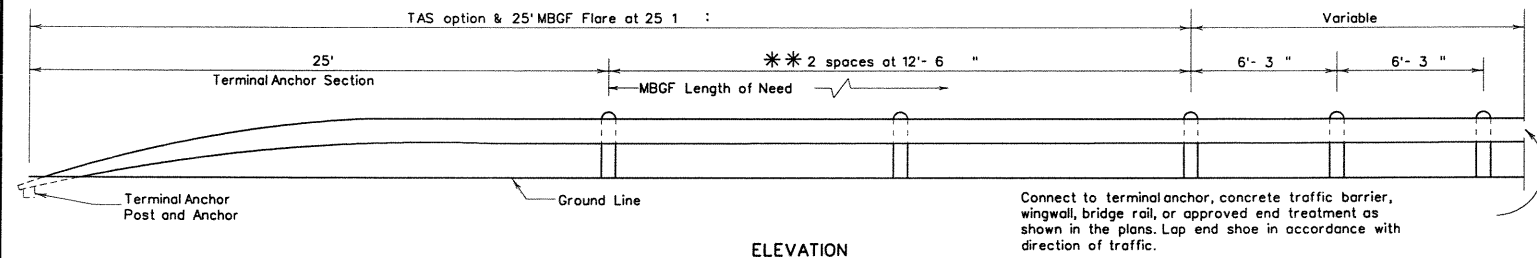
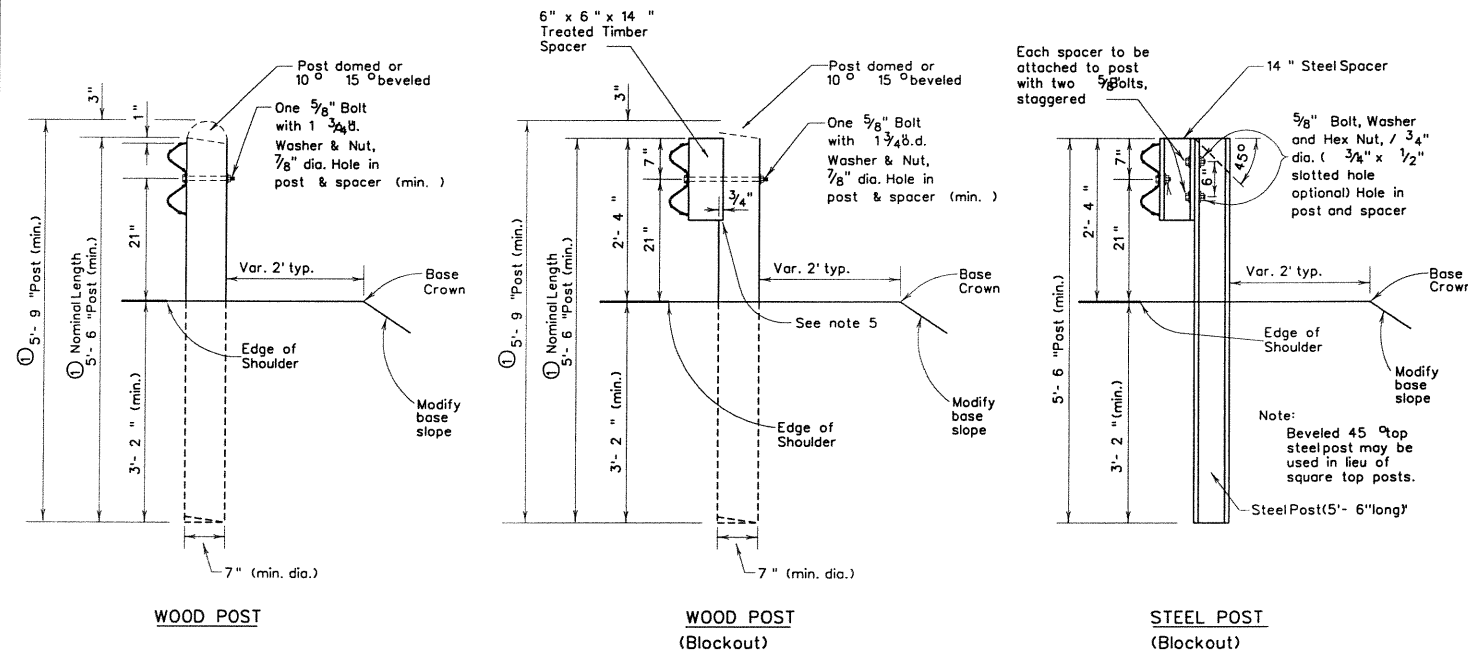


** Post spacing of 6'-3" may be used on the downstream (from a traffic flow standpoint) end of MBGF placed on roadways with one-way traffic operations.



ELEVATION

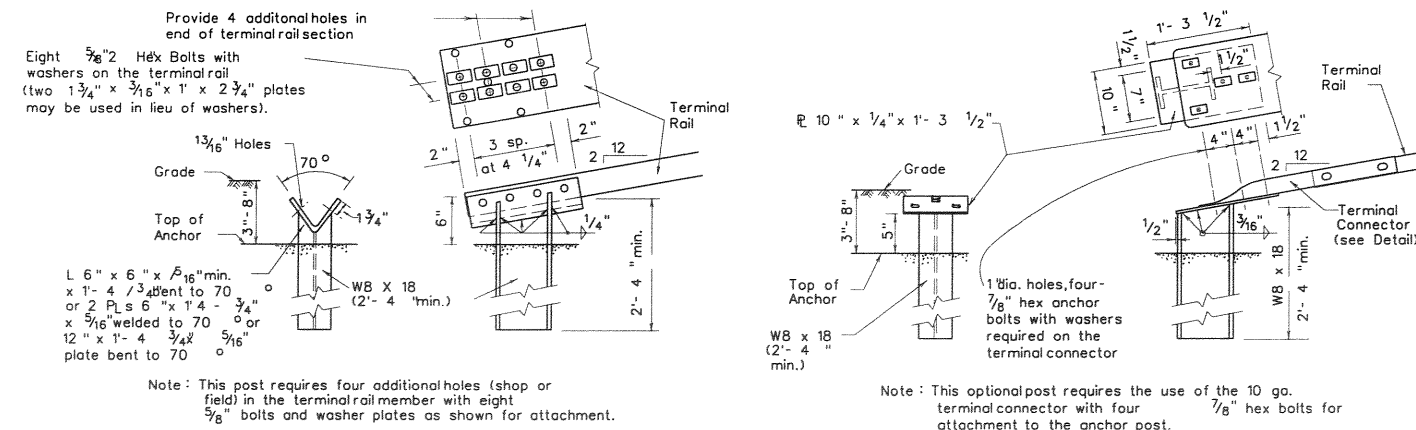
Note: Where a nominal length of 6'-0" is specified as acceptable elsewhere in the plans, these dimensions shall be increased by 0'-6". The additional length should be specified only on roadways where future ACP overlays and adjustments of the rail height on the same posts are likely.



WOOD POST

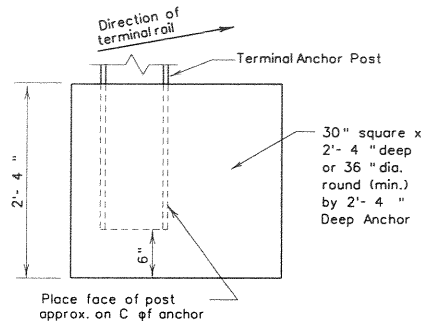
WOOD POST (Blockout)

STEEL POST (Blockout)

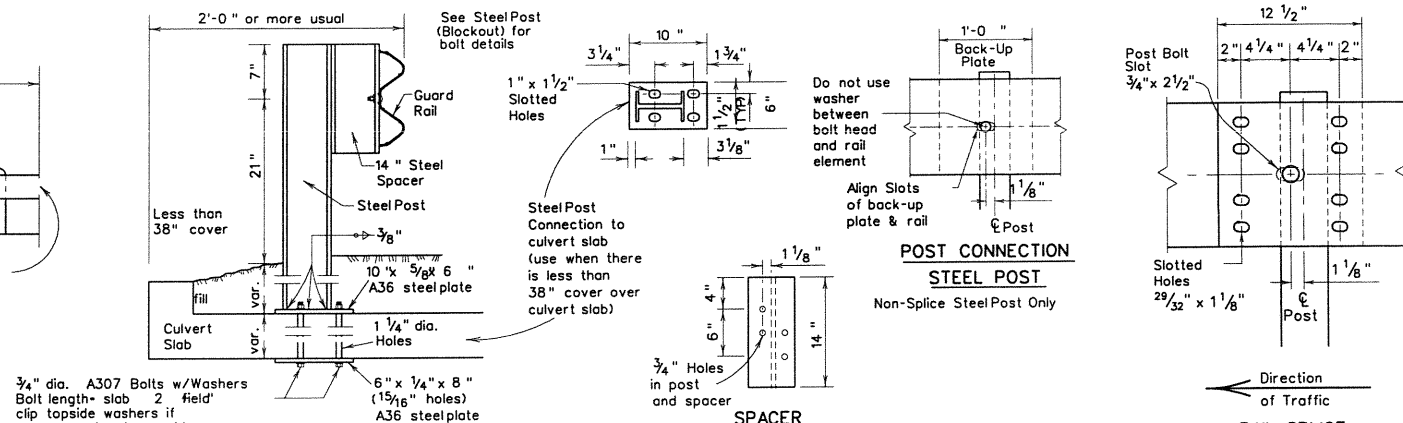


TERMINAL ANCHOR POST OPTIONS

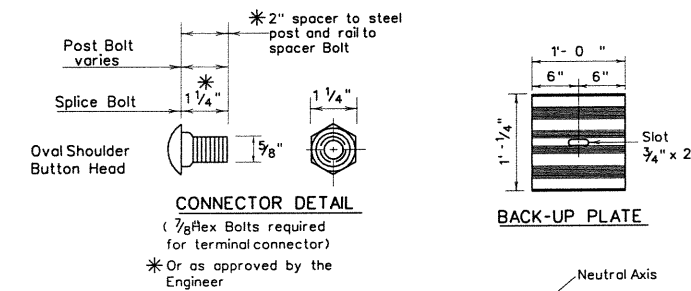
Notes: Either post may be used with either anchor. No construction joint is allowed in the concrete anchor. Terminal rail may be bolted to post and in twist position prior to placing concrete anchor. If concrete anchor is precast, the area should be compacted as directed by the Engineer, when placed in the field.



TERMINAL CONCRETE ANCHOR OPTIONS

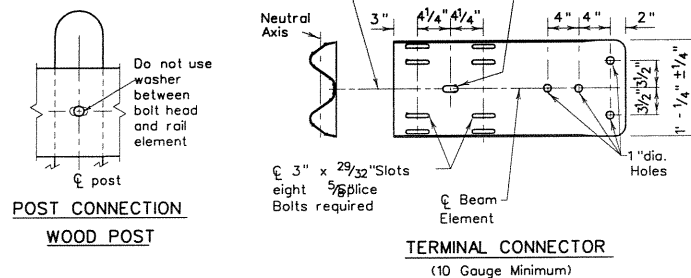


LOW FILL CULVERT POST MOUNTING OPTION



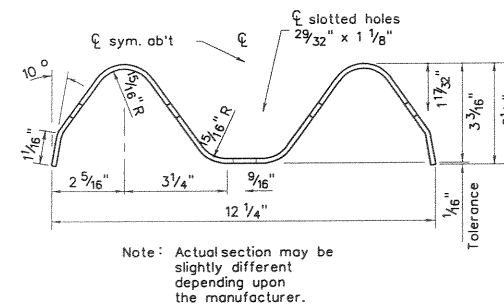
CONNECTOR DETAIL

BACK-UP PLATE

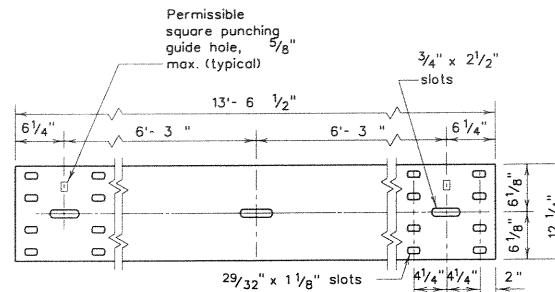


POST CONNECTION WOOD POST

TERMINAL CONNECTOR (10 Gauge Minimum)



SECTION THRU GUARD RAIL



ELEVATION OF NOMINAL 12 1/2 FOOT GUARD RAIL

(25 foot sections may also be supplied)

- GENERAL NOTES**
- The exact position of guard fence shall be as shown elsewhere on the plans or as directed by the Engineer. Guard fence shall be transitioned to a smooth connection with other guard fence or structure railing as shown elsewhere on plans.
 - Unless otherwise shown in the plans, guard fence placed in the vicinity of curbs shall be blocked out so that the face of curb is located directly below or behind the face of rail. Rail placed over curbs shall be installed so that the post bolt is located approximately 21-inches above the gutter pan or roadway surface.
 - Unless otherwise shown in the plans, MBGF shall be placed with the face of rail directly above the shoulder edge (or curbface) except the 25' Terminal Anchor Section and adjacent 25' or MBGF shall be flared at 25' 1' longitudinally to provide a 2' offset between buried anchor and shoulder edge (or curbface). Flaring the 25' Terminal Anchor and adjacent 25' MBGF is optional for one-way traffic conditions on the downstream end of guard fence.
 - At the option of the Contractor, the rail elements for the guard fence may be furnished in either 12' or 25' foot nominal lengths with post bolt slots for connection to posts.
 - Timber posts may be beveled from 10 to 15 degrees on the top of both ends with high side of top of post placed toward the roadway or they may be domed. When blockout guard fence is specified elsewhere in the plans, a 6" x 6" x 14" treated timber spacer of yellow pine shall be used with wood posts. When "blocked out", the upper portion of the post shall be notched to provide flat surface for timber spacer. A tolerance of $\pm 1/8$ " will be permitted on the notched portion of the post. Routing the timber spacer may be used in lieu of notching the post. The depth of routing shall be at the center $1/4$ " of radius $\pm 1/8$ ".
 - Steel posts shall be blocked out. Steel posts and spacers shall meet the requirements of ASTM A-36 (W6 x 9.0 or W6 x 8.5). Bolt holes shall be approximately centered between web and edge of flange of spacers and posts.
 - Post spacing will be 6'-3" except that the first post will be 25' from the terminal anchor post and the next two posts spaced at 12'-6" with a minimum of 8 posts adjacent to structures spaced at 3'-11" and posts adjacent to Type 16 bridge rail are spaced at 6'-3". Post spacing adjacent to structures may vary as shown on bridge rail details or as directed by the Engineer.
 - The upper 10' (minimum) of the terminal anchor post and all steel fittings thereon shall be galvanized.
 - The terminal anchor post shall be set in Class A concrete (unless otherwise shown on plans) in accordance with Item, Portland Cement Concrete. Concrete shall be subsidiary to the bid item requiring construction of the terminal rail section and anchorage system.
 - An anchor other than to a terminal anchor post shall consist of a connection similar to the rail splice or similar to the terminal connector.
 - Back-up plates shall be provided at intermediate (non-splice) steel posts. Back-up plates shall conform to the materials and galvanizing requirements specified for the rail element, and shall be of the same nominal thickness as the rail element used.
 - Washers used with the eight splice bolts and nuts that are provided for terminal connectors and/or terminal anchor posts shall be 1" x 3/4" x 3/16" or 1" d. and 2" o.d. x 0.134" (ANSI B27.2) narrow Type A plain washers.
 - The 10 gauge terminal connectors must be used with the optional terminal anchor post. Either anchor post may be used with either concrete anchor.
 - Welded steel posts and spacers shall meet the requirements of ASTM A-36. The flange width and thickness, web thickness, and depth of welded posts and spacers shall equal or exceed the dimensions of a standard rolled W6 x 8.5 or W6 x 9.0.
 - Special fabrication will be required at installations having a curvature of less than 150' radius.
 - Bolts shall be of sufficient length to extend through the full thickness of the nut and no more than 1/8" beyond it. (Button head bolts may be used instead of hex bolts when specified by the Engineer.) Fittings (bolts, nuts and washers) shall be in accordance with Item, Metal For Structures. Fittings shall be subsidiary to the bid item requiring construction of MBGF or Terminal Anchor Section.
 - Crown will be widened to accommodate guard fence.
 - Where solid rock is encountered or where shown on the plans, the diameter of the holes shall be approximately 12 inches, the backfilling shall be with a cohesionless material, and embedment depth shall be 1'-6" or more as directed by the Engineer. Timber posts shall not be set in concrete.

Texas Department of Transportation
Design Division (Roadway)

METAL BEAM GUARD FENCE

MBGF-94

DRG DRAW DATE: JULY 94	DR: TGM	CK: TGM	DW: BGD	CK:	NEG NO: A6
MODIFICATIONS	STATE DISTRICT: 6	FEDERAL REGION:	FEDERAL NO PROJECT:	SHEET: 27	
	COUNTY:	CONTROL SECTION:	JOB:	HIGHWAY:	

LEVELS DISPLAYED
ACC: /usr/d481303
FILE: MBGF94.DGN