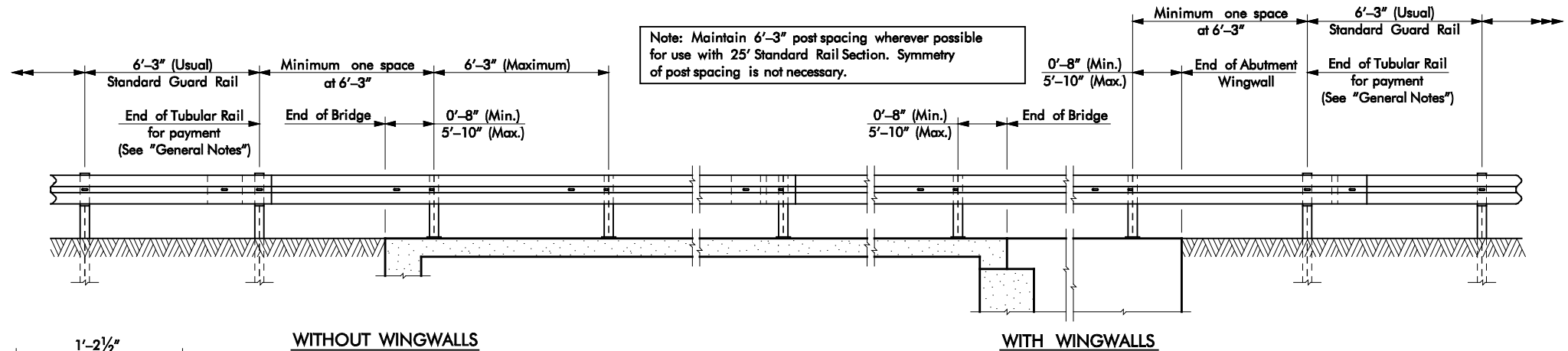


PLAN VIEW

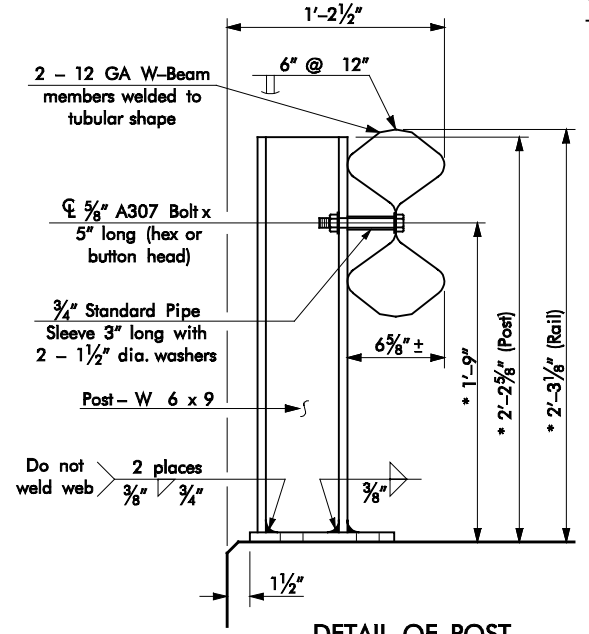


Note: Maintain 6'-3" post spacing wherever possible for use with 25' Standard Rail Section. Symmetry of post spacing is not necessary.

WITHOUT WINGWALLS

WITH WINGWALLS

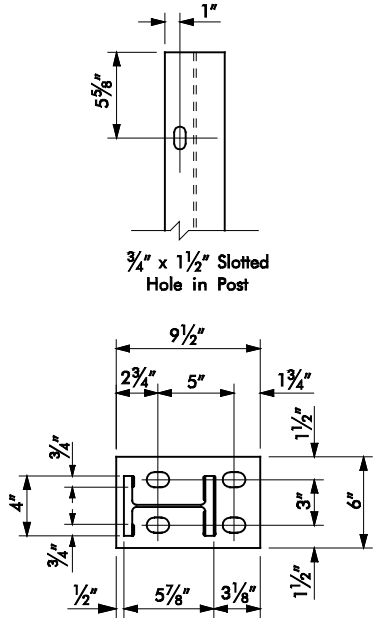
ELEVATION OF RAIL - ROADWAY FACE



DETAIL OF POST

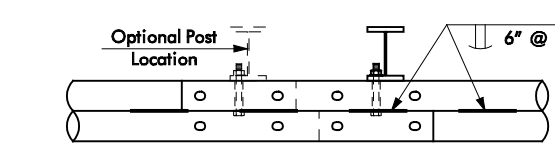
\* Increase 2" for structures with overlay.

Note: Posts shall be welded only at locations shown. NO ADDITIONAL WELDING WILL BE PERMITTED.

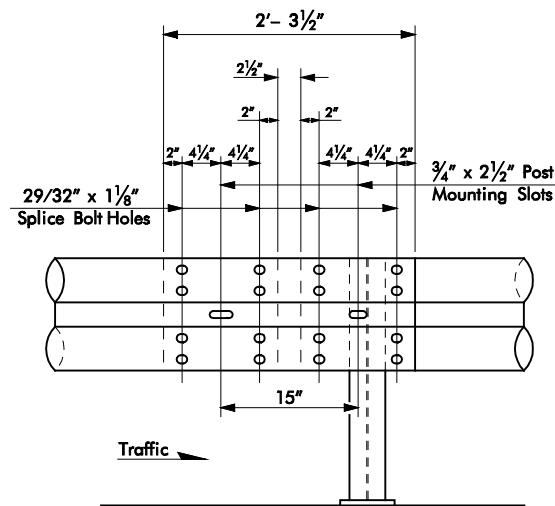


DETAIL OF BASE PLATE

Plate 9/2" x 5/8" x 0'-6" with 1" x 1 1/2" Slotted Holes

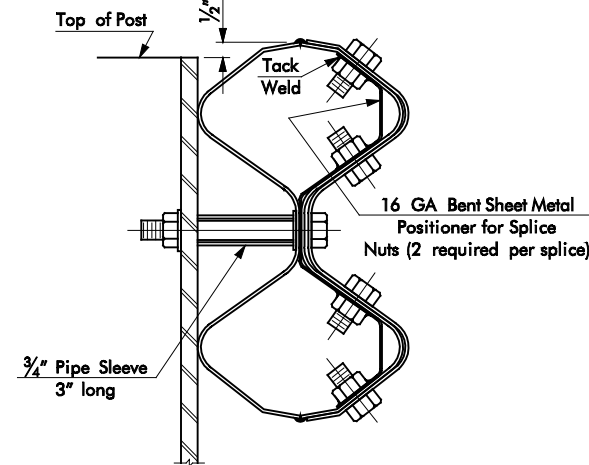


PLAN VIEW

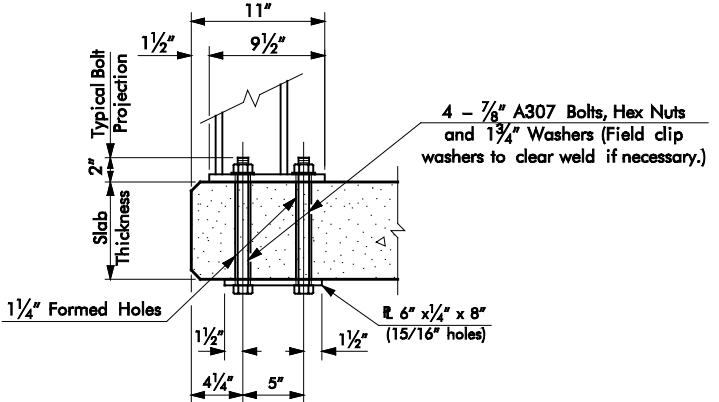


ELEVATION VIEW

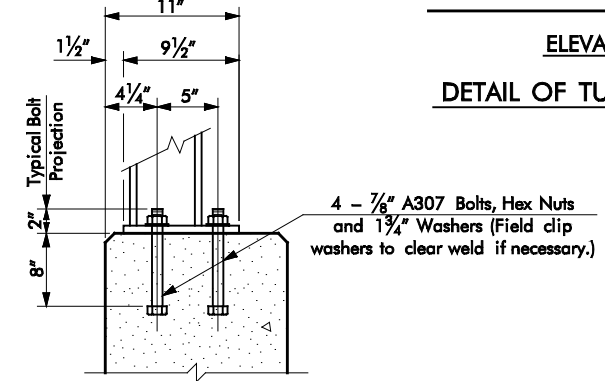
DETAIL OF TUBULAR RAIL SPLICE



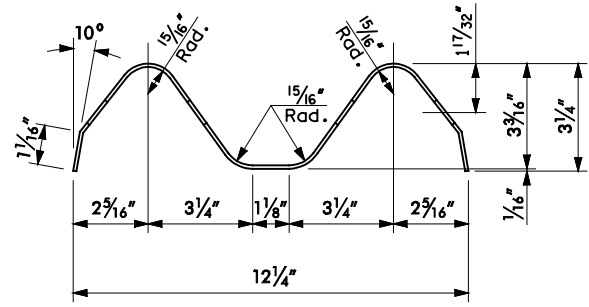
SECTION THRU SPLICE



DETAIL OF POST CONNECTION-SLAB



DETAIL OF POST CONNECTION-WALL



W-BEAM DETAIL

GENERAL NOTES:

THIS RAIL HAS BEEN SUCCESSFULLY EVALUATED BY FULL SCALE IMPACT TESTS CONDUCTED IN ACCORDANCE WITH NCHRP REPORT 153. TEST DOCUMENTATION MAY BE FOUND IN RESEARCH REPORT 230-1, "TUBULAR W-BEAM BRIDGE RAIL", OF RESEARCH STUDY 2-5-78-230 "BRIDGE RAIL TO CONTAIN HEAVY TRUCKS AND BUSES", TEXAS TRANSPORTATION INSTITUTE, OCTOBER 1978.

TUBULAR METAL TRAFFIC RAIL SHALL EXTEND ACROSS THE BRIDGE AND CONNECT TO AT LEAST THE FIRST SOIL EMBEDDED POST AT EACH END OF THE STRUCTURE. APPROACH GUARD RAIL POSTS SHALL BE SPACED AT 6'-3" CENTERS ADJACENT TO THE TUBULAR RAIL SINCE THE FLEXIBILITY OF SINGLE FACE GUARD RAIL AND TUBULAR RAIL IS SIMILAR. (DO NOT INSTALL ADDITIONAL POSTS AT 3'-1 1/2" CENTERS).

RAIL POSTS ON THE BRIDGE SHALL BE SPACED AT 6'-3" CENTERS WHEREVER POSSIBLE AND SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND CROSS SLOPE. AT THE CONTRACTOR'S OPTION, THE POST MAY BE PLACED AT EITHER OF THE POST MOUNTING SLOTS SHOWN. GROUT OR SHIM PLATES MAY BE USED UNDER THE BASE PLATE IF NECESSARY TO SECURE PROPER ALIGNMENT OF THE RAIL.

TUBULAR W-BEAM RAIL MEMBER IS TO BE FABRICATED FROM STANDARD 25' GUARD RAIL ELEMENTS. W-BEAM MEMBER SHALL BE 12 GAGE STEEL WITH NOMINAL THICKNESS OF 0.1046" EXCLUSIVE OF PROTECTIVE COATING. ADDITIONAL POST MOUNTING SLOTS ARE TO BE MADE IN EACH MEMBER 15" FROM THE STANDARD SLOTS AT 6'-3" CENTERS. TOP AND BOTTOM SEAMS SHALL BE BUTT WELDED 6" AT 12" SPACING. CONTINUOUS SEAM WELDING IS ALSO ACCEPTABLE. WELDS SHALL BE CHIPPED, CLEANED, AND PAINTED IN ACCORDANCE WITH SECTION 732.01(B) OF THE STANDARD SPECIFICATIONS. ALL BRIDGE RAILING HARDWARE SHALL CONFORM TO SECTIONS 732.01 AND 732.03 OF THE STANDARD SPECIFICATIONS.

THE TUBULAR RAIL SHALL EXTEND ACROSS ALL JOINTS (FIXED AND EXPANSION) WITH NO CHANGE IN POST SPACING OR CONTINUITY. AT EXPANSION JOINTS OF 1/4" OR LESS, THE SPLICE BOLTS ON THE SPLICE NEAREST THE JOINT AND ALL POST MOUNTING BOLTS BETWEEN THE EXPANSION JOINT AND THIS SPLICE SHALL BE SNUGLY TIGHTENED TO ALLOW FOR RAIL EXPANSION. AT EXPANSION JOINTS OVER 1/4", THE BOLT TREATMENT WILL BE THE SAME AS FOR JOINTS 1/4" OR LESS WITH SUITABLY LONGER SPLICE HOLES PROVIDED.

5/8" SPLICE NUTS SHALL BE TACK WELDED ON THE INSIDE OF THE TUBULAR RAIL SECTION AT ALL RAIL SPLICES. THE NUTS MUST BE TACKED APPROX. 3/32" OFF THE CENTER OF THE BOLT SLOT TOWARD THE OUTSIDE OF THE TUBULAR RAIL. AT THE CONTRACTOR'S OPTION, THE NUTS MAY BE TACK WELDED TO A BENT SHEET METAL POSITIONER AS SHOWN IN THE DETAILS. OTHER SUITABLE POSITIONING METHODS OR DEVICES MAY BE SUBSTITUTED FOR THE METHODS NOTED. THE COMPLETE SPLICE SHALL HAVE 16-5/8" SPLICE BOLTS. FOR DETAIL OF SPLICE BOLT SEE ROADWAY STD. GRH-2.

ANCHOR BOLTS SHALL BE 7/8" DIA. A-307 (OR A-36 THREADED RODS WITH TACK WELDED NUTS) WITH HEX NUTS AND WASHERS AS SHOWN. THREADED RODS MAY BE 0.781" MIN. DIA. WITH ROLLED THREADS. NUTS SHALL CONFORM TO A-307 REQUIREMENTS AND MAY BE TAPPED OR CHASED AFTER GALVANIZING. BOLTS AND NUTS SHALL HAVE CLASS 2A AND 2B FIT TOLERANCES.

SHOP DRAWINGS SHOWING DIMENSIONS AND DETAILS OF THE COMPLETE TUBULAR METAL TRAFFIC RAIL SHALL BE SUBMITTED TO THE BRIDGE ENGINEER FOR APPROVAL. BASIS OF PAYMENT: THE TUBULAR METAL TRAFFIC RAIL WILL BE MEASURED FOR PAYMENT BY THE LINEAR FOOT COMPLETE IN PLACE FROM END TO END OF TUBULAR RAILING SECTION ON EACH SIDE OF BRIDGE. PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE FOR:

TUBULAR METAL TRAFFIC RAIL L.F. WHICH PRICE SHALL INCLUDE ALL COST OF TUBULAR W-BEAM RAIL, POSTS, ANCHOR BOLTS, WELDING, NUTS, BOLTS, WASHERS, CONNECTING PLATES, MISCELLANEOUS HARDWARE, LABOR, AND INCIDENTALS NECESSARY TO INSTALL THE TRAFFIC RAIL AS NOTED AND SPECIFIED.

APPROVED BY BRIDGE ENGINEER: DATE:

OKLAHOMA DEPT. OF TRANSPORTATION  
COUNTY BRIDGE STANDARD ( ENGLISH )  
TUBULAR METAL TRAFFIC RAIL