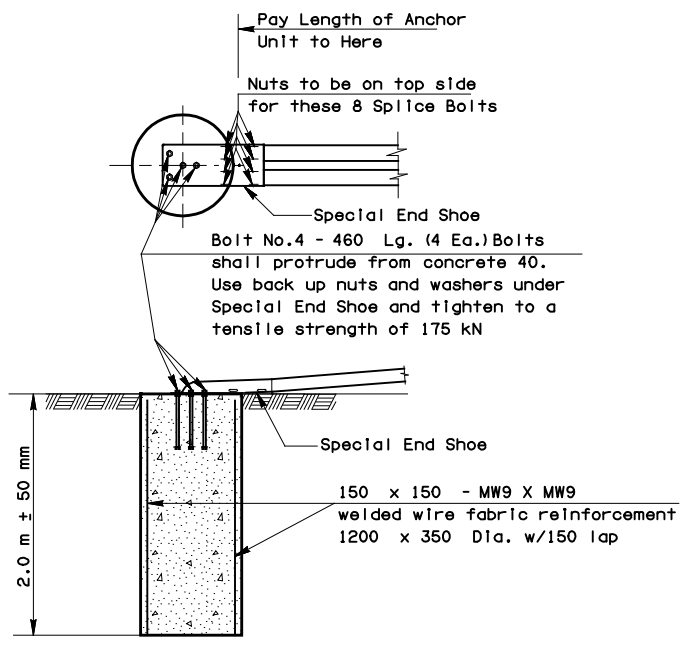
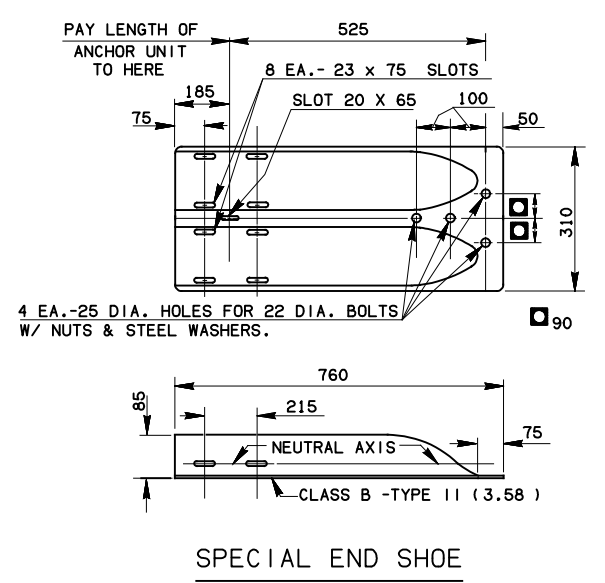


REV. NO.	DESCRIPTION	REVISIONS	DATE

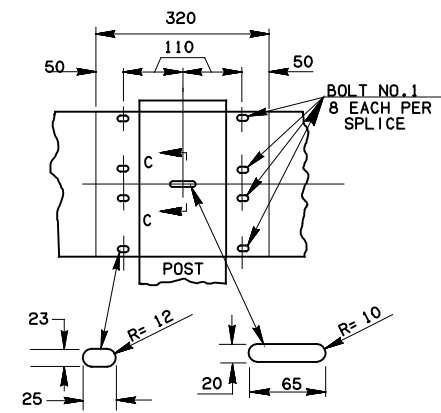


Class S Concrete to be placed into 760 Dia. hole to a depth of approx. 2.0 m. Slope top of concrete to fit slope.  
Class S Concrete = 1.00 cubic meter

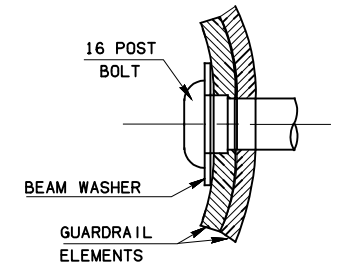
**DETAIL OF SPECIAL END SHOE ON CONCRETE ANCHOR**



**SPECIAL END SHOE**

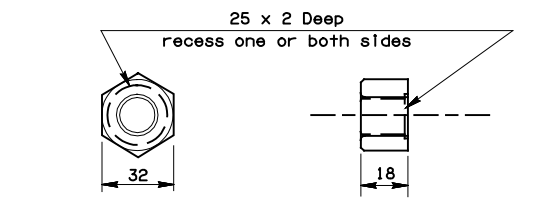
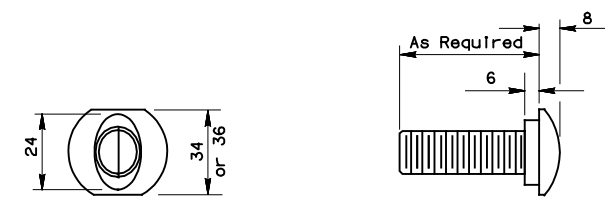


**RAIL SPLICE**



**SECTION C-C**

GUARDRAIL SHALL BE LAPPED IN THE DIRECTION OF NEAREST TRAFFIC AT ALL LOCATIONS WHERE SPLICES OCCUR (EXCEPT AT NARROW OR ONE LANE BRIDGE APPROACHES, WHERE LAPS SHALL BE TOWARD THE BRIDGE ON BOTH SIDES OF THE APPROACH ROADWAY).

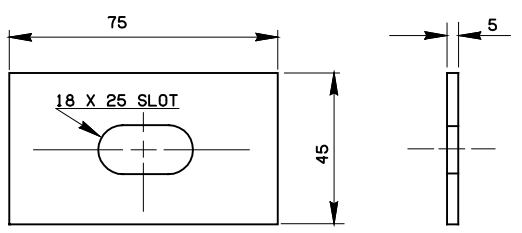


**16 Ø BUTTON HEAD BOLT & RECESS NUT**

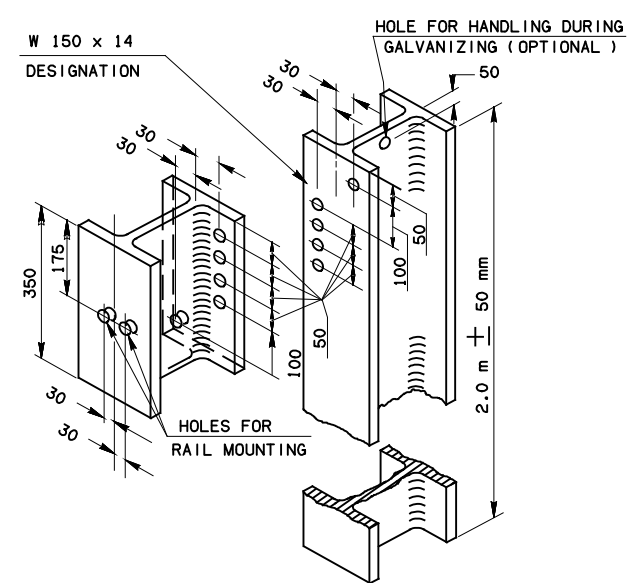


**ALTERNATE BUTTON HEAD BOLT**

NOTE: Guard rail components shall meet the applicable standards of "A Guide to Standardized Highway Barrier Rail Hardware" prepared and approved by the AASHTO-ARTBA-AGC Joint Cooperative Committee, Technical Bulletin Number 268B.



**WASHER DETAIL (POST BOLT)**

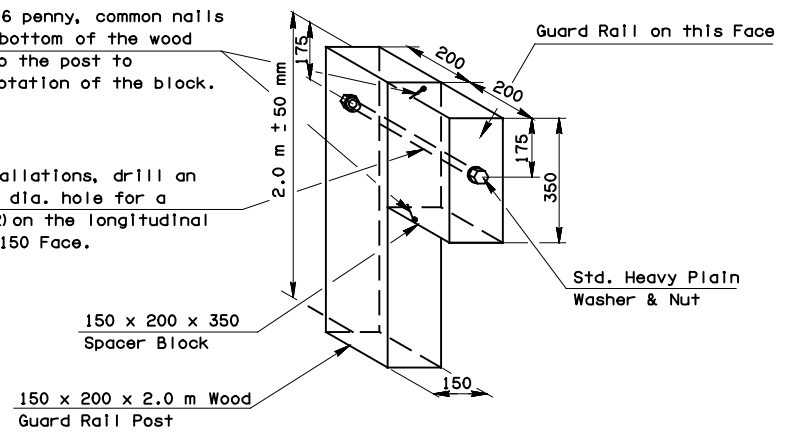


**STEEL POST & BLOCKOUT**

NOTE: All holes in steel to be 20 dia. and shall be punched before galvanizing. Holes in back of block, and in face of post shall be punched to same dimensions as holes on back of post. Use Bolt No.1 & post washer to mount rail to block; use Bolts No. 5 and lock washers to mount block to post. See Schedule of Bolts on this sheet.

Drive (2) 16 penny, common nails on top & bottom of the wood block into the post to prevent rotation of the block.

On normal installations, drill an approximate 20 dia. hole for a 16 bolt (Bolt 2) on the longitudinal center of the 150 Face.



**WOOD POST & SPACER BLOCK**

TABLE OF BOLTS, NUTS & WASHERS		
ITEM	ASSEMBLY	NOMENCLATURE & DIMENSIONS
Bolt No. 1	Recess Nut & Specified Washer	M16 X 32 Button Head with Oval Shoulder
Bolt No. 2	Recess Nut & Steel Washer	M16 X 450 Button Head with Oval Shoulder
Bolt No. 3	Recess Nut & 16 Steel Washer	M16 X 635 Button Head with Oval Shoulder
Bolt No. 4	22 Steel Washer & 22 Hex Nut	M22 X 450 High Strength Steel Hex-Head Bolt
Bolt No. 5	Hex Nut & Lock washer	M16 X 38 Hex-Head Bolt
Bolt No. 6	Recess Nut & 16 Steel Washer	M16 X 300 Button Head with Oval Shoulder
Bolt No. 7	22 Steel Washers & 22 Hex Nut	M22 X 300 High Strength Steel Hex-Head Bolt
Recess Nut		16 Semi-Finished
16 Hex Nut		16 Semi-Finished
22 Hex Nut		22 Semi-Finished
16 Steel Washer		18 X 44 X 3.58 Type A Plain Washer
22 Steel Washer		24 X 57 X 4.00 Type A Plain Washer
Lock Washer		18 I.D. Galvanized Standard Hardware Item
Rectangular Plate Washer		44.5 X 76.2 Lg. X 4.8 with a 17.5 X 25.4 Slotted Hole

- ① Not a Standard Item in "A Guide to Standardized Highway Barrier Rail Hardware", Technical Bulletin No. 268-B.
- ② Shall meet requirement of A.S.T.M. A307 & A153.
- ③ Shall meet requirement of A.S.T.M. A325 or A449, & A153.
- ④ Shall meet requirement of A.S.T.M. A153 & A563, Grade A or Better.
- ⑤ Shall meet requirement of A.S.T.M. A153 & A563 Grade B or better.
- ⑥ Shall meet requirement of A.S.T.M. A153 & A.N.S.I. B27.2.
- ⑦ Shall meet current requirements of A.A.S.H.T.O. M180.

MATERIALS SHALL MEET THE REQUIREMENTS OF THE FOLLOWING SUBSECTIONS OF THE 1996 STD. SPECS.  
P.C. Concrete-----701  
Reinforcing Steel-----723  
Materials For Guard Rail-----732  
All dimensions are subject to Manufacturer's Tolerance.

APPROVED BY BRIDGE ENGINEER	DATE
<b>OKLAHOMA DEPT. OF TRANSPORTATION COUNTY BRIDGE STANDARD (METRIC) BRIDGE END GUARD RAIL HARDWARE</b>	
1999 SPECIFICATIONS	BEGR2-1 OOM
ALL DIMENSIONS ON THIS SHEET IN MILLIMETERS UNLESS OTHERWISE NOTED.	

- ②
- ②
- ②
- ① ③
- ②
- ②
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