

INDEX OF PLANS

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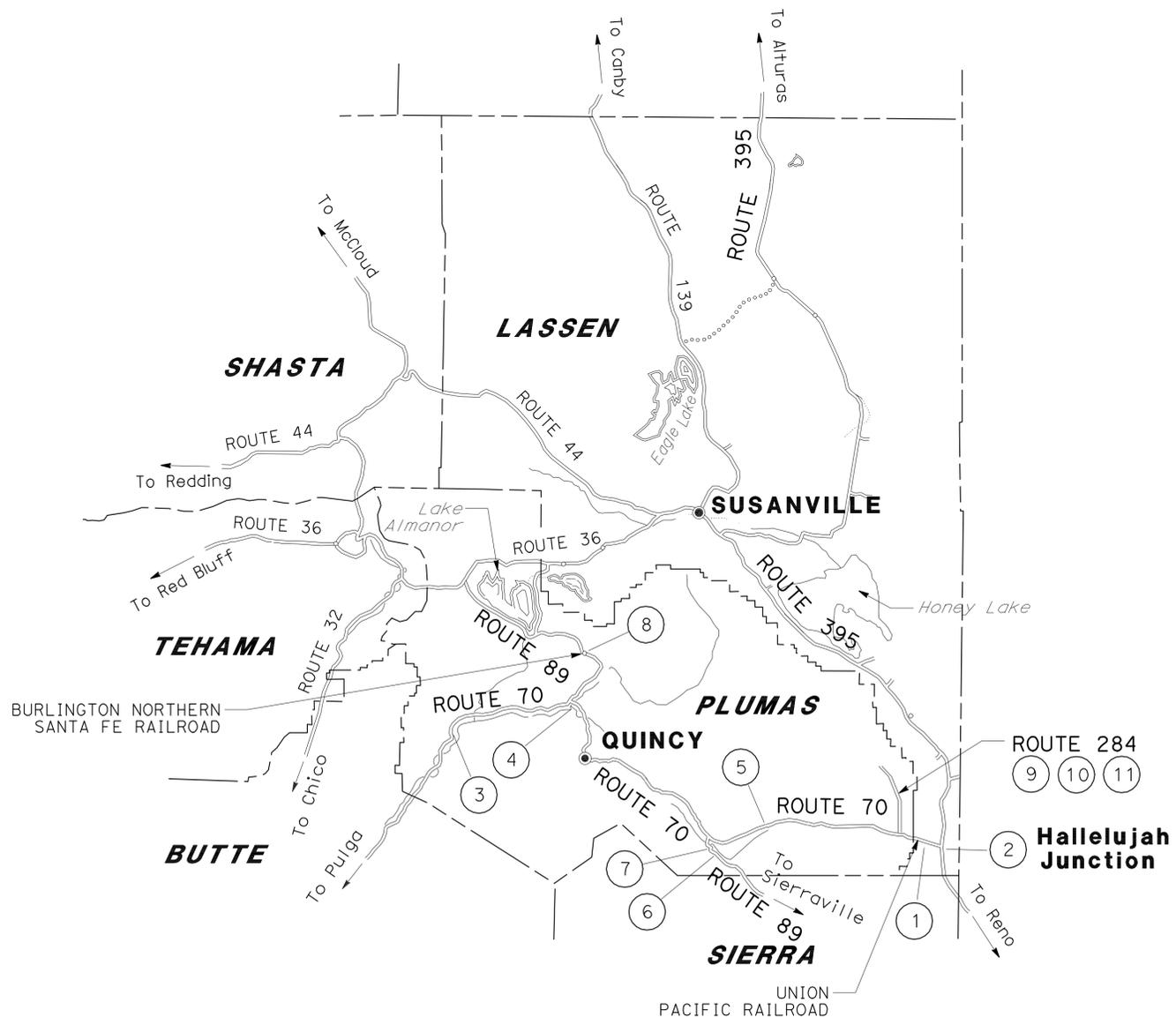
THE STANDARD PLANS LIST APPLICABLE TO THIS CONTRACT IS INCLUDED IN THE NOTICE TO BIDDERS AND SPECIAL PROVISIONS BOOK.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
PROJECT PLANS FOR CONSTRUCTION ON
STATE HIGHWAY
IN LASSEN AND PLUMAS COUNTIES
AT VARIOUS LOCATIONS

TO BE SUPPLEMENTED BY STANDARD PLANS DATED MAY 2006

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las, Plu	70,89 284,395	Var	1	37

LOCATION MAP



LOCATIONS OF CONSTRUCTION

No.	COUNTY	ROUTE	PM	BRIDGE No.	BRIDGE NAME
1	Las	70	1.16	07 0026	BECKWORTH PASS OH
2	Las	395	R4.60	07 0076L	ROUTE 395 70 SEPARATION
3	Plu	70	9.04	09 0016	CHAMBERS CREEK
4	Plu	70	33.07	09 0014	INDIAN CREEK
5	Plu	70	73.99	09 0022	HUMBUG CREEK
6	Plu	89	6.29	09 0028	FRAZIER CREEK
7	Plu	89	7.29	09 0029	GRAEAGLE CREEK
8	Plu	89	19.90	09 0039	SOUTH GREENVILLE OH
9	Plu	284	5.60	09 0070	LITTLE LAST CHANCE CREEK
10	Plu	284	7.01	09 0071	LITTLE LAST CHANCE CREEK
11	Plu	284	7.31	09 0072	LITTLE LAST CHANCE CREEK

PROJECT MANAGER
LANCE BROWN
 DESIGN ENGINEER
LANCE BROWN

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

NO SCALE

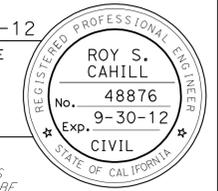
Roy & Cahill 01-13-12

PROJECT ENGINEER DATE
 REGISTERED CIVIL ENGINEER

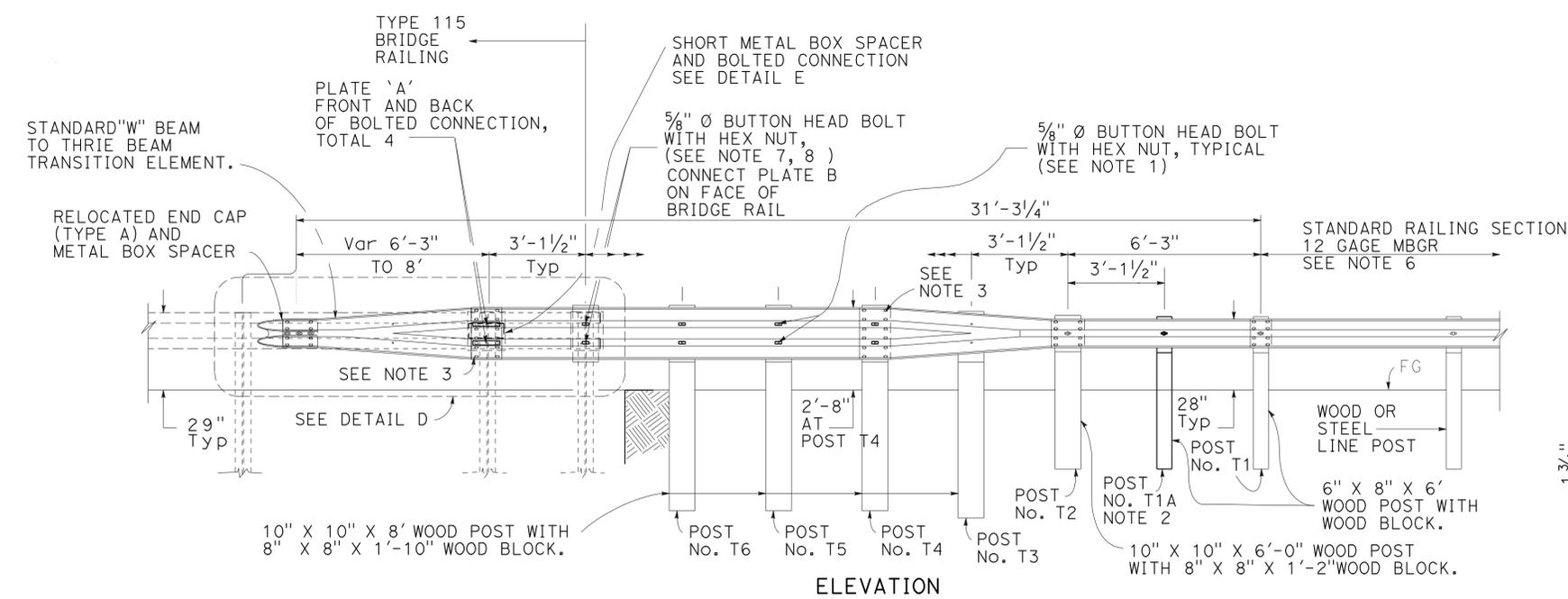
JANUARY 31, 2012

PLANS APPROVAL DATE

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



CONTRACT No.	02-3E6104
PROJECT ID	0200020066



- LEGEND:**
- (A) NESTED THRIE BEAM ELEMENTS (ONE 12 GAGE ELEMENT NESTED OVER ONE 10 GAGE ELEMENT).
 - (B) ONE 10 GAGE "W" BEAM TO THRIE BEAM ELEMENT.
 - (C) ONE 12 GAGE THRIE BEAM ELEMENT.
 - (D) ONE 10 GAGE "W" BEAM RAIL ELEMENT (7'-3" LENGTH)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las, Piu	70,89 284,395	Var	3	37

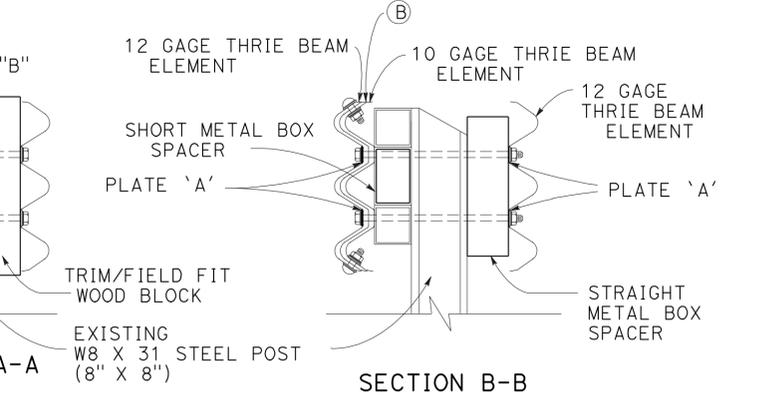
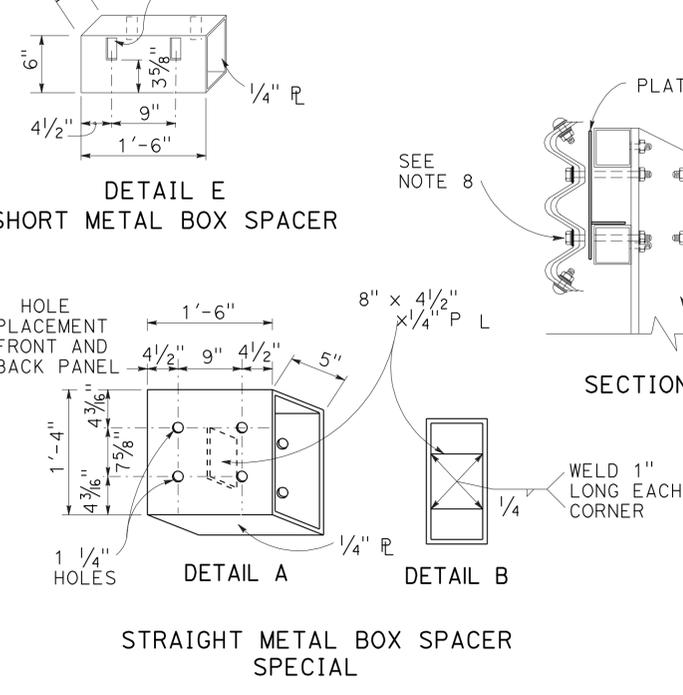
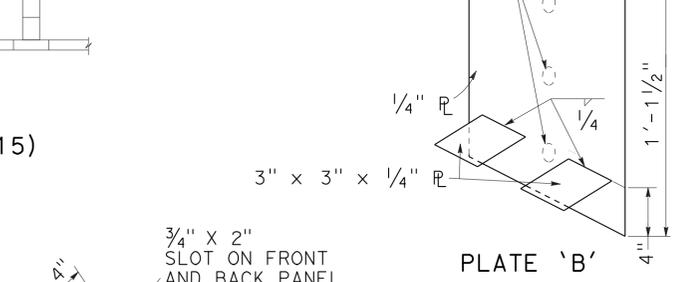
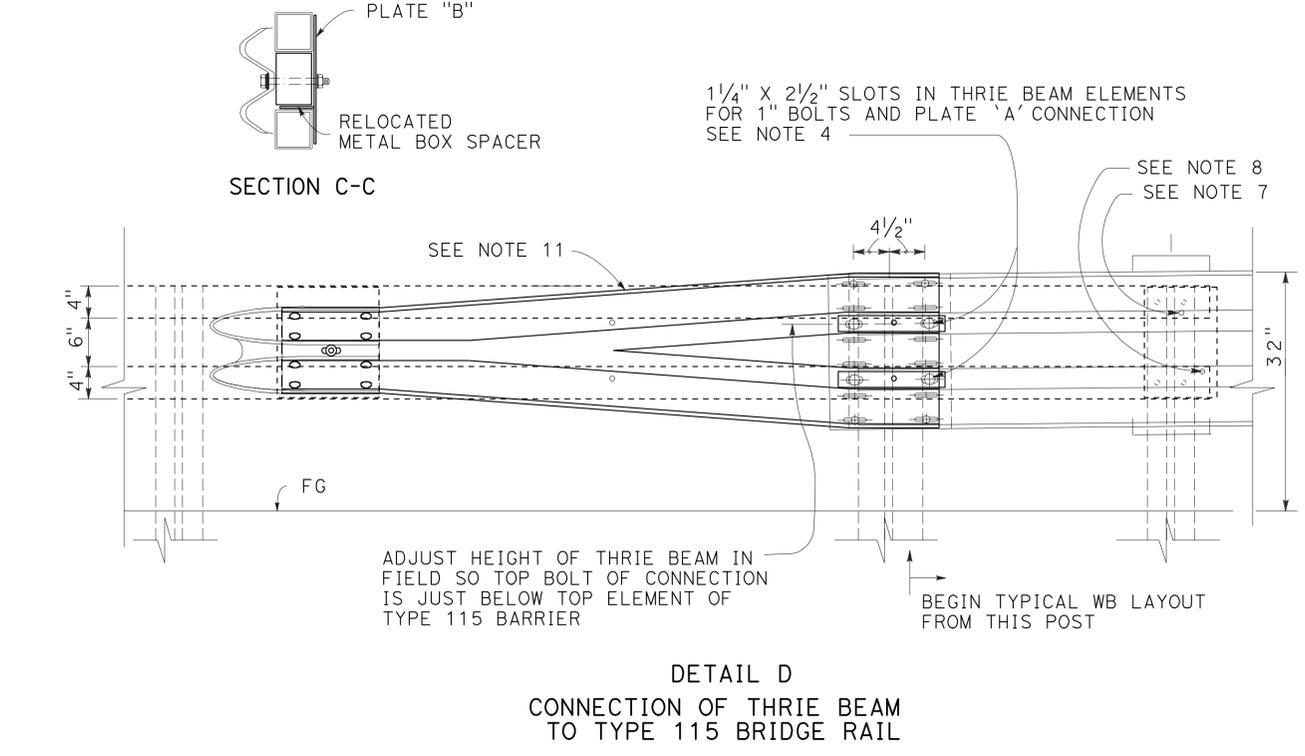
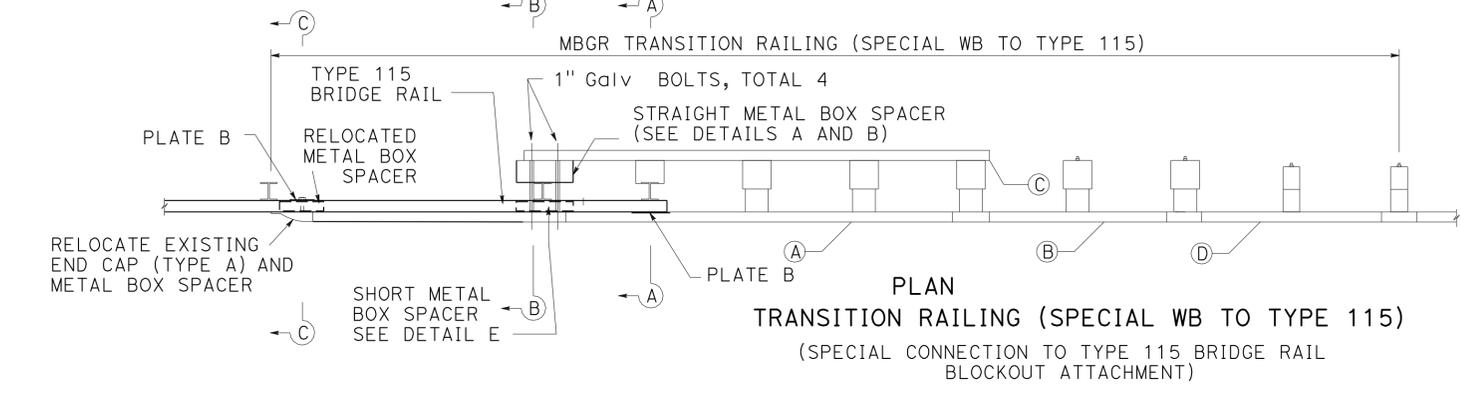
01-31-12
REGISTERED CIVIL ENGINEER DATE

01-31-12
PLANS APPROVAL DATE

Dwight Winterlin
No. C68438
Exp. 9-30-13
CIVIL

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- NOTES:**
- USE 5/8" Ø BUTTON HEAD BOLTS AND HEX NUTS FOR CONNECTIONS TO POSTS. PLACE PLATE WASHER ON RAIL FACE FOR BOLTED CONNECTIONS TO 10" X 10" WOOD POST.
 - PLACE POST T1A IF APPROACH SPEEDS ARE OVER 45 MPH.
 - EXTERIOR SPLICE BOLT HOLES FOR RAIL SPLICES AT "W" BEAM TO THRIE BEAM CONNECTIONS SHALL BE THE STANDARD 3/2" X 1/8" SLOT SIZE. INTERIOR SPLICE BOLT HOLES AT THESE LOCATIONS MAY BE INCREASED UP TO 1 1/4" Ø. ONLY THE TOP 2 AND THE BOTTOM 2 PLICE BOLTS WITH WASHERS AND NUTS ARE REQUIRED FOR RAIL SPLICES AT THESE CONNECTIONS.
 - PLACE 1" BOLTS ON EACH SIDE OF BRIDGE RAIL POST FLANGE.
 - THE TOP ELEVATION OF POST Nos. T2 THROUGH T7 SHALL NOT PROJECT MORE THAN 1" ABOVE THE TOP ELEVATION OF THE RAIL ELEMENT.
 - TYPICALLY, THE RAILING CONNECTED TO TRANSITION RAILING (SPECIAL WB) WILL BE EITHER STANDARD RAILING SECTION OF METAL BEAM GUARD RAILING OR AN APPROVED APPROVED CALTRANS END TREATMENT ATTACHED TO POST No. T1.
 - FIELD DRILL 3/4" HOLE AS NEEDED FOR 5/8" BOLT WITH PLATE WASHER.
 - FIELD DRILL 3/4" HOLE THROUGH THRIE BEAM AND BRIDGE RAIL TO AVOID CONFLICT WITH EXISTING BRIDGE RAIL STUD (THROUGH POST FLANGE). HOLE MAY BE OUTSIDE OF POST FLANGE.
 - FOR INFORMATION NOT SHOWN, REFER TO STANDARD PLAN A77J4
 - EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THESE PLANS.
 - IF TOP OF BRIDGE RAIL IS 30" OR LESS ABOVE THE TRAVELWAY PLACE THRIE BEAM TO MBGR TRANSITION WITH TYPE A END CAP. IF TOP OF BRIDGE RAIL IS GREATER THAN 30" ABOVE THE TRAVELWAY PLACE TYPE TC END CAP.

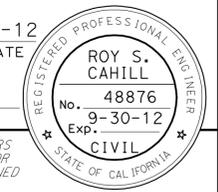


CONSTRUCTION DETAILS
METAL BEAM GUARD RAILING
TRANSITION RAILING
(SPECIAL WB TO TYPE 115 BRIDGE RAIL)

NO SCALE

C-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las, Piu	70,89 284,395	Var	4	37
<i>Roy & Cahill</i> REGISTERED CIVIL ENGINEER			01-31-12	DATE	
01-31-12 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					



NOTES:

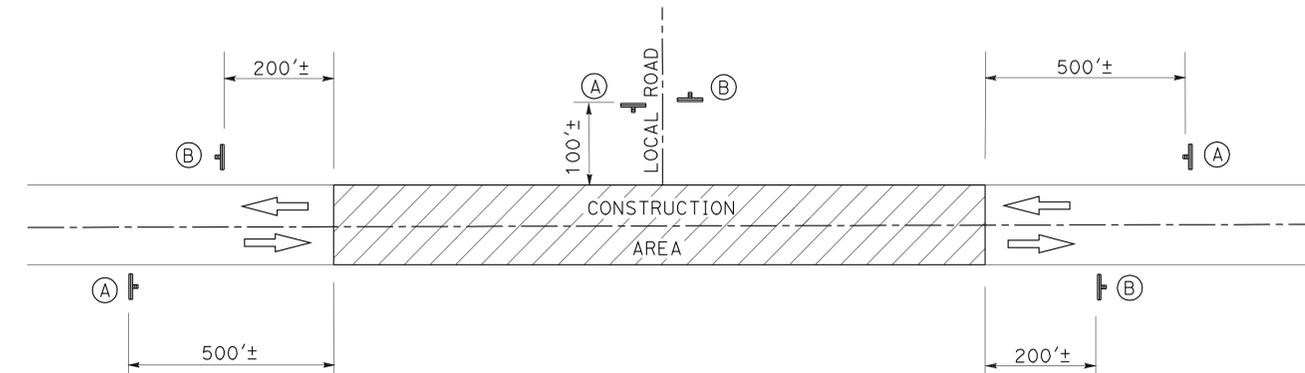
1. EXACT LOCATION OF ALL SIGNS TO BE DETERMINED BY THE ENGINEER.
2. CALIFORNIA CODES ARE DESIGNATED BY (CA), OTHERWISE FEDERAL CODES ARE SHOWN.
3. EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THESE PLANS.
4. NO CONSTRUCTION AREA SIGNS ARE REQUIRED FOR LOCATIONS 3, 9, 10 AND 11.

LEGEND:

- PORTABLE SIGN
- DIRECTION OF TRAVEL
- PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

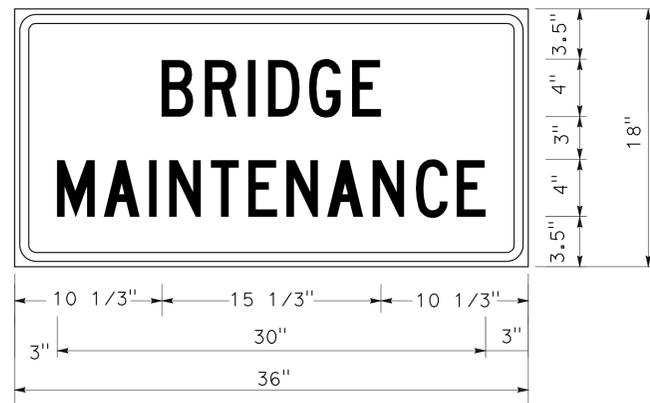
**CONSTRUCTION AREA SIGNS
(STATIONARY MOUNTED)**

SIGN No.	TYPE	PANEL SIZE INCHES	SIGN MESSAGE	No. OF POSTS AND SIZE	No. OF SIGNS
(A)	W20-1 C23B(CA)	48" x 48" 42" x 24"	ROAD WORK AHEAD BRIDGE MAINTENANCE	1 - 4" x 6"	24
(B)	G20-2	36" x 18"	END ROAD WORK	1 - 4" x 4"	24

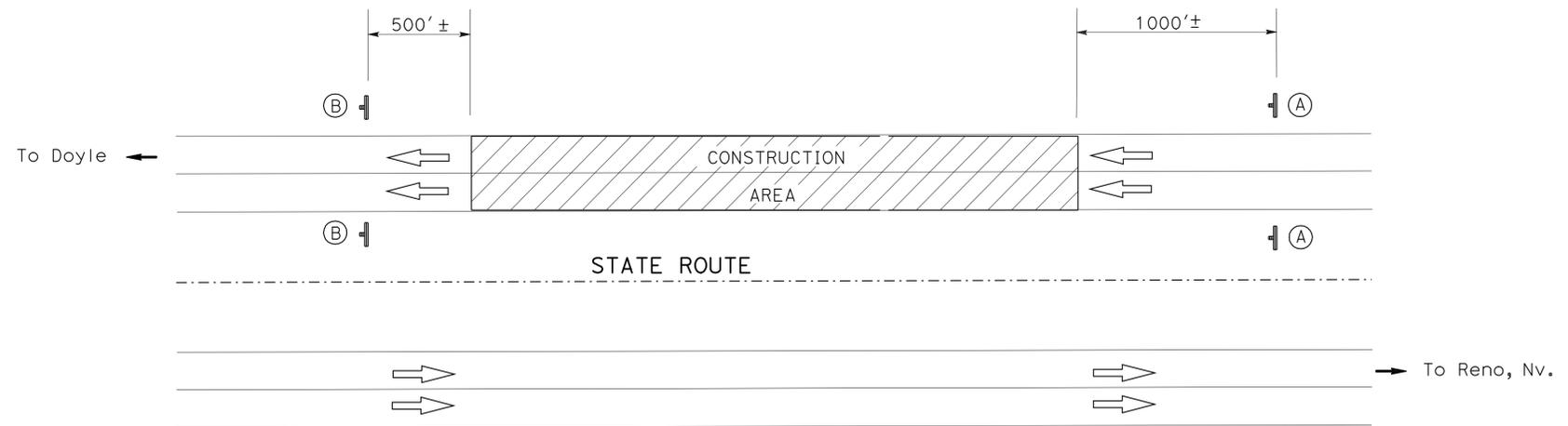


CONSTRUCTION AREA SIGNS

- BECKWORTH PASS OH, Br No. 07-0026
- HUMBUG CREEK, Br No. 09-0022
- FRAZIER CREEK, Br No. 09-0028
- GRAEAGLE CREEK, Br No. 09-0029
- INDIAN CREEK, Br No. 09-0014
- SOUTH GREENVILLE OH, Br No. 09-0039



C23B(CA) SIGN PANEL DETAIL



CONSTRUCTION AREA SIGNS

- ROUTE 395/70 Sep, Br No. 07-0076L

LOCAL ROAD CONNECTIONS

LOCATION	Co-Rte-PM	CONNECTION NAME
4	Piu-70-33.03	Jct Rte 89
5	Piu-70-73.89	ROAD/DRIVEWAY
	Piu-70-73.94	ROAD/DRIVEWAY
	Piu-70-74.18	DELLEKER Rd
7	Piu-89-7.22	MADIU TRAIL Rd Rt & Lt
	Piu-89-7.35	DRIVEWAY Rt & Lt
8	Piu-89-19.81	ROUND VALLEY LAKE Rd
	Piu-89-20.07	HOT SPRINGS Rd

CONSTRUCTION AREA SIGNS

NO SCALE

CS-1

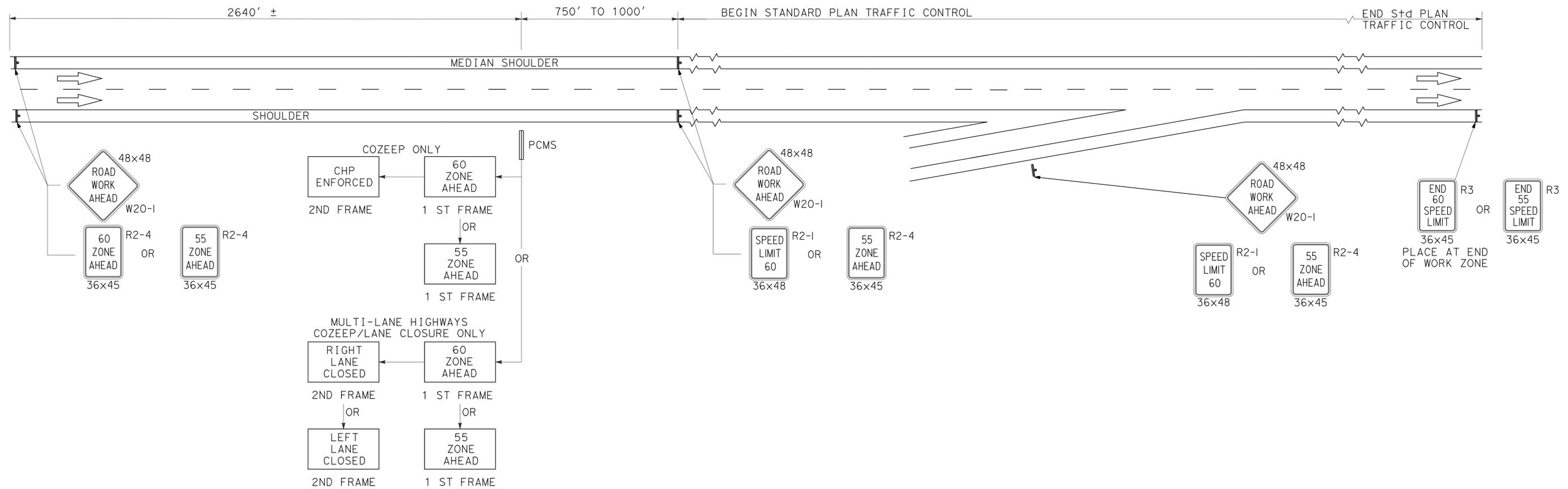
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
 MAINTENANCE
 ROY CAHILL
 KARLIE SMITH
 LANCE BROWN
 FUNCTIONAL SUPERVISOR
 CALCULATED/DESIGNED BY
 CHECKED BY
 REVISED BY
 DATE REVISED
 P:\p\proj\1\02\3E610\plans\pse\23e610\01\001.dgn

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las, Plu	70,89 284,395	Var	5	37
<i>Roy & Cahill</i> REGISTERED CIVIL ENGINEER			01-31-12 DATE		
01-31-12 PLANS APPROVAL DATE					
<small>THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.</small>					

NOTES:

1. EXACT SIGN AND PCMS LOCATIONS TO BE DETERMINED BY THE ENGINEER.
2. EXISTING UTILITY FACILITIES ARE NOT SHOWN ON THESE PLANS.
3. ALL SIGN DIMENSIONS ARE IN INCHES.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans MAINTENANCE
 FUNCTIONAL SUPERVISOR LANCE BROWN
 CALCULATED/DESIGNED BY ROY CAHILL
 CHECKED BY KARLIE SMITH
 REVISED BY
 DATE REVISED
 USERNAME => s115152
 DGN FILE => 23e6101a002.dgn
 BORDER LAST REVISED 7/2/2010



TYPICAL SIGNING FOR REDUCED SPEED ZONE
 ROUTE 395/70 SEPARATION, Br No. 07-0076L

CONSTRUCTION AREA SIGNS
 NO SCALE
CS-2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las, Plu	70,89, 284,395	Var	8	37

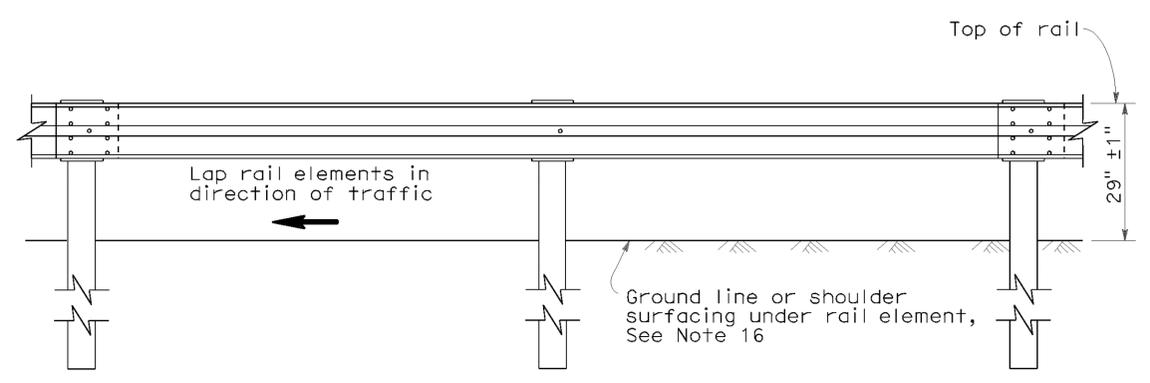
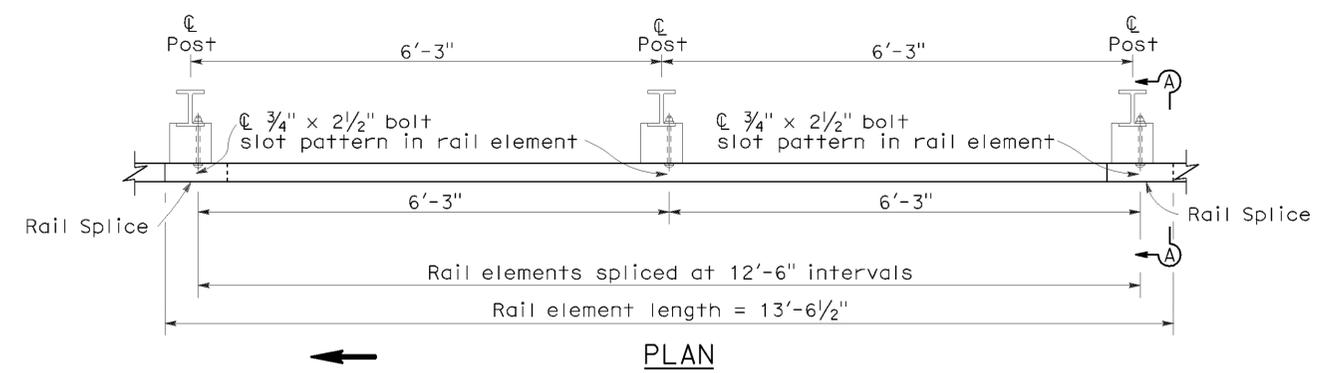
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

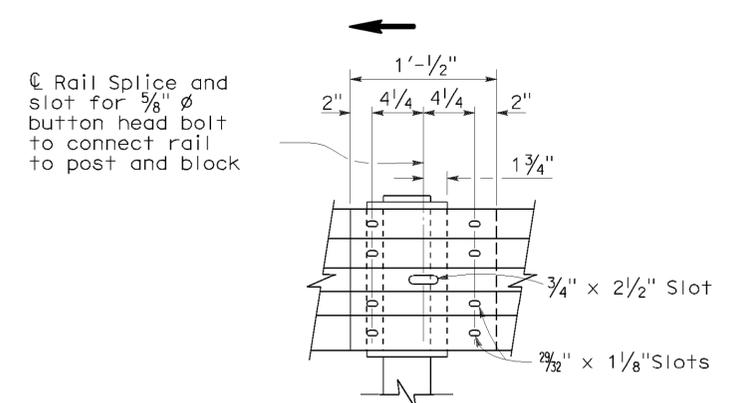
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 01-31-12

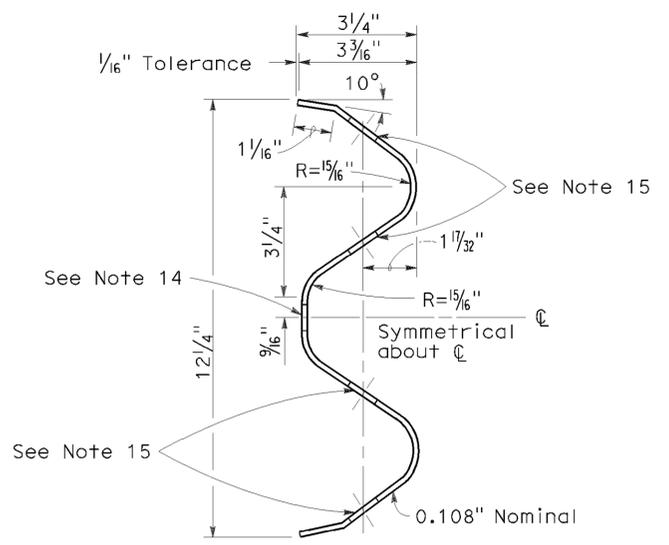


METAL BEAM GUARD RAILING WITH STEEL POSTS AND NOTCHED WOOD OR NOTCHED RECYCLED PLASTIC BLOCKS

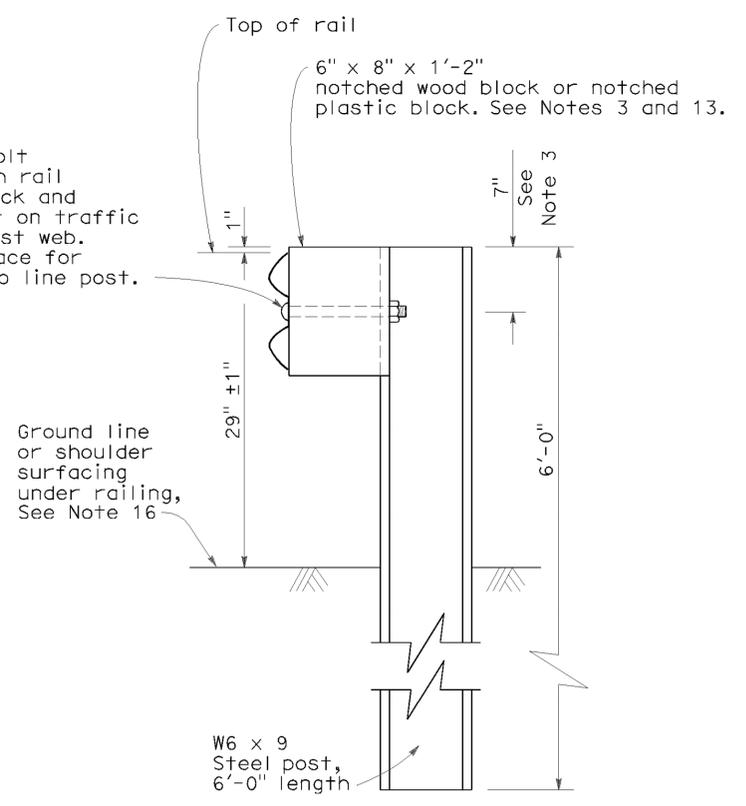


**ELEVATION
RAIL ELEMENT SPLICE DETAIL**

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



**SECTION THRU
RAIL ELEMENT**



**SECTION A-A
TYPICAL STEEL LINE
POST INSTALLATION**
See Note 4

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP A77A2 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77A2
DATED MAY 1, 2006 - PAGE 42 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77A2

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2006 REVISED STANDARD PLAN RSP A77A2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las, PIU	70,89, 284,395	Var	10	37

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

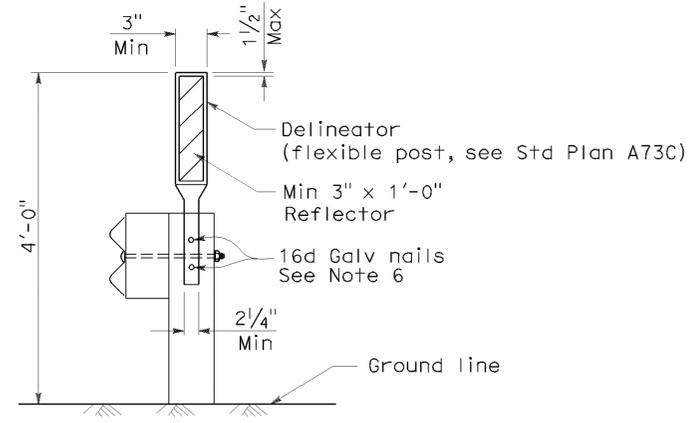
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

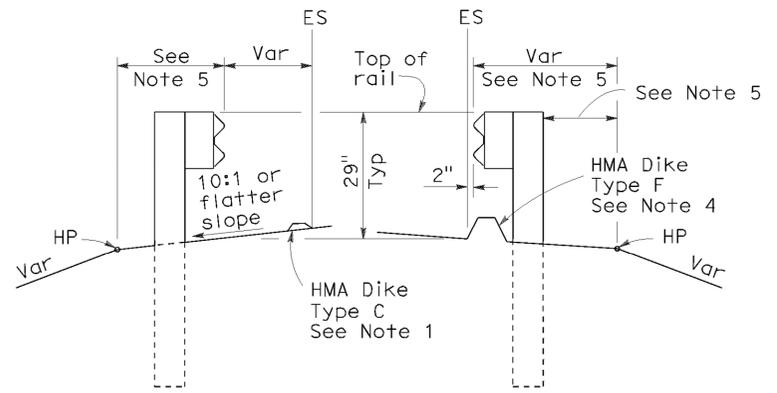
To accompany plans dated 01-31-12

NOTES:

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



GUARD RAILING DELINEATION
See Note 3



DIKE POSITIONING
See Note 1

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77C4

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2006 REVISED STANDARD PLAN RSP A77C4

DATE PLOTTED => 02-FEB-2012
TIME PLOTTED => 12:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, Plu	70,89, 284,395	Var	11	37

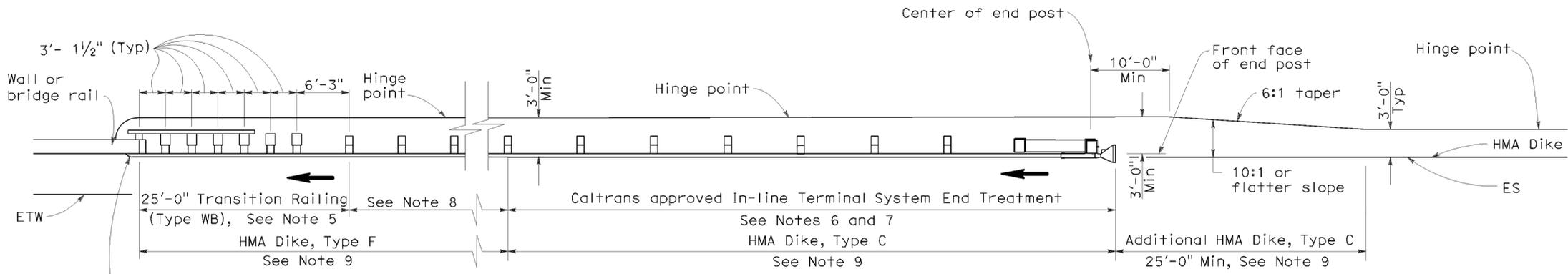
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

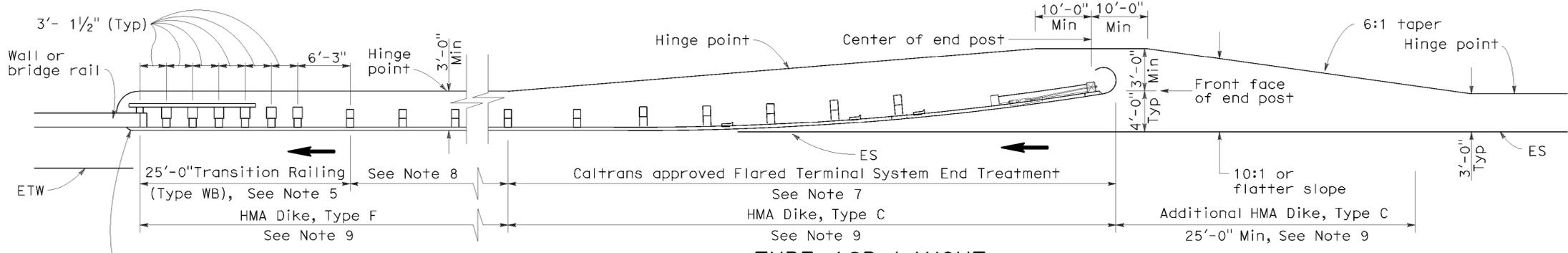
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To accompany plans dated 01-31-12



TYPE 12A LAYOUT

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



TYPE 12B LAYOUT

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

NOTES:

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

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

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE
RSP A77F1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F1
DATED MAY 1, 2006 - PAGE 54 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F1

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2006 REVISED STANDARD PLAN RSP A77F1

DATE PLOTTED => 02-FEB-2012
TIME PLOTTED => 12:26

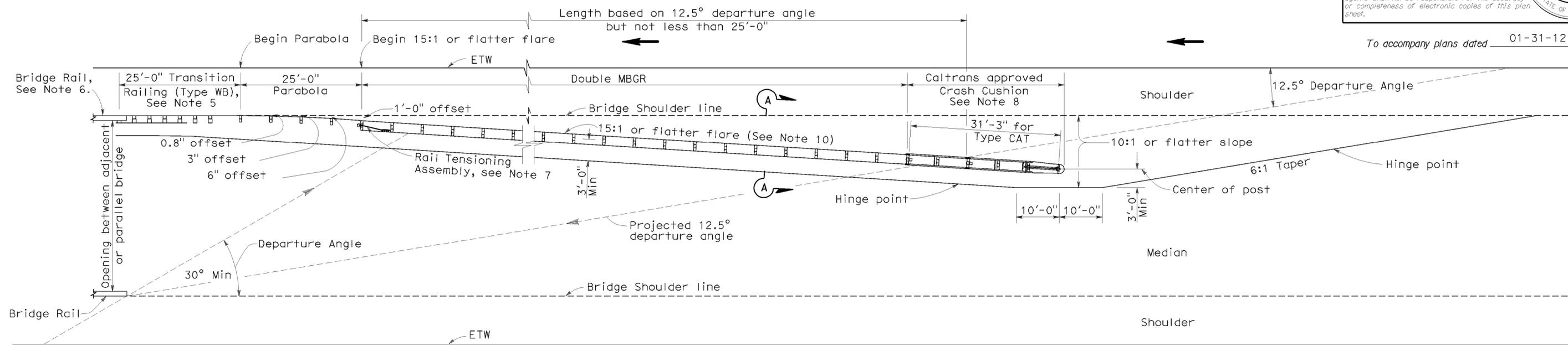
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las, PIU	70,89, 284,395	Var	12	37

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

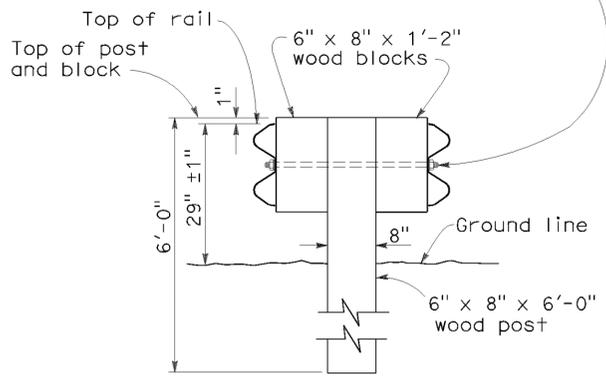


To accompany plans dated 01-31-12

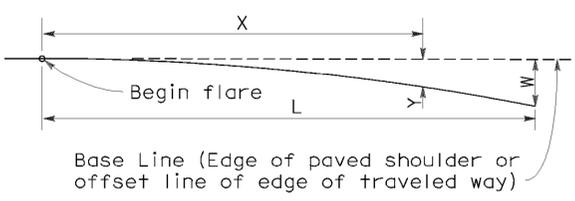
TYPE 12E LAYOUT

See Note 10

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



SECTION A-A
TYPICAL DOUBLE METAL BEAM GUARD RAILING

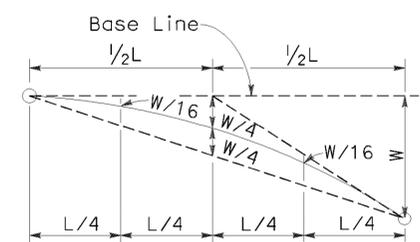


Base Line (Edge of paved shoulder or offset line of edge of traveled way)

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

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

PARABOLIC FLARE OFFSETS



TYPICAL PARABOLIC LAYOUT

NOTES:

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

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77F3

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2006 REVISED STANDARD PLAN RSP A77F3

DATE PLOTTED => 02-FEB-2012
TIME PLOTTED => 12:26

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, Plu	70,89, 284,395	Var	13	37

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

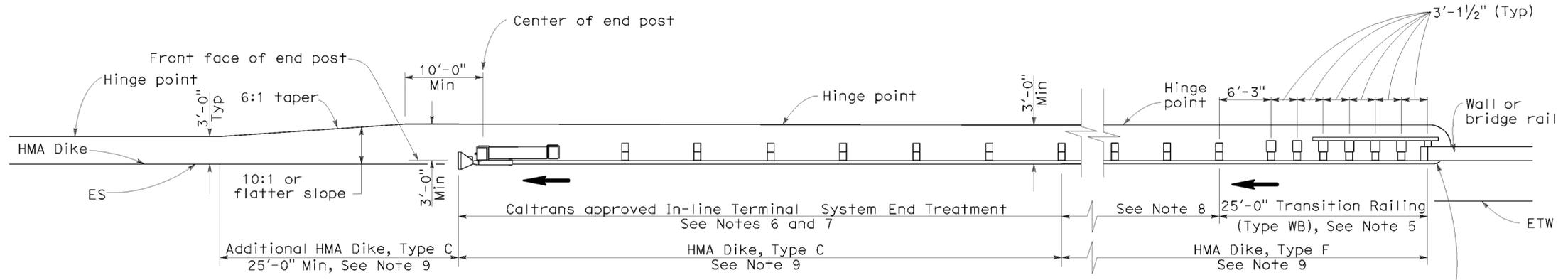
June 6, 2008
PLANS APPROVAL DATE

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

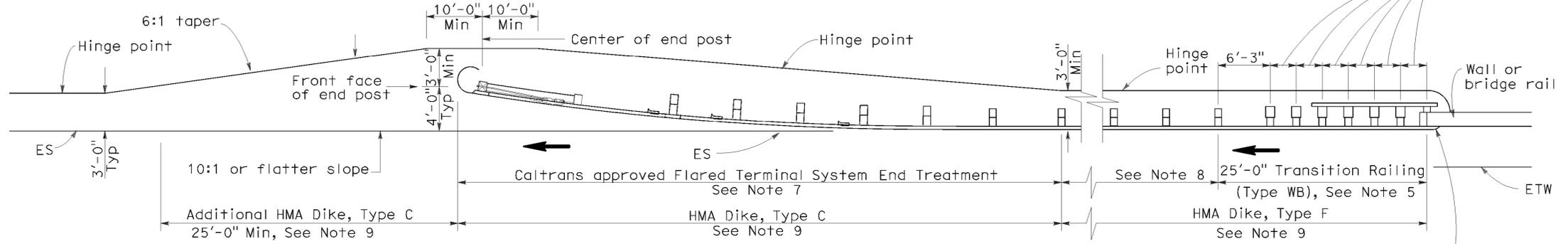
To accompany plans dated 01-31-12

2006 REVISED STANDARD PLAN RSP A77F4



TYPE 12AA LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH AN IN-LINE END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 10



TYPE 12BB LAYOUT

(GUARD RAILING INSTALLATION AT STRUCTURE DEPARTURE WITH A FLARED END TREATMENT AT TRAILING END OF RAILING)
See Notes 9 and 10

NOTES:

- Line post, blocks and hardware to be used are shown on Standard Plans A77A1, A77A2, A77B1, A77C1 and A77C2.
- Guard rail post spacing to be 6'-3" center to center, except as otherwise noted.
- Except as noted, line posts are 6" x 8" x 6'-0" wood with 6" x 8" x 1'-2" wood blocks. W6 x 9 steel posts, 6'-0" in length, with 6" x 8" x 1'-2" notched wood blocks or notched recycled plastic blocks may be used for 6" x 8" x 6'-0" wood posts with 6" x 8" x 1'-2" wood blocks where applicable and when specified.
- Direction of adjacent traffic indicated by →.
- For Transition Railing (Type WB) details for Types 12AA and 12BB Layouts, see Standard Plan A77J4.
- In-line Terminal System Treatments are used where site conditions will not accommodate a flared end treatment.
- The type of 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 guard railing (a length equal to multiples of 12'-6" with 6'-3" post spacing) between the transition railing and end treatments.
- Where placement of dike is required with guard railing installations, see Revised Standard Plan RSP A77C4 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 A77J2 and Connection Detail HH on Standard Plans A77K2.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP A77F4 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77F4
DATED MAY 1, 2006 - PAGE 57 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77F4

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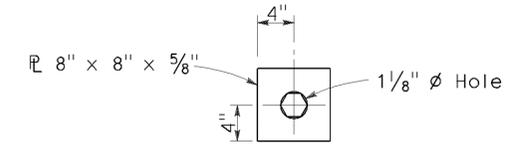
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

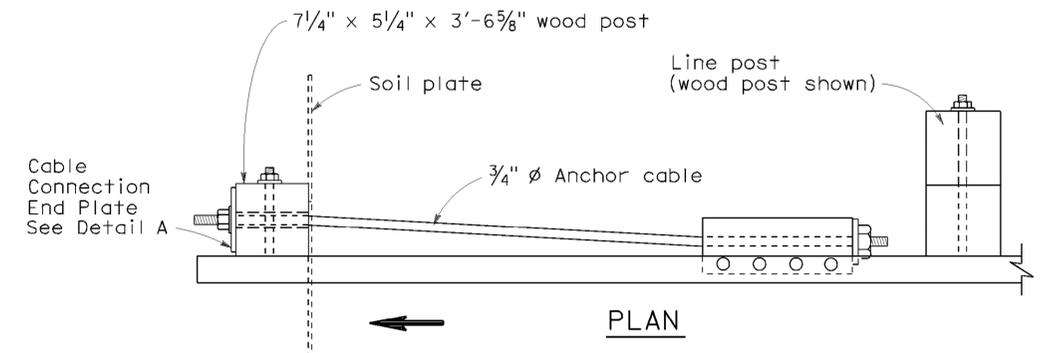
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Randell D. Hiatt
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Exp. 6-30-11
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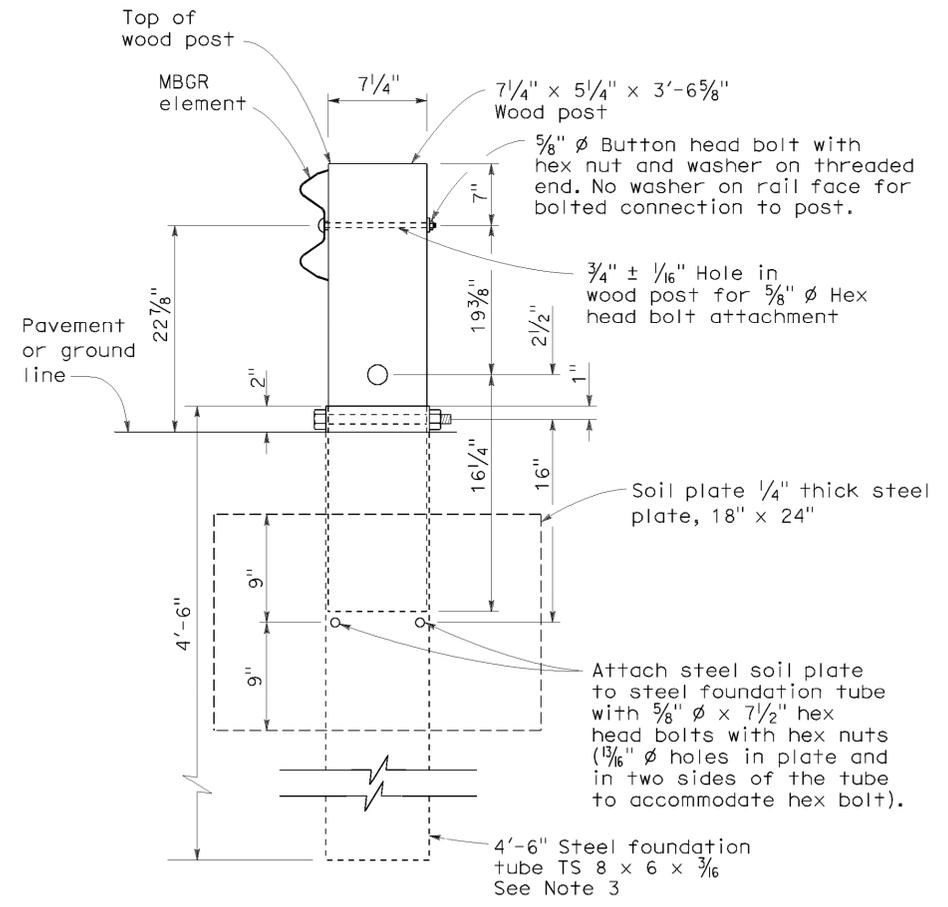
To accompany plans dated 01-31-12



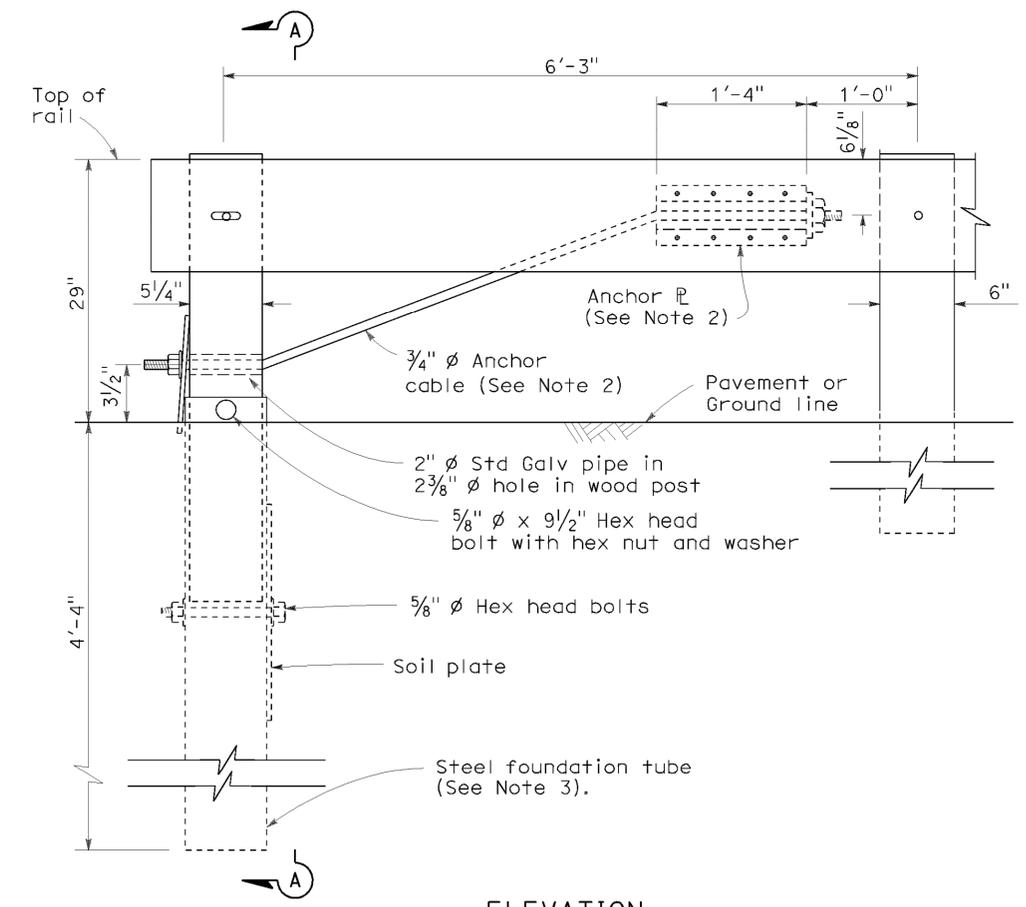
DETAIL A
CABLE CONNECTION
END PLATE



PLAN



SECTION A-A



ELEVATION
END ANCHOR
ASSEMBLY (TYPE SFT)
See Note 1

NOTES:

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

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77H1

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2006 REVISED STANDARD PLAN RSP A77H1

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las, PIU	70,89, 284,395	Var	15	37

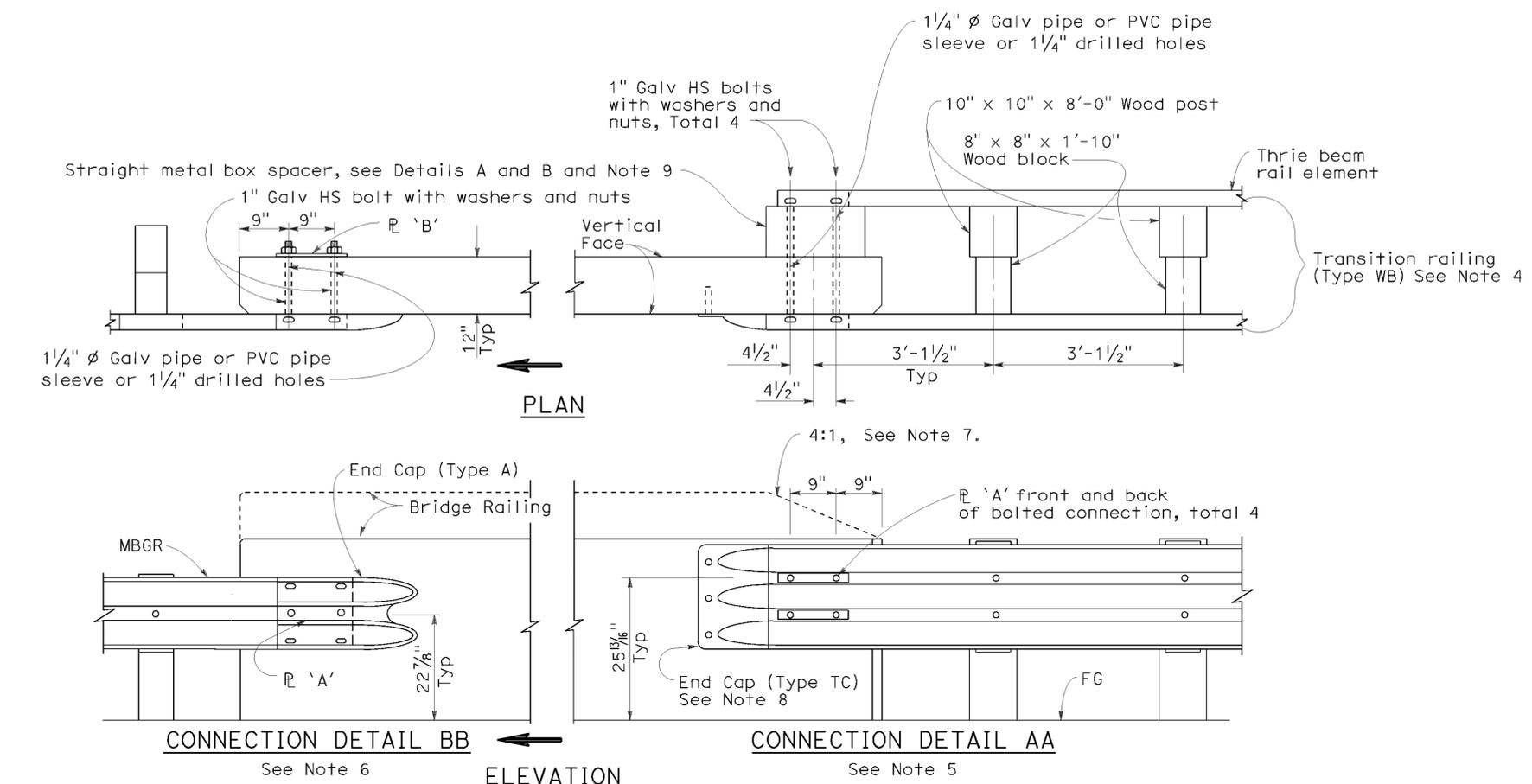
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
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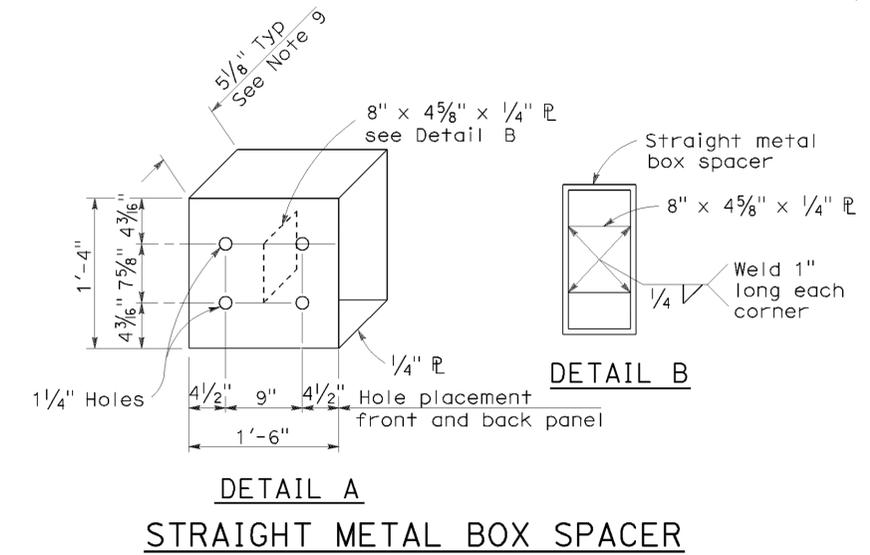
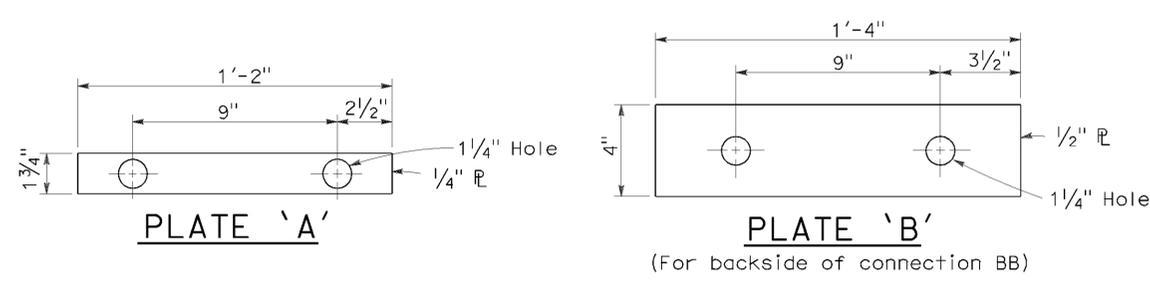
To accompany plans dated 01-31-12



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

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



STRAIGHT METAL BOX SPACER

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

NO SCALE

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

REVISED STANDARD PLAN RSP A77J1

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2006 REVISED STANDARD PLAN RSP A77J1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, PIU	70,89, 284,395	Var	16	37

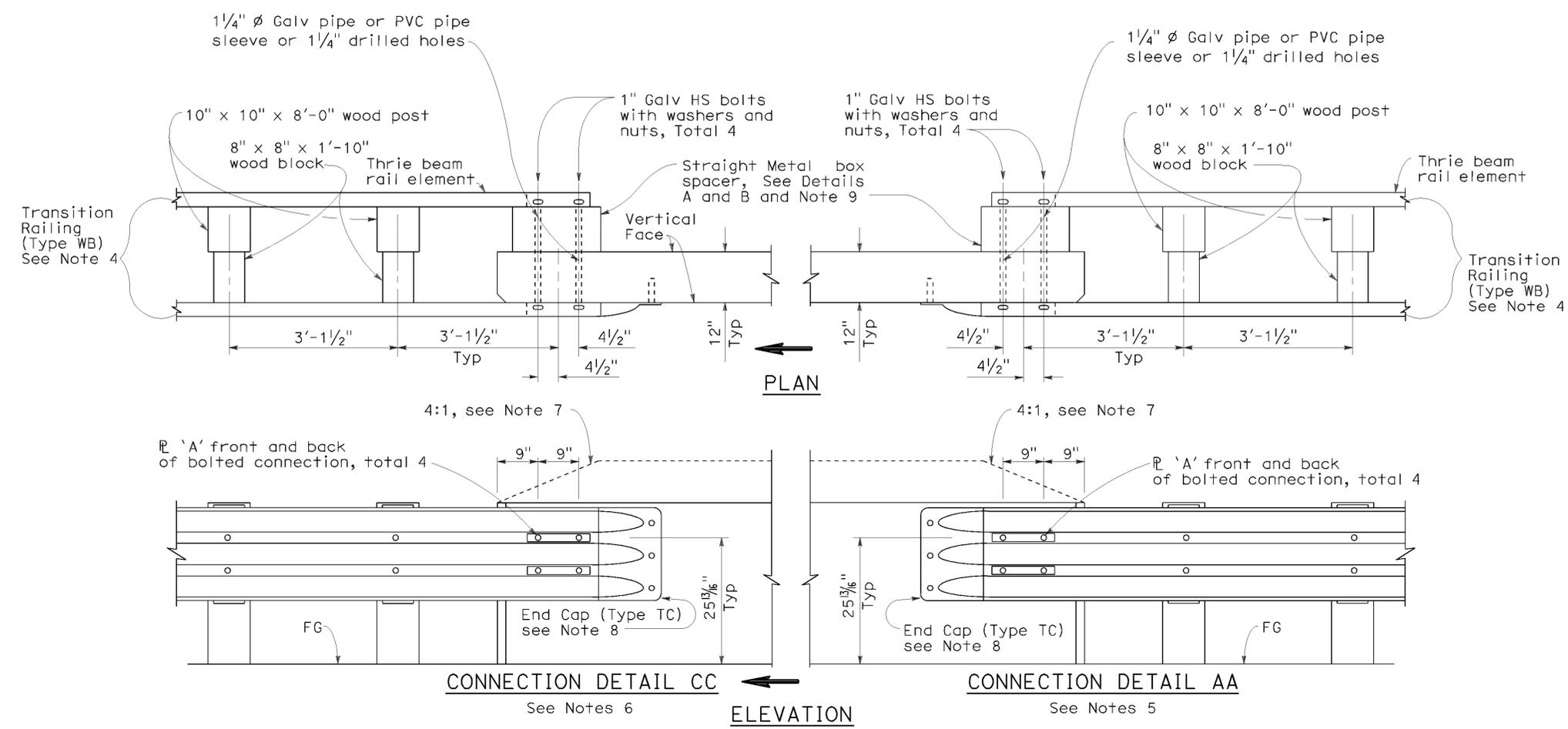
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

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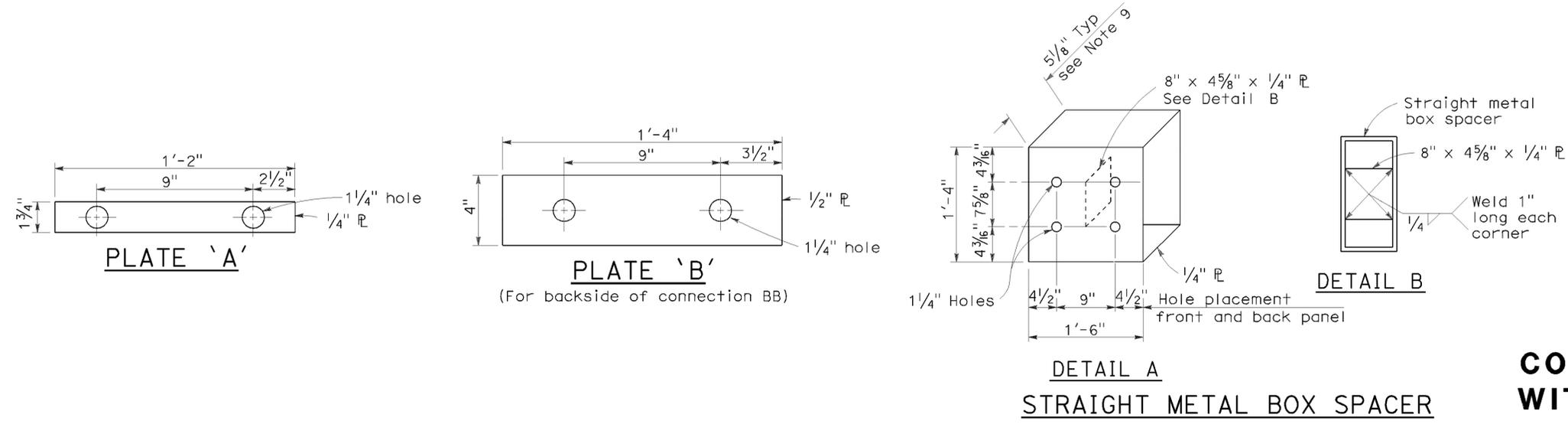
To accompany plans dated 01-31-12



GUARD RAILING CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK

NOTES:

1. See Revised Standard Plan RSP A77J1 for additional connection details to bridges without sidewalks.
2. Additional details of posts, blocks and hardware are shown on Standard Plan A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by →.
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete bridge railing.
5. For typical use of Connection Detail AA, see Layout Types 12A and 12B on Revised Standard Plan RSP A77F1, Layout Types 12C and 12D on Standard Plan A77F2, and Layout Type 12E on Revised Standard Plan RSP A77F3.
6. For typical use of Connection Detail CC, see Layout Types 12AA and 12BB on Standard Plan A77F4 and Layout Type 12CC on Standard Plan A77F5.
7. Where the height of the bridge railing exceeds the height of the thrie beam railing by more than 1" at Connection Detail AA 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.
8. For details of End Cap (Type TC), see Standard Plans A77J4.
9. See Standard Plans A77J4 for additional details regarding depth dimension for straight metal box spacer.



METAL BEAM GUARD RAILING CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS DETAILS No.2

NO SCALE
RSP A77J2 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A77J2
DATED MAY 1, 2006 - PAGE 73 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77J2

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2006 REVISED STANDARD PLAN RSP A77J2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las, Plu	70,89, 284,395	Var	17	37

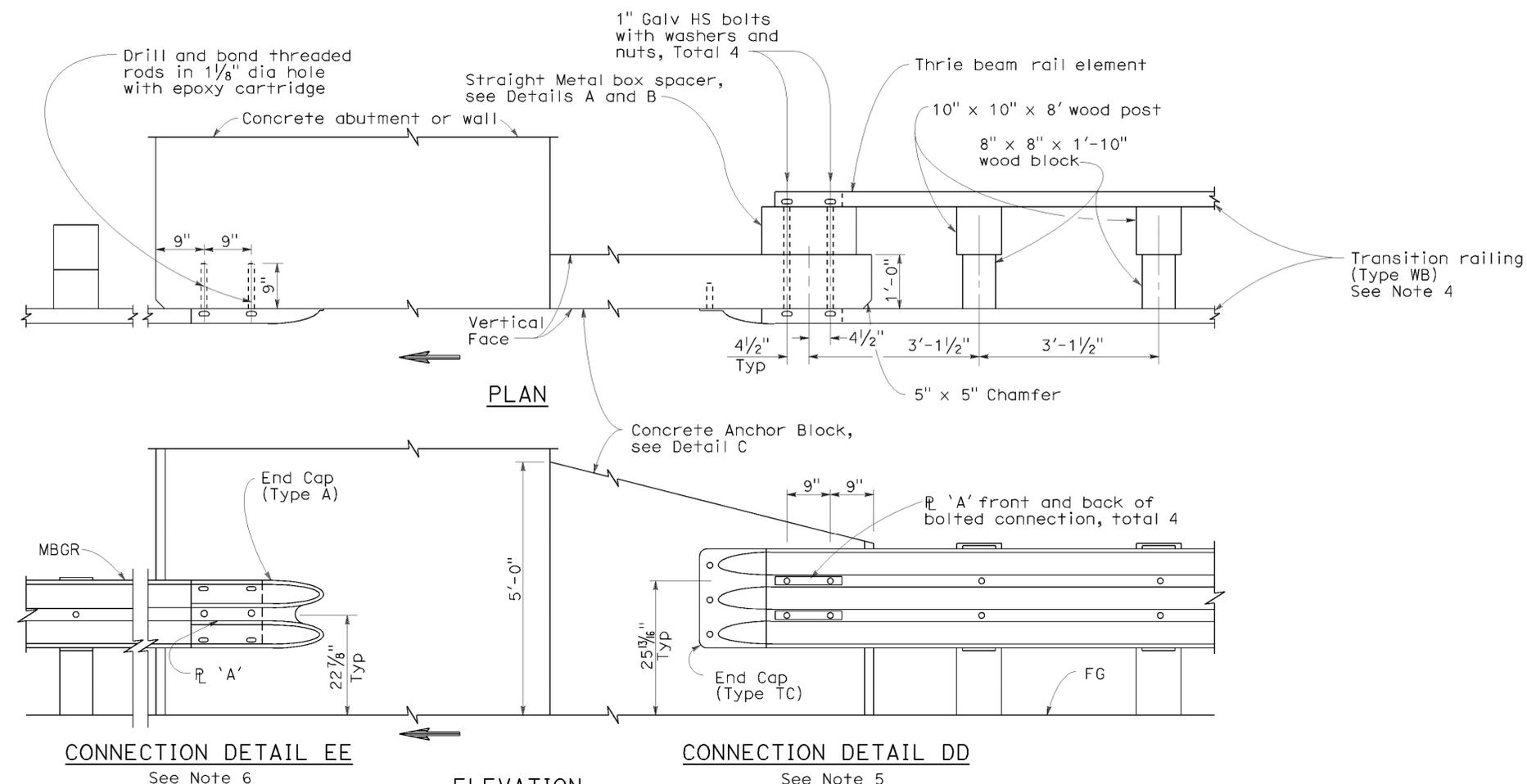
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

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

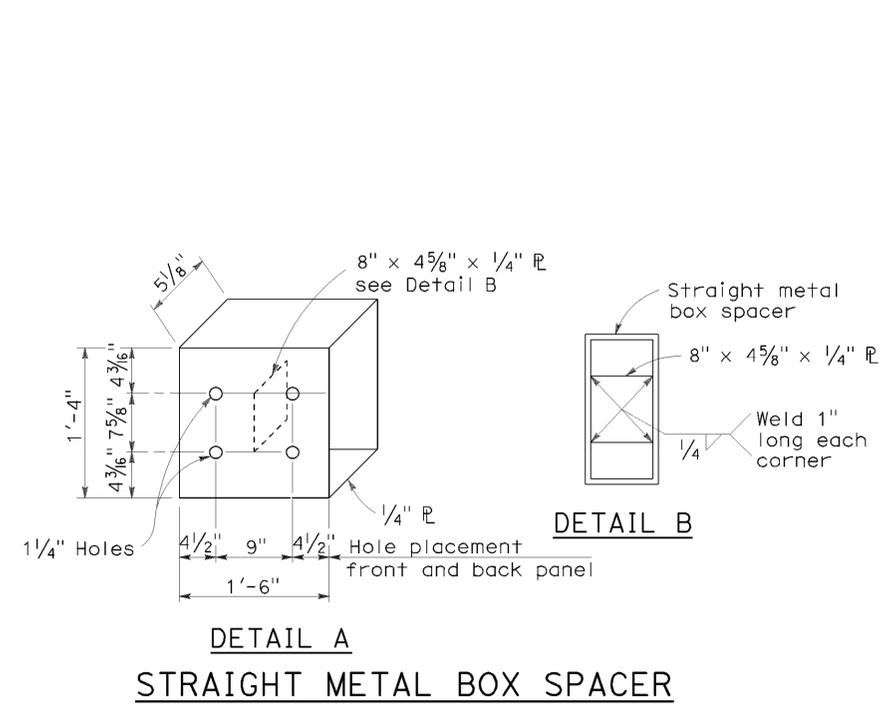
To accompany plans dated 01-31-12



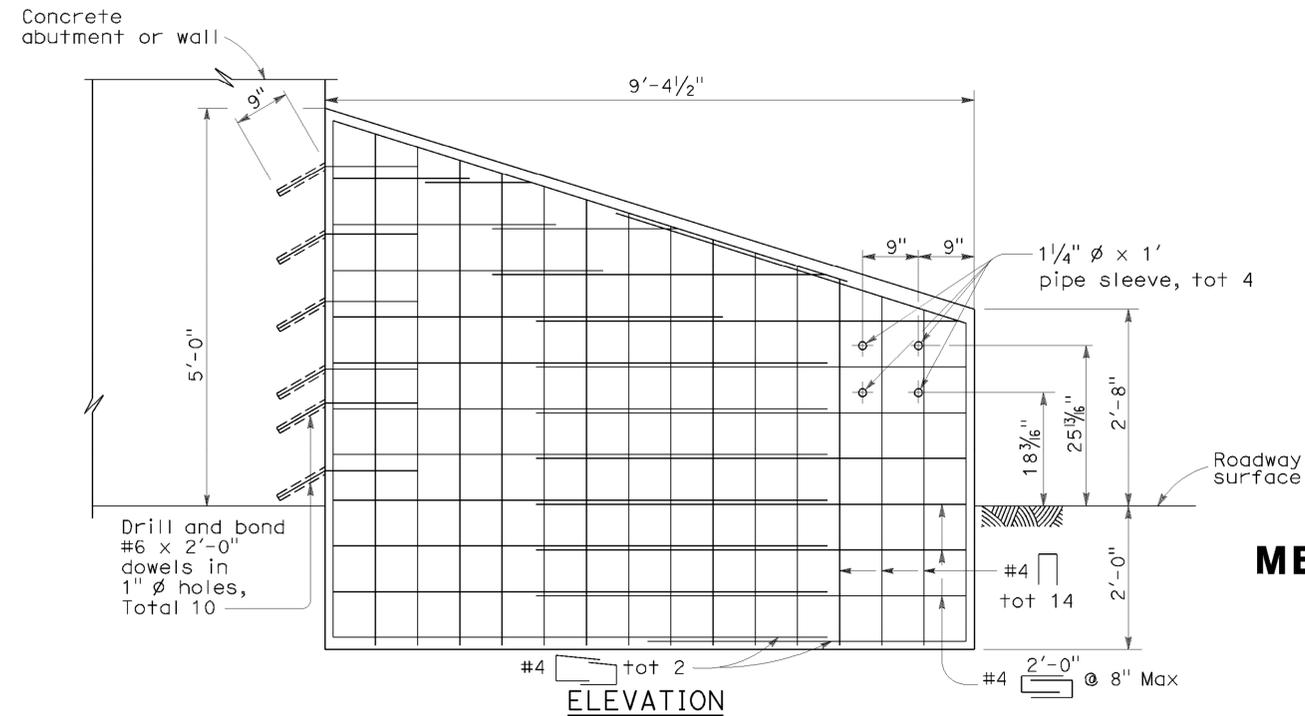
NOTES:

1. These connection details apply to abutments and walls.
2. Additional details of posts, blocks and hardware are shown on Standard Plans A77B1, A77C1 and A77C2.
3. Direction of adjacent traffic indicated by \rightarrow .
4. For additional details of Transition Railing (Type WB), see Standard Plan A77J4 Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested thrie beam railing section which is connected to the concrete anchor block.
5. For typical use of Connection Details DD, See Layout Types 12A and 12B on Standard Plan A77F1 and Layout Types 12C and 12D on Standard Plan A77F2.
6. For typical use of Connection Detail EE, see Layout Type 12D on Standard Plan A77F2 and Layout Type 12DD on Standard Plan A77F5.

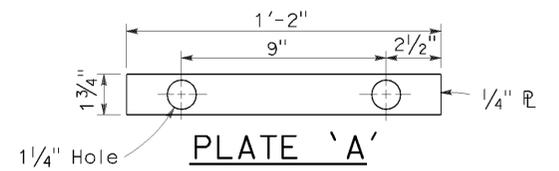
GUARD RAILING CONNECTION TO ABUTMENT OR WALL



STRAIGHT METAL BOX SPACER



ANCHOR BLOCK FOR TRANSITION RAILING CONNECTION



METAL BEAM GUARD RAILING CONNECTIONS TO ABUTMENTS AND WALLS

NO SCALE

REVISED STANDARD PLAN RSP A77J3

RSP A77J3 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77J3
DATED MAY 1, 2006 - PAGE 74 OF THE STANDARD PLANS BOOK DATED MAY 2006.

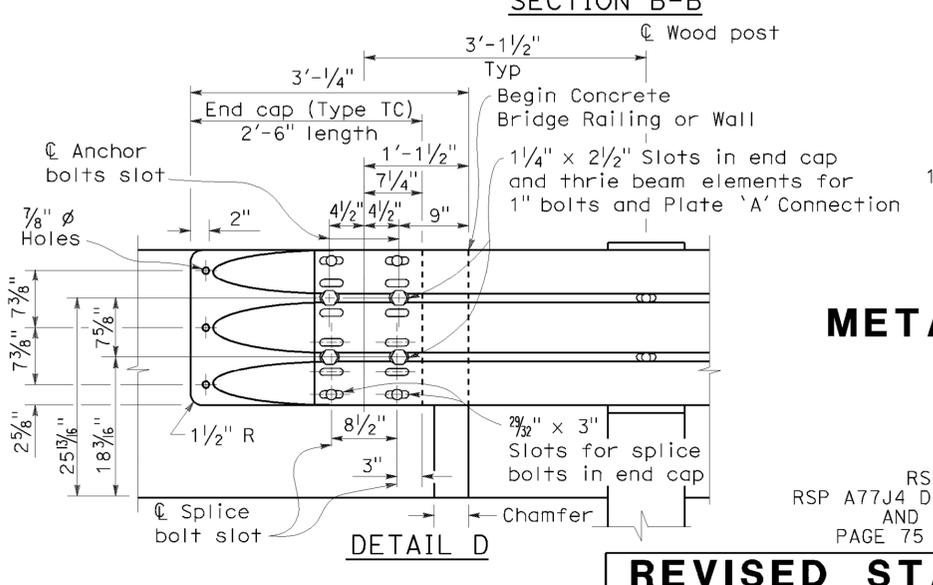
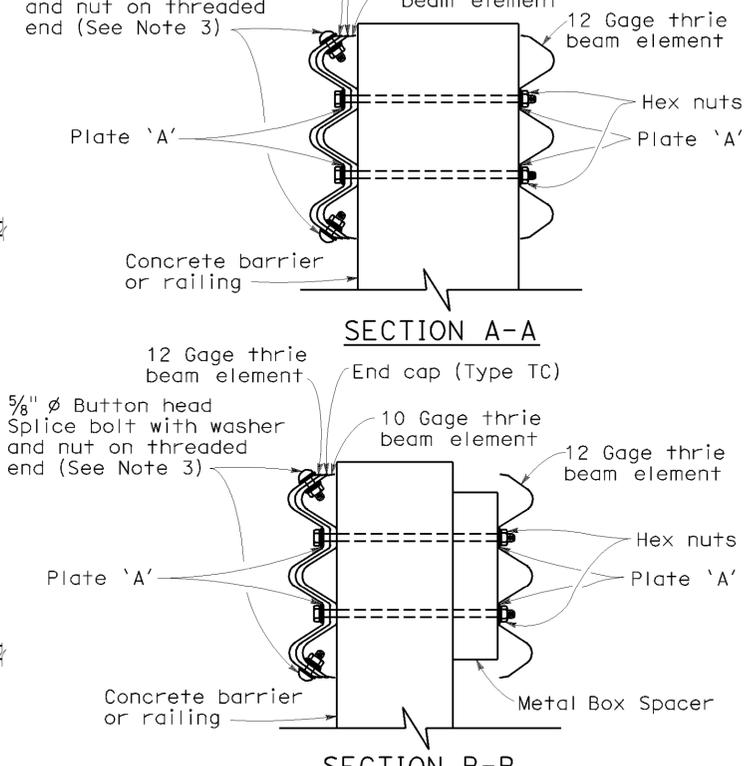
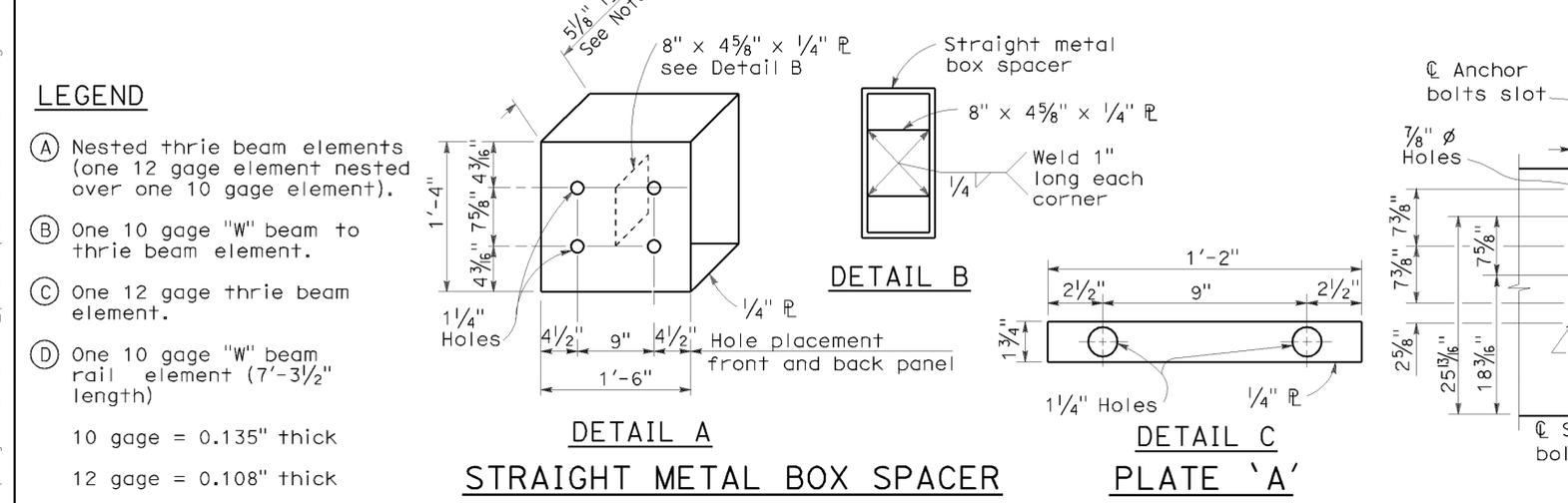
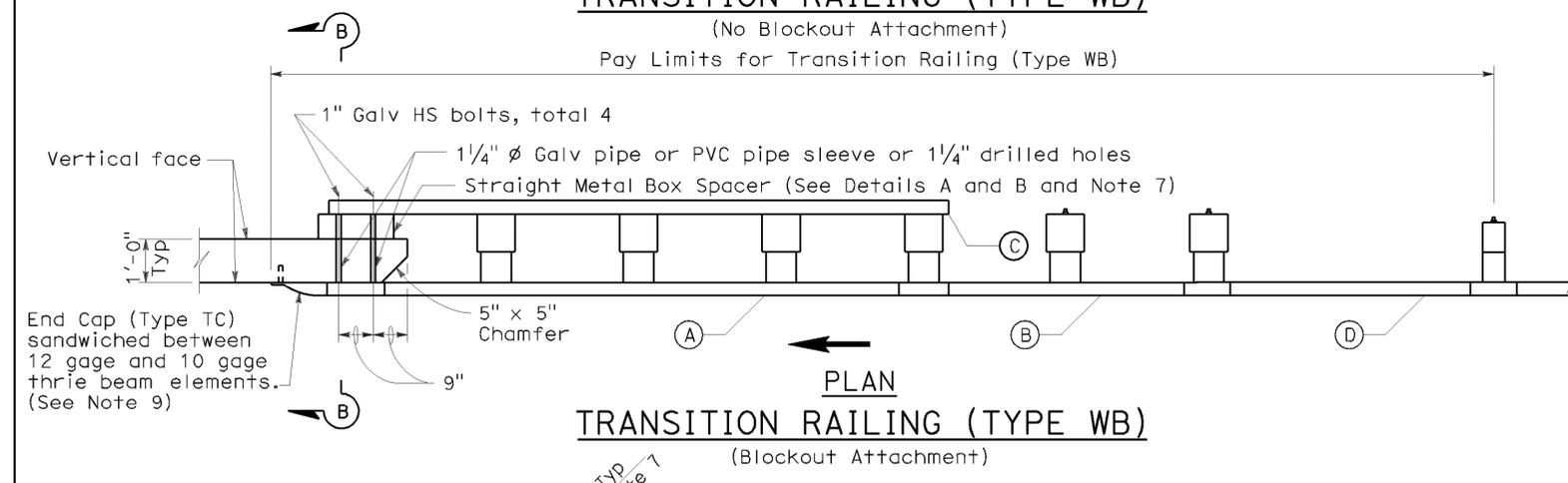
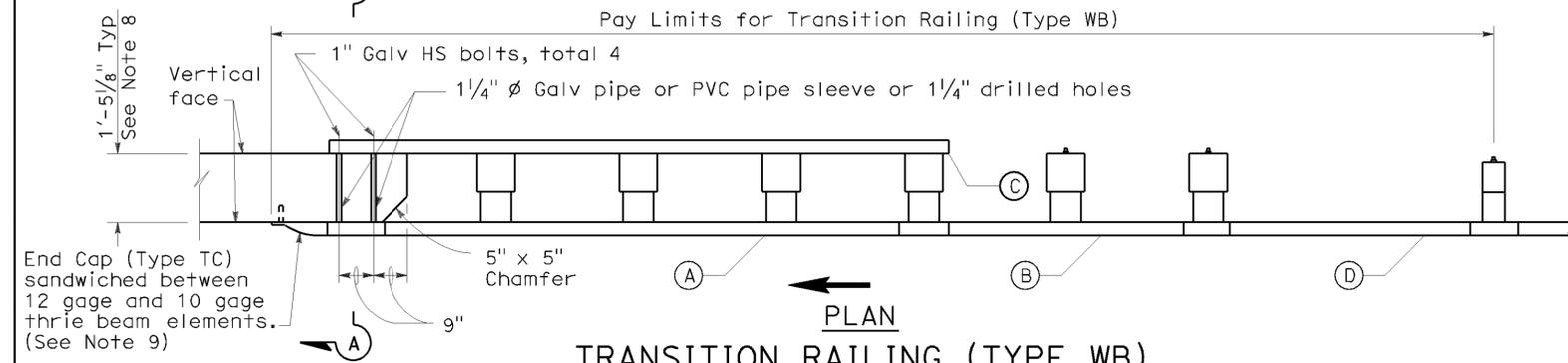
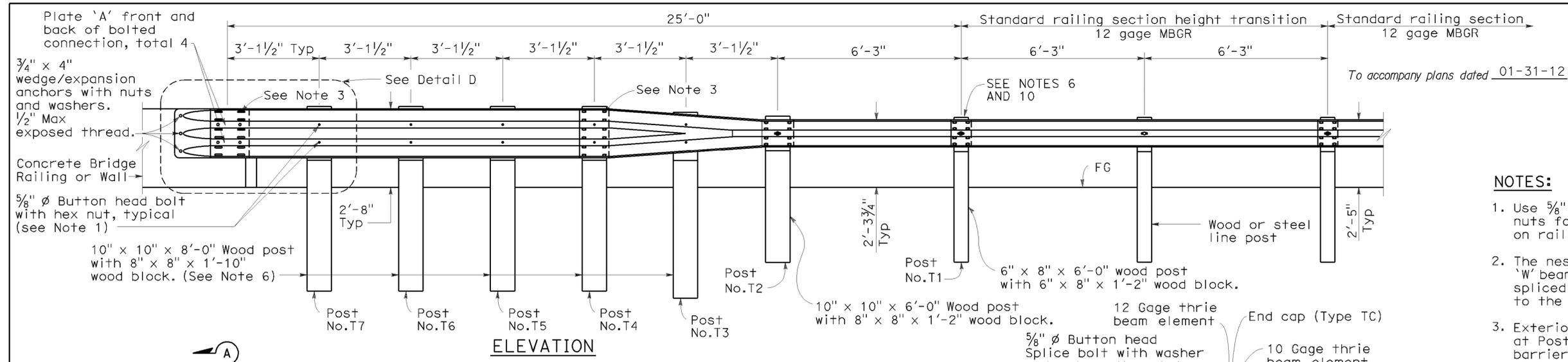
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2006 REVISED STANDARD PLAN RSP A77J3

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las, PIU	70,89, 284,395	Var	18	37

RANDALL D. HIATT
 REGISTERED CIVIL ENGINEER
 No. C50200
 Exp. 6-30-11
 STATE OF CALIFORNIA

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

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

REVISED STANDARD PLAN RSP A77J4

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2006 REVISED STANDARD PLAN RSP A77J4

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las, Plu	70,89, 284,395	Var	19	37

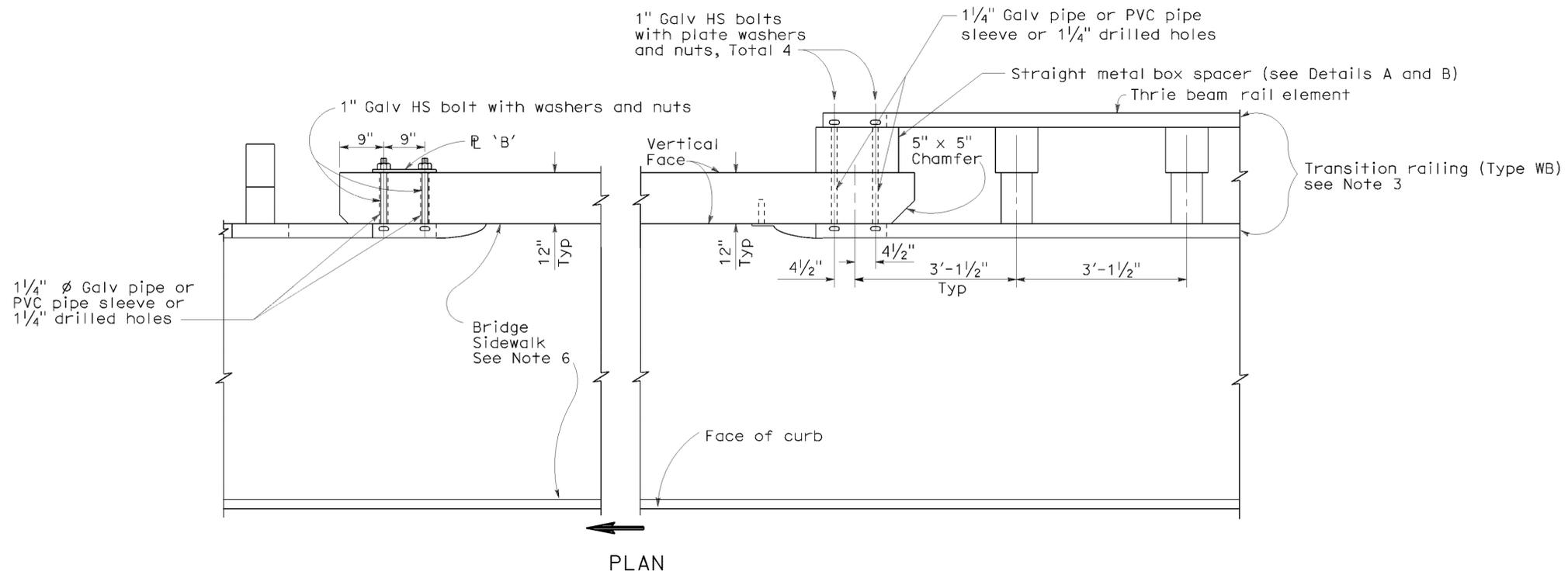
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

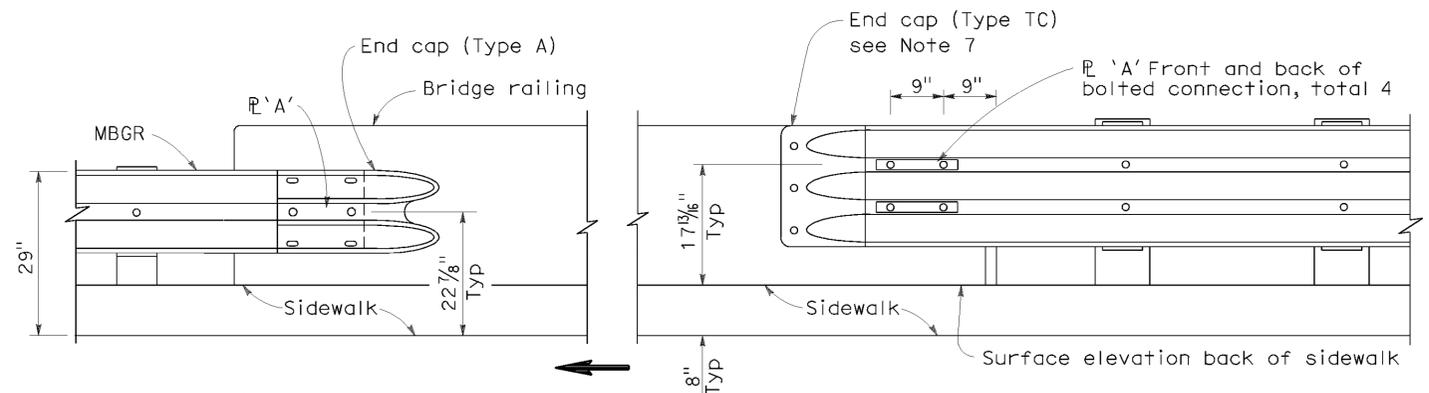
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No. C50200
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To accompany plans dated 01-31-12



PLAN



CONNECTION DETAIL GG
See Notes 5

CONNECTION DETAIL FF
See Notes 4

ELEVATION

GUARD RAILING CONNECTION TO BRIDGE RAILING WITH SIDEWALKS

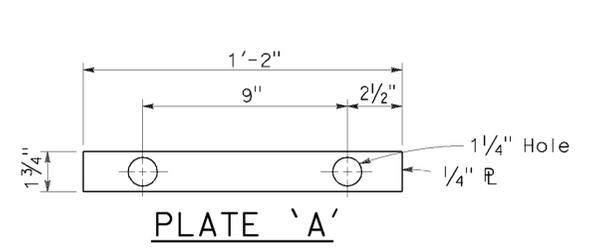


PLATE 'A'

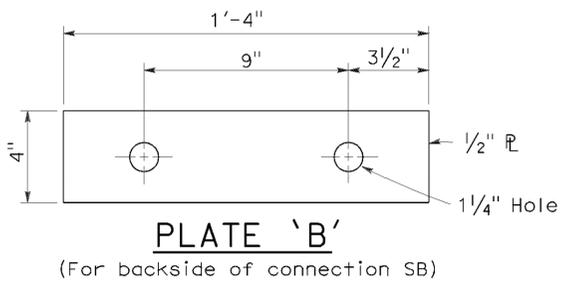
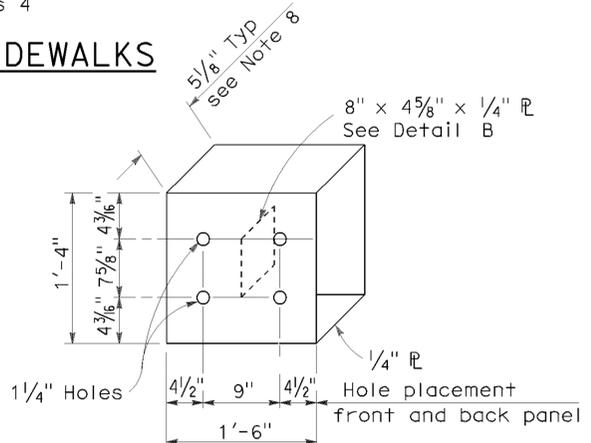
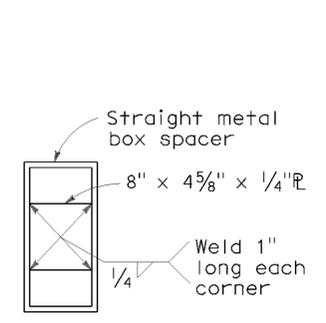


PLATE 'B'

(For backside of connection SB)



DETAIL A



DETAIL B

STRAIGHT METAL BOX SPACER

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**METAL BEAM GUARD RAILING
CONNECTIONS TO BRIDGE
RAILINGS WITH SIDEWALKS
DETAILS No.1**

NO SCALE

NOTES:

1. See Standard Plan A77K2 for additional connection details to bridges with sidewalks.
2. Direction of adjacent traffic indicated by →.
3. For additional details of Transition Railing (Type WB), see Standard Plan A77J4. Transition Railing (Type WB) transitions the 12 gage w-beam standard railing section of guard railing to a heavier gage nested three beam railing which is connected to the concrete bridge railing.
4. For typical use of Connection Detail FF, see Layout Types 12A and 12B on Standard Plan A77F1.
5. For typical use of Connection Detail GG, see Layout Type 12D on Standard Plan A77F2 and Layout Type 12DD on Standard Plan A77F5.
6. Where the bridge sidewalk is not continued beyond the end of the bridge railing, the portion of the sidewalk beyond each end of the bridge railing shall be transitioned down from the top elevation of the sidewalk, for its entire width, to the finished grade of the adjacent roadbed. The longitudinal slope of each sidewalk elevation transition shall not exceed 8.33 percent.
7. For details of End Cap (Type TC), see Standard Plan A77J4.
8. See Standard Plan A77J4 for additional details regarding depth dimension for straight metal box spacer.

RSP A77K1 DATED MAY 20, 2011 SUPERSEDES STANDARD PLAN A77K1
DATED MAY 1, 2006 - PAGE 76 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A77K1

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2006 REVISED STANDARD PLAN RSP A77K1

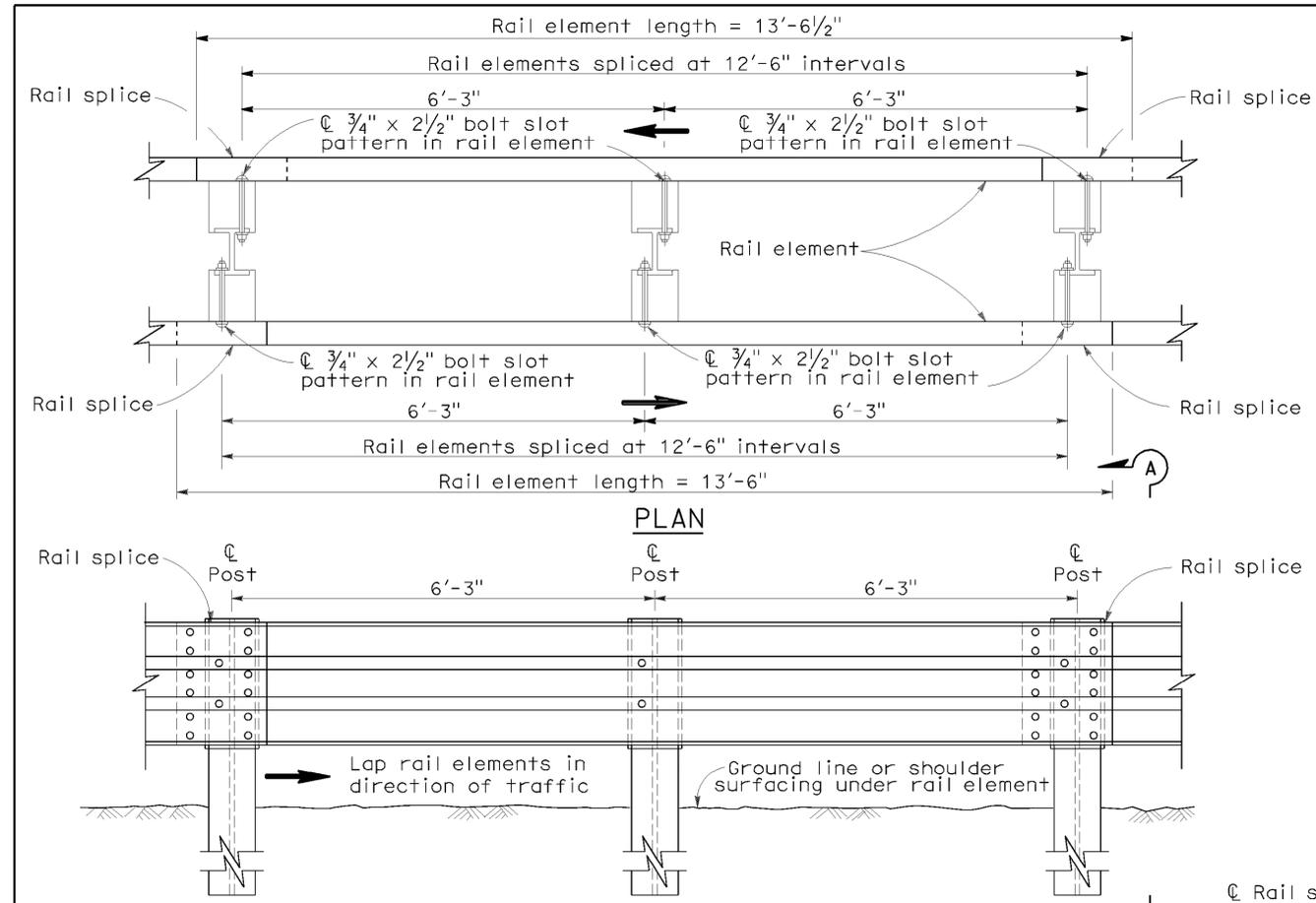
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, PIU	70,89, 284,395	Var	20	37

Randell D. Hiatt
REGISTERED CIVIL ENGINEER

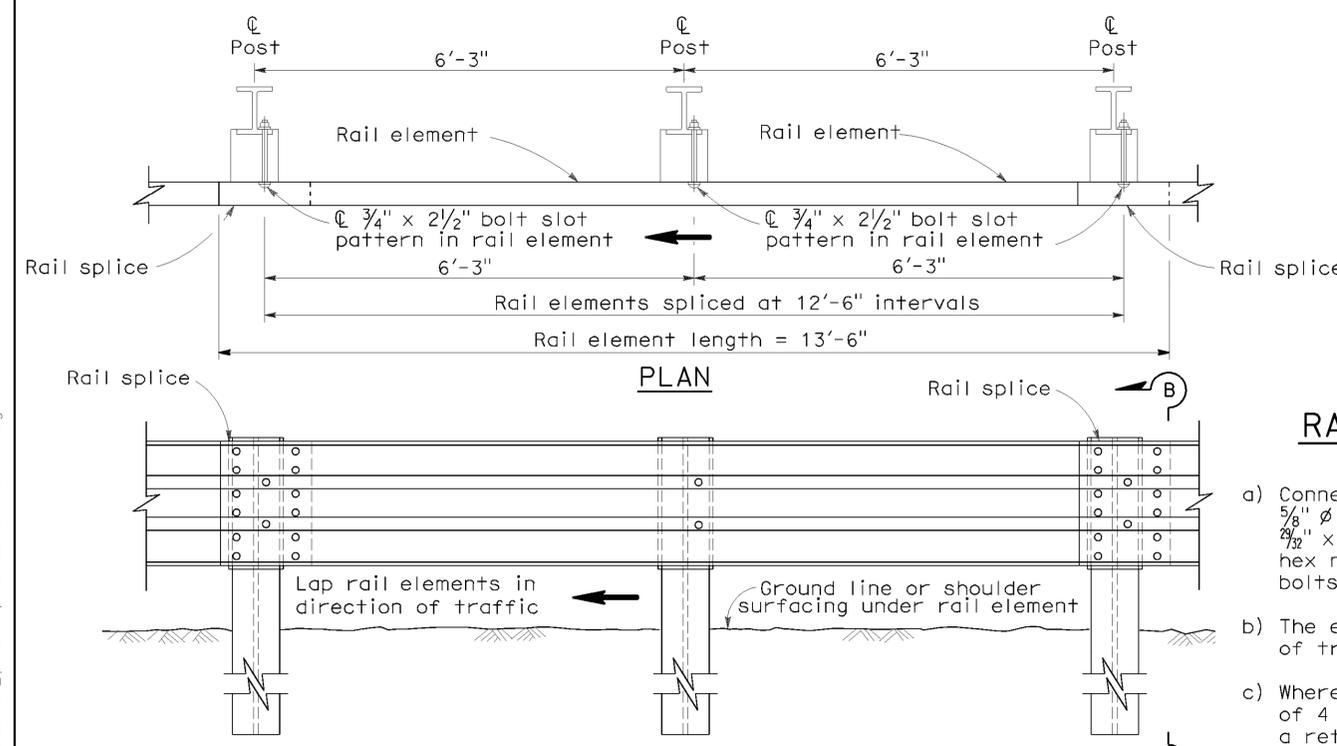
June 6, 2008
PLANS APPROVAL DATE

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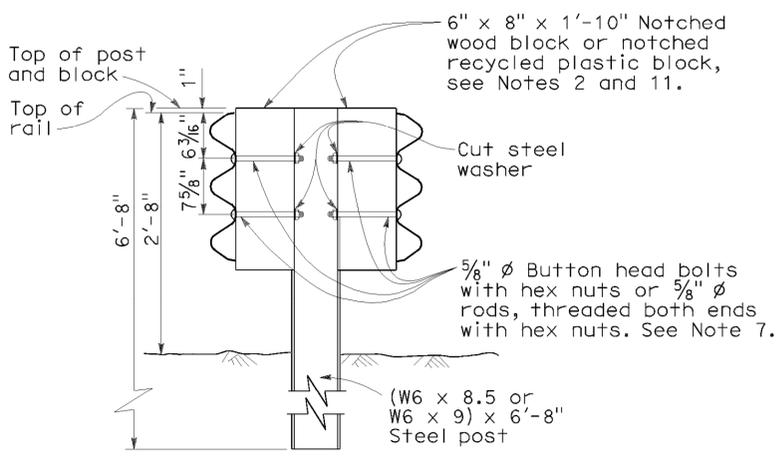
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA



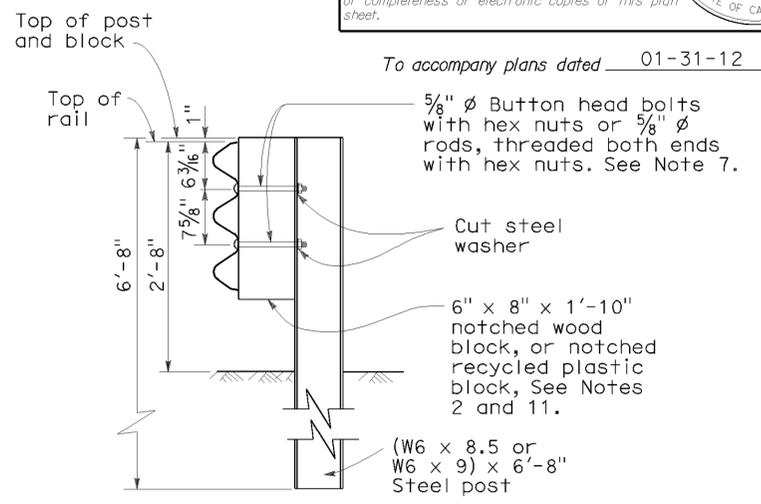
DOUBLE THRIE BEAM BARRIER
(Steel post with notched wood or notched plastic blocks)
See Note 1



SINGLE THRIE BEAM BARRIER
(Steel post with notched wood or notched plastic blocks)
See Note 1

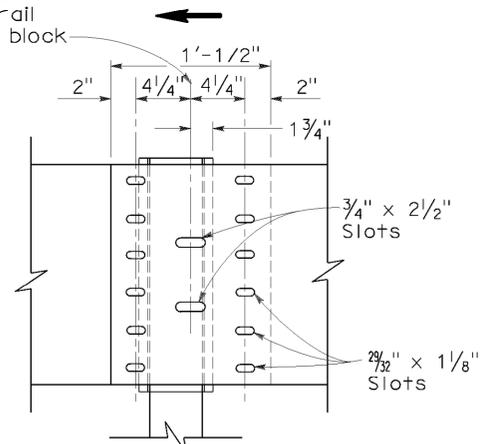


SECTION A-A
TYPICAL STEEL LINE POST INSTALLATION



SECTION B-B
TYPICAL STEEL LINE POST INSTALLATION

⊕ Rail splice and slots for 5/8" ⌀ button head bolt to connect rail to post and block



RAIL ELEMENT SPLICE DETAIL

- Connect the overlapped ends of the thrie beam rail elements with 5/8" ⌀ x 1 1/8" button head oval shoulder bolts inserted into the 2 3/32" x 1 1/8" slots and bolted together with 5/8" ⌀ x 1 1/8" recessed hex nuts. Recess of hex nut points toward rail element. A total of 12 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. Where a return cap is to be attached to the ends of rail elements, a total of 8 of the above described splice bolts and nuts are to be used.

NOTES:

- For details of the cross section of the thrie beam rail element and details for wood post with wood block installations, see Standard Plan A78A.
- For details of standard hardware, posts and blocks used to construct thrie beam barrier, see Revised Standard Plan RSP A78C1 and Standard Plan A78C2.
- Thrie beam barrier post spacing to be 6'-3" center to center, except as otherwise noted.
- Top of barrier rail to be 2'-8" above ground line or shoulder surfacing under the rail element.
- For barrier end treatments and barrier connections, see Standard Plans A78E1, A78E2 and A78E3, Revised Standard Plans RSPs A78F1 and A78F2, Standard Plan A78G and Revised Standard Plan RSP A78H.
- For connection to Concrete Barrier, see Revised Standard Plan RSP A78I.
- Attach rail element to block and steel post with 2 bolts or rods on approaching traffic side of block and post web. No washer on rail face for rod or bolted connections to line post.
- For details of thrie beam barrier on bridges, see Standard Plan A78D2. For details of thrie beam barrier at fixed objects, see Standard Plan A78D1.
- Direction of traffic indicated by →.
- Notched face of block faces steel post.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

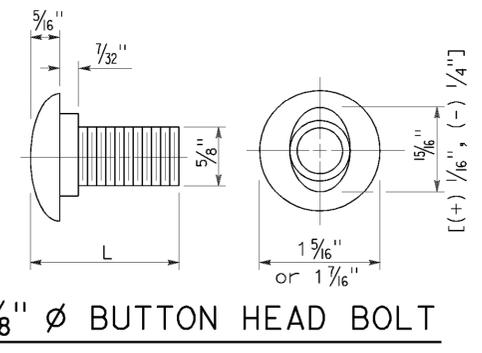
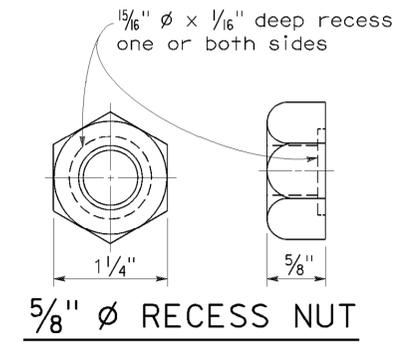
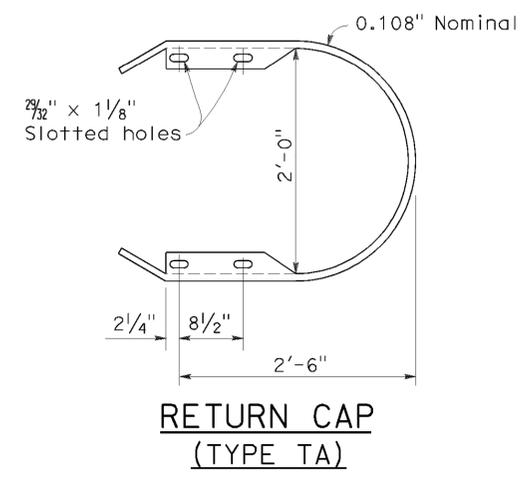
RSP A78B DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A78B
DATED MAY 1, 2006 - PAGE 84 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A78B

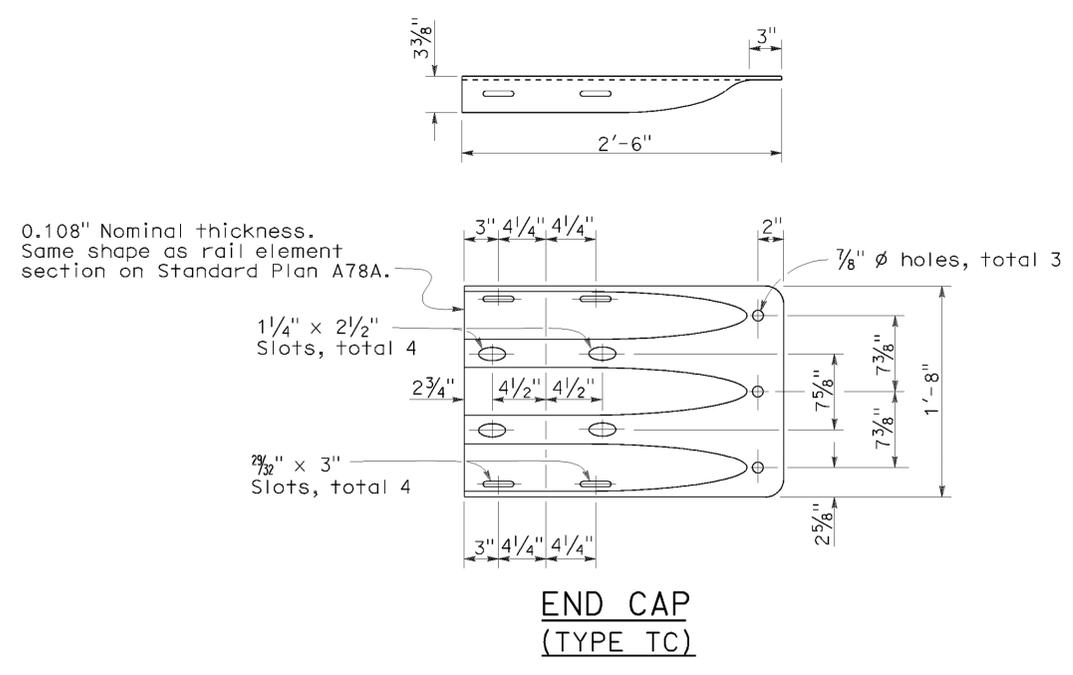
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2006 REVISED STANDARD PLAN RSP A78B

To accompany plans dated 01-31-12



L	THREAD LENGTH
1 1/4"	full thread length
2"	full thread length
9/2"	4" Min thread length
18"	4" Min thread length



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**THRIE BEAM BARRIER
STANDARD HARDWARE DETAILS**

NO SCALE

RSP A78C1 DATED JUNE 6, 2008 SUPERSEDES STANDARD PLAN A78C1
DATED MAY 1, 2006 - PAGE 85 OF THE STANDARD PLANS BOOK DATED MAY 2006.

REVISED STANDARD PLAN RSP A78C1

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2006 REVISED STANDARD PLAN RSP A78C1

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, Plu	70,89, 284,395	Var	22	37

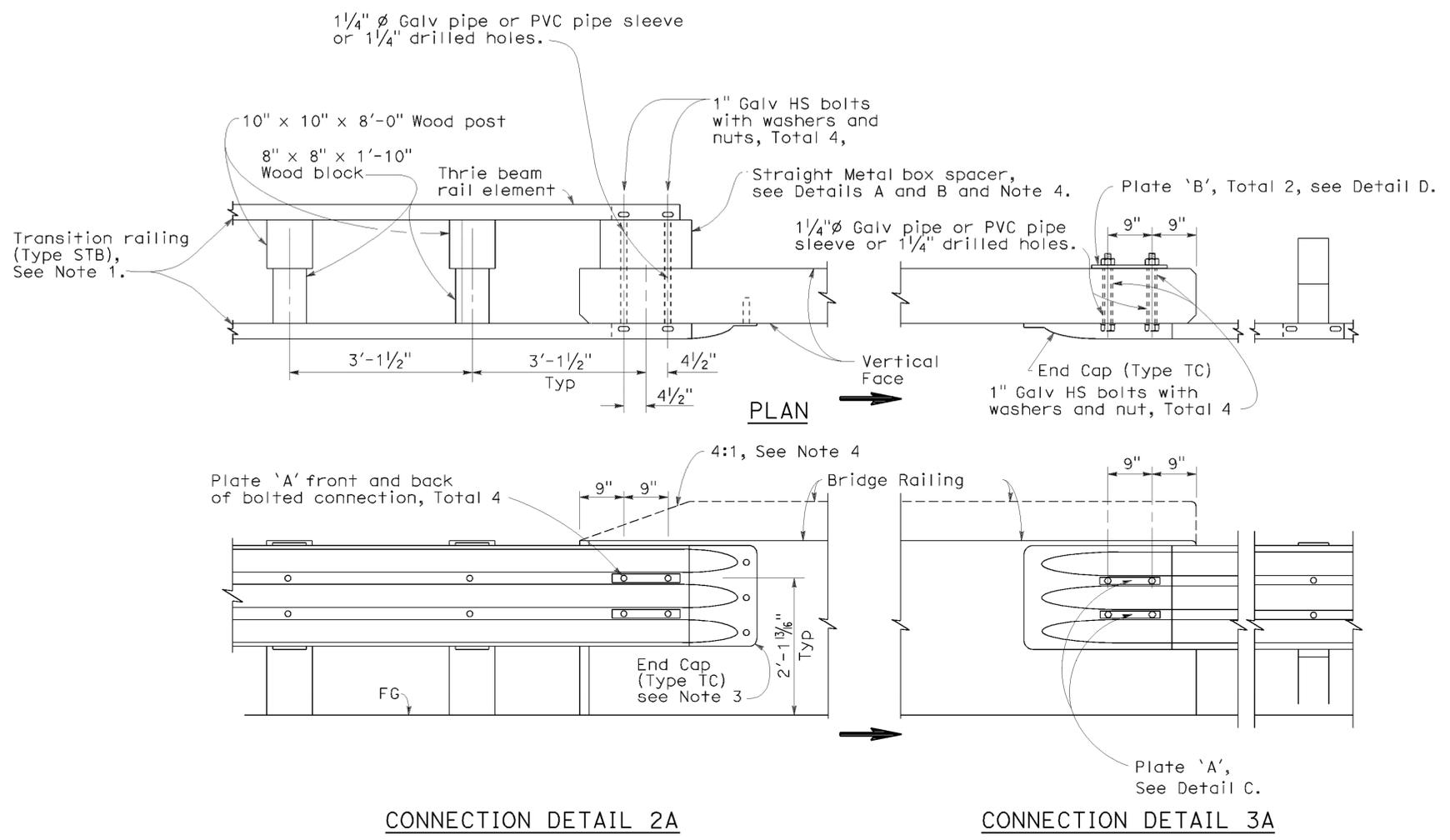
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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

To accompany plans dated 01-31-12



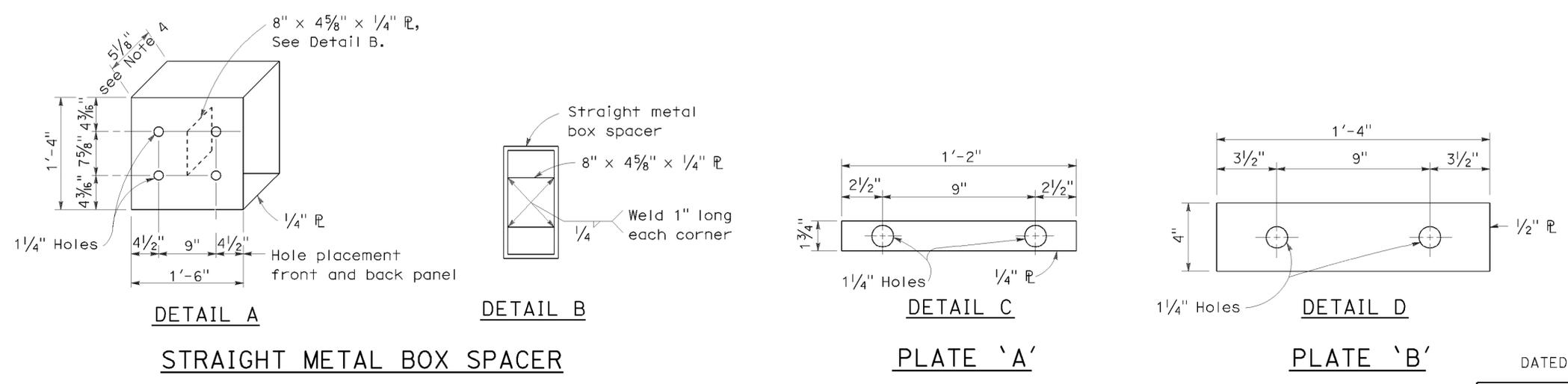
NOTES:

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

CONNECTION DETAIL 2A **CONNECTION DETAIL 3A**

ELEVATION

SINGLE THRIE BEAM BARRIER CONNECTION TO BRIDGE RAILING WITHOUT SIDEWALK



STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

SINGLE THRIE BEAM BARRIER CONNECTIONS TO BRIDGE RAILINGS WITHOUT SIDEWALKS

NO SCALE

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

REVISED STANDARD PLAN RSP A78F2

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2006 REVISED STANDARD PLAN RSP A78F2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, Plu	70,89, 284,395	Var	24	37

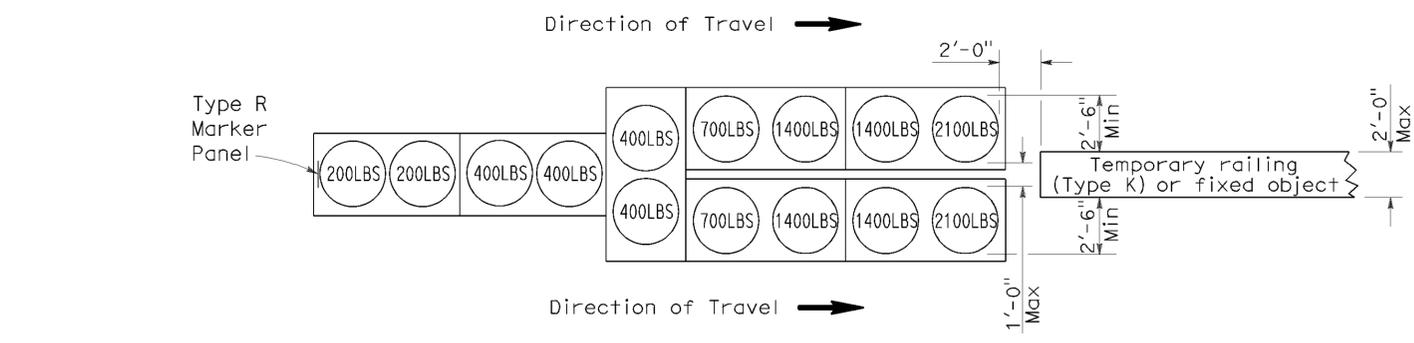
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

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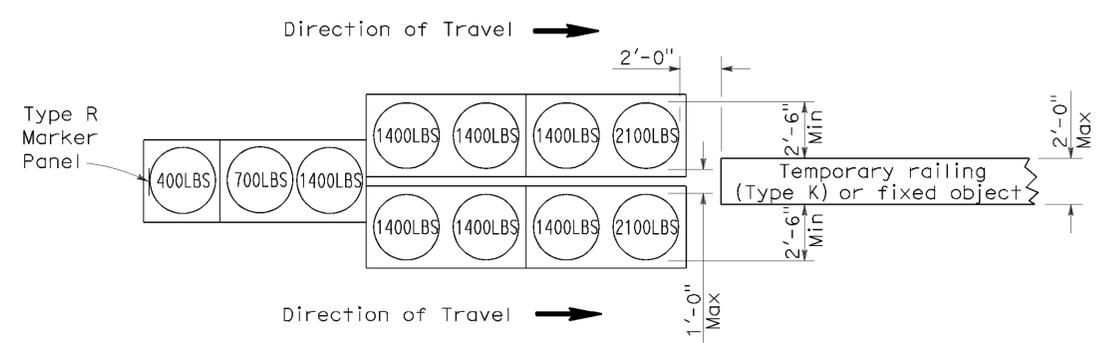
REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 01-31-12



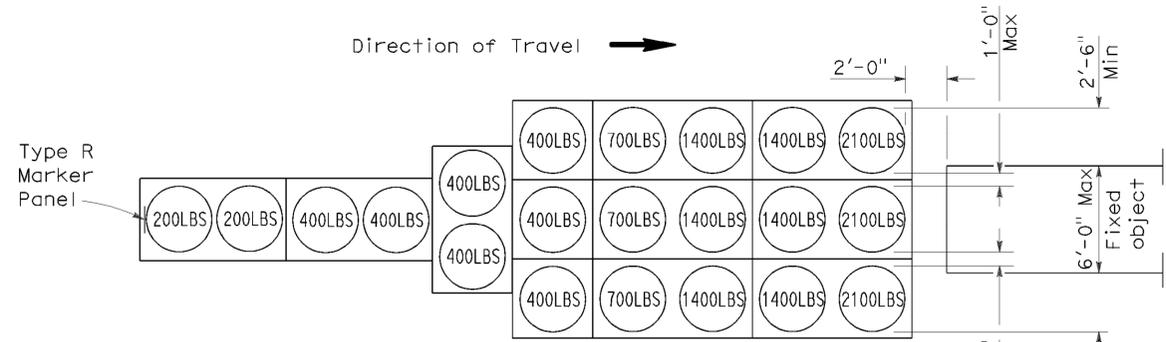
ARRAY 'TU14'

Approach speed 45 mph or more



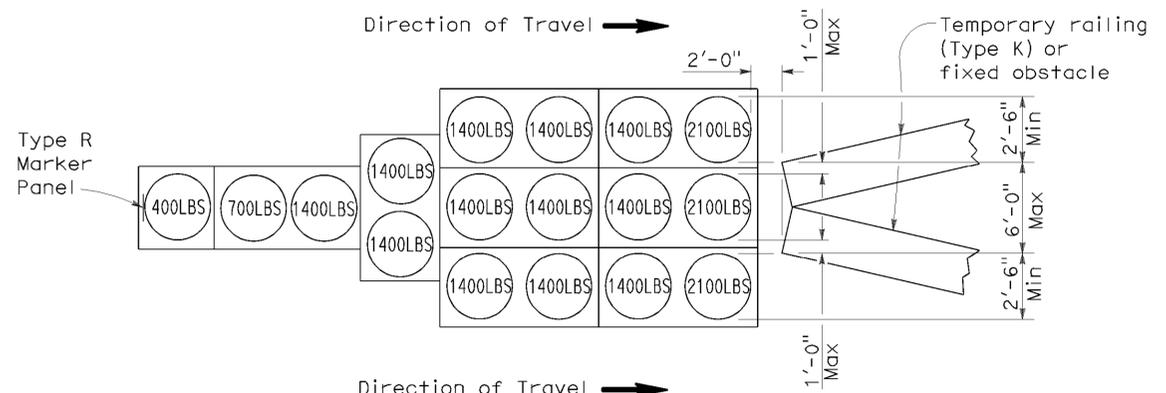
ARRAY 'TU11'

Approach speed less than 45 mph



ARRAY 'TU21'

Approach speed 45 mph or more

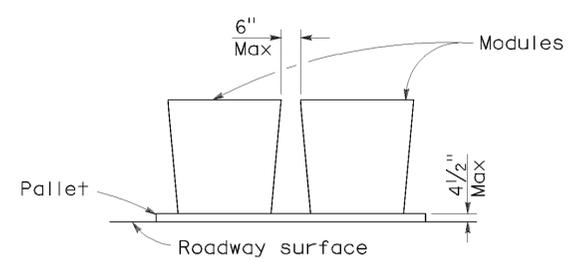
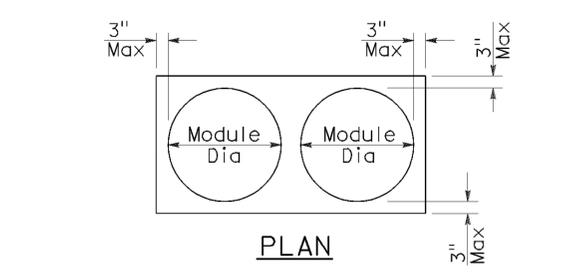


ARRAY 'TU17'

Approach speed less than 45 mph

NOTES:

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



CRASH CUSHION PALLET DETAIL

See Note 7

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1A

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2006 REVISED STANDARD PLAN RSP T1A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, Plu	70,89, 284,395	Var	25	37

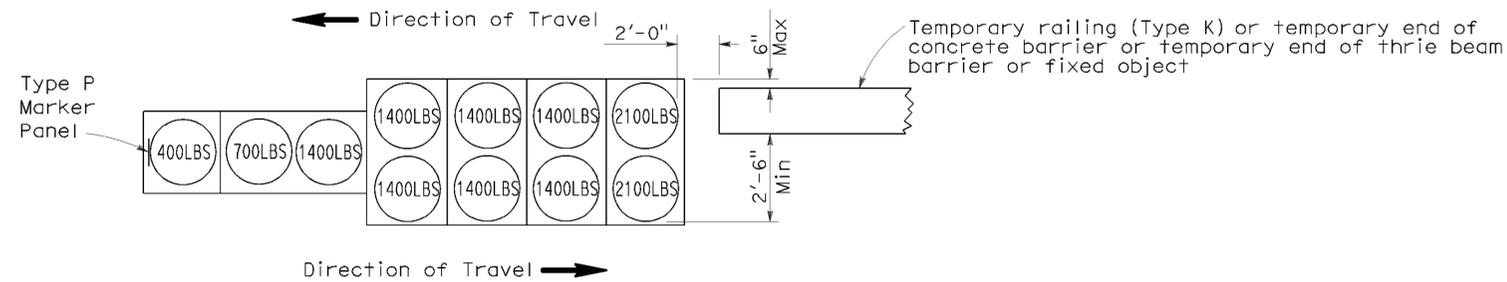
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

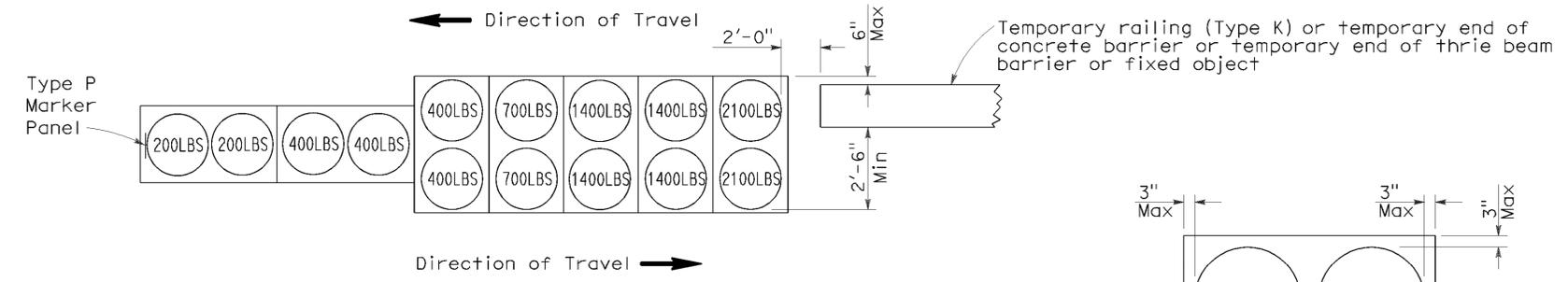
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Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

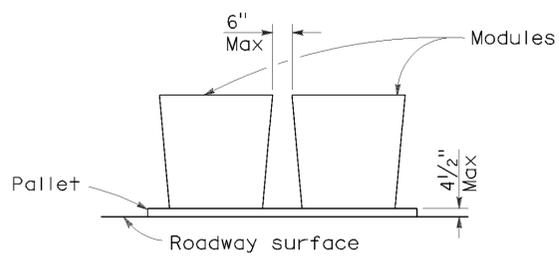
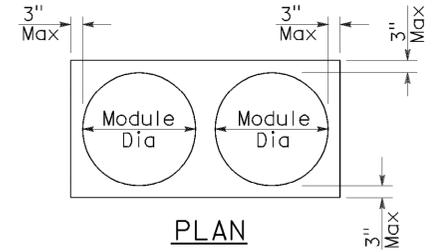
To accompany plans dated 01-31-12



ARRAY 'TB11'
Approach speed less than 45 mph



ARRAY 'TB14'
Approach speed 45 mph or more



CRASH CUSHION PALLET DETAIL
See Note 7

NOTES:

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

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

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

REVISED STANDARD PLAN RSP T1B

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2006 REVISED STANDARD PLAN RSP T1B

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, PIU	70,89, 284,395	Var	26	37

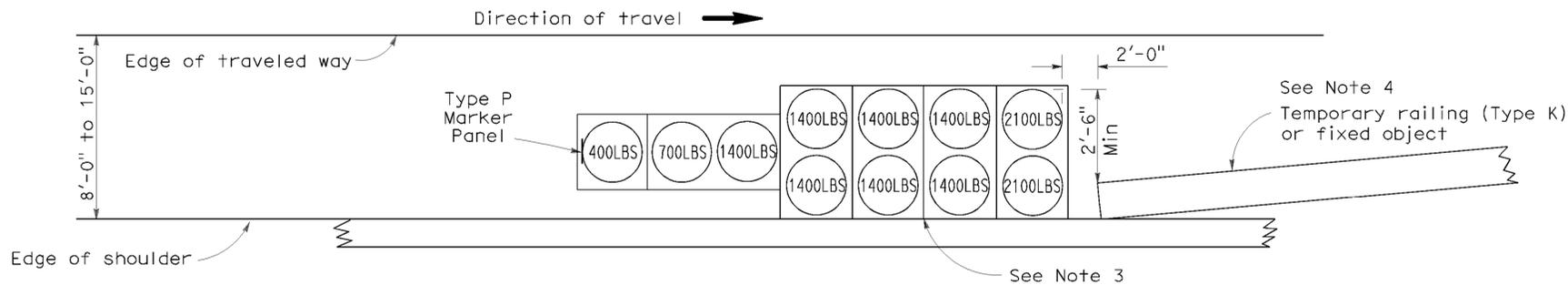
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

June 6, 2008
PLANS APPROVAL DATE

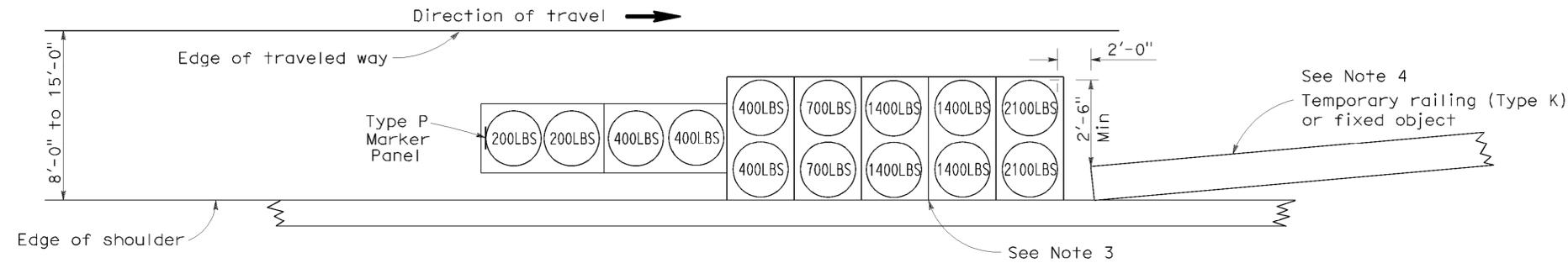
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REGISTERED PROFESSIONAL ENGINEER
Randell D. Hiatt
No. C50200
Exp. 6-30-09
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 01-31-12



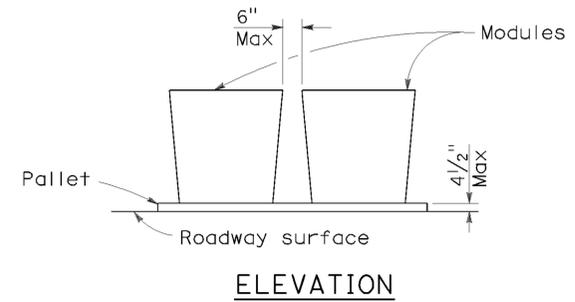
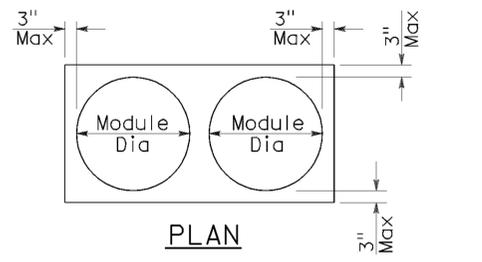
ARRAY 'TS11'
Approach speed less than 45 mph
See Note 9



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

NOTES:

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



CRASH CUSHION PALLET DETAIL
See Note 11

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

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

REVISED STANDARD PLAN RSP T2

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2006 REVISED STANDARD PLAN RSP T2

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
02	Las, PIU	70,89, 284,395	Var	27	37

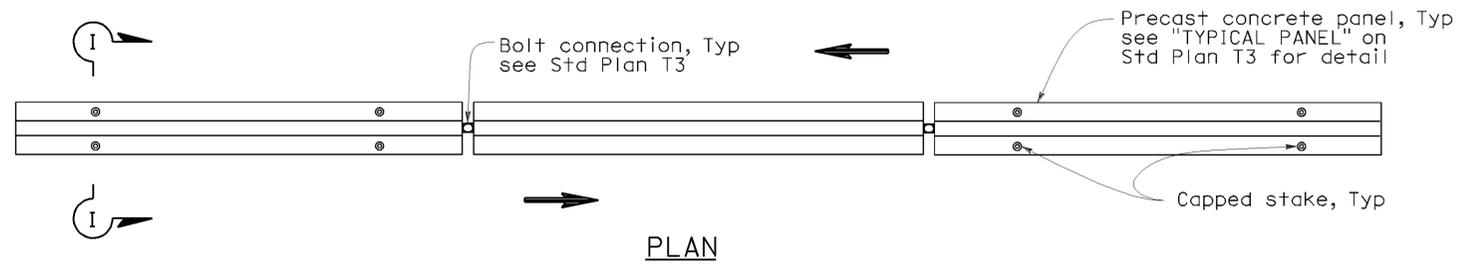
Randell D. Hiatt
REGISTERED CIVIL ENGINEER

May 20, 2011
PLANS APPROVAL DATE

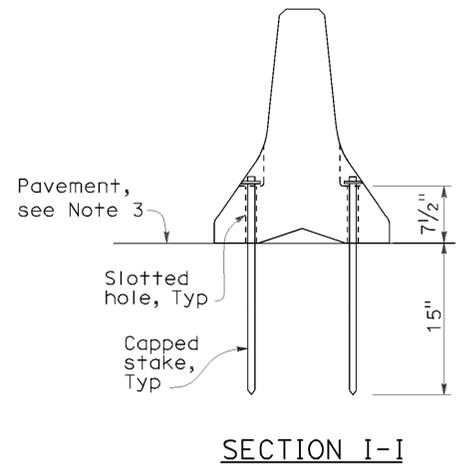
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REGISTERED PROFESSIONAL ENGINEER
No. C50200
Exp. 6-30-11
CIVIL
STATE OF CALIFORNIA

To accompany plans dated 01-31-12



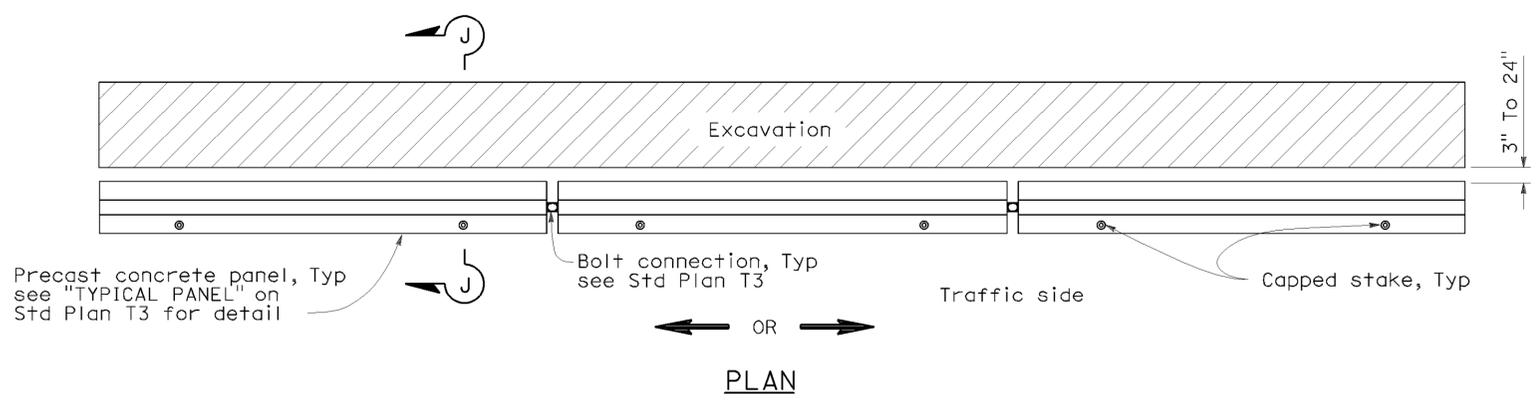
RAILING STAKING CONFIGURATION FOR TWO-WAY TRAFFIC
See Note 1



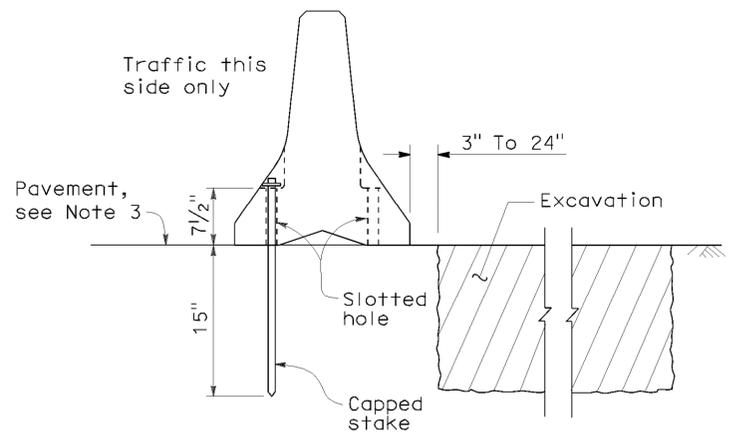
SECTION I-I

NOTES:

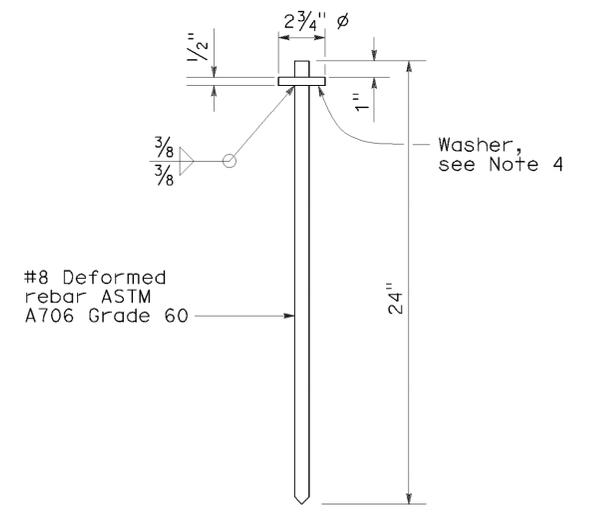
1. Where Type K Temporary Railing is placed as a temporary or long term barrier in two-way traffic on highways with less than 24" from the edge of traveled way, use four capped stakes per every other panel with end panels staked.
2. Where Type K Temporary Railing is placed 3" to 24" from the edge of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



RAILING STAKING CONFIGURATION ADJACENT TO AN EXCAVATION
See Note 2



SECTION J-J



CAPPED STAKE DETAIL

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

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

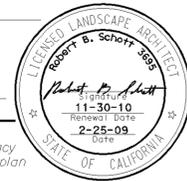
NEW STANDARD PLAN NSP T3A

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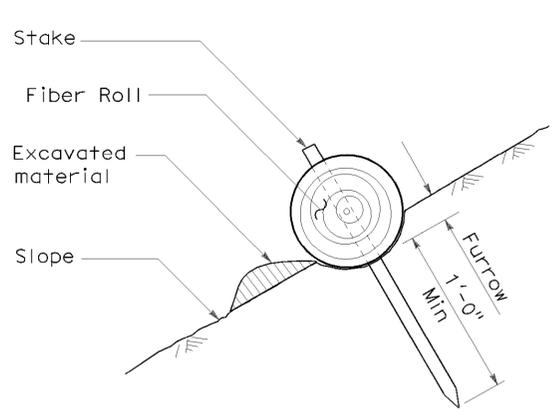
2006 NEW STANDARD PLAN NSP T3A

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, PIU	70,89, 284,395	Var	28	37

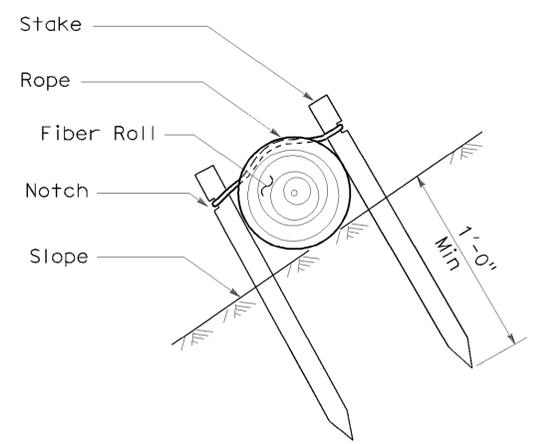
Robert B. Schett
 LICENSED LANDSCAPE ARCHITECT
 April 3, 2009
 PLANS APPROVAL DATE
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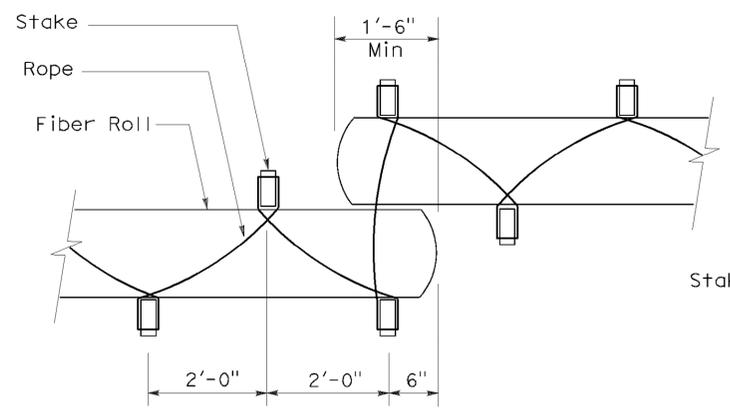
To accompany plans dated 01-31-12



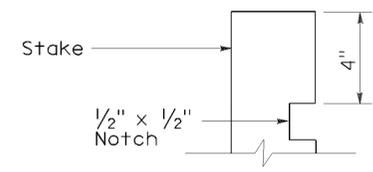
SECTION
TEMPORARY FIBER ROLL (TYPE 1)



SECTION
TEMPORARY FIBER ROLL (TYPE 2)

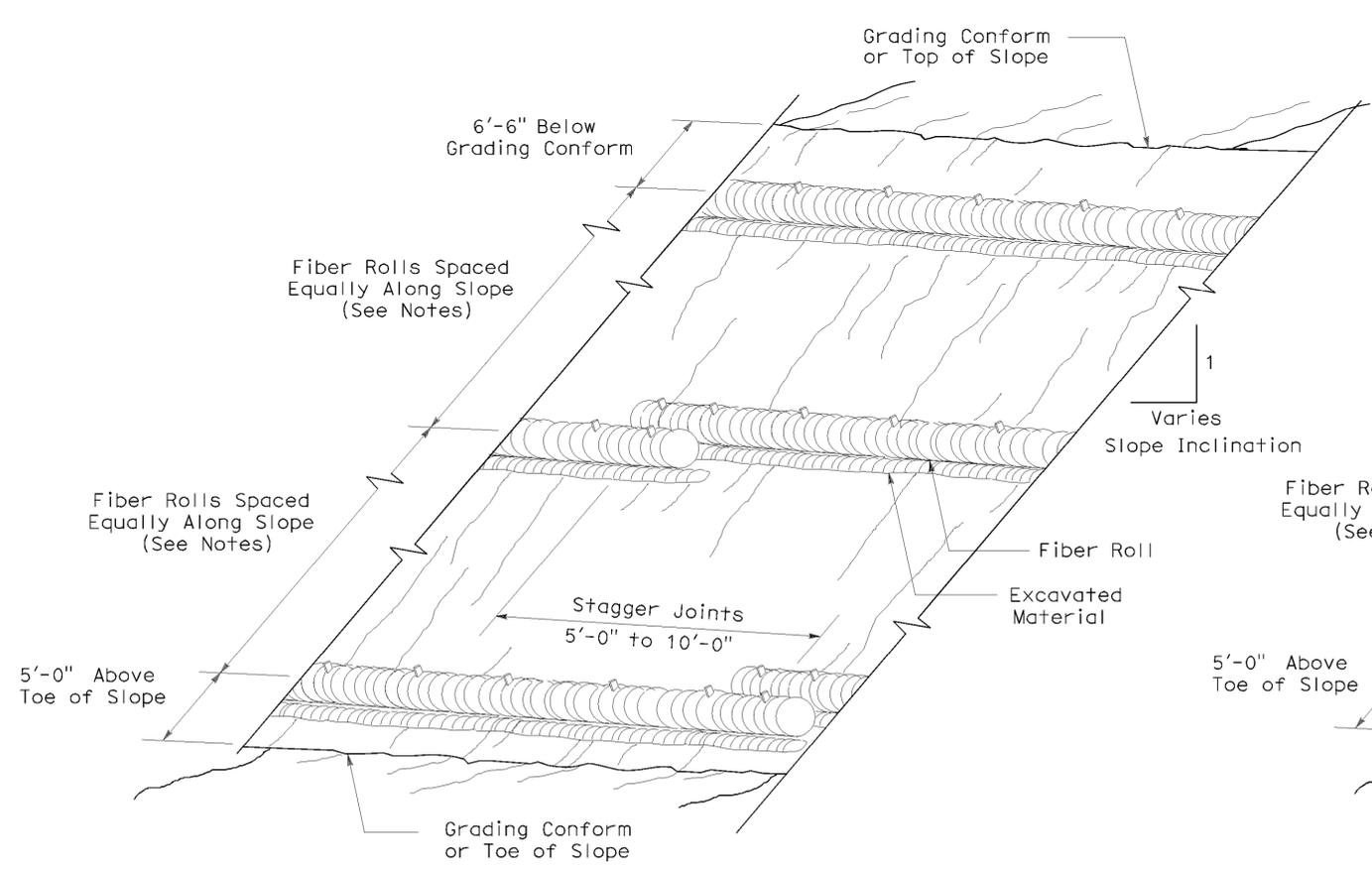


PLAN

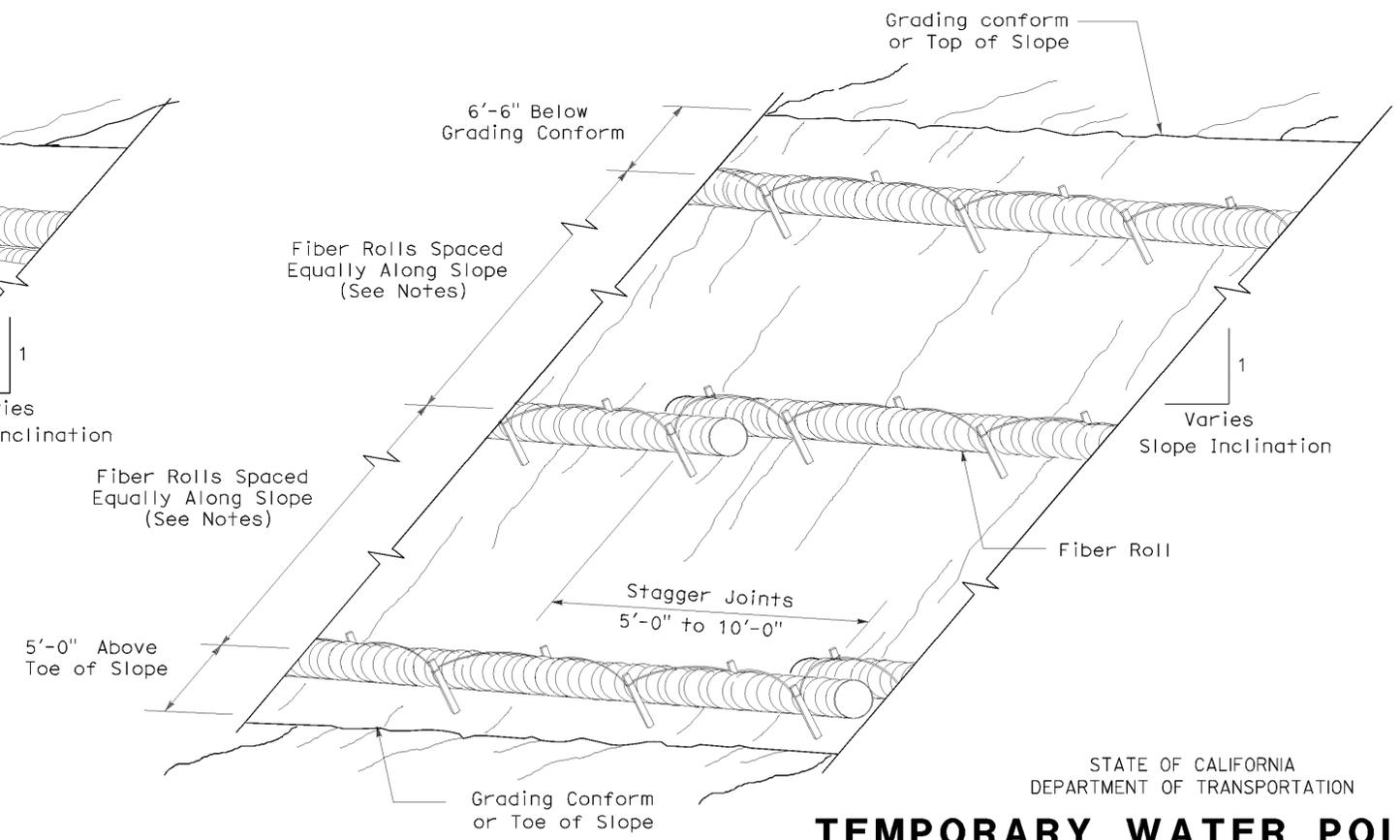


ELEVATION
STAKE NOTCH DETAIL

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



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 1)



PERSPECTIVE
TEMPORARY FIBER ROLL (TYPE 2)

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
TEMPORARY WATER POLLUTION CONTROL DETAILS (TEMPORARY FIBER ROLL)
NO SCALE

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

REVISED STANDARD PLAN RSP T56

232

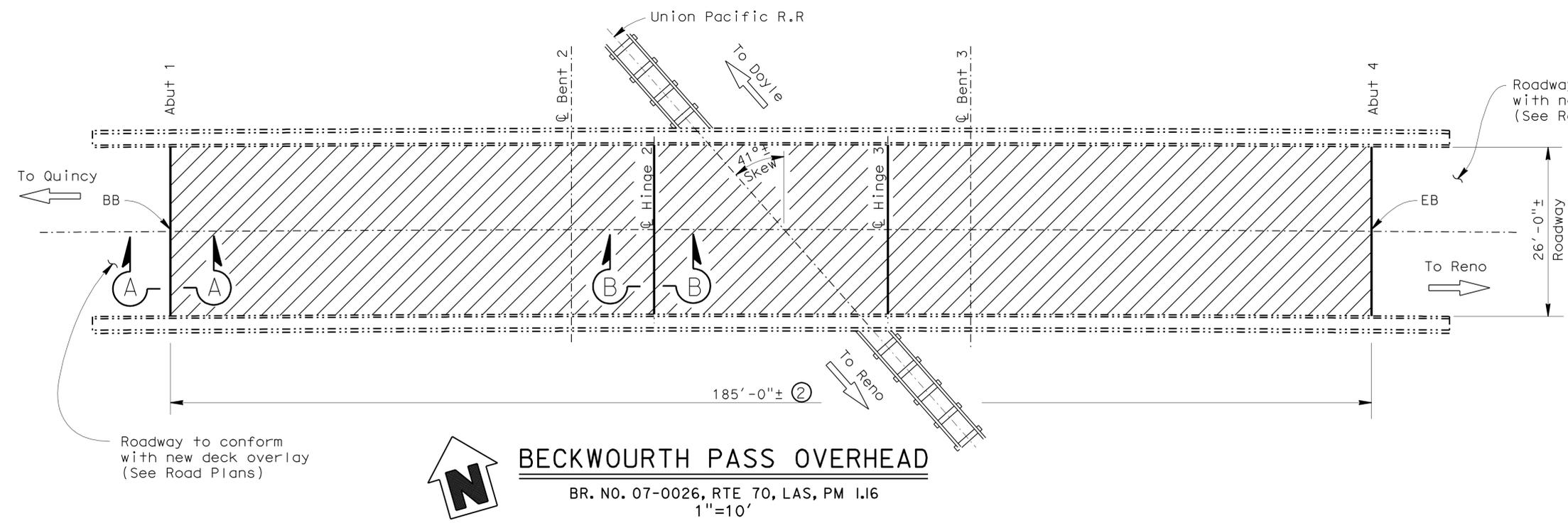
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2006 REVISED STANDARD PLAN RSP T56

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las,Plu	Var	Var	29	37

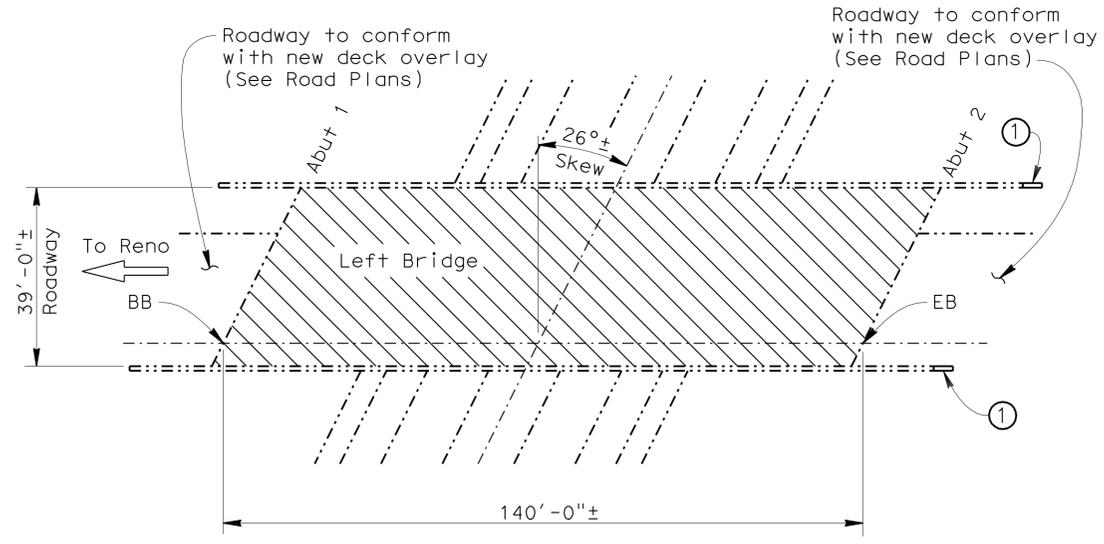
1-10-12
 REGISTERED CIVIL ENGINEER DATE
 1/31/2012
 PLANS APPROVAL DATE
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REGISTERED PROFESSIONAL ENGINEER
 TIMOTHY J. POWELL
 No. C 61037
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA



BECKWOURTH PASS OVERHEAD
 BR. NO. 07-0026, RTE 70, LAS, PM I.I6
 1"=10'

BECKWOURTH PASS OH #07-0026



ROUTE 395/70 SEPARATION
 BR. NO. 07-0076L, RTE 395, LAS, PM R4.60
 1"=20'

QUANTITIES

REMOVE ASPHALT CONCRETE SURFACING	4,810	SQFT
REMOVE UNSOUND CONCRETE	12	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	4,810	SQFT
RAPID SETTING CONCRETE PATCH	12	CF
FURNISH POLYESTER CONCRETE OVERLAY	480	CF
PLACE POLYESTER CONCRETE OVERLAY	4,810	SQFT
BONDED JOINT SEAL (MR 1/2")	105	LF
STRUCTURAL STEEL (BRIDGE)	880	LB
CLEAN STRUCTURAL STEEL (EXISTING BRIDGE)	LUMP	SUM
PAINT STRUCTURAL STEEL (EXISTING BRIDGE)	LUMP	SUM
SPOT BLAST CLEAN AND PAINT UNDERCOAT	1,100	SQFT
WORK AREA MONITORING	LUMP	SUM

ROUTE 395/70 SEPARATION #07-0076L

QUANTITIES

REMOVE ASPHALT CONCRETE SURFACING	5,460	SQFT
REMOVE UNSOUND CONCRETE	14	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	5,460	SQFT
CONCRETE BARRIER (TRANSITION)	7	LF
RAPID SETTING CONCRETE PATCH	14	CF
FURNISH POLYESTER CONCRETE OVERLAY	545	CF
PLACE POLYESTER CONCRETE OVERLAY	5,460	SQFT

- Notes: (Apply to this sheet only)
- Indicates existing structure.
 - Indicates limits of remove existing joint seal and place new joint seal. For details see JOINT SEAL DETAILS sheet.
 - [Hatched Box] Indicates limits of 4"± AC overlay & Bituthane membrane removal, prepare concrete bridge deck and place 1" minimum thick polyester concrete overlay.
 - [Hatched Box] Indicates limits of 4.5"± AC overlay & Bituthane membrane removal, prepare concrete bridge deck and place 1" minimum thick polyester concrete overlay.
 - ① Indicates location of construct "Concrete Barrier (transition)". See "THRIE BEAM CONNECTION DETAILS NO. 1" sheet.
 - ② Indicates limits of spot blast clean portions of failed paint system and paint undercoat, area = 1070 ft² and as directed by the Engineer. Repaint the entire steel portion of the bridge, total area = 10,720 ft².
- For Section A-A and B-B see JOINT SEAL DETAILS sheet.

STANDARD PLANS DATED MAY 2006

SHEET NO.	TITLE
A10A	ACRONYMS AND ABBREVIATIONS (SHEET 1 OF 2)
A10B	ACRONYMS AND ABBREVIATIONS (SHEET 2 OF 2)
A78A	THRIE BEAM BARRIER STANDARD BARRIER RAILING
RSP B6-21	JOINT SEALS (MAXIMUM MOVEMENT RATING = 2")

INDEX TO PLANS

SHEET NO.	TITLE
1	GENERAL PLAN NO. 1
2	GENERAL PLAN NO. 2
3	GENERAL PLAN NO. 3
4	GENERAL PLAN NO. 4
5	GENERAL PLAN NO. 5
6	GENERAL PLAN NO. 6
7	JOINT SEAL DETAILS
8	THRIE BEAM CONNECTION DETAILS NO. 1
9	THRIE BEAM CONNECTION DETAILS NO. 2

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

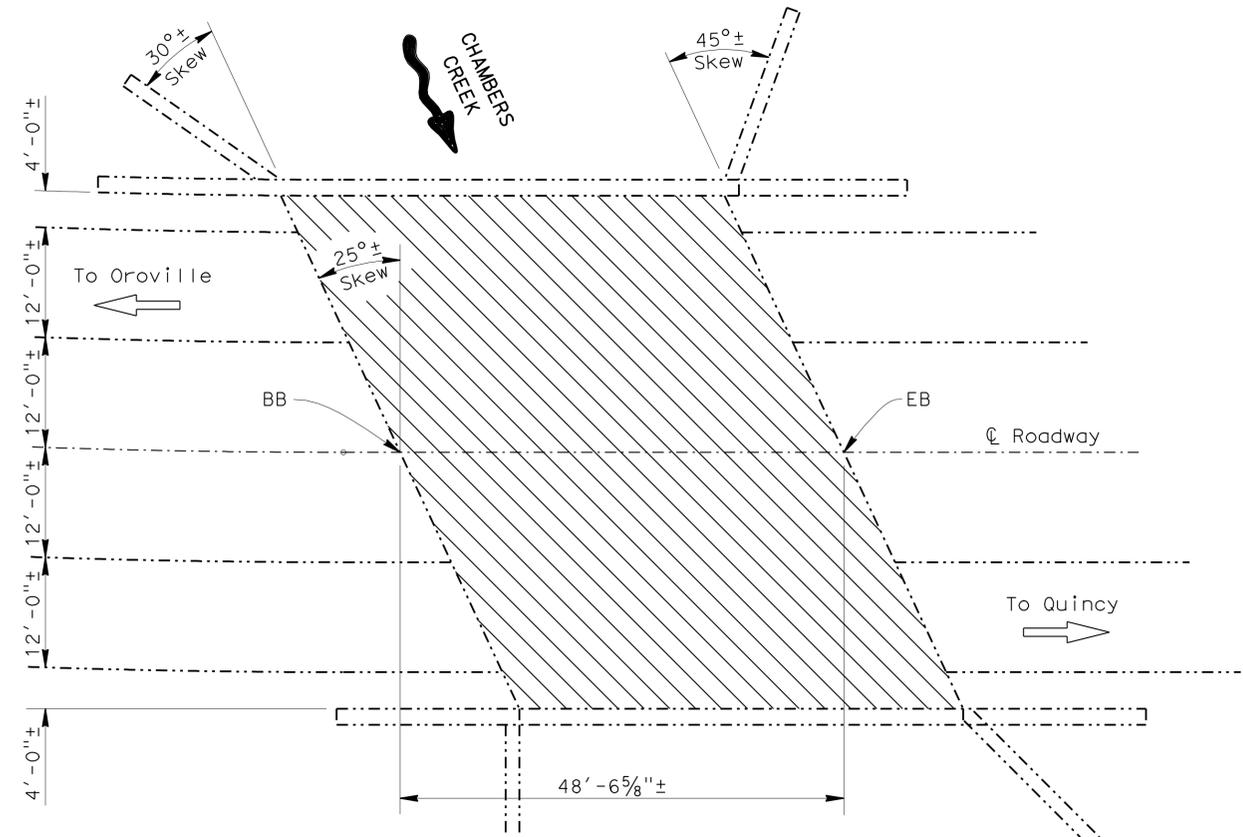
Note:
Existing utility facilities are not shown on these plans.



 1-10-12 DESIGN ENGINEER	DESIGN	BY Franz Espinoza	CHECKED Hossein Moazami	LAYOUT	BY Trung Lam	CHECKED Timothy Powell	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	ROUTE 70,89,284 & 395 BRIDGES GENERAL PLAN NO. 1
	DETAILS	BY Trung Lam	CHECKED Hossein Moazami	SPECIFICATIONS	BY Xiahong Li	CHECKED Xiahong Li			POST MILE	
	QUANTITIES	BY Franz Espinoza	CHECKED Hossein Moazami			CHECKED Xiahong Li			VARIES	
STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)							ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 02 EA 3E6101	DISREGARD PRINTS BEARING EARLIER REVISION DATES
									REVISION DATES	SHEET 1 OF 9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, Plu	Var	Var	30	37

REGISTERED CIVIL ENGINEER: *Timothy J. Powell*
 DATE: 1-10-12
 PLANS APPROVAL DATE: 1/31/2012
 No. C 61037
 Exp. 12-31-12
 CIVIL
 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.



CHAMBERS CREEK
BR. NO. 09-0016, RTE 70, PLU, PM 9.04
1"=10'

CHAMBERS CREEK BR #09-0016

QUANTITIES

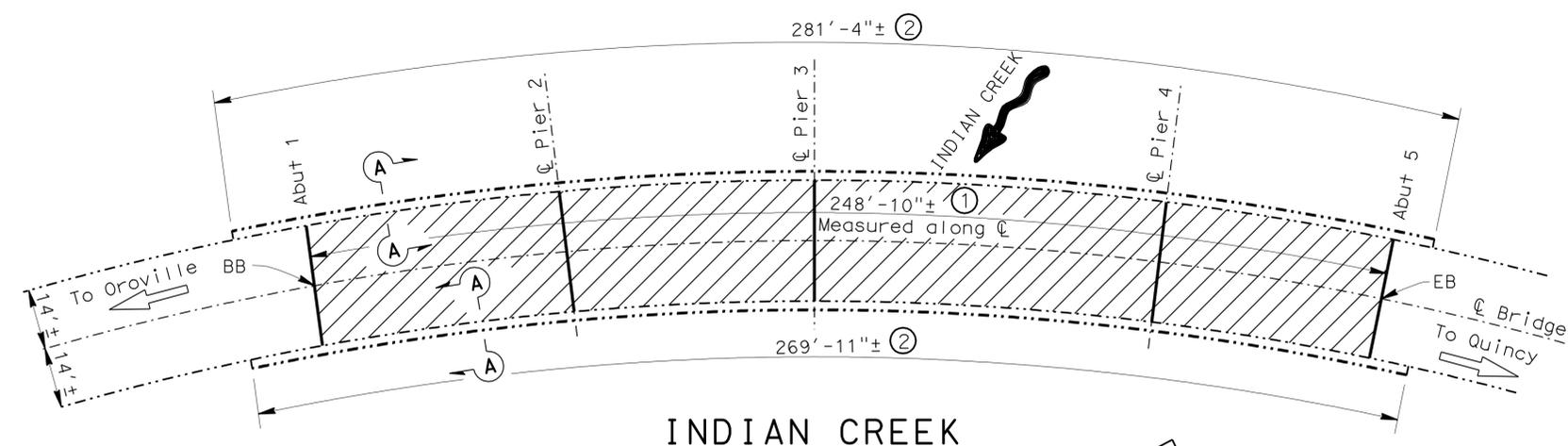
PREPARE POLYESTER CONCRETE DECK OVERLAY	2,720	SQFT
TREAT BRIDGE DECK	2,720	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	30	GAL

INDIAN CREEK BR #09-0014

QUANTITIES

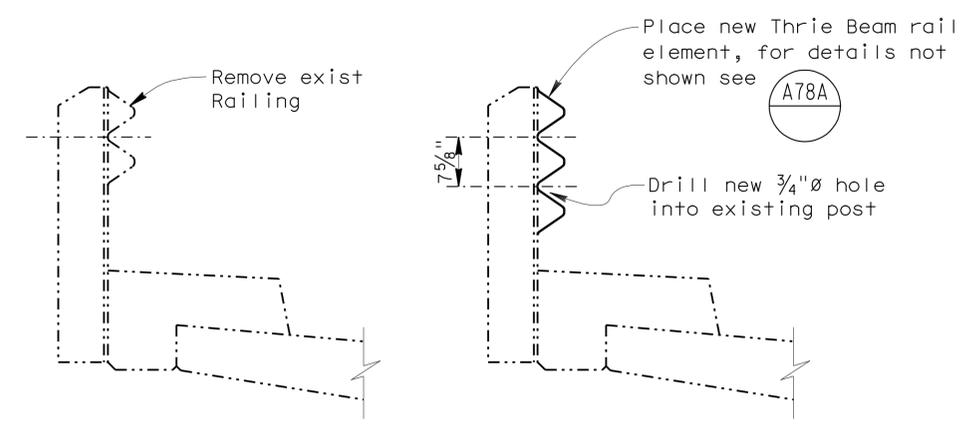
REMOVE UNSOUND CONCRETE	17	CF
REMOVE POLYESTER CONCRETE OVERLAY	6,960	SQFT
PREPARE CONCRETE BRIDGE DECK SURFACE	6,960	SQFT
RECONSTRUCT BRIDGE RAILING	600	LF
CLEAN EXPANSION JOINT	140	LF
RAPID SETTING CONCRETE PATCH	17	CF
FURNISH POLYESTER CONCRETE OVERLAY	695	CF
PLACE POLYESTER CONCRETE OVERLAY	6,960	SQFT
JOINT SEAL (MR 1/2")	140	LF
CLEAN STRUCTURAL STEEL (EXISTING BRIDGE)	LUMP	SUM
PAINT STRUCTURAL STEEL (EXISTING BRIDGE)	LUMP	SUM
SPOT BLAST CLEAN AND PAINT UNDERCOAT	1,270	SQFT
WORK AREA MONITORING	LUMP	SUM

- Notes:** (Apply to this sheet only)
- Indicates existing structure.
 - Indicates limits of remove existing joint seal and place new joint seal. For details see JOINT SEAL DETAILS sheet.
 - Indicates limits of prepare and treat existing polyester concrete deck overlay with high molecular weight methacrylate.
 - Indicates limits of remove existing polyester concrete overlay, prepare concrete bridge deck and place 1" minimum thick polyester concrete overlay.
 - ① Indicates limits of spot blast clean portions of failed paint system and paint undercoat, area = 1070 ft² and as directed by the Engineer. Repaint the entire steel portion of the bridge, total area = 10,700 ft².
 - ② Indicates limits of spot blast clean portions of bridge rail post and paint undercoat, area = 200 ft² and as directed by the Engineer. Repaint the entire steel portion of the bridge rail post, total area = 450 ft². Remove existing MBGR and place new galvanized thrie beam on existing posts.



INDIAN CREEK
BR. NO. 09-0014, RTE 70, PLU, PM 33.07
1"=20'

Note:
Existing utility facilities are not shown on these plans.



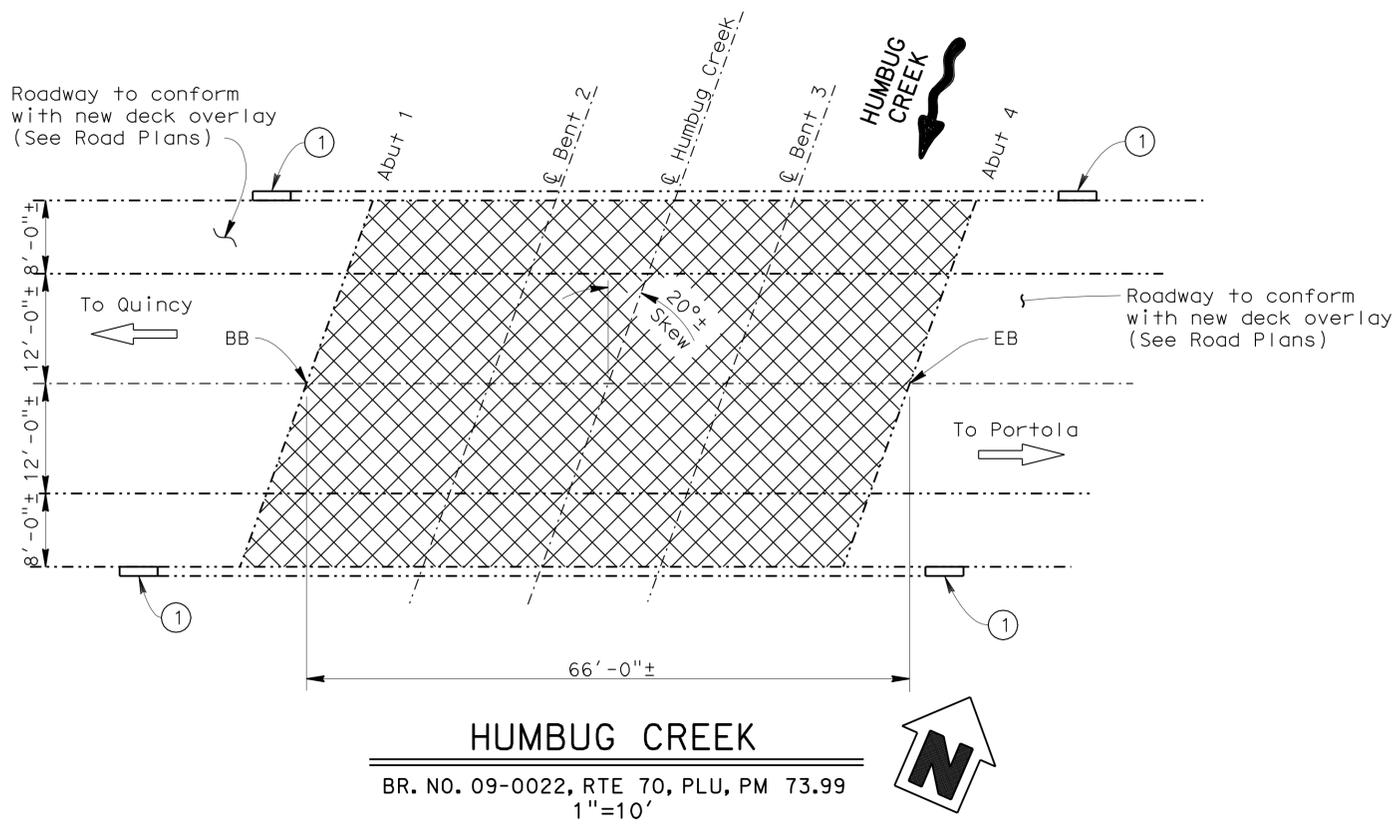
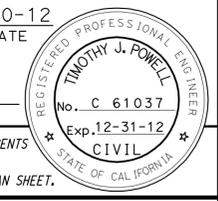
SECTION A-A
1"=1'

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

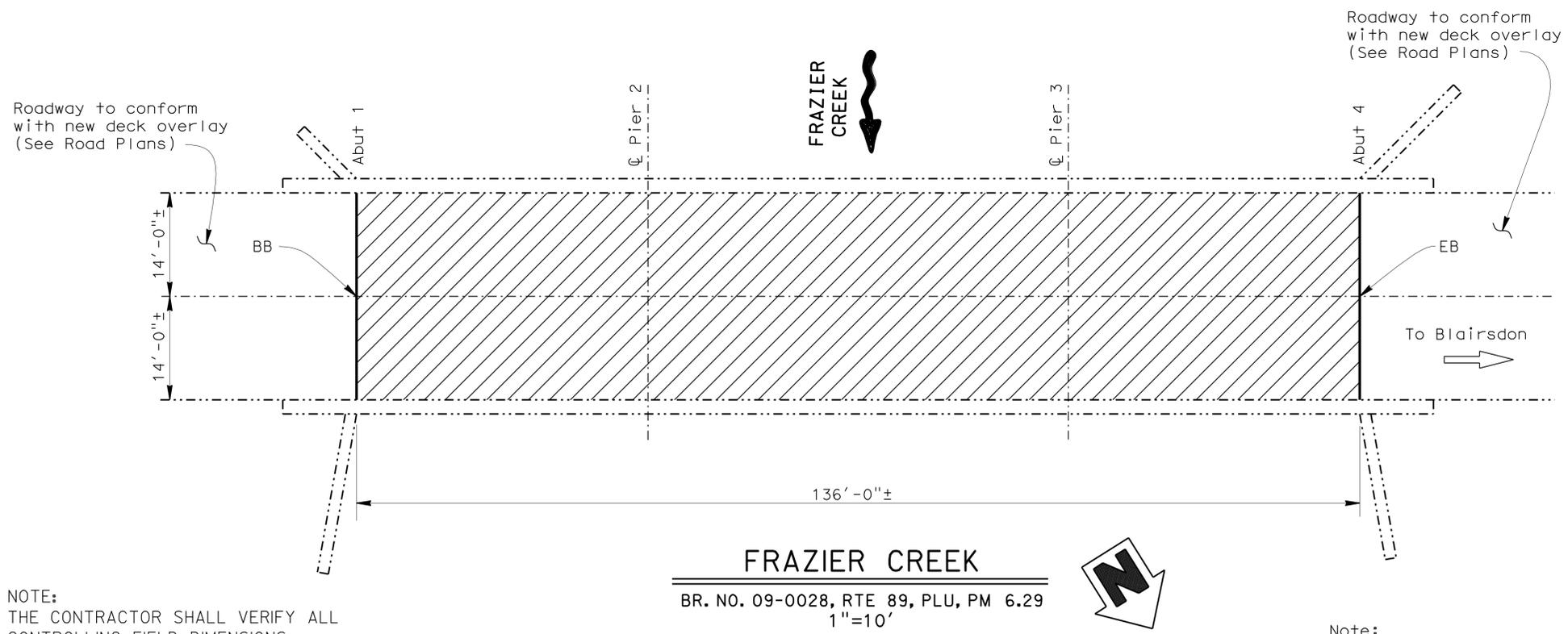
 DESIGN ENGINEER 1-10-12	DESIGN	BY Franz Espinoza	CHECKED Hossein Moazami	LAYOUT	BY Trung Lam	CHECKED Timothy Powell	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	VARIOUS	ROUTE 70,89,284 & 395 BRIDGES GENERAL PLAN NO. 2
	DETAILS	BY Trung Lam	CHECKED Hossein Moazami	SPECIFICATIONS	BY Xiahong Li	CHECKED Xiahong Li			POST MILE	VARIES	
STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)		ORIGINAL SCALE IN INCHES FOR REDUCED PLANS		CU 02 EA 3E6101		DISREGARD PRINTS BEARING EARLIER REVISION DATES		REVISION DATES: 4-12-11 4-27-11 5-18-11 5-31-11 9-22-11 10-06-11 10-18-11 10-27-11 1-10-12		SHEET 2	OF 9

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, Plu	Var	Var	31	37

1-10-12
 REGISTERED CIVIL ENGINEER DATE
 1/31/2012
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



- Notes: (Apply to this sheet only)
- Indicates existing structure.
 - Indicates limits of remove existing joint seal and place new joint seal. For details see JOINT SEAL DETAILS sheet.
 - ▨ Indicates limits of 5 1/2"± AC overlay removal, prepare concrete bridge deck and place 1" minimum thick polyester concrete overlay.
 - ▧ Indicates limits of 3"± AC overlay & Bituthane membrane removal, prepare concrete bridge deck and place 1" minimum thick polyester concrete overlay.
 - ① Indicates location of construct "Concrete Barrier (transition)". See "THRIE BEAM CONNECTION DETAILS NO. 1" sheet.



HUMBUG CREEK BRIDGE #09-0022

QUANTITIES

REMOVE ASPHALT CONCRETE SURFACING	2,640	SQFT
REMOVE UNSOUND CONCRETE	7	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	2,640	SQFT
CONCRETE BARRIER (TRANSITION)	14	LF
RAPID SETTING CONCRETE PATCH	7	CF
FURNISH POLYESTER CONCRETE OVERLAY	265	CF
PLACE POLYESTER CONCRETE OVERLAY	2,640	SQFT

FRAZIER CREEK BRIDGE #09-0028

QUANTITIES

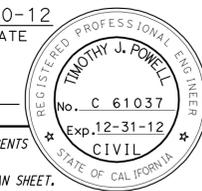
REMOVE ASPHALT CONCRETE SURFACING	3,810	SQFT
REMOVE UNSOUND CONCRETE	10	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	3,810	SQFT
CLEAN EXPANSION JOINT	57	LF
RAPID SETTING CONCRETE PATCH	10	CF
FURNISH POLYESTER CONCRETE OVERLAY	380	CF
PLACE POLYESTER CONCRETE OVERLAY	3,810	SQFT
JOINT SEAL (MR 1/2")	57	LF

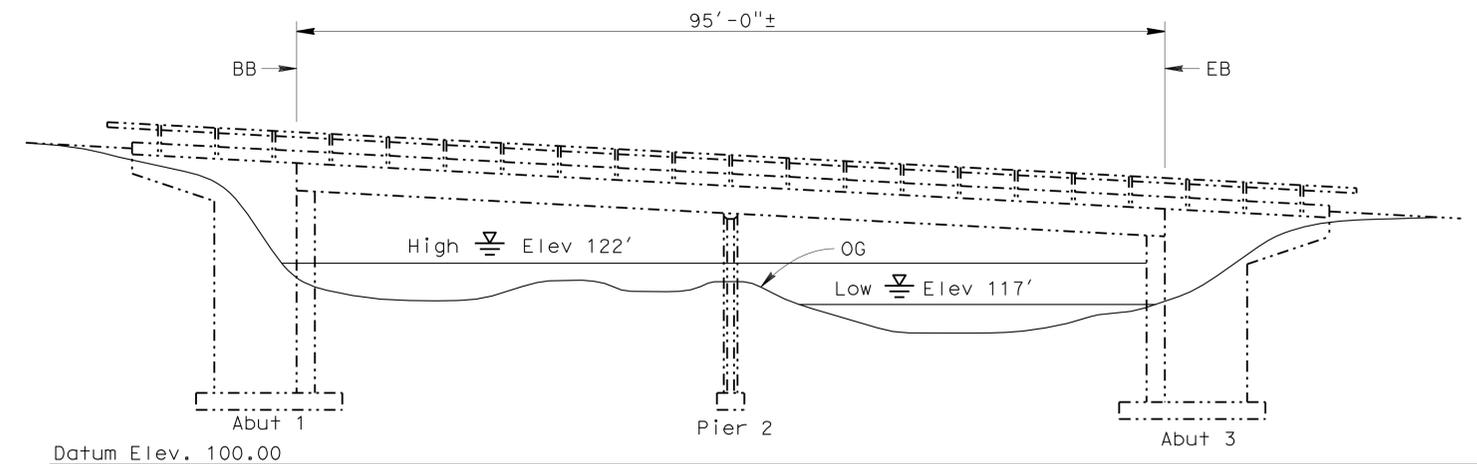
NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Note:
Existing utility facilities are not shown on these plans.

	DESIGN	By Franz Espinoza	CHECKED Hossein Moazami	LAYOUT	By Trung Lam	CHECKED Timothy Powell	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	ROUTE 70, 89, 284 & 395 BRIDGES GENERAL PLAN NO. 3
	DETAILS	By Trung Lam	CHECKED Hossein Moazami	SPECIFICATIONS	By Xiahong Li	PLANS AND SPECIFICATIONS COMPARED Xiahong Li		VARIOUS	
	QUANTITIES	By Franz Espinoza	CHECKED Hossein Moazami					POST MILE	
STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)								VARIES	REVISION DATES 4-12-11, 4-27-11, 5-18-11, 5-31-11, 9-22-11, 10-06-11, 10-13-11, 10-27-11, 1-10-12
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS							CU 02 EA 3E6101	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 3 OF 9

USERNAME => s133367 DATE PLOTTED => 02-FEB-2012 TIME PLOTTED => 14:23

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, Plu	Var	Var	32	37
			1-10-12		
REGISTERED CIVIL ENGINEER			DATE		
1/31/2012			PLANS APPROVAL DATE		
			THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.		

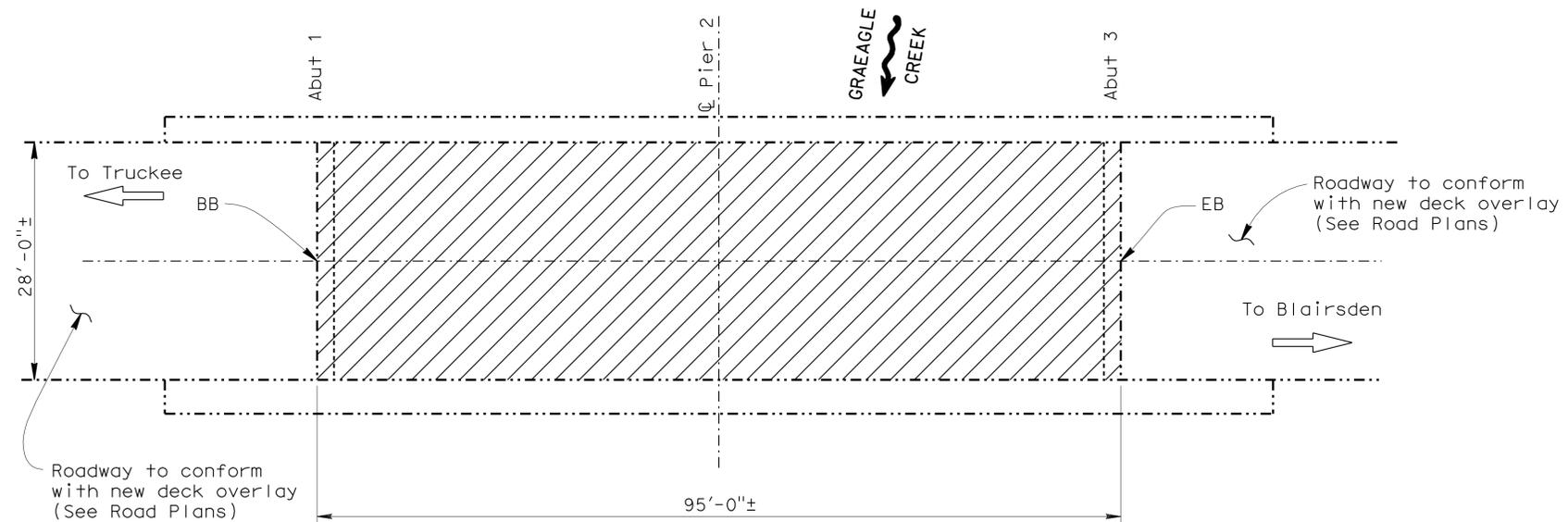


ELEVATION
1"=10'

Notes: (Apply to this sheet only)

----- Indicates existing structure.

 Indicates limits of remove existing 4"± AC overlay and Bituthane membrane, prepare concrete bridge deck and place 1" minimum thick polyester concrete overlay.



PLAN
1"=10'

GRAEAGLE CREEK BRIDGE #09-0029

QUANTITIES

REMOVE ASPHALT CONCRETE SURFACING	2,660	SQFT
REMOVE UNSOUND CONCRETE	7	CF
PREPARE CONCRETE BRIDGE DECK SURFACE	2,660	SQFT
RAPID SETTING CONCRETE PATCH	7	CF
FURNISH POLYESTER CONCRETE OVERLAY	265	CF
PLACE POLYESTER CONCRETE OVERLAY	2,660	SQFT

GRAEAGLE CREEK
BR. NO. 09-0029, RTE 89, PLU, PM 7.29

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

Note:
Existing utility facilities are not shown on these plans.

 DESIGN ENGINEER	DESIGN	BY Franz Espinoza	CHECKED Hossein Moazami	LAYOUT	BY Trung Lam	CHECKED Timothy Powell	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	VARIOUS	ROUTE 70,89,284 & 395 BRIDGES GENERAL PLAN NO. 4
	DETAILS	BY Trung Lam	CHECKED Hossein Moazami	SPECIFICATIONS	BY Xiahong Li	PLANS AND SPECIFICATIONS COMPARED			POST MILE	VARIES	
	QUANTITIES	BY Franz Espinoza	CHECKED Hossein Moazami	DATE	1-10-12	REVISION DATES			4-12-11, 4-27-11, 5-13-11, 5-31-11, 9-22-11, 10-06-11, 10-13-11, 10-27-11, 1-10-12		
STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)							ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 02 EA 3E6101	DISREGARD PRINTS BEARING EARLIER REVISION DATES	SHEET 4 OF 9

USERNAME => s133967 DATE PLOTTED => 02-FEB-2012 TIME PLOTTED => 14:23

LITTLE LAST CHANCE CRK #09-0071

QUANTITIES

PREPARE CONCRETE BRIDGE DECK SURFACE	4,500	SQFT
TREAT BRIDGE DECK	4,500	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	50	GAL

LITTLE LAST CHANCE CRK #09-0072

QUANTITIES

PREPARE CONCRETE BRIDGE DECK SURFACE	4,190	SQFT
TREAT BRIDGE DECK	4,190	SQFT
FURNISH BRIDGE DECK TREATMENT MATERIAL	45	GAL

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, Plu	Var	Var	34	37

REGISTERED CIVIL ENGINEER DATE 1-10-12

PLANS APPROVAL DATE 1/31/2012

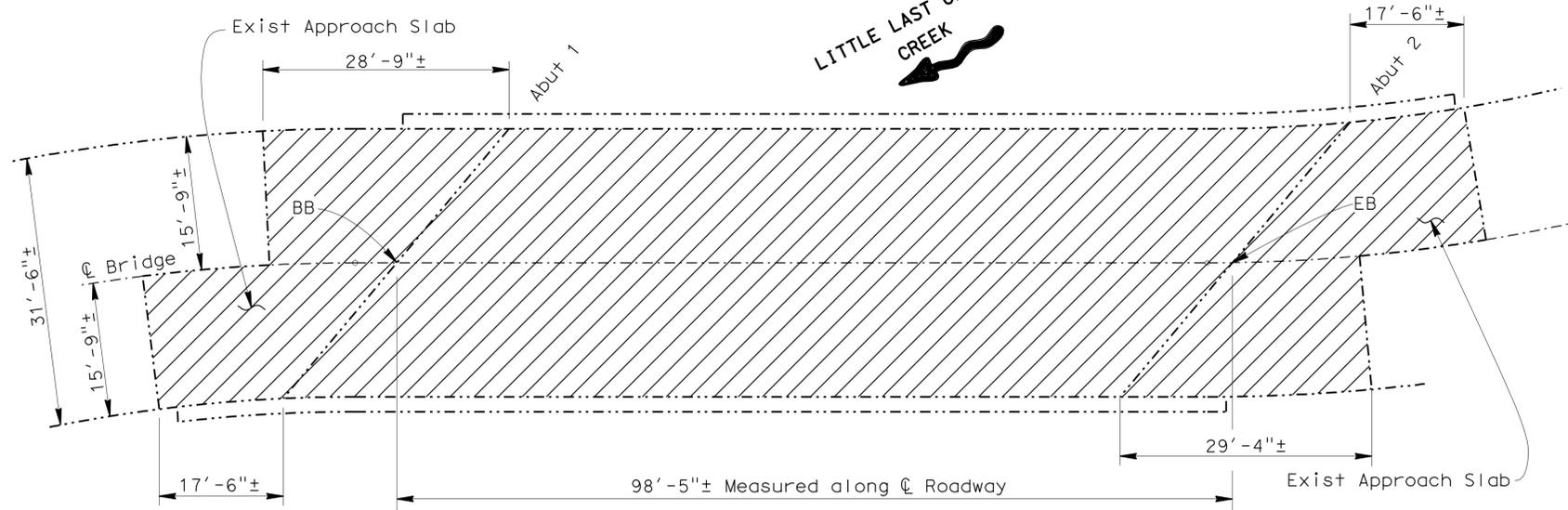
THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
TIMOTHY J. POWELL
No. C 61037
Exp. 12-31-12
CIVIL
STATE OF CALIFORNIA

Notes: (Apply to this sheet only)

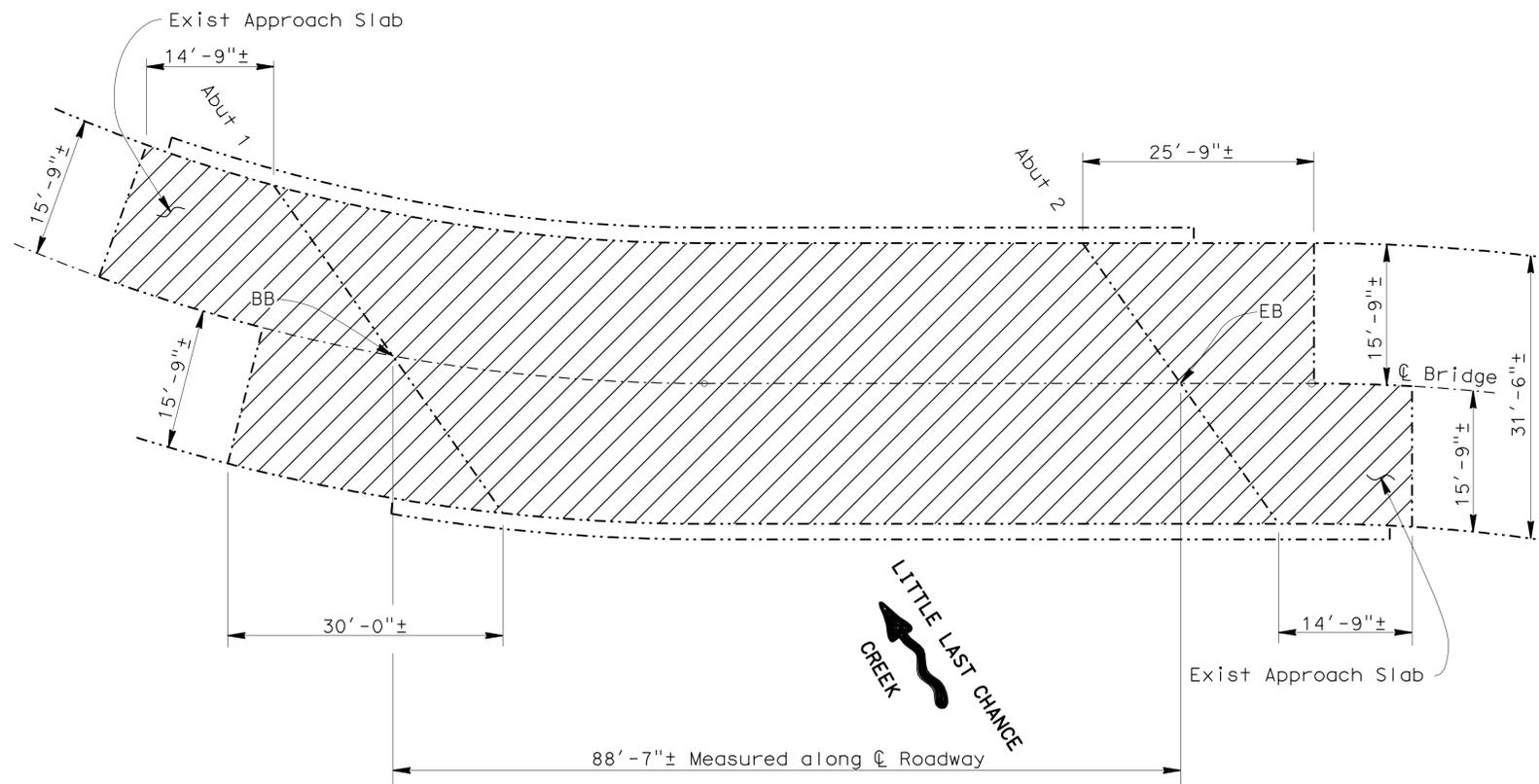
----- Indicates existing structure.

 Indicates limits of prepare and treat bridge deck with high molecular weight methacrylate.



LITTLE LAST CHANCE CREEK

BR. NO. 09-0071, RTE 284, PLU, PM 7.01
1"=10'



LITTLE LAST CHANCE CREEK

BR. NO. 09-0072, RTE 284, PLU, PM 7.31
1"=10'

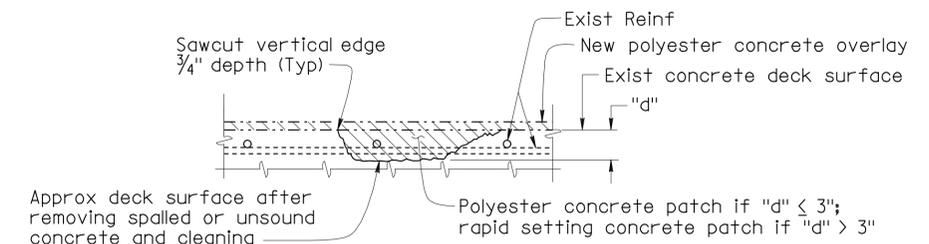


NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

Note:
Existing utility facilities are not shown on these plans.

DECK REPAIR TABLE			
REMOVE UNSOUND CONCRETE AND RAPID SETTING CONCRETE (PATCH)			
BRIDGE NAME	BRIDGE NUMBER	APPROXIMATE AREA DAMAGED (percent)	APPROXIMATE DEPTH (inches)
BECKWORTH PASS OH	07-0026	1	3
ROUTE 395/70 SEP	07-0076L	1	3
INDIAN CREEK	09-0014	1	3
HUMBURG CREEK	09-0022	1	3
FRAZIER CREEK	09-0028	1	3
GRAEAGLE CREEK	09-0029	1	3
SOUTH GREENVILLE OH	09-0039	1	3

Location to be determined by the Engineer.
For details see "DECK REPAIR DETAIL - OVERLAY"



NOTE:
 Indicates limits of new polyester concrete.

DECK REPAIR DETAIL - OVERLAY

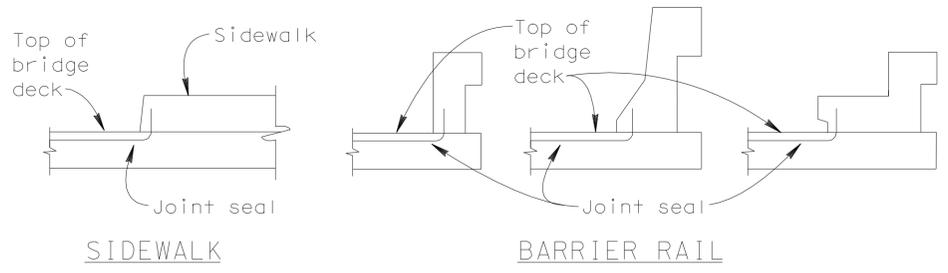
Note: Locations to be determined by the Engineer.
Reinforcement may be encountered during deck concrete removal.
NO SCALE

 DESIGN ENGINEER 1-10-12	DESIGN	BY Franz Espinoza	CHECKED Hossein Moazami	LAYOUT	BY Trung Lam	CHECKED Timothy Powell	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	ROUTE 70,89,284 & 395 BRIDGES GENERAL PLAN NO. 6			
	DETAILS	BY Trung Lam	CHECKED Hossein Moazami	SPECIFICATIONS	BY Xiahong Li	CHECKED Xiahong Li		VARIOUS				
	QUANTITIES	BY Franz Espinoza	CHECKED Hossein Moazami					POST MILE				
STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)							ORIGINAL SCALE IN INCHES FOR REDUCED PLANS	0 1 2 3	CU 02 EA 3E6101	DISREGARD PRINTS BEARING EARLIER REVISION DATES	REVISION DATES 4-12-11 4-27-11 5-18-11 5-31-11 9-22-11 10-06-11 10-13-11 10-27-11 1-10-12	SHEET 6 OF 9

JOINT SEAL TABLE

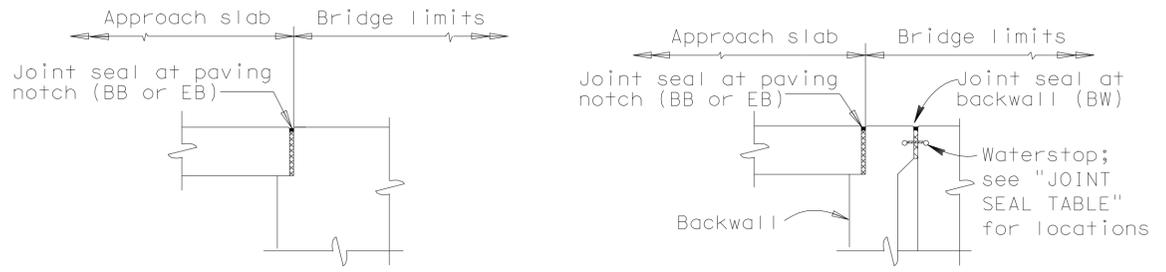
BRIDGE NAME	BRIDGE NUMBER	LOCATION	MINIMUM "MR" (inch)	APPROXIMATE LENGTH (feet)
BECKWORTH PASS OVERHEAD	07-0026	Abut 1	1/2 **	26.2
		Hinge 2	1/2 **	26.2
		Hinge 3	1/2 **	26.2
		Abut 4	1/2 **	26.2
INDIAN CREEK	09-0014	Abut 1	1/2 *	28.0
		Hinge 2	1/2 *	28.0
		Hinge 3	1/2 *	28.0
		Hinge 4	1/2 *	28.0
		Abut 5	1/2 *	28.0
FRAZIER CREEK	09-0028	Abut 1	1/2 *	28.5
		Abut 4	1/2 *	28.5
SOUTH GREENVILLE OVERHEAD	09-0039	Abut 1	1 1/2 **	95.5
		Abut 4	1 1/2 **	95.5

* Use Type B joint seal only.
 ** Use bonded joint seal only.



JOINT SEAL AT LOW SIDE OF DECK

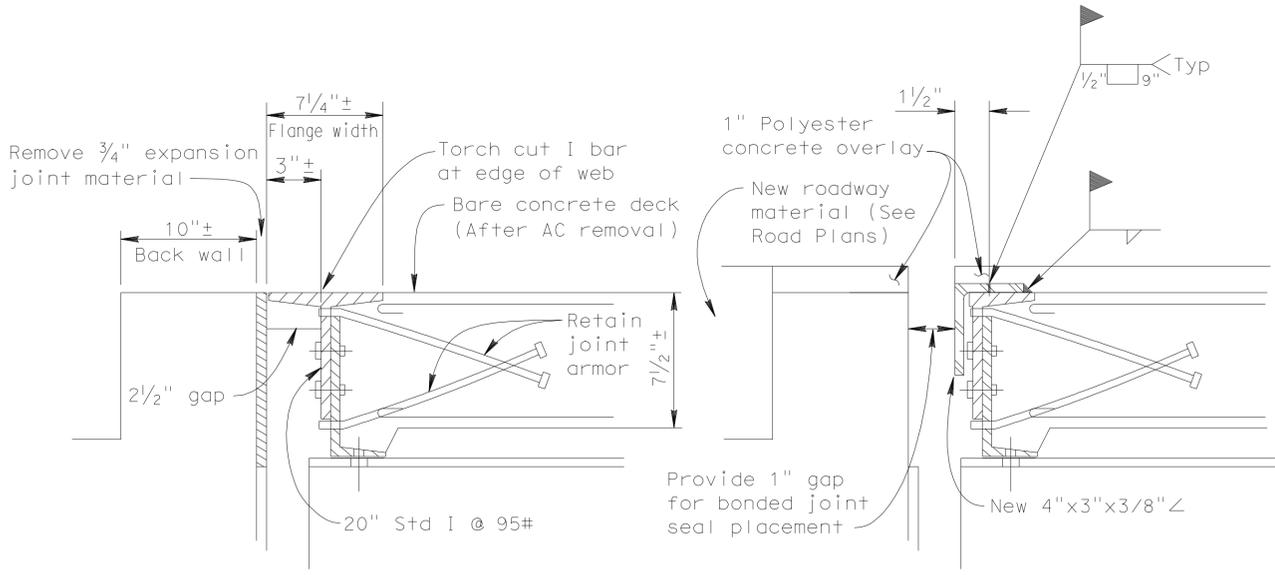
Notes: Details shown for illustration purposes only.
 For use only where deck joint matches the sidewalk, curb or barrier rail joint.



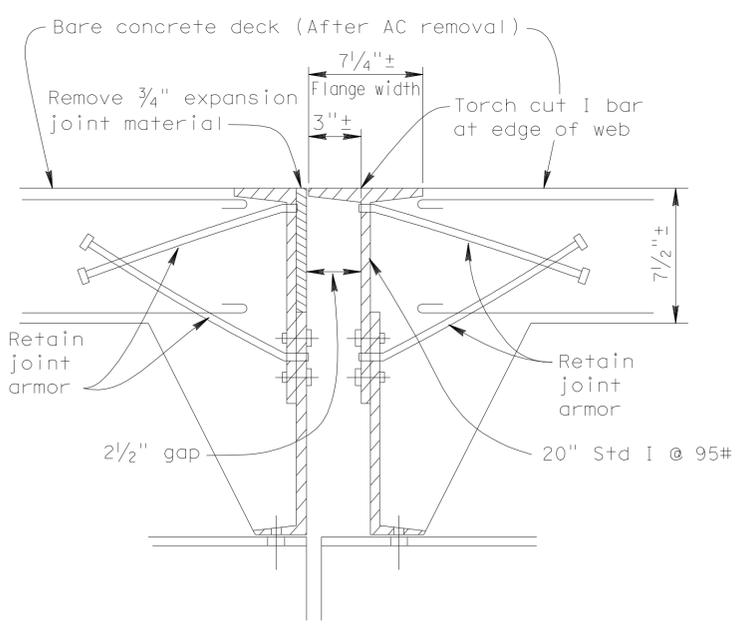
JOINT SEAL LOCATION

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

Note:
 Existing utility facilities are not shown on these plans.



SECTION A-A
 BR. #07-0026
 NO SCALE



SECTION B-B
 BR. #07-0026
 NO SCALE

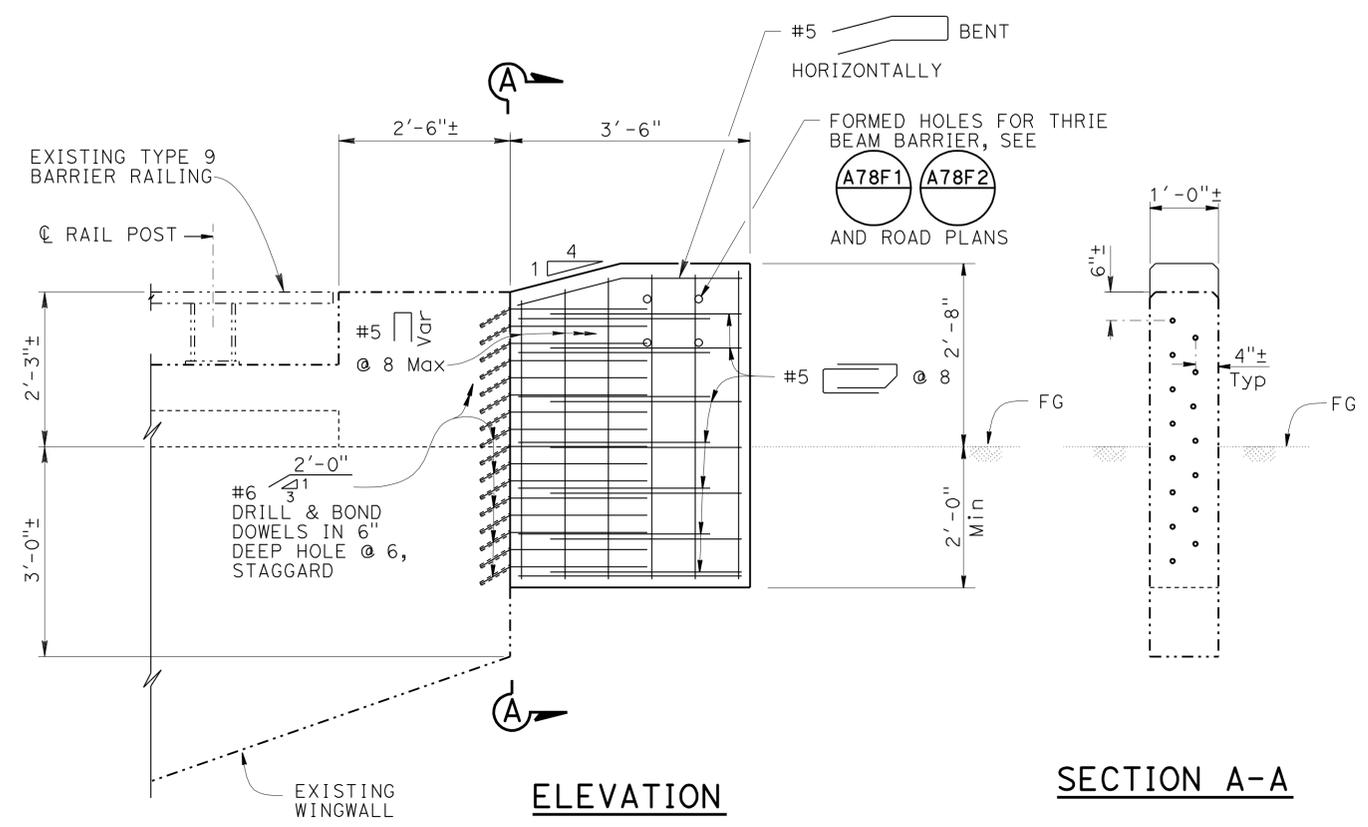
DESIGN BY Franz Espinoza CHECKED Hossein Moazami DETAILS BY Trung Lam CHECKED Hossein Moazami QUANTITIES BY Franz Espinoza CHECKED Hossein Moazami	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	ROUTE 70,89,284 & 395 BRIDGES
			VARIOUS	
			POST MILE	
			VARIES	
JOINT SEAL DETAILS				
STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)			REVISION DATES	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			DISREGARD PRINTS BEARING EARLIER REVISION DATES 4-13-11 4-27-11 5-13-11 5-31-11 9-22-11 10-06-11 10-13-11 10-27-11 1-10-12	
			SHEET	OF
			7	9

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USERNAME => s133967 DATE PLOTTED => 02-FEB-2012 TIME PLOTTED => 14:24

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, Plu	Var	Var	36	37

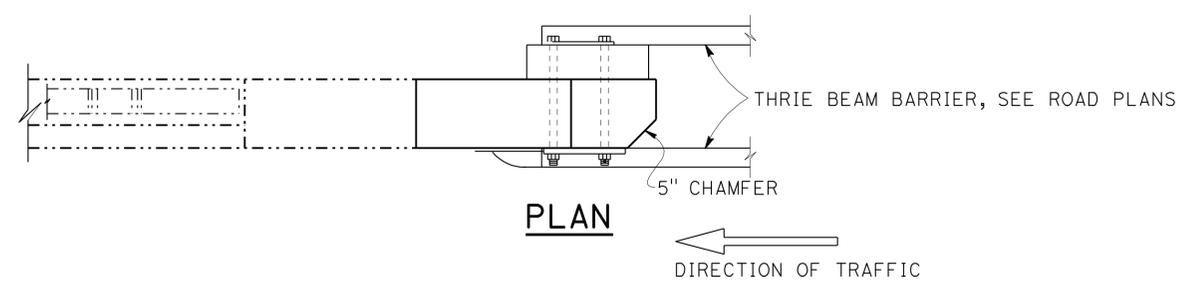
1-10-12
 REGISTERED CIVIL ENGINEER DATE
 1/31/2012
 PLANS APPROVAL DATE
 REGISTERED PROFESSIONAL ENGINEER
 TIMOTHY J. POWELL
 No. C 61037
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.



- LEGEND:**
- Indicates Existing Structure
 - Indicates New Structure
- NOTES:**
- All reinforcement to be epoxy coated.
 - All plates and bolts to be galvanized.

**GENERAL NOTES
LOAD FACTOR DESIGN**

- DESIGN:** BRIDGE DESIGN SPECIFICATIONS (1996 AASHTO with Interims and Revisions by CALTRANS)
- DEAD LOAD:** Includes 35 psf for future wearing surface.
- LIVE LOADING:** HL93 and permit design load.
- REINFORCED CONCRETE:** $f_y = 60$ ksi
 $f'_c = 3.6$ ksi
 $n = 8$



CONCRETE BARRIER (TRANSITION) DETAIL
 $\frac{3}{4}'' = 1'-0''$

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

Note:
Existing utility facilities are not shown on these plans.

STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)	DESIGN	BY Franz Espinoza	CHECKED Hossein Moazami	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	ROUTE 70,89,284 & 395 BRIDGES	
	DETAILS	BY Trung Lam	CHECKED Hossein Moazami			VARIOUS		
	QUANTITIES	BY Franz Espinoza	CHECKED Hossein Moazami			POST MILE		VARIES
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 02 EA 3E6101	DISREGARD PRINTS BEARING EARLIER REVISION DATES	10-27-11 1-10-12	SHEET 8 OF 9

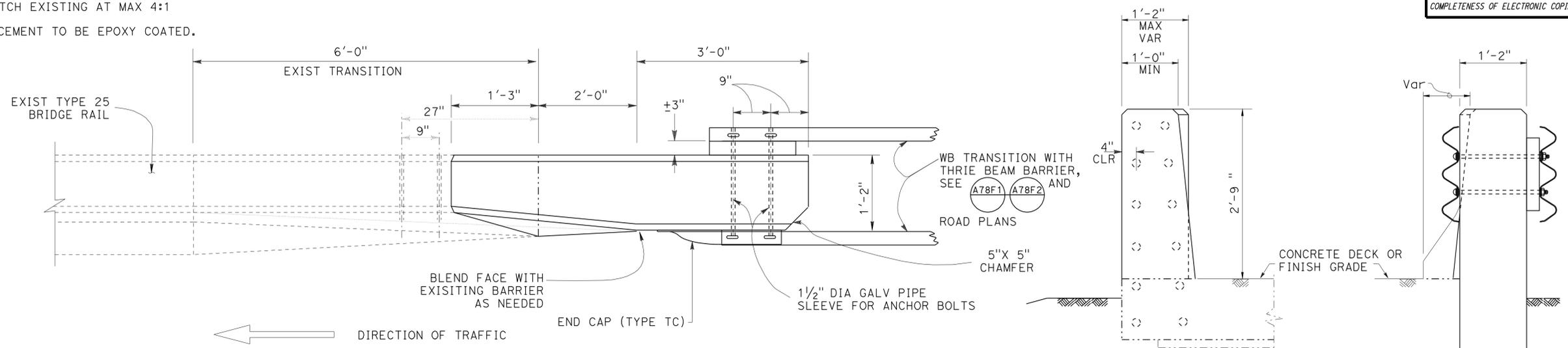
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
02	Las, Plu	Var	Var	37	37

1-10-12
 REGISTERED CIVIL ENGINEER DATE
 1/31/2012
 PLANS APPROVAL DATE
 THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF ELECTRONIC COPIES OF THIS PLAN SHEET.

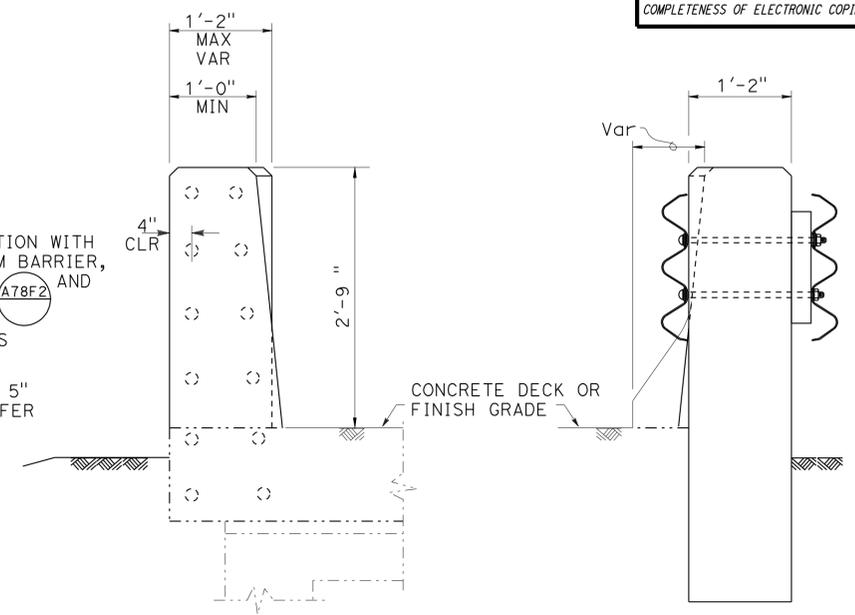
REGISTERED PROFESSIONAL ENGINEER
 TIMOTHY J. POWELL
 No. C 61037
 Exp. 12-31-12
 CIVIL
 STATE OF CALIFORNIA

- NOTES:
- FOR WB CONNECTION DETAILS NOT SHOWN, SEE STD PLANS A77J1, A77F1, A77F2.
 - DEPENDENT DIMENSIONS WILL BE VERIFIED IN THE FIELD BEFORE FABRICATING ANY END CONNECTION TO CONFORM WITH EXISTING PAVED CONDITIONS.
 - ALL PLATES AND BOLTS ARE GALVANIZED.
 - TAPER TO MATCH EXISTING AT MAX 4:1
 - ALL REINFORCEMENT TO BE EPOXY COATED.

LEGEND:
 ----- INDICATES EXISTING STRUCTURE
 _____ INDICATES NEW CONSTRUCTION

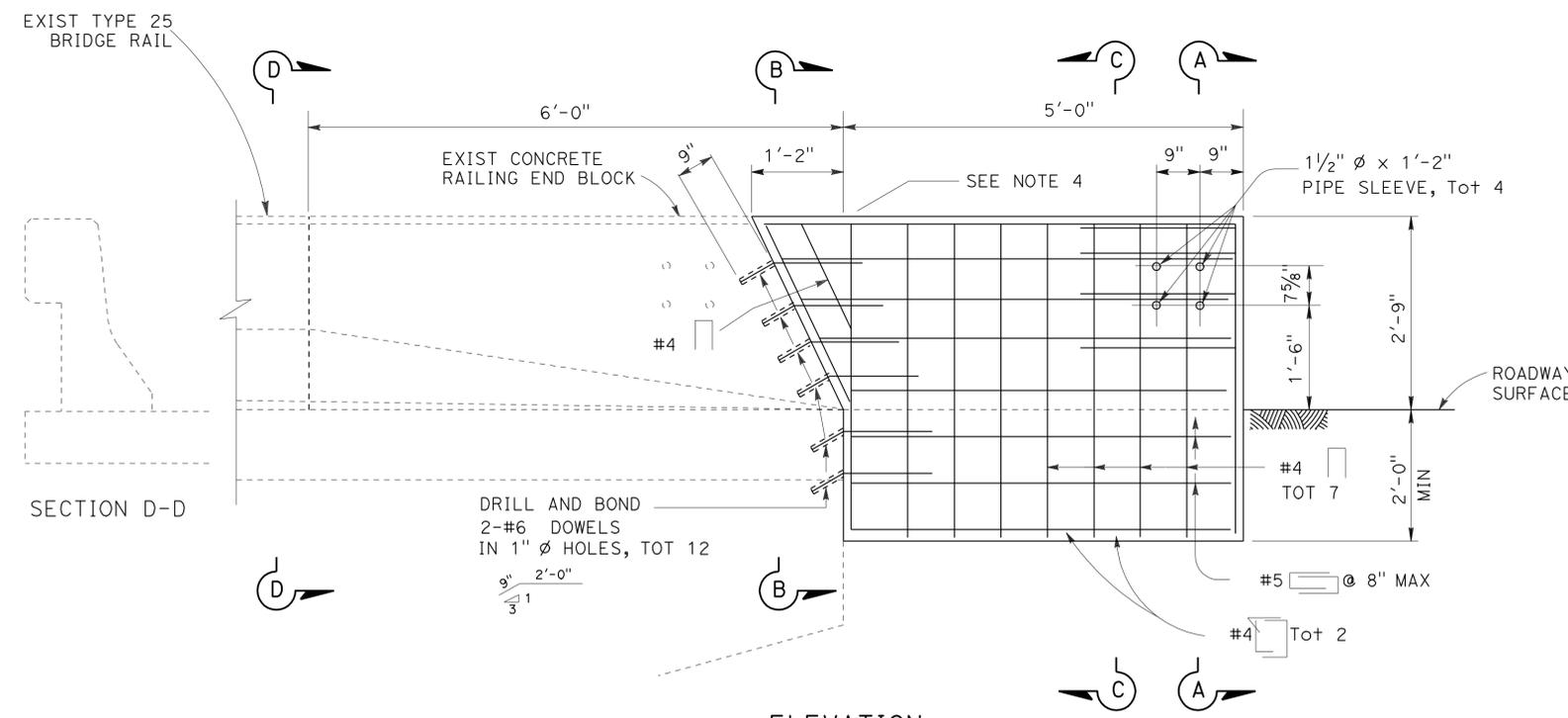


PLAN

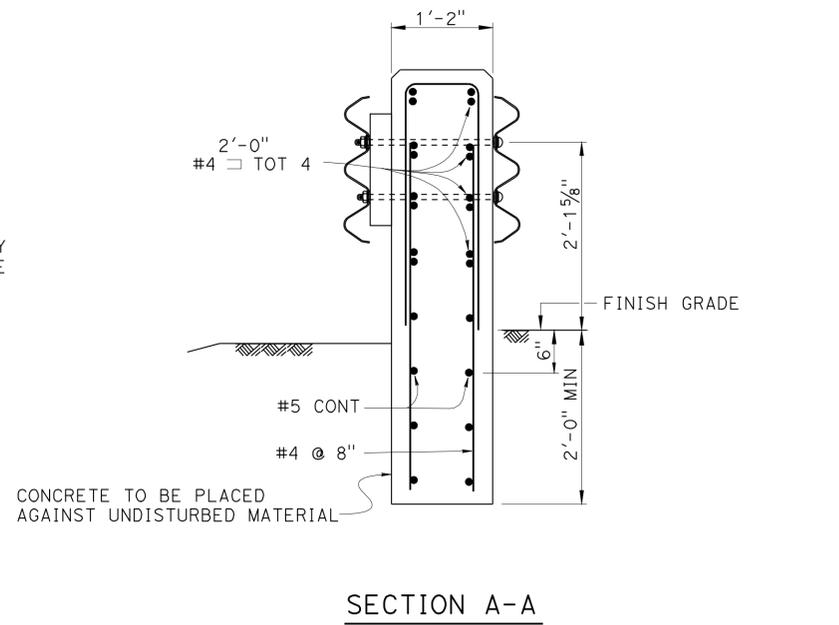


SECTION B-B

SECTION C-C



ELEVATION



SECTION A-A

CONCRETE BARRIER (TRANSITION) DETAIL

3/4" = 1'-0"
 TRANSITION BLOCK TYPE 25

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

Note:
 Existing utility facilities are not shown on these plans.

STRUCTURES MAINTENANCE GENERAL PLAN & DETAIL SHEET (ENGLISH) (REV. 10/17/07)	DESIGN	BY Franz Espinoza	CHECKED Hossein Moazami	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF MAINTENANCE STRUCTURE MAINTENANCE DESIGN	BRIDGE NO.	ROUTE 70,89,284 & 395 BRIDGES	
	DETAILS	BY Trung Lam	CHECKED Hossein Moazami			VARIOUS		
	QUANTITIES	BY Franz Espinoza	CHECKED Hossein Moazami			POST MILE		THRIE BEAM CONNECTION DETAILS NO. 2
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS				0 1 2 3	CU 02 EA 3E6101	DISREGARD PRINTS BEARING EARLIER REVISION DATES	10-27-11	SHEET 9 OF 9

USERNAME => s133967 DATE PLOTTED => 02-FEB-2012 TIME PLOTTED => 14:24