

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

FURNISH AND CONSTRUCT THRIE BEAM STRUCTURAL APPROACH ACCORDING TO THE REQUIREMENTS OF SECTION 614 OF THE STANDARD SPECIFICATIONS. THRIE BEAM SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M180, CLASS "A", TYPE 2.

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS, DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

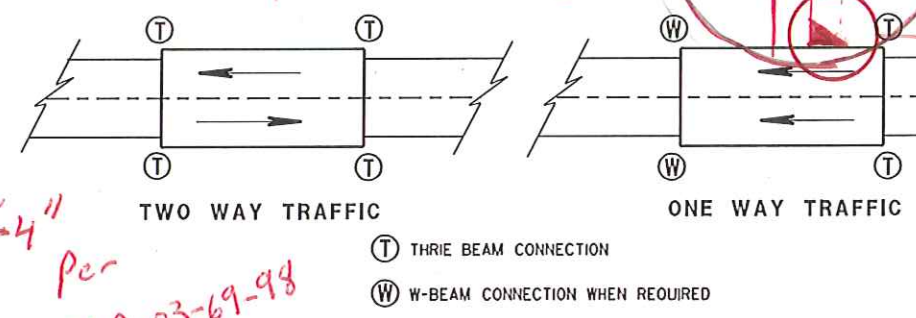
IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2 INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN THE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATELY. (SEE SDD 14 B 15-40).

- ① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.
- ② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT, OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.
- ③ BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F-1554, GRADE 55. NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-563 DH.
- ④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.
- ⑤ DO NOT ATTACH POST IN "W" TO THRIE BEAM TRANSITION SECTION.

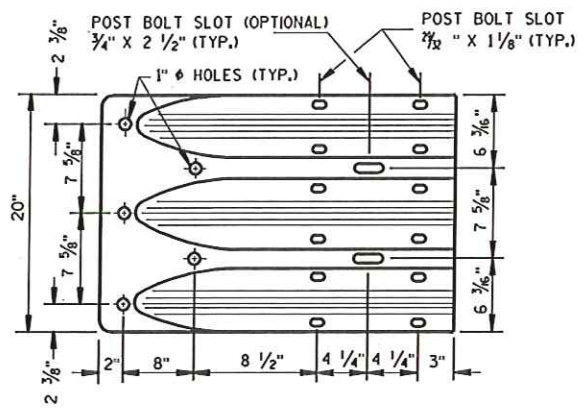
If grading cannot be provided is this an acceptable solution?

If we use 4'-4" embedment what length of post should we use when grading is reduced?

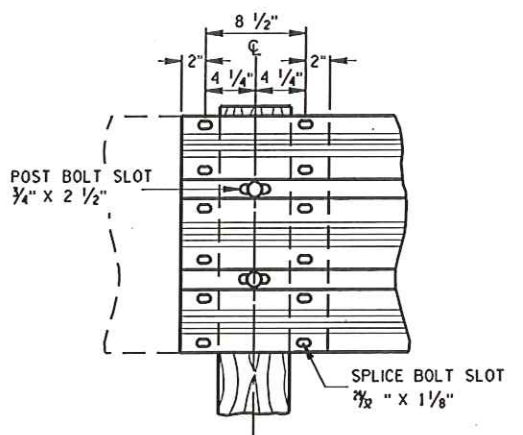
Per TRP-03-69-98



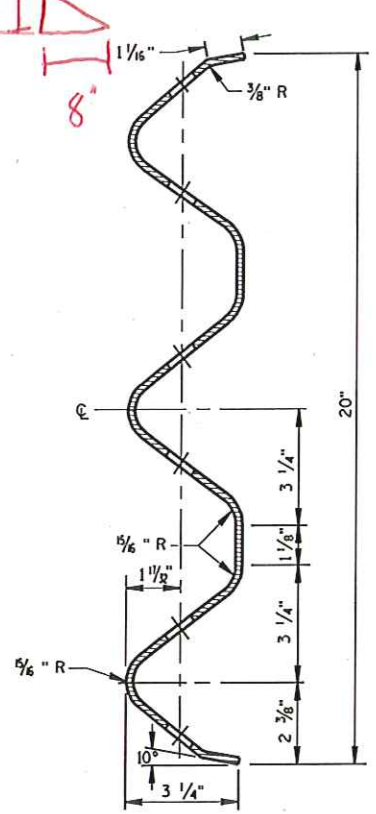
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE



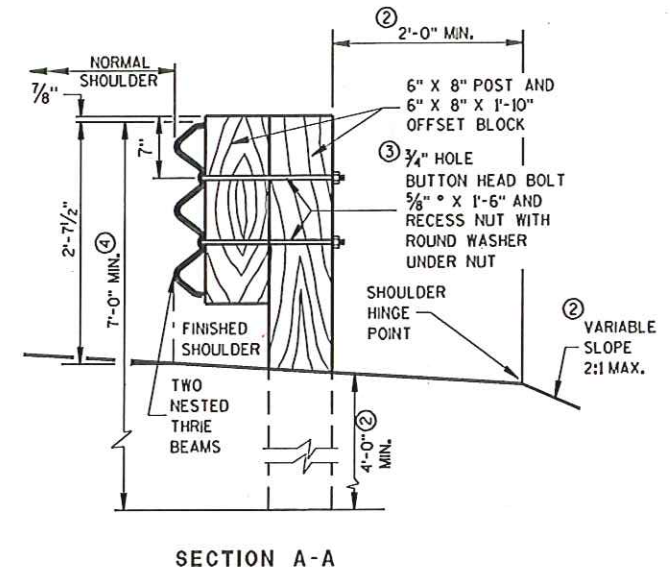
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



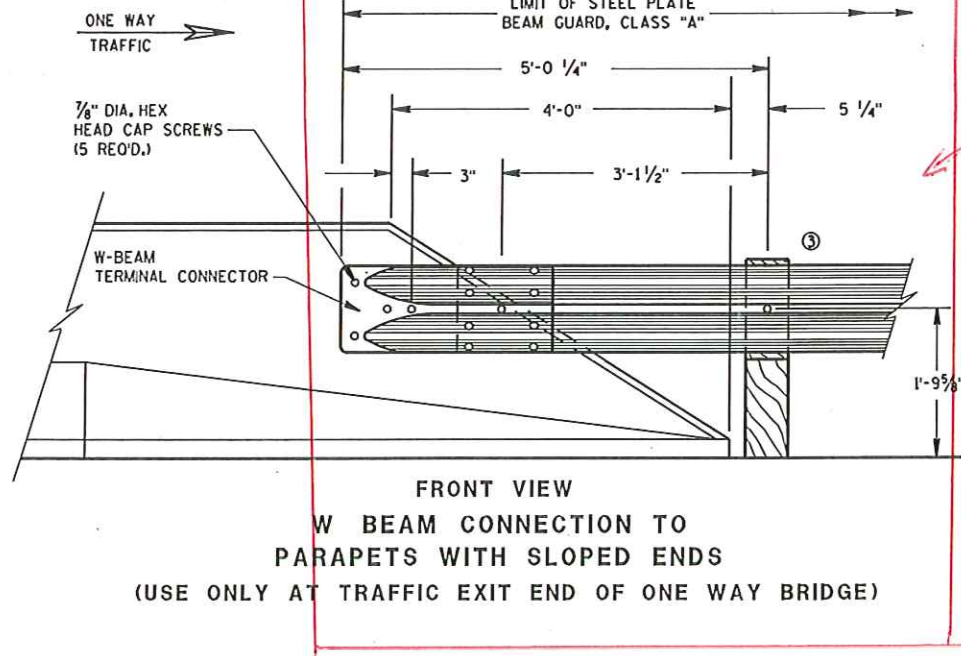
SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

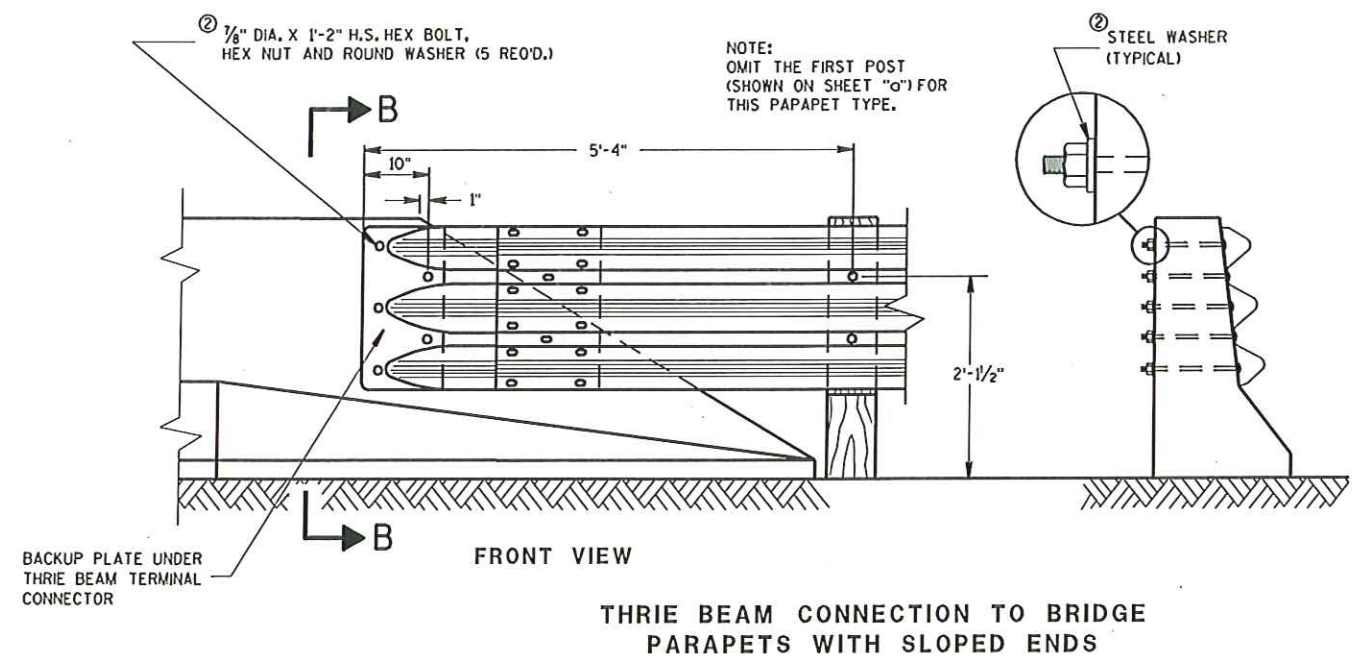
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



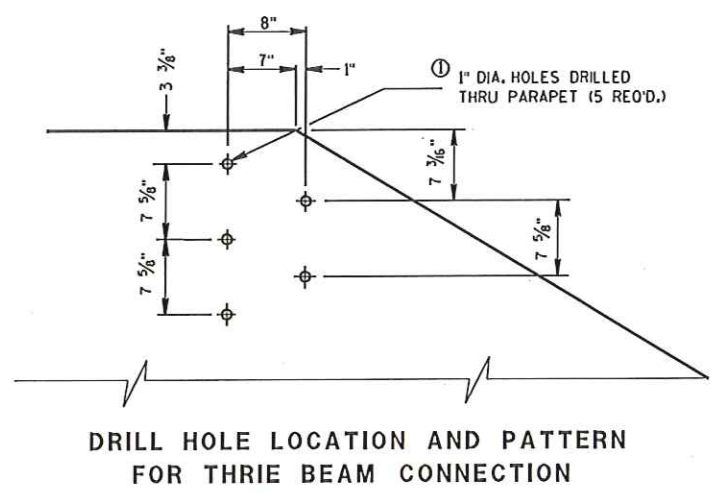
FRONT VIEW
W BEAM CONNECTION TO
PARAPETS WITH SLOPED ENDS
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

GENERAL NOTES

- THESE ARE TYPICAL CONNECTION DETAILS, ADJUST THE POSITION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325, AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.
- ① INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND THE BACKUP PLATE AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAM STRUCTURAL APPROACH".
 - ② EACH BOLT AT THE BACK FACE OF THE PARAPET REQUIRES A HARDENED ROUND STEEL WASHER WITH A 2 1/4" O.D. X 1/2" THICK.
 - ③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS, USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.
- DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



FRONT VIEW
THRIE BEAM CONNECTION TO BRIDGE
PARAPETS WITH SLOPED ENDS



DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION

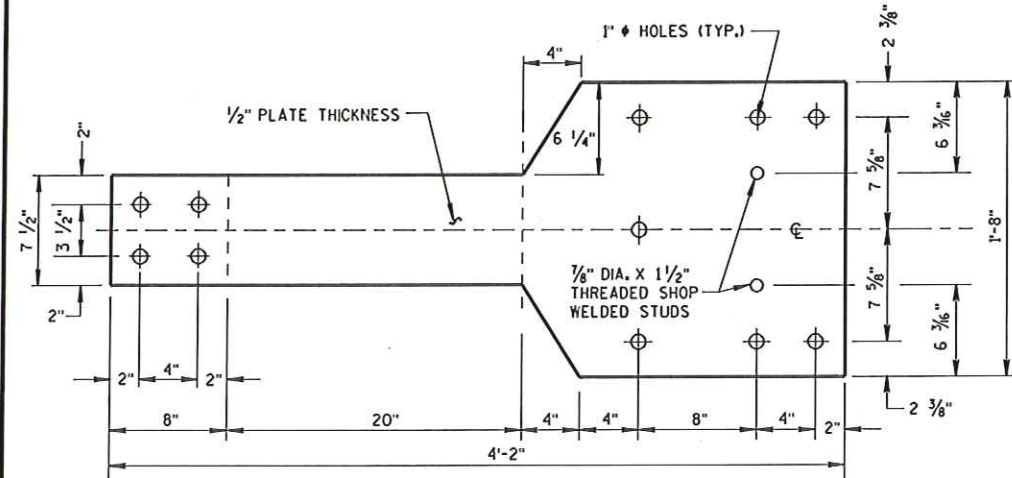
STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
DATE _____	_____ CHIEF ROADSIDE DEVELOPMENT ENGINEER
FHWA	

S.D.D. 14 B 20-6c

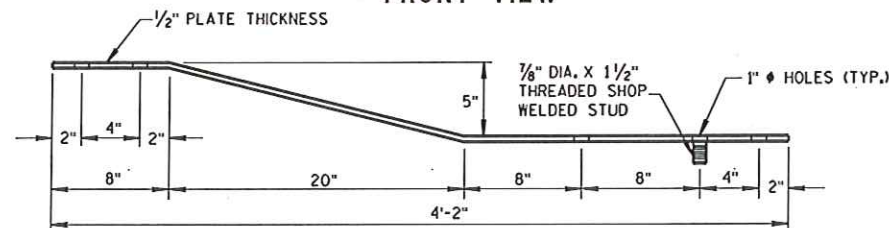
S.D.D. 14 B 20-6c

GENERAL NOTES

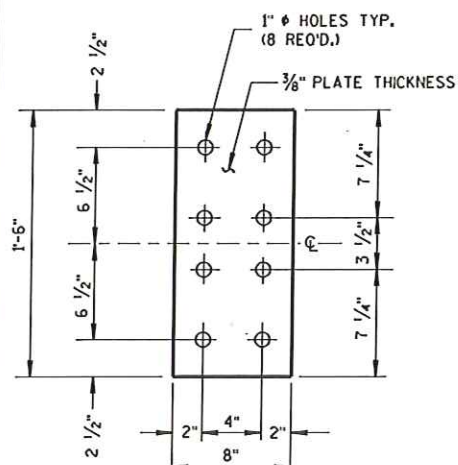
① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.



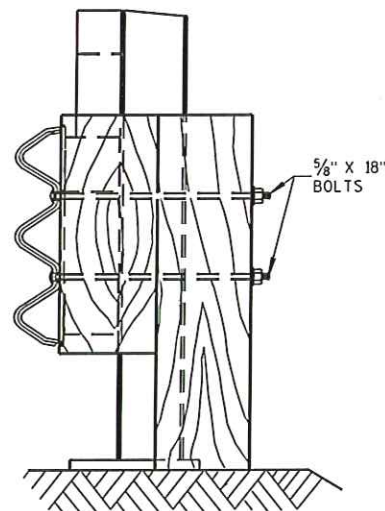
FRONT VIEW



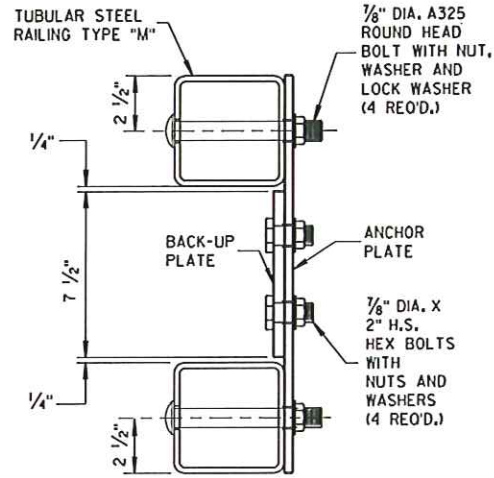
PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"



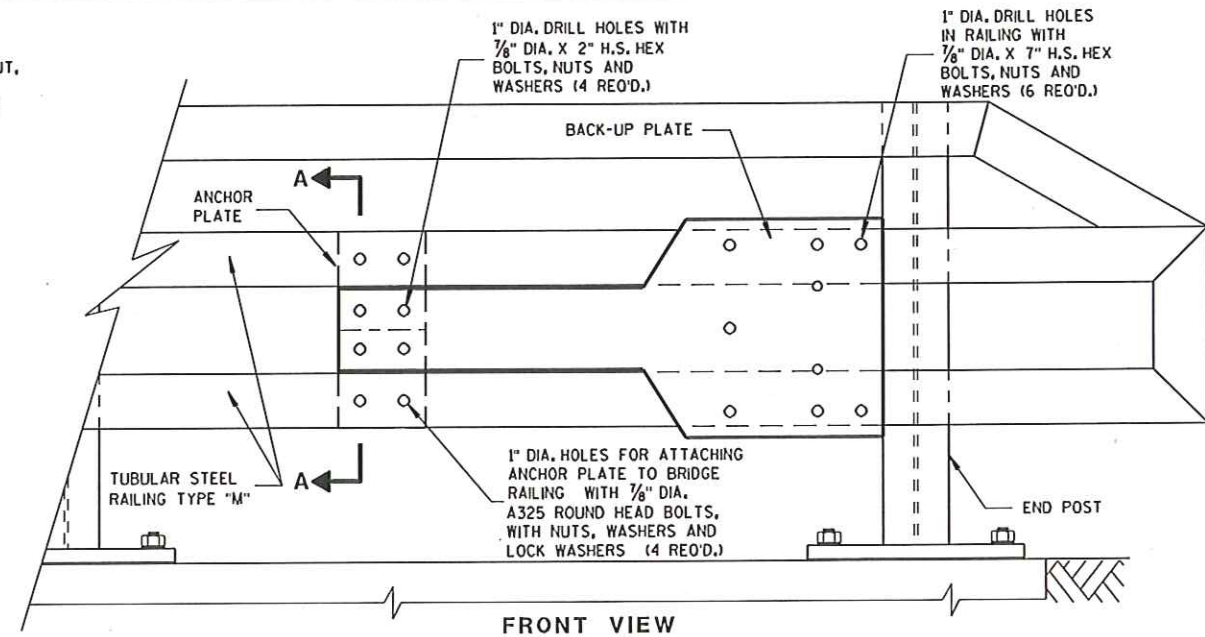
FRONT VIEW
ANCHOR PLATE DETAIL, TYPE "M"



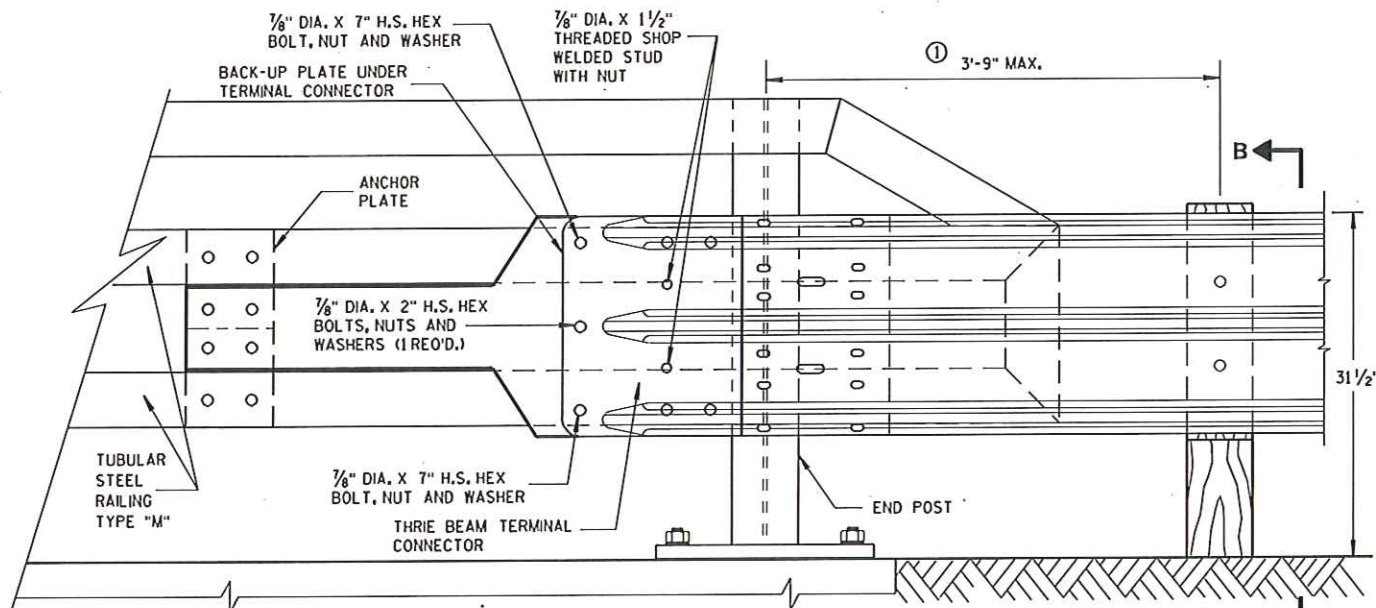
SECTION B-B



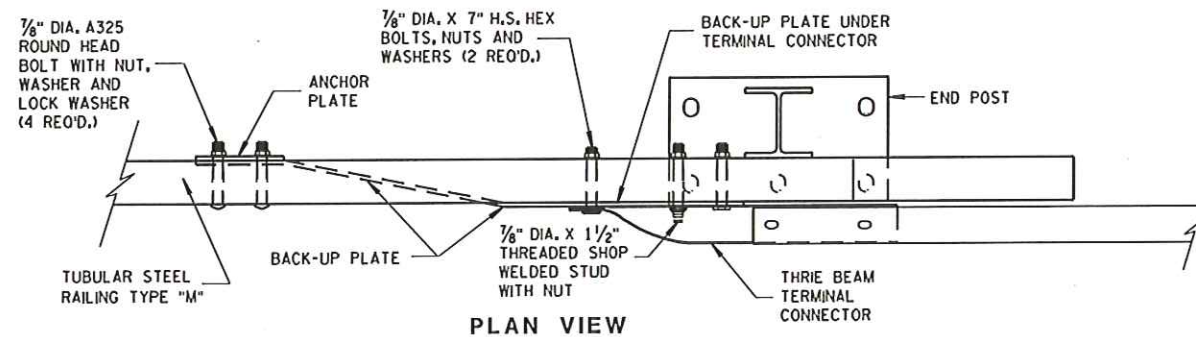
SECTION A-A



FRONT VIEW
ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



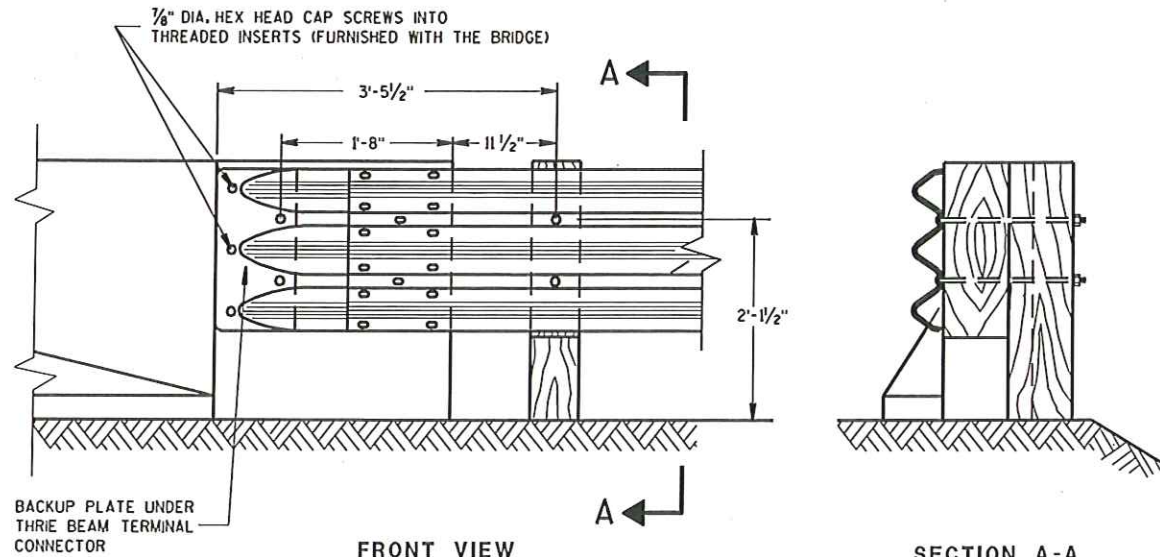
PLAN VIEW
THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

STEEL THRIE BEAM STRUCTURE
APPROACH, CONNECTION TO
BRIDGE RAILING TYPE "M"

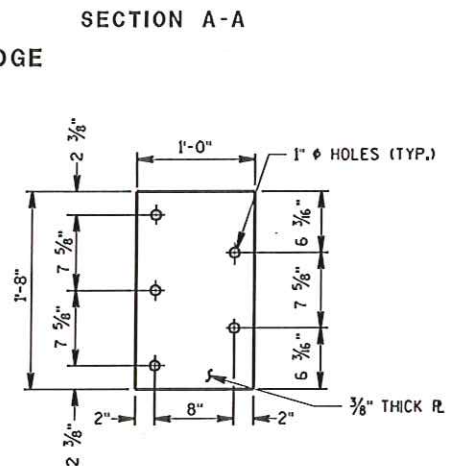
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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DATE _____ CHIEF ROADWAY DEVELOPMENT ENGINEER
FWHA



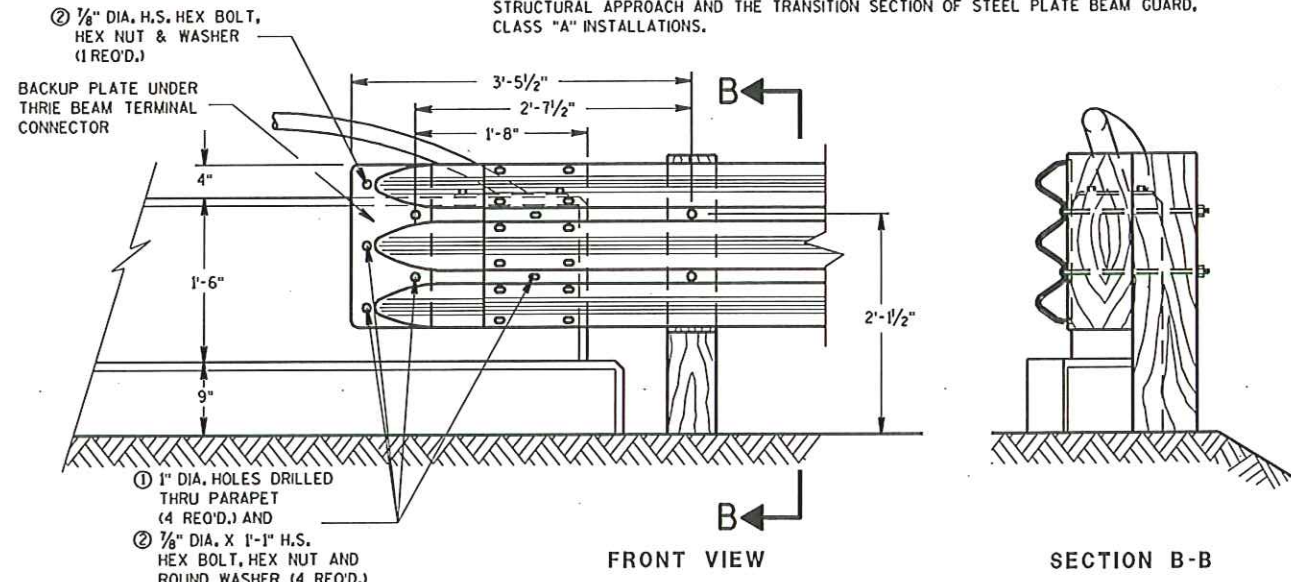
FRONT VIEW
THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS



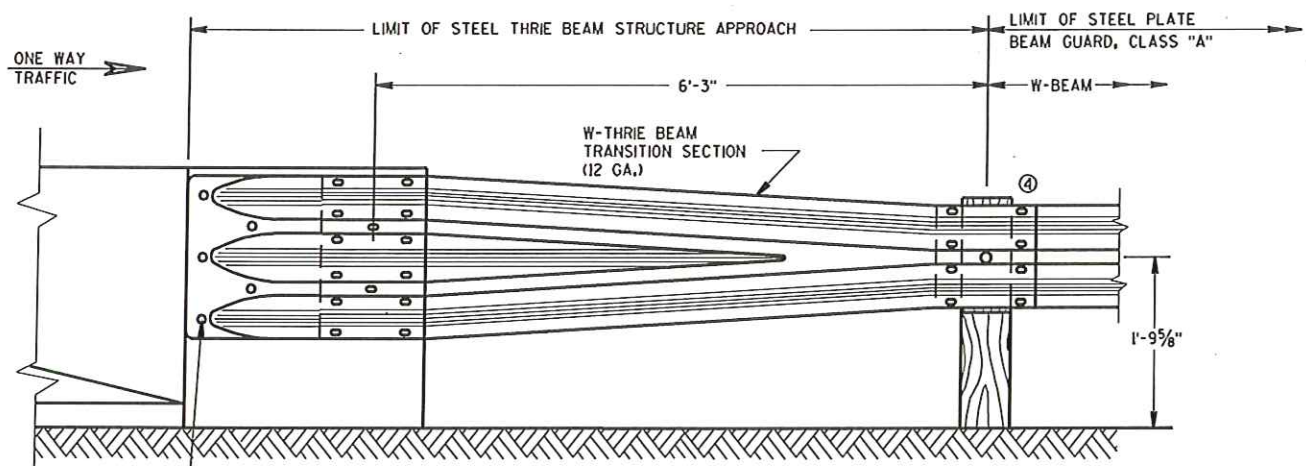
BACKUP PLATE DETAIL
(USE ONLY AT BRIDGE PARAPET CONNECTIONS)

GENERAL NOTES

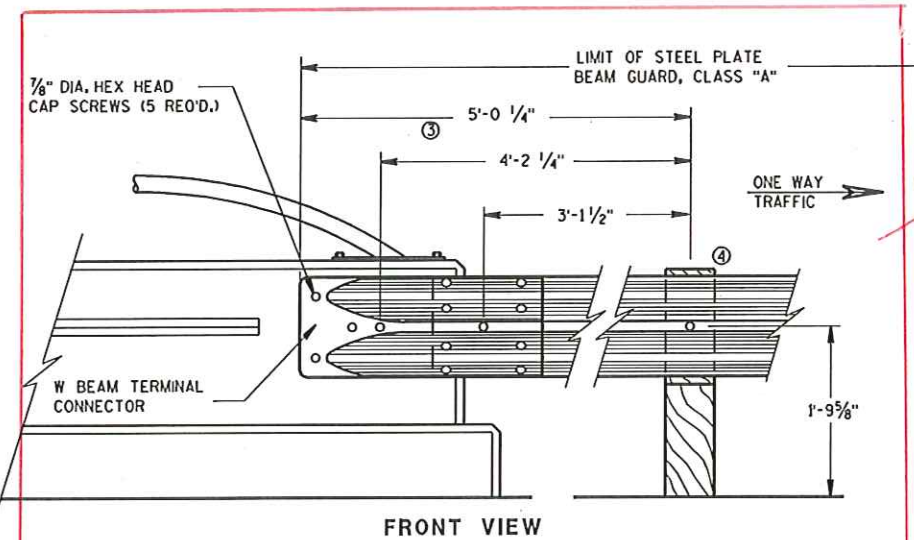
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- BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325, AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.
- ① INCLUDE THE PAYMENT FOR DRILLING BOLT HOLES THROUGH THE PARAPET, AND THE BACKUP PLATE AND ALL BOLTS, NUTS AND WASHERS IN THE ITEM "STEEL THRIE BEAM STRUCTURAL APPROACH".
 - ② EACH BOLT AT THE BACK FACE OF THE PARAPET REQUIRES A HARDENED ROUND STEEL WASHER WITH A 2 1/4" O.D. X 3/8" THICK.
 - ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
 - ④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.
- DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



FRONT VIEW
THRIE BEAM CONNECTION
TO VERTICAL FACED PARAPETS



FRONT VIEW
W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

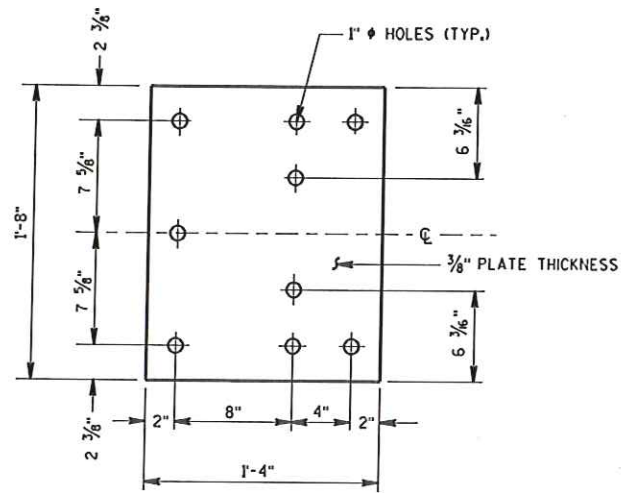


FRONT VIEW
W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

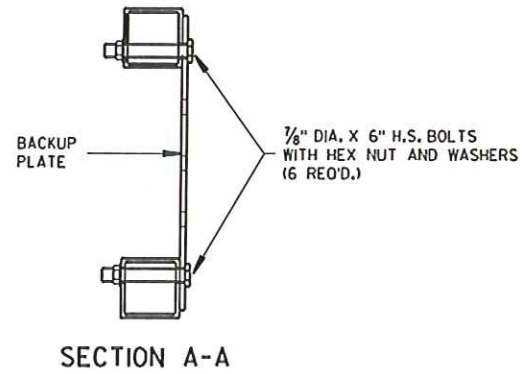
This acceptable on down stream end?

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END AND VERTICAL FACED PARAPETS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
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FHWA	

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BACK-UP PLATE DETAIL

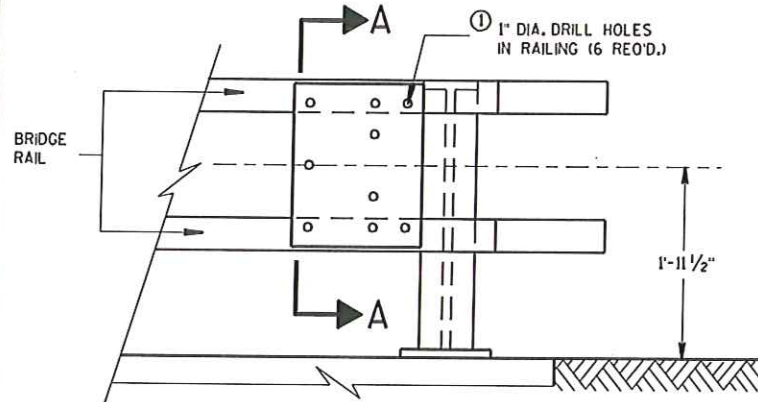


SECTION A-A

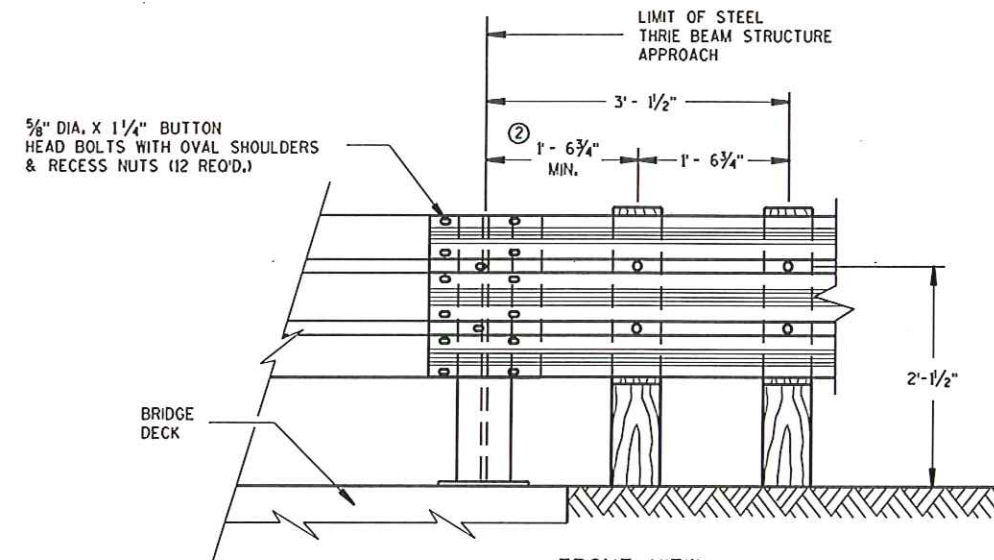
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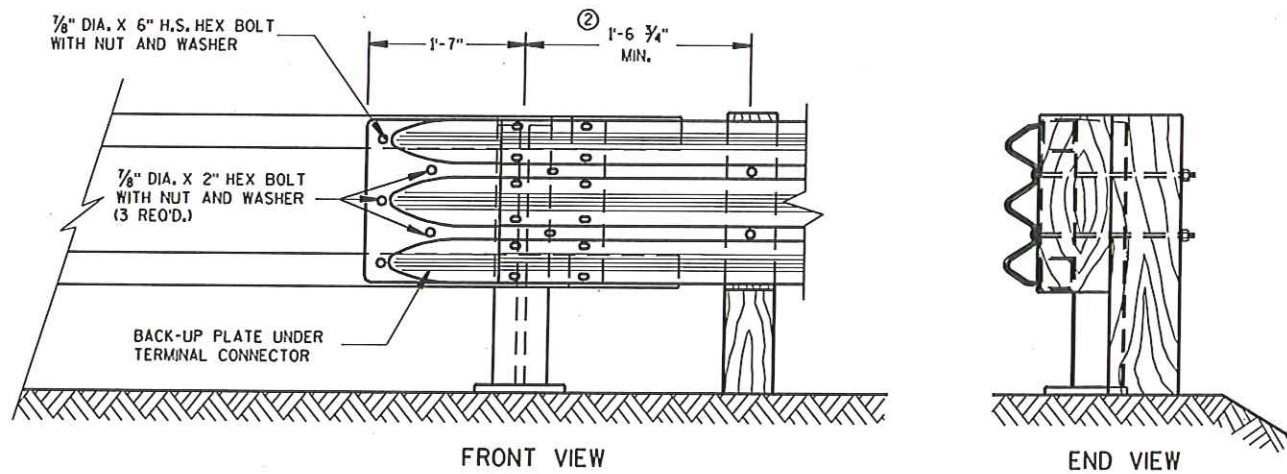
- ① INCLUDE THE PAYMENT FOR DRILLING HOLES IN RAILING IN THE ITEM "STEEL THRIE BEAM STRUCTURE APPROACH".
- ② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.



BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW
THRIE BEAM CONNECTION TO
STEEL RAILING TYPE "W"



FRONT VIEW
THRIE BEAM CONNECTION TO
TUBULAR RAILING TYPE "F"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
DATE	_____ CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

S.D.D. 14 B 20-7d

S.D.D. 14 B 20-7d