufeed Khalaf		CHECKED Pyo Hong							
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3578 PROJECT NUMBER & PHASE: 01000001864	CONTRACT NO.: 01-430601	DISREGARD PRINTS BEARING EARLIER REVISION DATES			
				0	1	2	3	REVISION DATES	SHEET 8 OF 8
				FILE => 04-0009-u-bikerail.dgn		5-20-14 5-27-14 1-22-15			

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	92	100

2-19-15
 REGISTERED CIVIL ENGINEER DATE
 Eric G. Burgeson
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA
 06-20-16
 PLANS APPROVAL DATE
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QUANTITIES

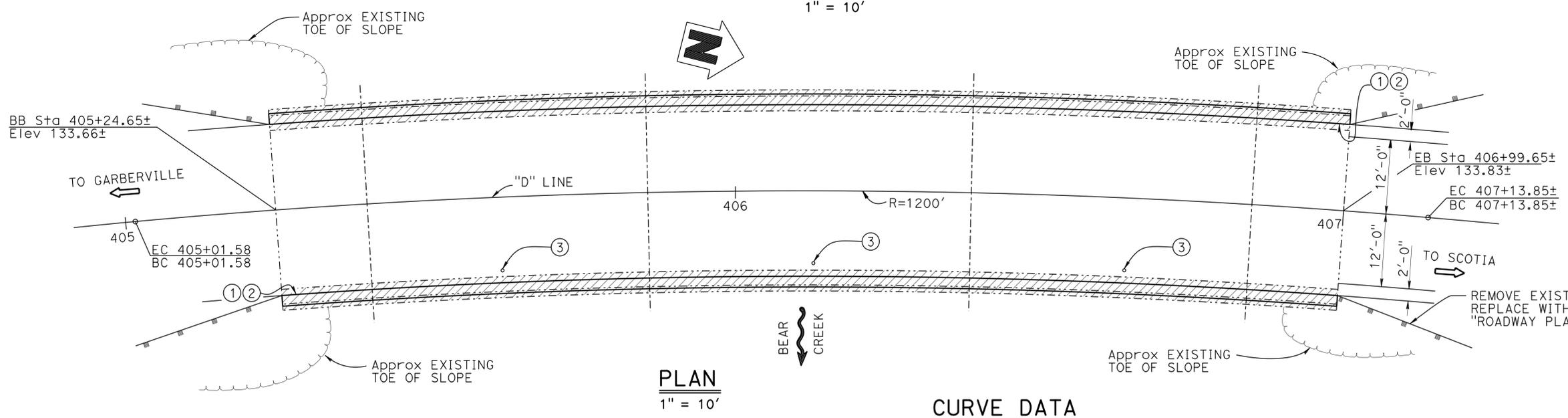
TREATED WOOD WASTE	24,800	LB
PLUG DECK DRAINS	3	EA
REFINISH BRIDGE DECK	350	SQFT
BRIDGE REMOVAL (PORTION), LOCATION D	LUMP	SUM
STRUCTURAL CONCRETE, BRIDGE	3	CY
DRILL AND BOND DOWEL (CHEMICAL ADHESIVE)	526	EA
BAR REINFORCING STEEL (BRIDGE)	3,000	LB
PREPARE AND STAIN CONCRETE	765	SQFT
TUBULAR BICYCLE RAILING	340	LF
CONCRETE BARRIER (TYPE 80 MODIFIED)	350	LF

LEGEND:

- Indicates existing structure
- Indicates new construction
- ▨ Indicates bridge removal (portion)

- NOTES:
- Paint "BRIDGE NO. 04-0012"
 - Paint "BEAR CREEK BRIDGE"
 - Plug Deck Drains, Tot 3

- NOTES:
- For "INDEX TO PLANS", see "INDEX TO PLANS" sheet
 - For "TYPICAL SECTION", see "GENERAL PLAN NO. 2" sheet



CURVE DATA

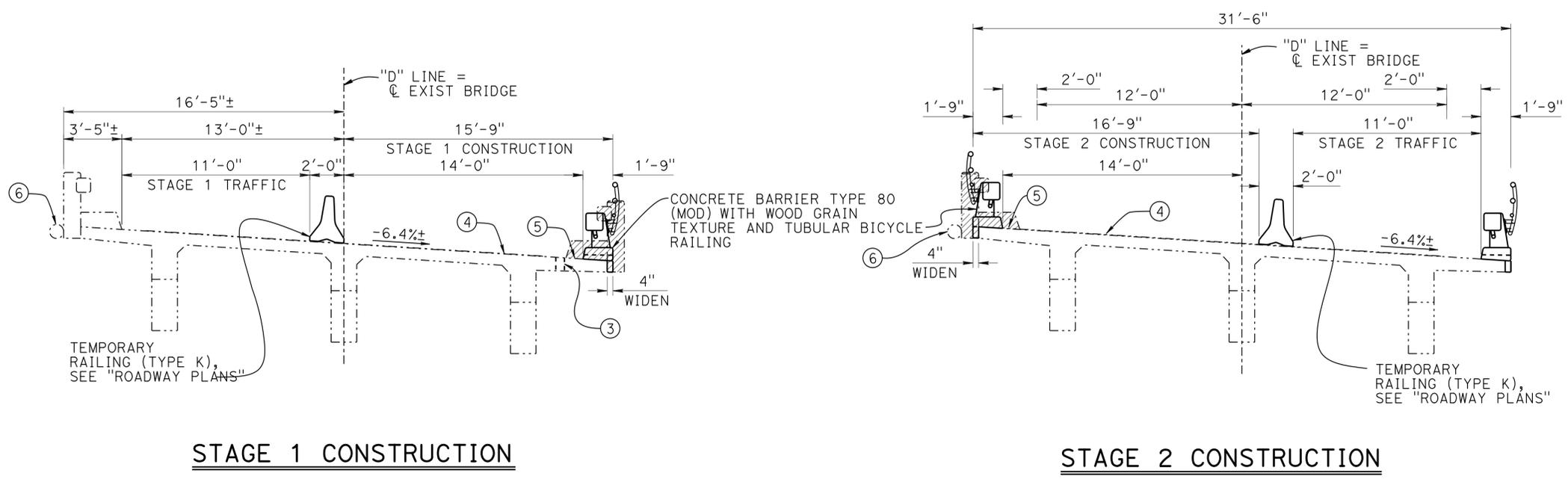
R = 1200.00'
Δ = 10° 07' 20"
T = 106.28'
L = 212.00'

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

Joseph E. Downing DESIGN ENGINEER	DESIGN	By Quang Nguyen	CHECKED Ali Asnaashari	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	04-0012	
	DETAILS	By Jay Reid / Liang Ma	CHECKED Ali Asnaashari	LAYOUT	By Eric Burgeson			CHECKED Quang Nguyen	POST MILE	43.02
	QUANTITIES	By Mufeed Khalaf	CHECKED Pyo Hong	SPECIFICATIONS	By Tina Chen			CHECKED Tina Chen	PLANS AND SPECS COMPARED	

WIDEN/BARRIER REPLACEMENT
BEAR CREEK BRIDGE
GENERAL PLAN NO. 1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	93	100
			2-19-15	REGISTERED CIVIL ENGINEER DATE	
			06-20-16	PLANS APPROVAL DATE	
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					



- LEGEND:**
- Indicates existing structure
 - Indicates new construction
 - ▨ INDICATES BRIDGE REMOVAL (PORTION); EXISTING CURB AND RAILING REMOVAL
- NOTES:**
- ③ PLUG DECK DRAINS, typ, see "EXISTING DRAIN PLUG DETAILS" on "MISCELLANEOUS DETAILS" sheet
 - ④ 1/4"± EXISTING AC SURFACING
 - ⑤ FINISH BRIDGE DECK
 - ⑥ REMOVE EXISTING ABANDONED UTILITY LINE

STAGE 1 CONSTRUCTION

STAGE 2 CONSTRUCTION

TYPICAL SECTION

1/4" = 1'-0"

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

DESIGN ENGINEER Joseph E. Downing	DESIGN	BY Quang Nguyen	CHECKED Ali Asnaashari	LOAD FACTOR DESIGN	LIVE LOADING: HS20-44	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	04-0012	
	DETAILS	BY Jay Reid / Liang Ma	CHECKED Ali Asnaashari	LAYOUT	BY Eric Burgeson			CHECKED Quang Nguyen	POST MILE	43.02
	QUANTITIES	BY Mufeed Khalaf	CHECKED Pyo Hong	SPECIFICATIONS	BY Tina Chen			CHECKED Tina Chen		

WIDEN/BARRIER REPLACEMENT
BEAR CREEK BRIDGE
GENERAL PLAN NO. 2

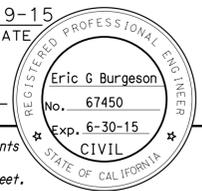
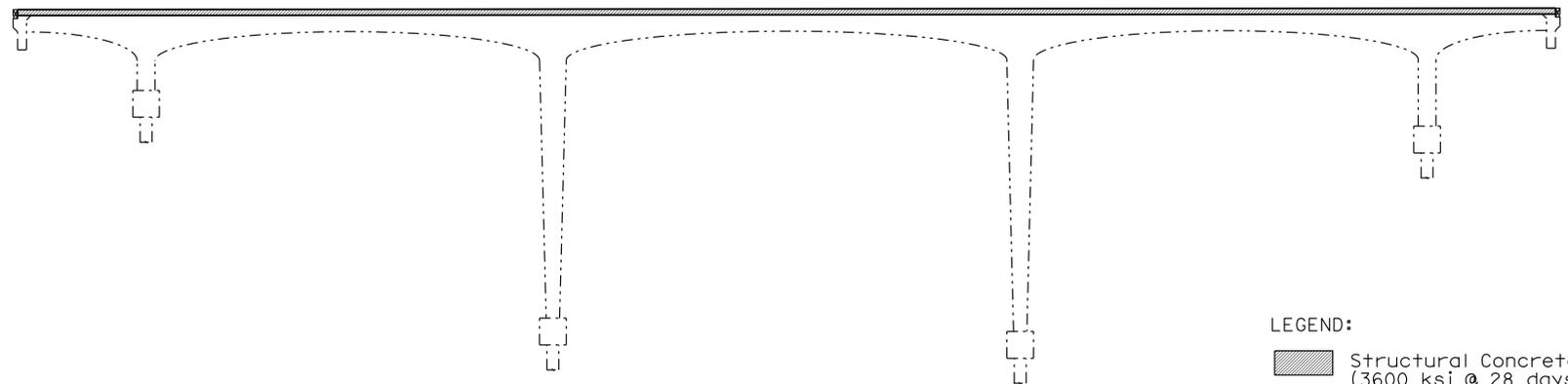
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	94	100

 2-19-15
 REGISTERED CIVIL ENGINEER DATE

06-20-16
 PLANS APPROVAL DATE

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LEGEND:
 Structural Concrete, Bridge
 (3600 ksi @ 28 days)

CONCRETE STRENGTH AND TYPE LIMITS
 1" = 10'

GENERAL NOTES

EXISTING STRUCTURE

SPECIFICATIONS:
DESIGN:
 AASHTO dated 1935 with revisions, and as Supplemented by Bridge Planing and Design Manual

CONSTRUCTION:
 Standard Specifications, Division of Highways, dated August 1935 and the Special Provisions

LIVE LOADING:
 H-15

UNIT STRESSES:
 Reinforced Concrete:
 $f_s = 18,000$ psi
 $f_c = 1000$ psi
 $n = 10$

MAX CONCRETE PILE LOAD:
 PIER 1 & 4 = 30 TONS/PILE
 PIER 2 & 3 = 35 TONS/PILE

NEW CONSTRUCTION

DESIGN:
 Bridge Design Specifications, LFD version, April 2000 (1996 AASHTO with Interims and Revisions by CALTRANS)

DEAD LOAD:
 No wear surface considered
 No future additional deck wear surface allowed

LIVE LOADING:
 HS20-44 design load.

REINFORCED CONCRETE:
 $f_y = 60$ ksi
 $f'_c = 3600$ ksi
 $n = 9$

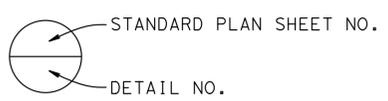
INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN NO. 1
2	GENERAL PLAN NO. 2
3	INDEX TO PLANS
4	FOUNDATION PLAN
5	ABUTMENT DETAILS
6	TYPICAL SECTION
7	MISCELLANEOUS DETAILS
8	BARRIER TEXTURE DETAILS
9	TUBULAR BICYCLE RAILING DETAILS

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)
A62C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL BRIDGE
B7-8	DECK DRAINAGE DETAILS
RSP B11-60	CONCRETE BARRIER TYPE 80

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



STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)	DESIGN	BY Quang Nguyen	CHECKED Ali Asnaashari	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	WIDEN / BARRIER REPLACEMENT BEAR CREEK BRIDGE INDEX TO PLANS		
	DETAILS	BY Jay Reid / Liang Ma	CHECKED Ali Asnaashari			04-0012			
	QUANTITIES	BY Mufeed Khalaf	CHECKED Pyo Hong			43.02			
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS					UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 5-28-14 5-27-14 1-22-15 2-19-15	SHEET 3 OF 9

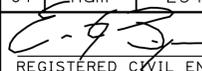
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07422
 TIME PLOTTED =>
 30-SEP-2016
 USERNAME => s115152

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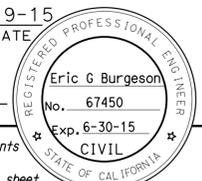
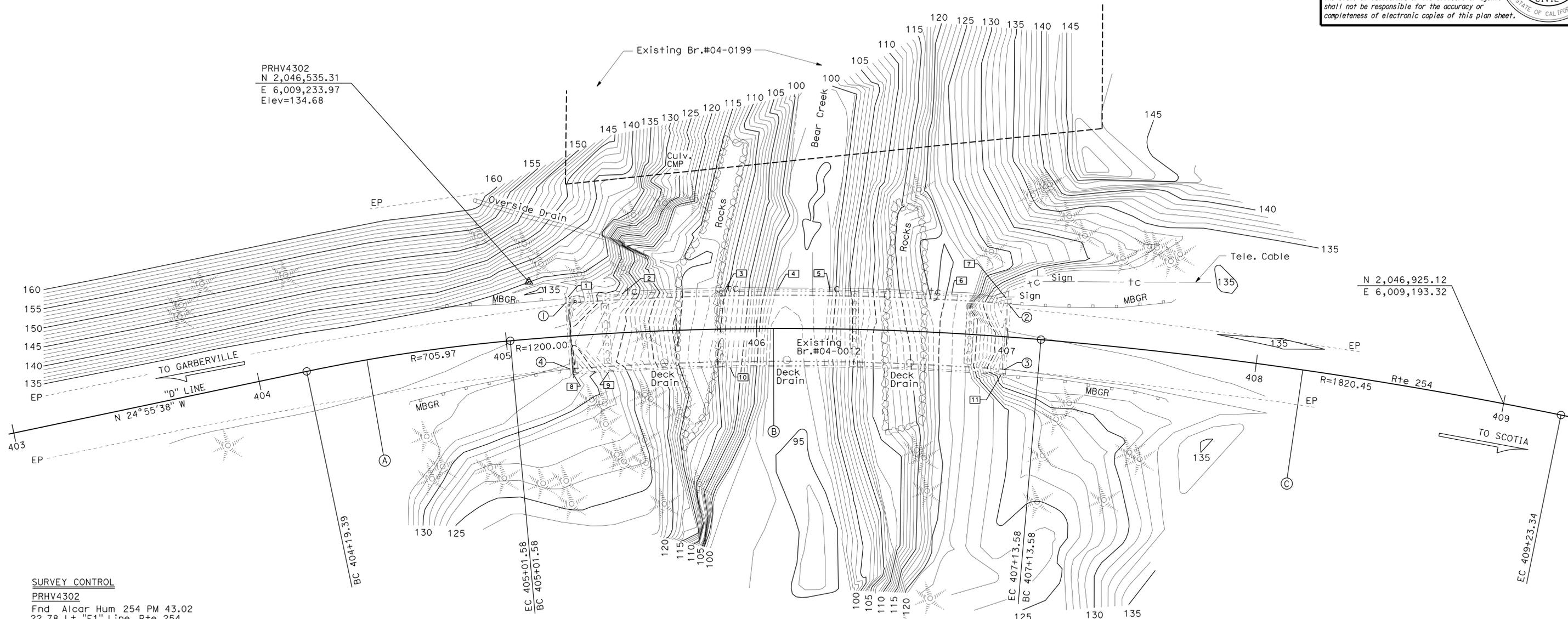
No.	R	Δ	T	L
A	705.97	06°40'13"	41.14	82.19
B	1200.00	10°07'20"	106.28	212.00
C	1820.45	06°36'06"	104.99	209.76

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	95	100


 2-19-15
 REGISTERED CIVIL ENGINEER DATE

06-20-16
 PLANS APPROVAL DATE

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SURVEY CONTROL

PRHV4302
 Fnd Alcar Hum 254 PM 43.02
 22.78 Lt "F1" Line, Rte 254
 Sta 405+10.89
 E 6,009,233.97
 N 2,046,535.31
 Elev=134.68
 PRHV4314 (Not Shown on Plan)
 Fnd Stamped Caltrans Hum 254-43.14
 18.97 Lt "F1" LINE, Rte 254
 Sta 411+51.53
 N 2,047,176.25
 E 6,009,168.37
 Elev=132.49

Bridge Location #04-0012 (PN Points)

- ① 13.32 Lt "F1" Line, Sta 405+24.72, Elev=134.39±
- ② 13.16 Lt "F1" Line, Sta 406+99.57, Elev=134.64±
- ③ 13.20 Rt "F1" Line, Sta 406+99.66, Elev=132.96±
- ④ 13.18 Rt "F1" Line, Sta 405+24.65, Elev=132.75±

Soffit Elev

- | | |
|----------|----------|
| ① 133.92 | ② 133.98 |
| ③ 134.11 | ④ 134.07 |
| ⑤ 134.12 | ⑥ 134.13 |
| ⑦ 134.17 | ⑧ 131.87 |
| ⑨ 132.02 | ⑩ 132.07 |
| ⑪ 132.14 | |

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

PRELIMINARY INVESTIGATION SECTION				DESIGN BY Tillat Satter	CHECKED Eric Burgeson	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 04-0012	WIDEN / BARRIER REPLACEMENT BEAR CREEK BRIDGE FOUNDATION PLAN
SCALE 1"=20'	VERT.DATUM NAVD 88	PHOTOGRAMMETRY AS OF: X	DETAILS BY Liang Ma	CHECKED Eric Burgeson	POST MILE 43.02				
ALIGNMENT TIES	Dist. Traverse Sheet	DRAFTED BY Sharon Zheng	CHECKED BY Jim Pallares	CHECKED Pyo Hong					

STRUCTURES FOUNDATION PLAN SHEET (ENGLISH) (REV. 09-01-10)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

UNIT: 3646
 PROJECT NUMBER & PHASE: 01000001861
 CONTRACT NO.: 01-430604

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES	SHEET 4	OF 9
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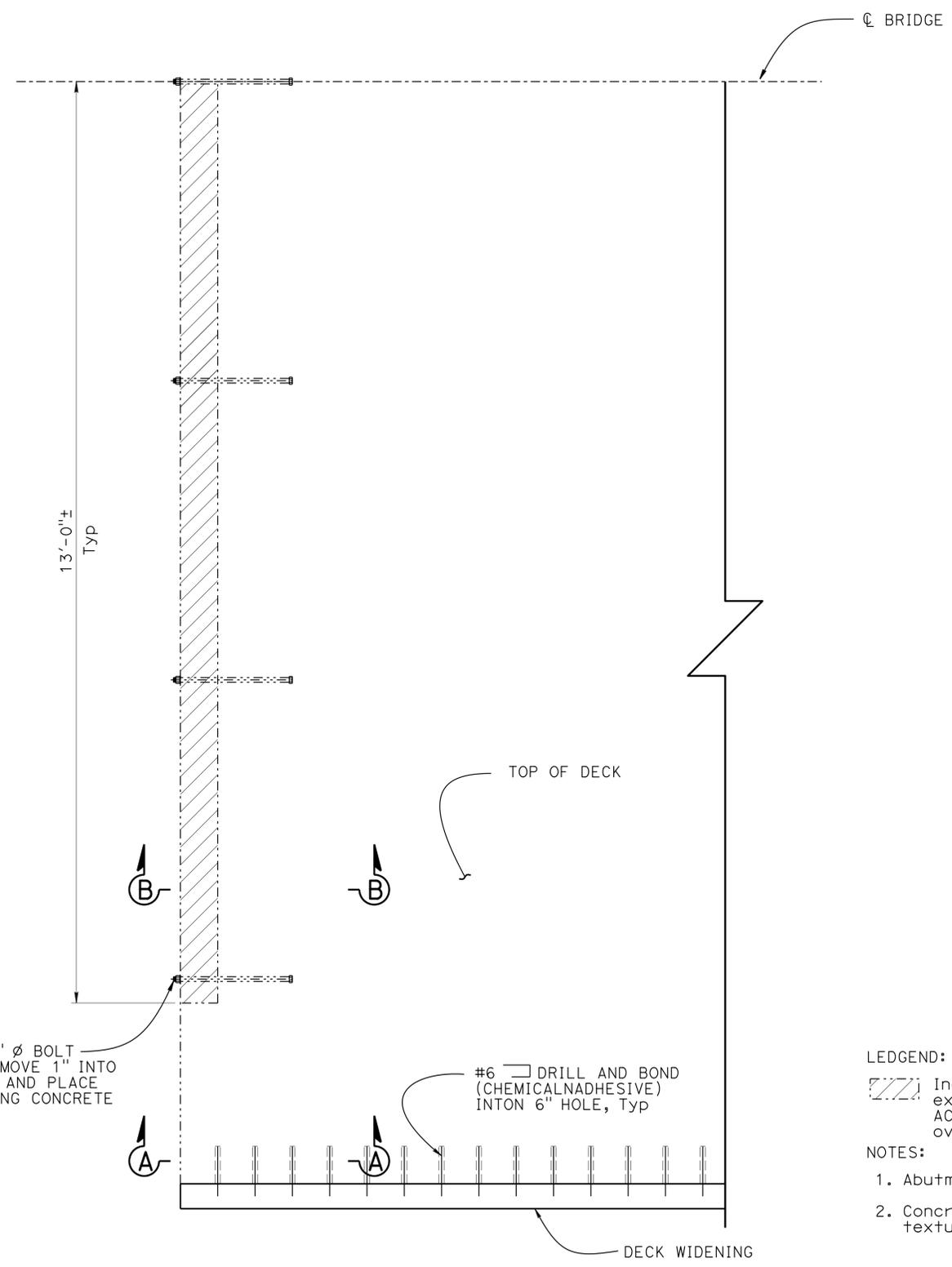
USERNAME => s115152 DATE PLOTTED => 30-SEP-2016 TIME PLOTTED => 07:22

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	96	100

2-19-15
 REGISTERED CIVIL ENGINEER DATE
 Eric G Burgeson
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

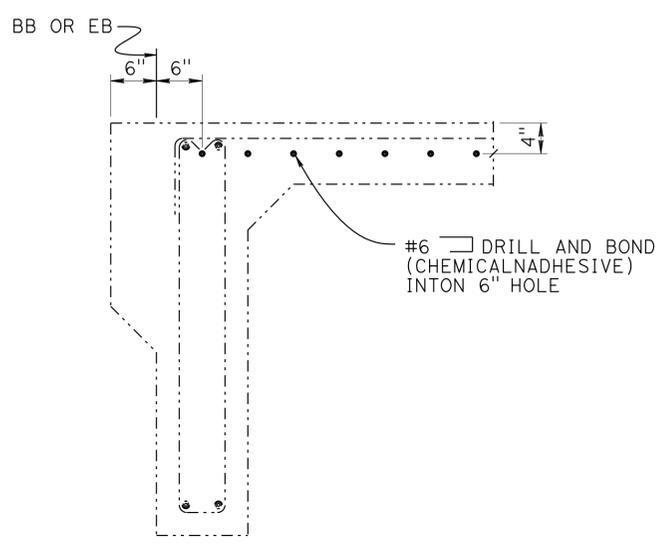
06-20-16
 PLANS APPROVAL DATE

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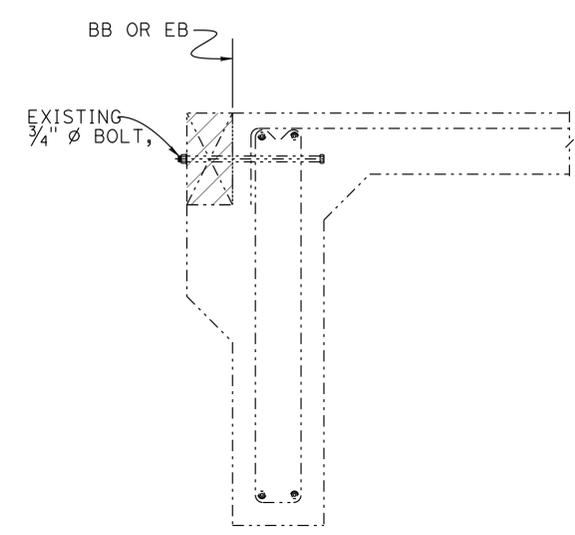


PART PLAN
1" = 1'-0"

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



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



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

LEDGEND:

Indicates bridge removal (Portion); remove existing 6"x12" timber buffer, replace with AC surfacing (Match top of polyester concrete overlay), see "ROADWAY PLANS"

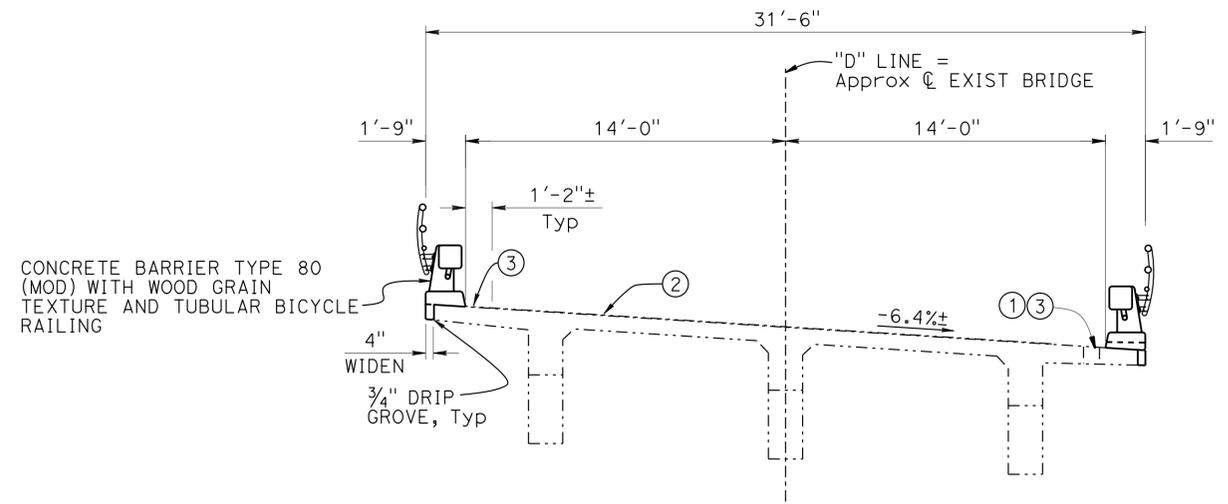
NOTES:

- Abutment 1 shown, Abutment 4 similar
- Concrete Barrier Type 80 (MOD) with wood grain texture and tubular bicycle railing, not shown

DESIGN	BY Quang Nguyen	CHECKED Ali Asnaashari	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO.	04-0012
DETAILS	BY Jay Reid / Liang Ma	CHECKED Ali Asnaashari			POST MILE	43.02
QUANTITIES	BY Mufeed Khalaf	CHECKED Pyo Hong				

WIDEN/BARRIER REPLACEMENT
BEAR CREEK BRIDGE
ABUTMENT DETAILS

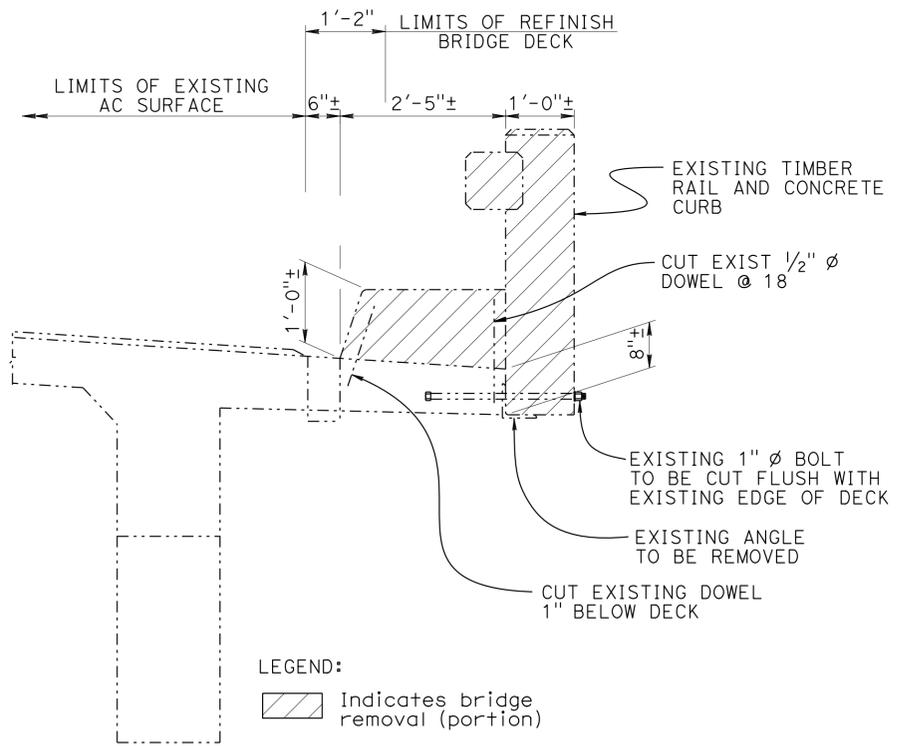
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	97	100
				2-19-15	
REGISTERED CIVIL ENGINEER				DATE	
				06-20-16	
PLANS APPROVAL DATE					
<small>The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.</small>					



TYPICAL SECTION
1/4" = 1'-0"

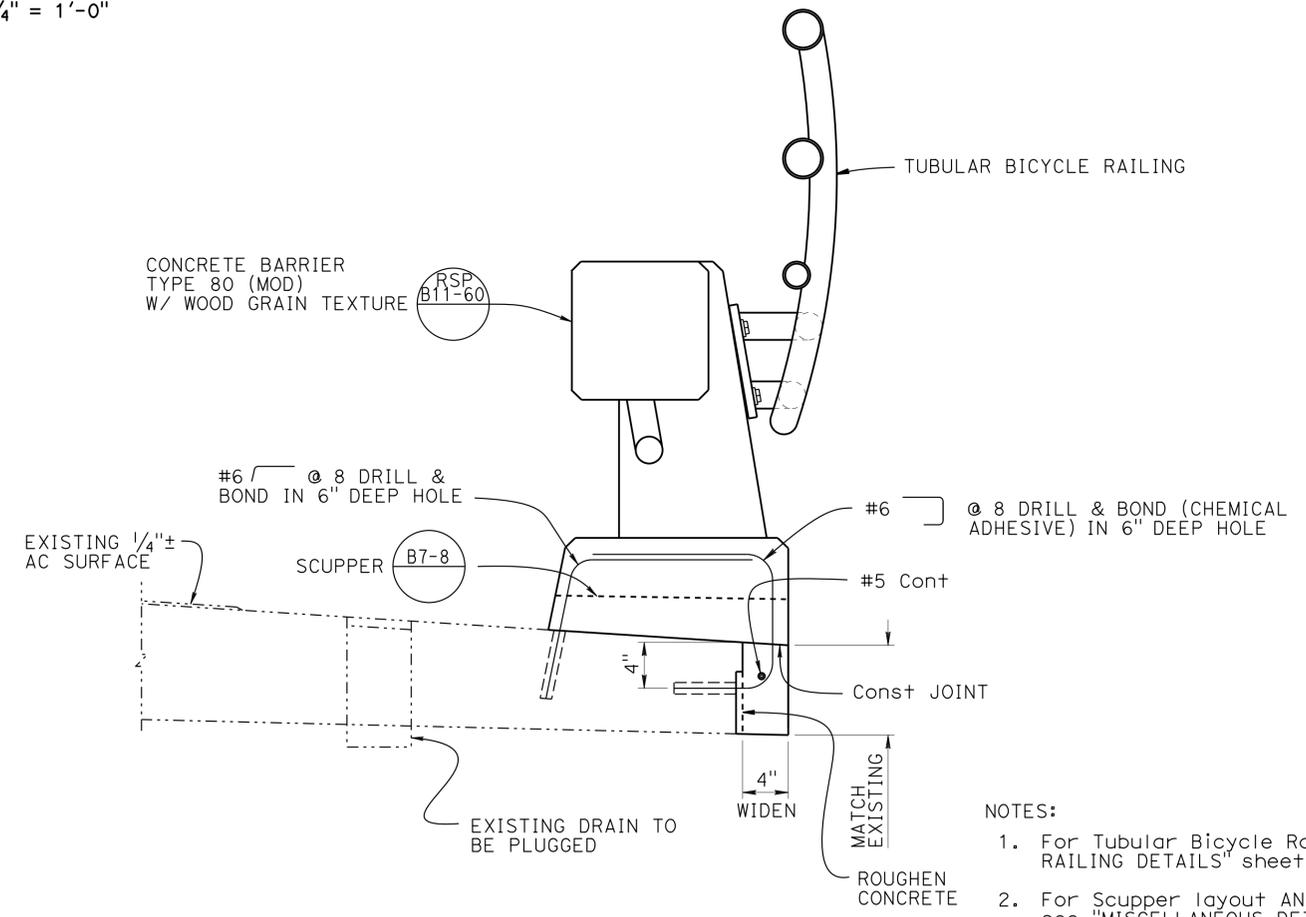
LEGEND:
 - - - - - Indicates existing structure
 ——— Indicates new construction

- NOTES:
 ① EXISTING DECK DRAINS TO BE PLUGGED
 ② EXISTING AC Surface
 ③ REFINISH BRIDGE DECK



BARRIER REMOVAL DETAIL
3/4" = 1'-0"

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



WIDEN & BARRIER REPLACEMENT DETAIL
1/2" = 1'-0"

- NOTES:
 1. For Tubular Bicycle Railing details, see "TUBULAR BICYCLE RAILING DETAILS" sheet
 2. For Scupper layout AND "EXISTING DRAIN PLUG DETAIL" see "MISCELLANEOUS DETAILS" sheet
 3. For Wood Grain Texture, see "BARRIER TEXTURE DETAILS" sheet

NOTE:
 Right side barrier shown, left side similar

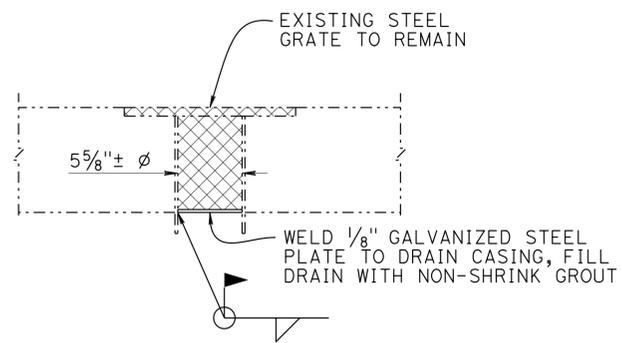
DESIGN BY Quang Nguyen CHECKED Ali Asnaashari DETAILS BY Jay Reid / Liang Ma CHECKED Ali Asnaashari QUANTITIES BY Mufeed Khalaf CHECKED Pyo Hong				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION		DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3		BRIDGE NO. 04-0012 POST MILE 43.02		WIDEN/BARRIER REPLACEMENT BEAR CREEK BRIDGE TYPICAL SECTION					
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10) ORIGINAL SCALE IN INCHES FOR REDUCED PLANS						UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861		CONTRACT NO.: 01-430604		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES: 5-28-14, 5-18-16, 1-22-15, 2-19-15		SHEET 6 OF 9	

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	98	100
			2-19-15	DATE	
			06-20-16	PLANS APPROVAL DATE	

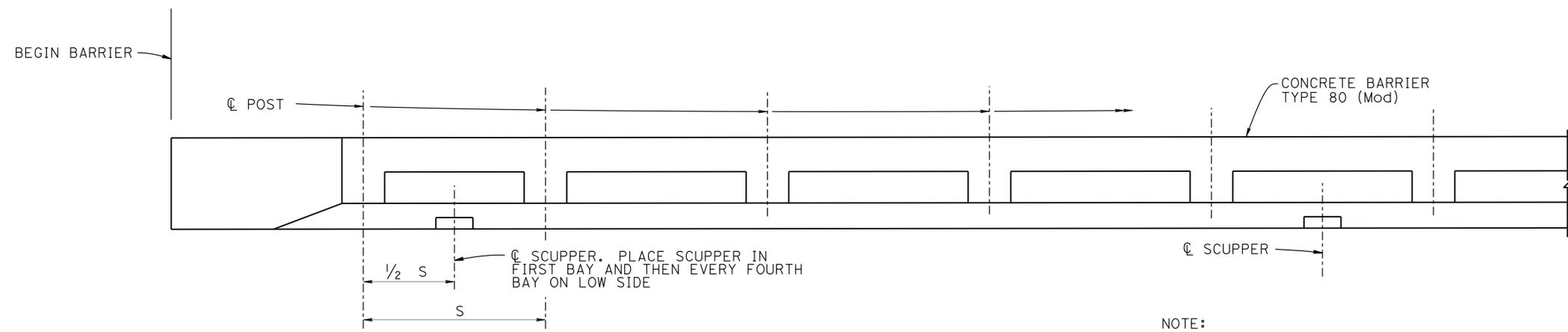
REGISTERED CIVIL ENGINEER DATE

Eric G Burgeson
No. 67450
Exp. 6-30-15
CIVIL
STATE OF CALIFORNIA

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EXISTING DRAIN PLUG DETAIL
1/2" = 1'-0"



SCUPPER LOCATION DETAIL (B7-8)
1/2" = 1'-0"

- NOTE:
1. Tubular Bicycle railing not shown
 2. Wood Grain Texture not shown

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

DESIGN BY Quang Nguyen		CHECKED Ali Asnaashari	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3	BRIDGE NO. 04-0012	WIDEN / BARRIER REPLACEMENT BEAR CREEK BRIDGE MISCELLANEOUS DETAILS	
DETAILS BY Jay Reid / Liang Ma		CHECKED Ali Asnaashari			POST MILE 43.02		
QUANTITIES BY Mufeed Khalaf		CHECKED Pyo Hong					
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861	CONTRACT NO.: 01-430604	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 5-28-14 5-27-14 1-22-15 2-19-15 SHEET 7 OF 9

FILE => 04-0012-1-dt101.dgn

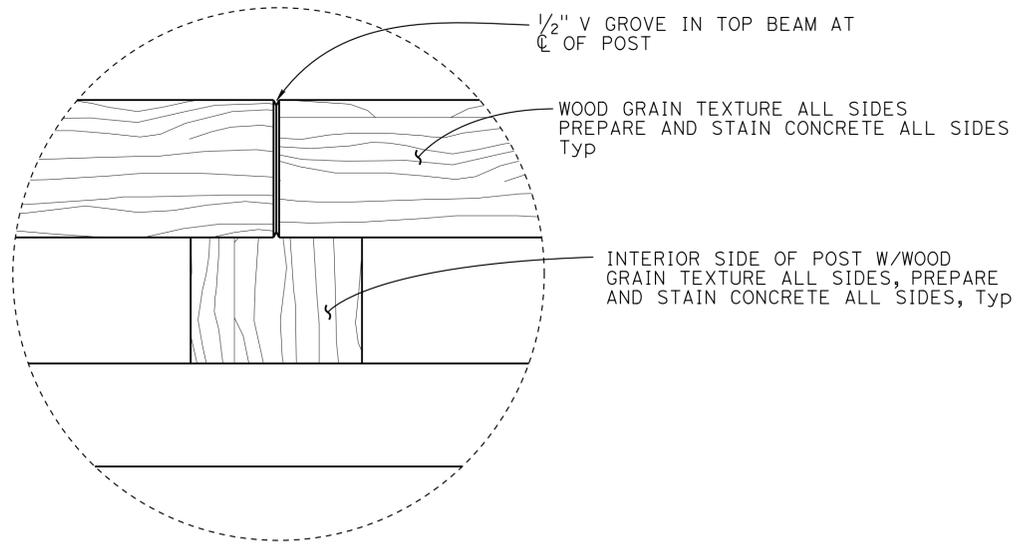
07422
 TIME PLOTTED =>
 30-SEP-2016
 DATE PLOTTED =>
 USERNAME => s115152

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	99	100

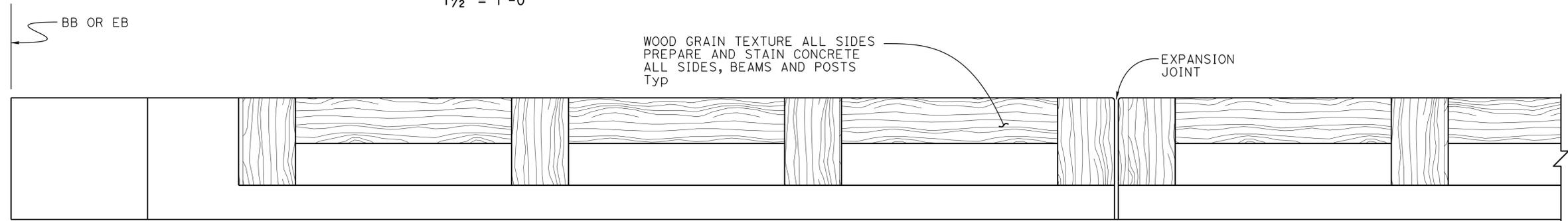
2-19-15
 REGISTERED CIVIL ENGINEER DATE
 06-20-16
 PLANS APPROVAL DATE

Eric G. Burgeson
 No. 67450
 Exp. 6-30-15
 CIVIL
 STATE OF CALIFORNIA

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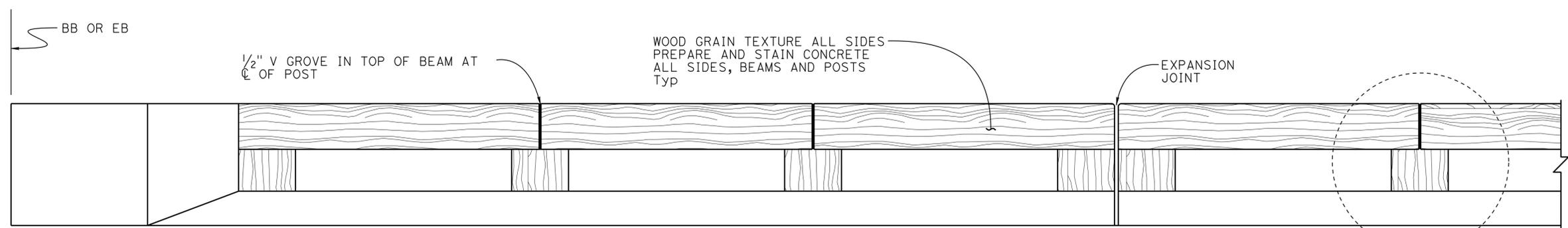


DETAIL A
 $\frac{1}{2}$ " = 1'-0"



TYPE 80 (MOD) CONCRETE BARRIER EXTERIOR ELEVATION
 $\frac{3}{4}$ " = 1'-0"

- NOTE:
1. Tubular Bicycle railing not shown
 2. Scuppers not shown



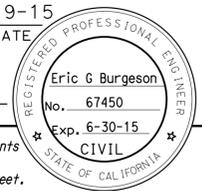
TYPE 80 (MOD) CONCRETE BARRIER INTERIOR ELEVATION
 $\frac{3}{4}$ " = 1'-0"

- NOTE:
1. Tubular Bicycle railing not shown
 2. Scuppers not shown

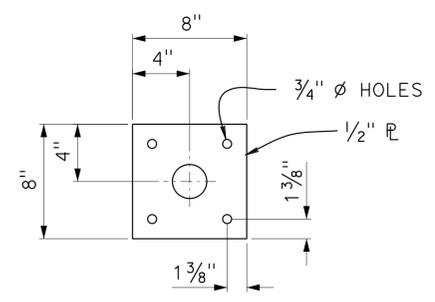
NOTE:
THE CONTRACTOR MUST VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN BY: Stephan Heath CHECKED: Eric Burgeson				STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF ENGINEERING SERVICES STRUCTURE DESIGN DESIGN BRANCH 3		BRIDGE NO. 04-0012	WIDEN/BARRIER REPLACEMENT BEAR CREEK BRIDGE BARRIER TEXTURE DETAILS		
DETAILS BY: Jay Reid / Liang Ma CHECKED: Eric Burgeson					POST MILE 43.02					
QUANTITIES BY: Mufeed Khalaf CHECKED: Pyo Hong										
STRUCTURES DESIGN DETAIL SHEET (ENGLISH) (REV. 09-01-10)			ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		UNIT: 3578 PROJECT NUMBER & PHASE: 01000001861		CONTRACT NO.: 01-430604		DISREGARD PRINTS BEARING EARLIER REVISION DATES	
						REVISION DATES			SHEET OF 8 9	

USERNAME => s115152 DATE PLOTTED => 30-SEP-2016 TIME PLOTTED => 07:22

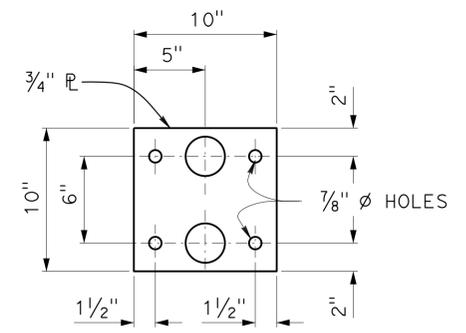
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Hum	254	0.8/43.1	100	100
			2-19-15	REGISTERED CIVIL ENGINEER DATE	
			06-20-16	PLANS APPROVAL DATE	
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of scanned copies of this plan sheet.					
					

- NOTES:
- Galvanize rail assembly after fabrication.
 - Post must be normal to railing.
 - Rail tubes must be shop bent or fabricated to fit horizontal curve when radius is less than 950.00'
 - Tube expansion joint must be located in the tubes spanning deck or wall joints. Increase joint width in tubes to match expansion joint width and increase sleeve length correspondingly.
 - Top rail tube must be continuous over not less than two posts except a short post spacing is permitted near deck or wall joints, electroliers, or other rail discontinuities as noted.
 - For 3 NPS XS pipe rails use 2.5 NPS STD pipe for inner coupling tube and for 2 NPS STD pipe use 1.5 NPS STD pipe for coupling tube railing.

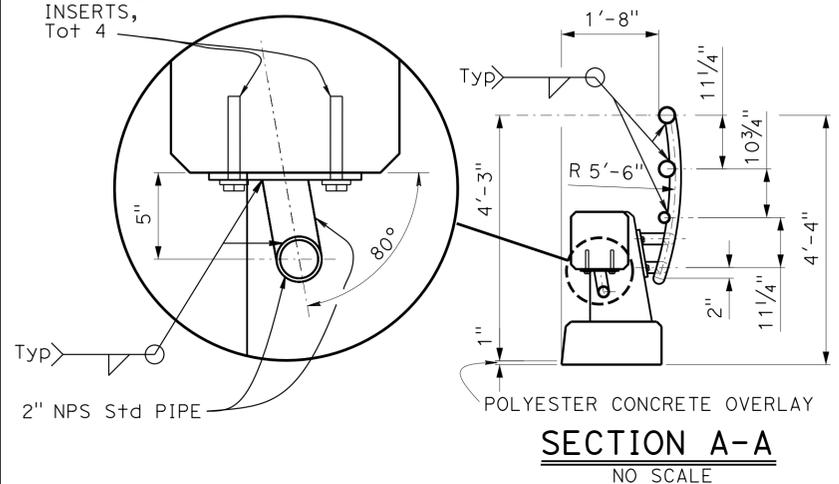


LOWER RAIL ANCHOR PLATE DETAIL
NO SCALE

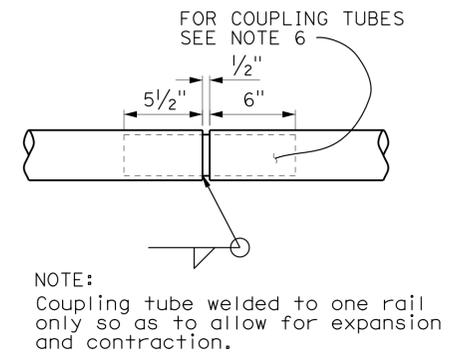
1/2" ϕ X 4" HS BOLT w/WASHER IN A CAST IN PLACE CONCRETE INSERTS, Tot 4



POST ANCHOR PLATE
NO SCALE

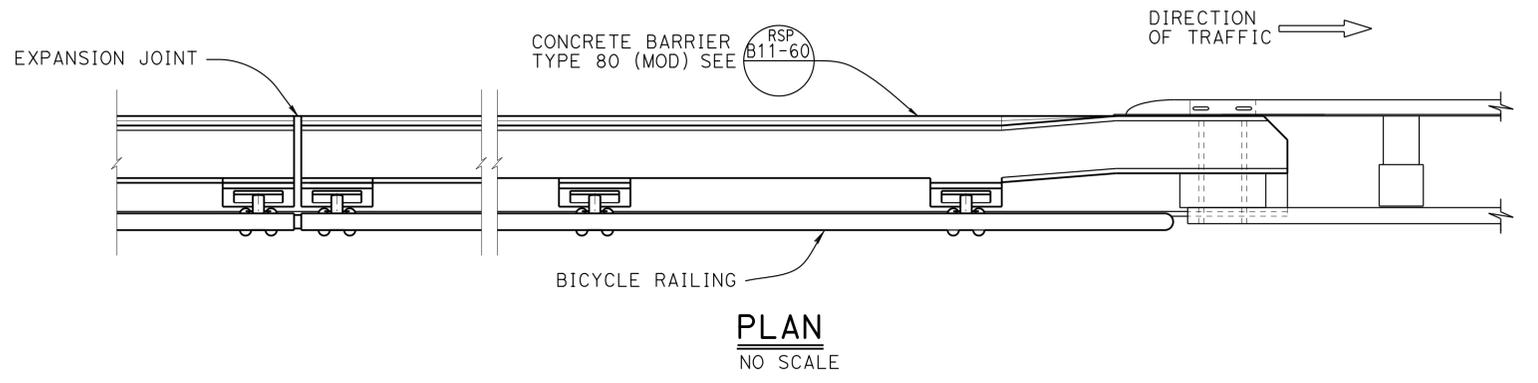


SECTION A-A
NO SCALE

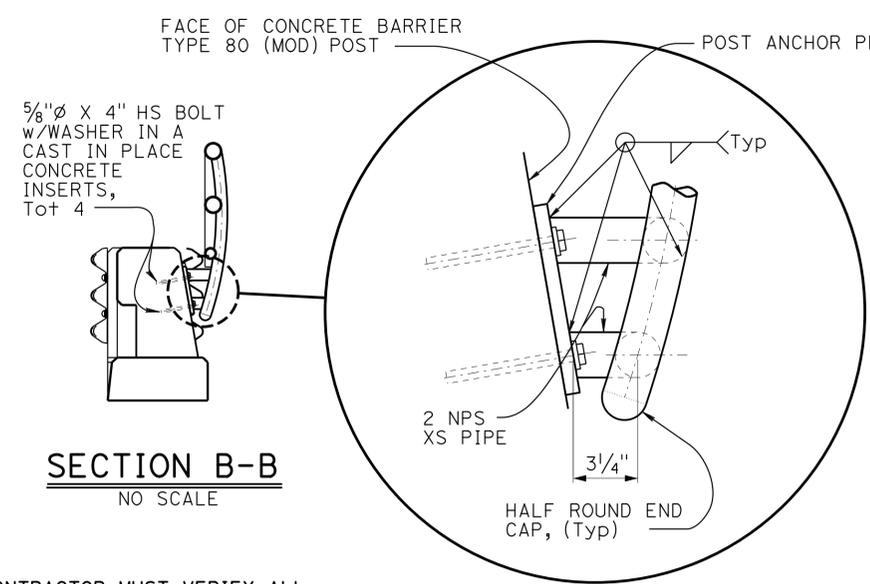


NOTE: Coupling tube welded to one rail only so as to allow for expansion and contraction.

TUBE EXPANSION JOINT
NO SCALE

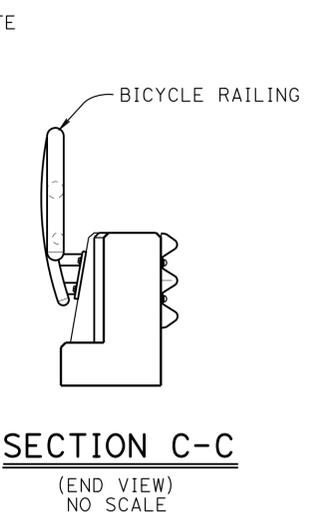


PLAN
NO SCALE

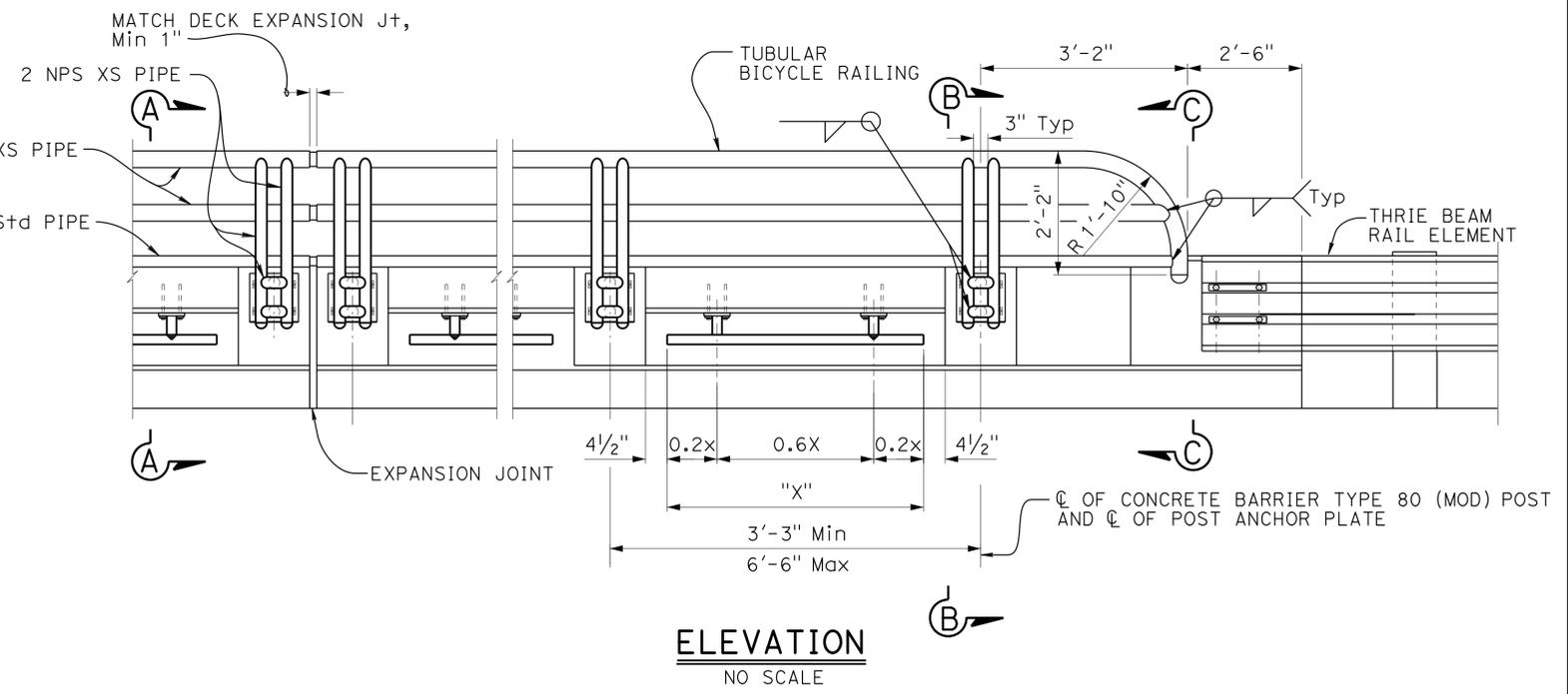


SECTION B-B
NO SCALE

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



SECTION C-C
(END VIEW)
NO SCALE



ELEVATION
NO SCALE

**WIDEN/BARRIER REPLACEMENT
BEAR CREEK BRIDGE
TUBULAR BICYCLE RAILING DETAILS**

DESIGN	BY Tillat Satter	CHECKED Eric Burgeson
DETAILS	BY Jay Reid / Liang Ma	CHECKED Eric Burgeson
QUANTITIES	BY Mufeed Khalaf	CHECKED Pyo Hong

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES
STRUCTURE DESIGN
DESIGN BRANCH 3

BRIDGE NO.	04-0012
POST MILE	43.02