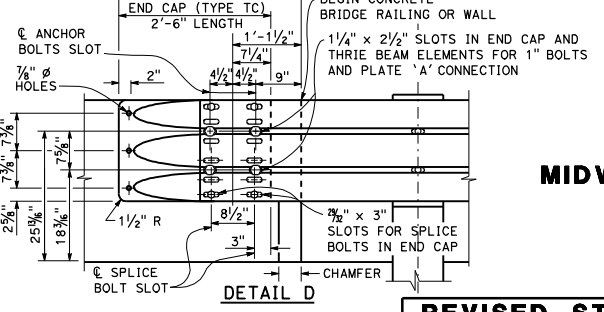
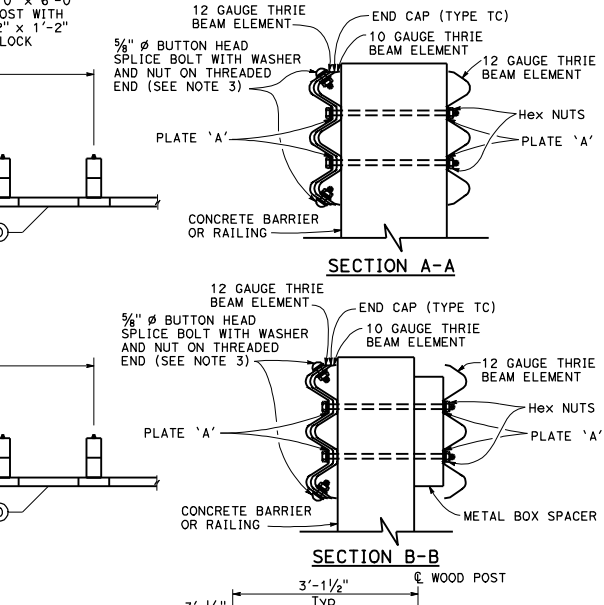
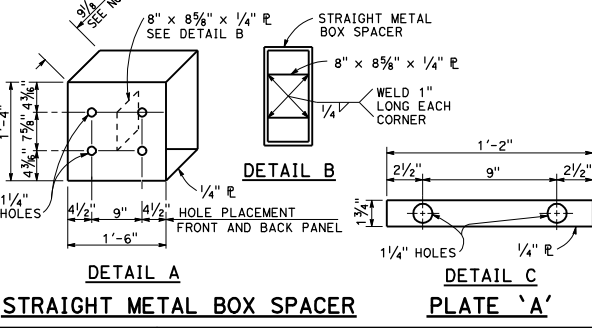


- LEGEND:**
- (A) NESTED THRIE BEAM ELEMENTS (ONE 12 GAUGE ELEMENT NESTED OVER ONE 10 GAUGE ELEMENT).
  - (B) ONE ASYMMETRICAL 10 GAUGE "W" BEAM TO THRIE BEAM ELEMENT.
  - (C) ONE 12 GAUGE THRIE BEAM ELEMENT.
  - (D) ONE 10 GAUGE "W" BEAM RAIL ELEMENT (7'-3 1/2" LENGTH)
- 10 GAUGE = 0.138" THICK  
12 GAUGE = 0.108" THICK



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS

**Randell D. Hiatt**  
REGISTERED CIVIL ENGINEER

July 19, 2013  
PLANS APPROVAL DATE

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

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

- NOTES:** TO ACCOMPANY PLANS DATED \_\_\_\_\_
- Use 5/8"  $\phi$  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. T5 and the connection to the concrete barrier or railing shall be the standard 3/8" x 1 1/8" slot size. Interior splice bolt holes at these locations may be increased up to 1/4"  $\phi$ . Only the top 4 and the bottom 4 splice bolts with washers and nuts are required for rail splices at Post No. T5 and the connection to the concrete barrier or railing.
  - 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-31) will be either standard railing section of MGS with height transition ratio of 150:1 or a Caltrans approved 31" end treatment attached to Post No. T1.
  - The depth of the metal box spacer varies from the 9/16" 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 2 1/4". 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 1 7/8", 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 gauge and 10 gauge thrie beam elements where transition railing is installed on the departure end of bridge railing.
  - Conform standard railing section height to 31" at Post No. T1 using height transition ratio of 150:1.

STATE OF CALIFORNIA  
DEPARTMENT OF TRANSPORTATION

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

NO SCALE

RSP A77U4 DATED JULY 19, 2013 SUPPLEMENTS  
THE STANDARD PLANS BOOK DATED 2010.

**REVISED STANDARD PLAN RSP A77U4**