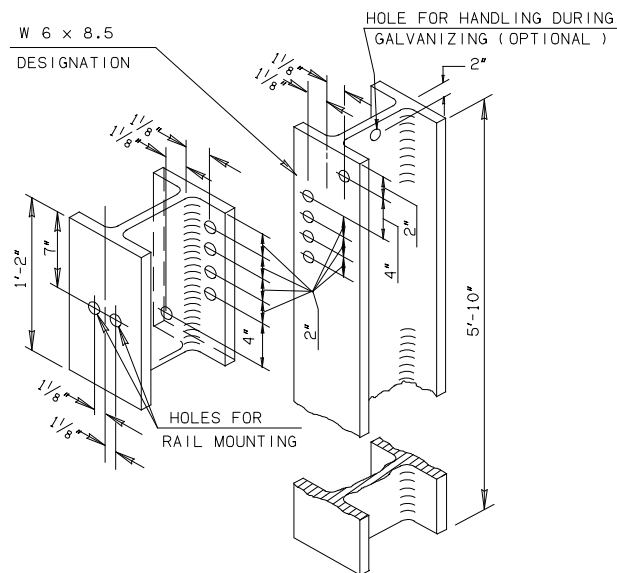


Class A Concrete to be placed into 30" Dia. hole to a depth of approx. 6'-0". Slope top of concrete to fit slope.  
Class A Concrete = 1.09 c.y.

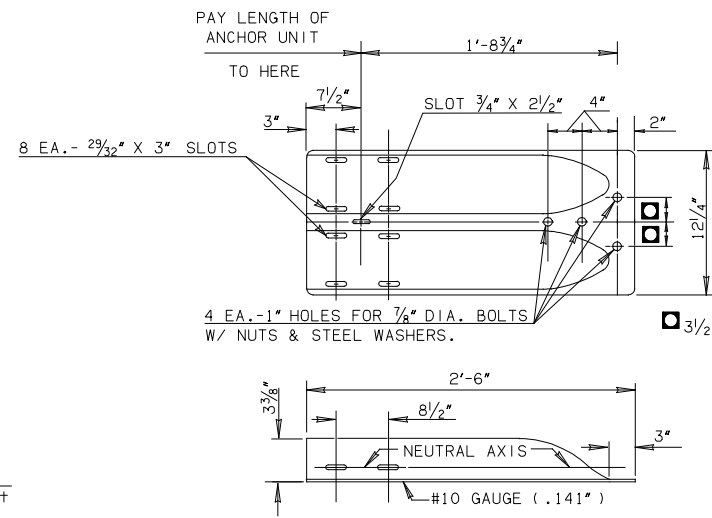
**DETAIL OF SPECIAL END SHOE ON CONCRETE ANCHOR**

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.

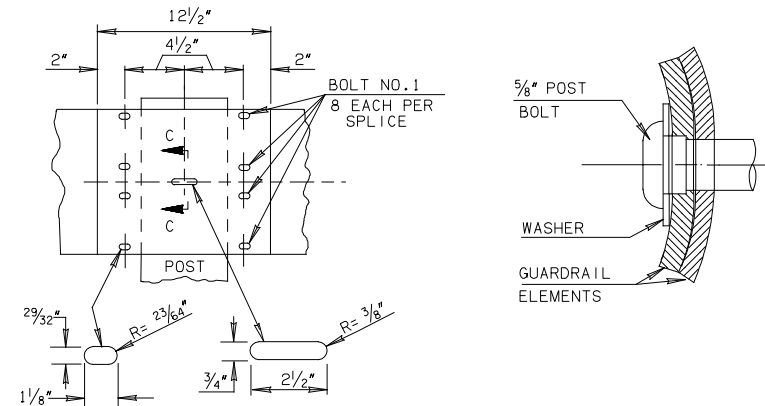


**STEEL POST & SPACER BLOCK**

NOTE: All holes in steel to be 3/4" 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. Steel designation shall be W 6 x 8.5.



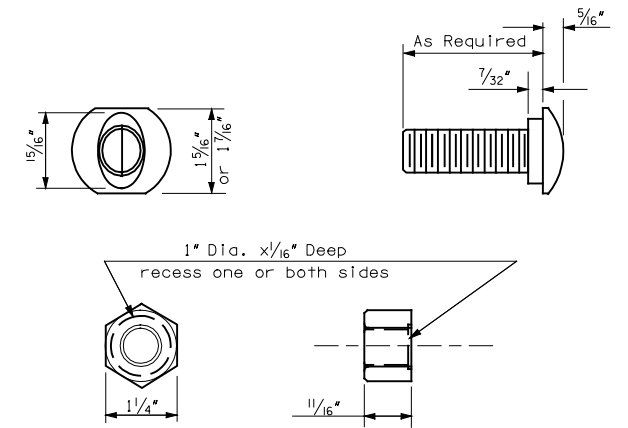
**SPECIAL END SHOE**



**RAIL SPLICE**

**SECTION C-C**

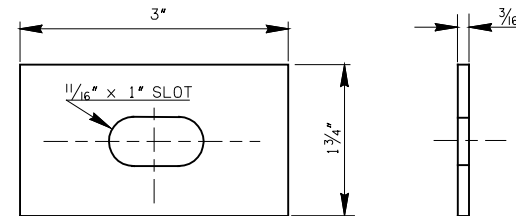
GUARDRAIL SHALL BE LAPPED IN THE DIRECTION OF NEAREST TRAFFIC AT ALL LOCATIONS WHERE SPLICES OCCUR (EXCEPT AT NARROW OR ONE LANE BRIDGE APPROACHES, WHERE LAPS SHALL BE TOWARD THE BRIDGE ON BOTH SIDES OF THE APPROACH ROADWAY.



**5/8" Dia. Button Head Bolt & RECESS NUT**



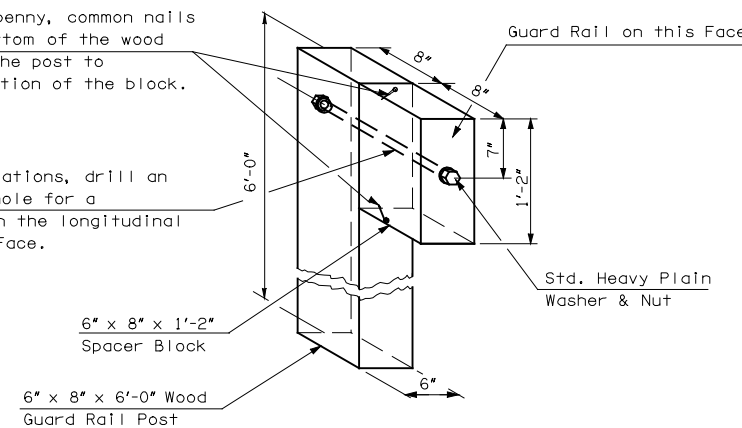
**ALTERNATE BUTTON HEAD BOLT**



**WASHER DETAIL (POST BOLT)**

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 1/16" hole for a 5/8" bolt (Bolt 2) on the longitudinal center of the 6" Face.



**WOOD POST & SPACER BLOCK**

TABLE OF BOLTS, NUTS & WASHERS

| ITEM                     | ASSEMBLY                          | NOMENCLATURE & DIMENSIONS                                 |
|--------------------------|-----------------------------------|---|
| Bolt No. 1               | Recess Nut & Specified Washer     | 5/8-11 UNC - 2Ax1 1/4" Lg. Button Head with Oval Shoulder |
| Bolt No. 2               | Recess Nut & Steel Washer         | 5/8-11 UNC - 2Ax18" Lg. Button Head with Oval Shoulder    |
| Bolt No. 3               | Recess Nut & 5/8" Steel Washer    | 5/8-11 UNC - 2Ax25" Lg. Button Head with Oval Shoulder    |
| Bolt No. 4               | 7/8" Steel Washer & 7/8" Hex Nut  | 7/8-9 UNC - 2Ax18" High Strength Steel Hex-Head Bolt      |
| Bolt No. 5               | Hex Nut & Lock washer             | 5/8-11 UNC - 2Ax1 1/2" Lg. Hex-Head Bolt                  |
| Bolt No. 6               | Recess Nut & 5/8" Steel Washer    | 5/8-11 UNC - 2Ax12" Lg. Button Head with Oval Shoulder    |
| Bolt No. 7               | 7/8" Steel Washers & 7/8" Hex Nut | 7/8-9 UNC - 2Ax12" Lg. High Strength Steel Hex-Head Bolt  |
| Recess Nut               |                                   | 5/8-11 UNC - 2B Semi-Finished                             |
| 5/8" Hex Nut             |                                   | 5/8-11 UNC - 2B Semi-Finished                             |
| 7/8" Hex Nut             |                                   | 7/8-9 UNC - 2B Semi-Finished                              |
| 5/8" Steel Washer        |                                   | 1 1/16" x 1 3/4" x 0.141" Type A Plain Washer             |
| 7/8" Steel Washer        |                                   | 1 5/16" x 2 1/4" x 0.156" Type A Plain Washer             |
| Lock Washer              |                                   | 1 1/16" I.D. Galvanized Standard Hardware Item            |
| Rectangular Plate Washer |                                   | 1 3/4" x 3" Lg. x 0.187" with a 1 1/16" x 1" 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 1999 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: \_\_\_\_\_

**OKLAHOMA DEPT. OF TRANSPORTATION  
COUNTY BRIDGE STANDARD ( ENGLISH )  
BRIDGE END GUARD RAIL HARDWARE**