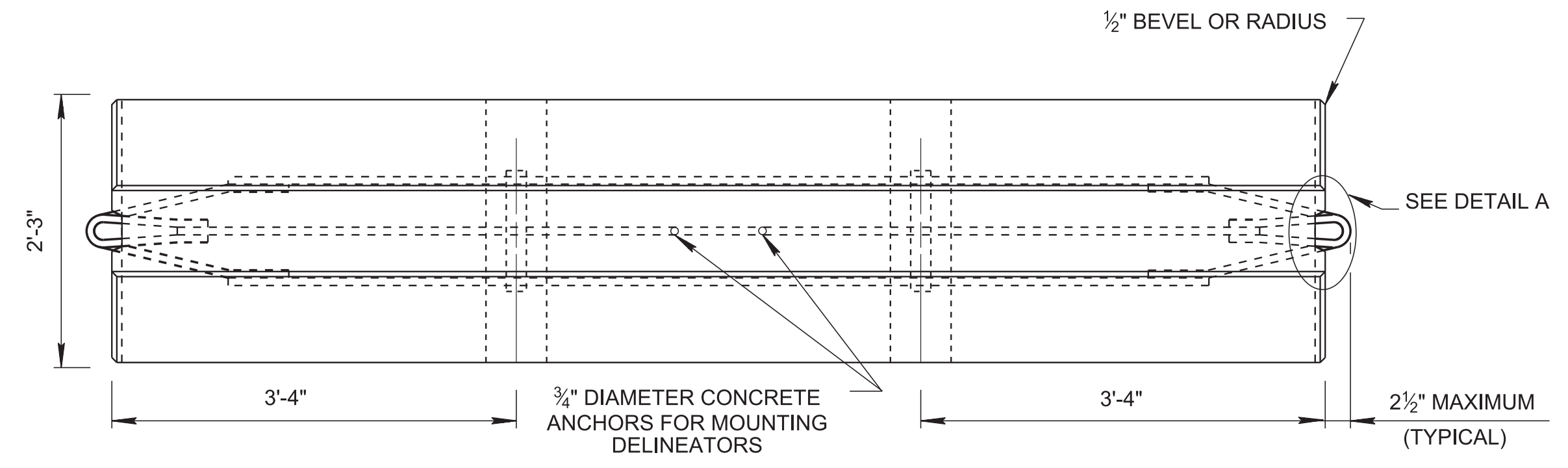
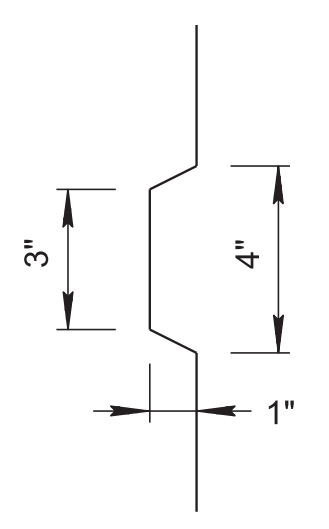


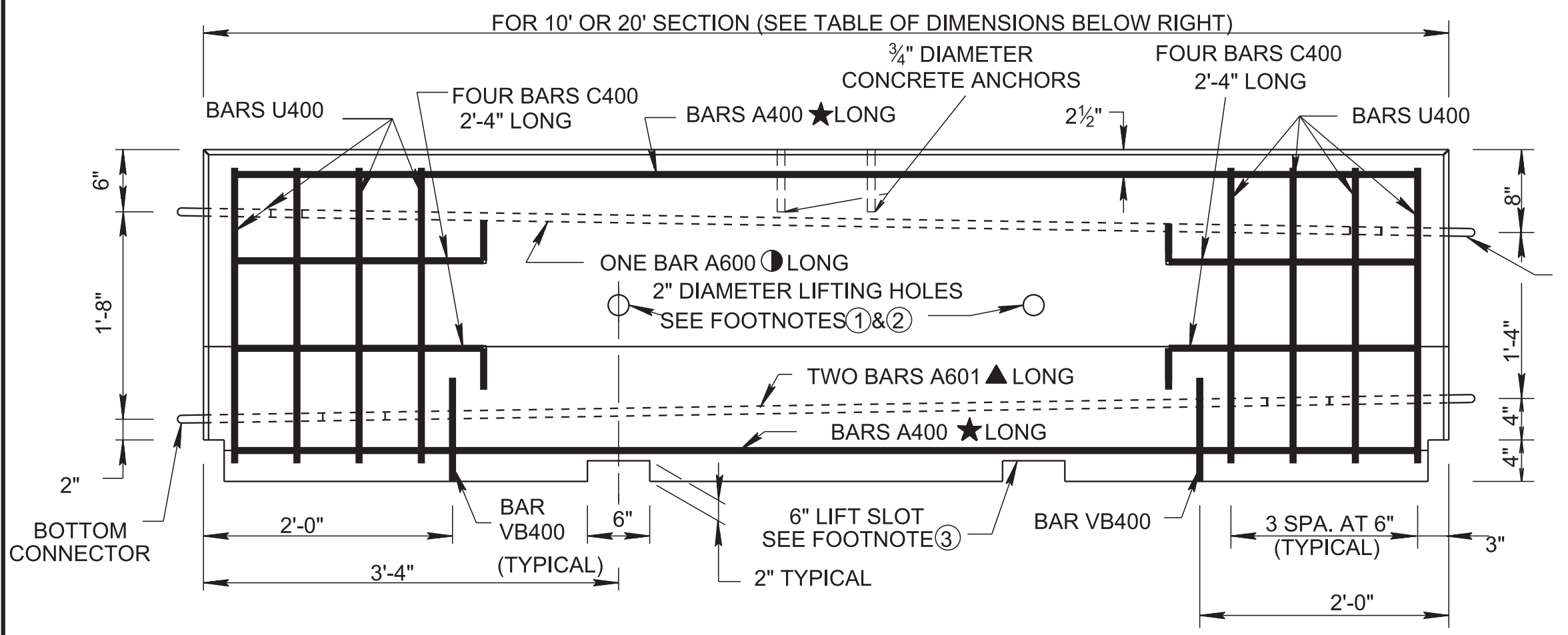
29-JUN-2017 14:38 \\AG03DCWF00008.net.ads.state.tn.us\13\SHARED\StandDraw\Working Folder For Eugene\backup dlpak on j96208\WORKSTD\2017 std dwg\TPBR1-20170316.dgn



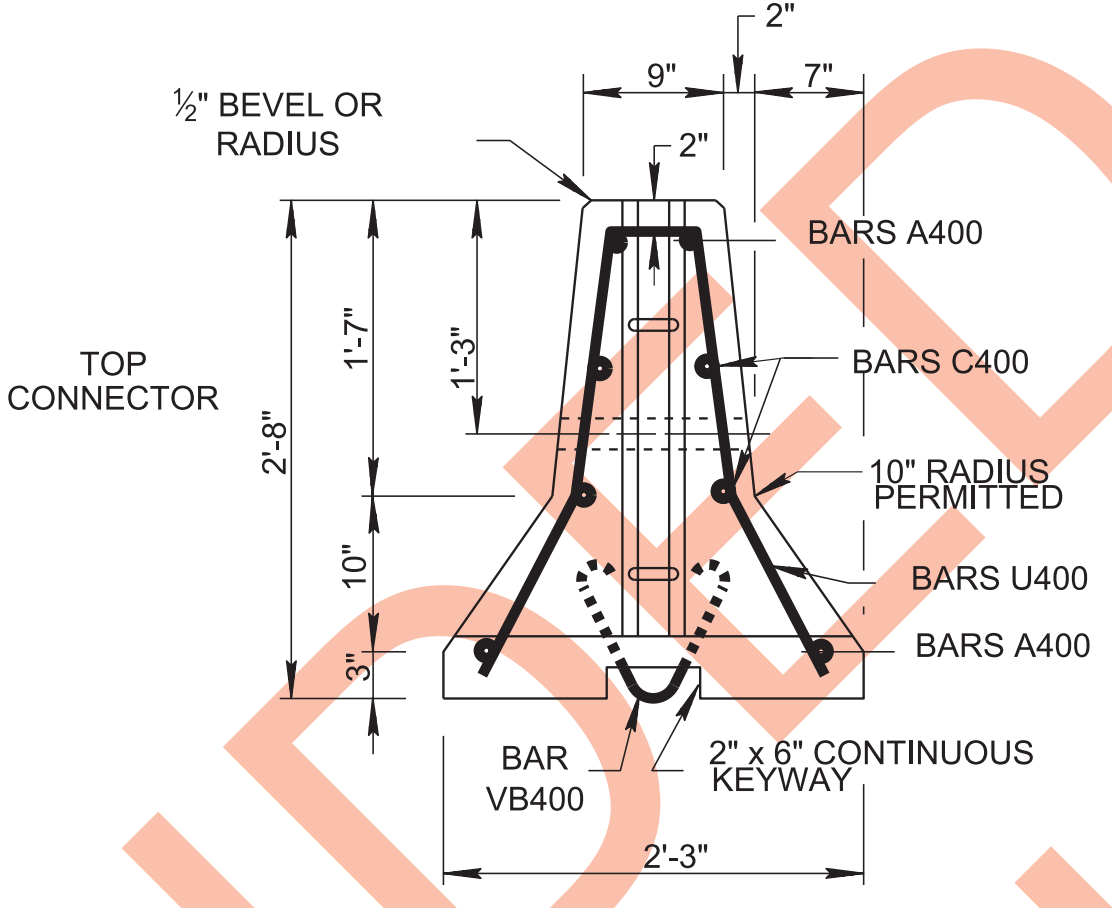
**PLAN**



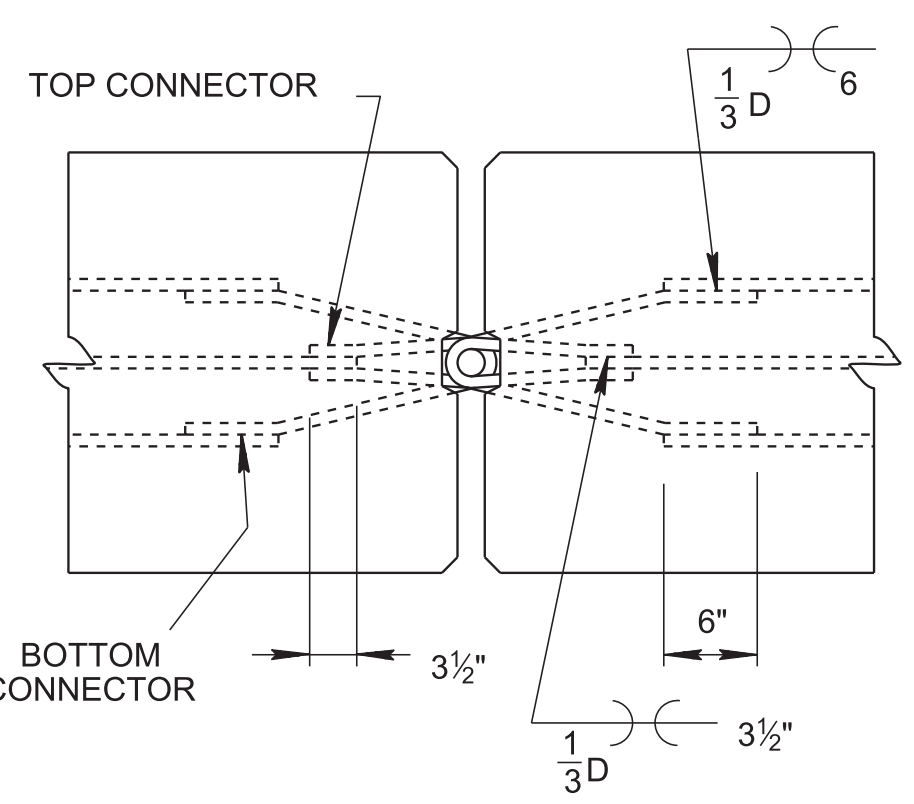
**DETAIL 'A'**  
(TOP & BOTTOM CONNECTOR NOT SHOWN)



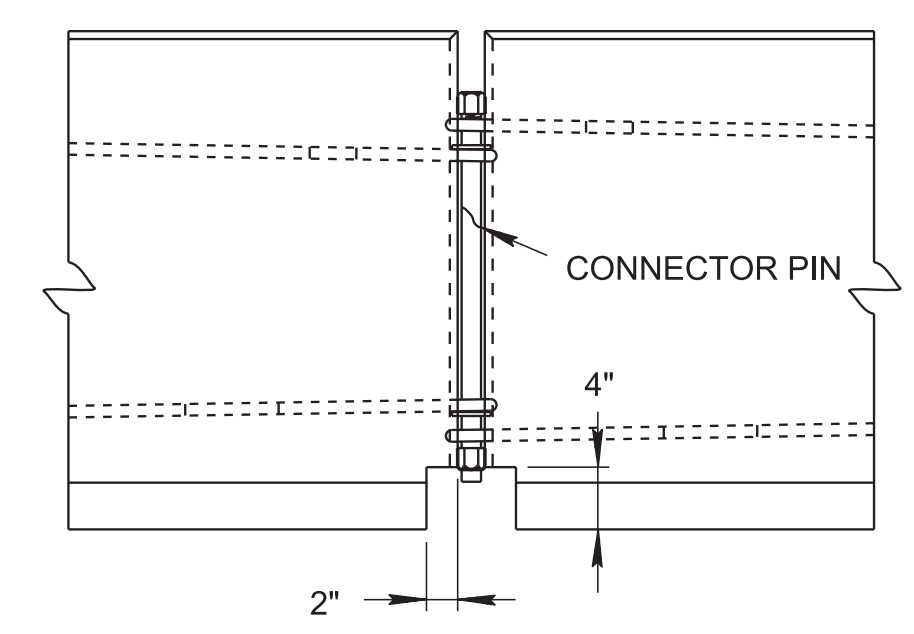
**ELEVATION**



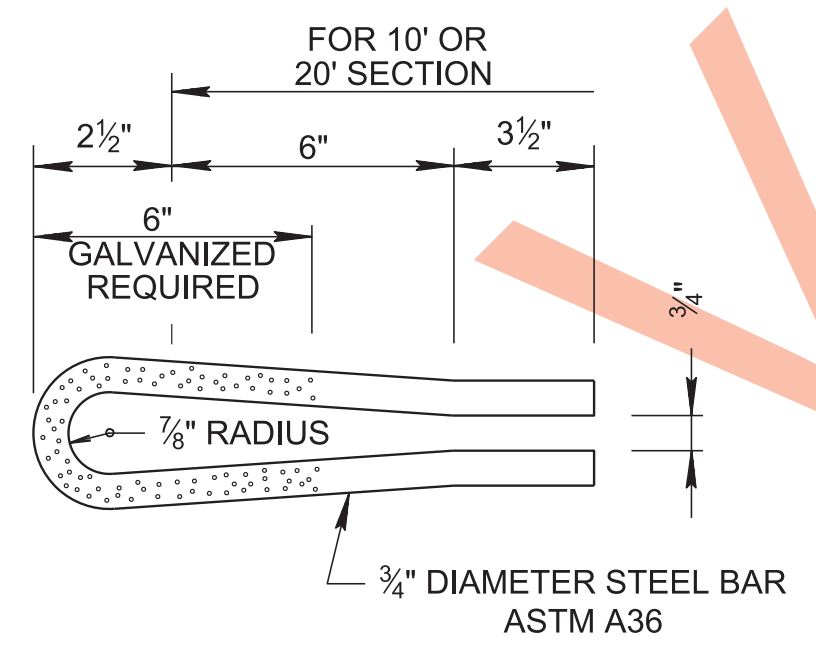
**END ELEVATION**



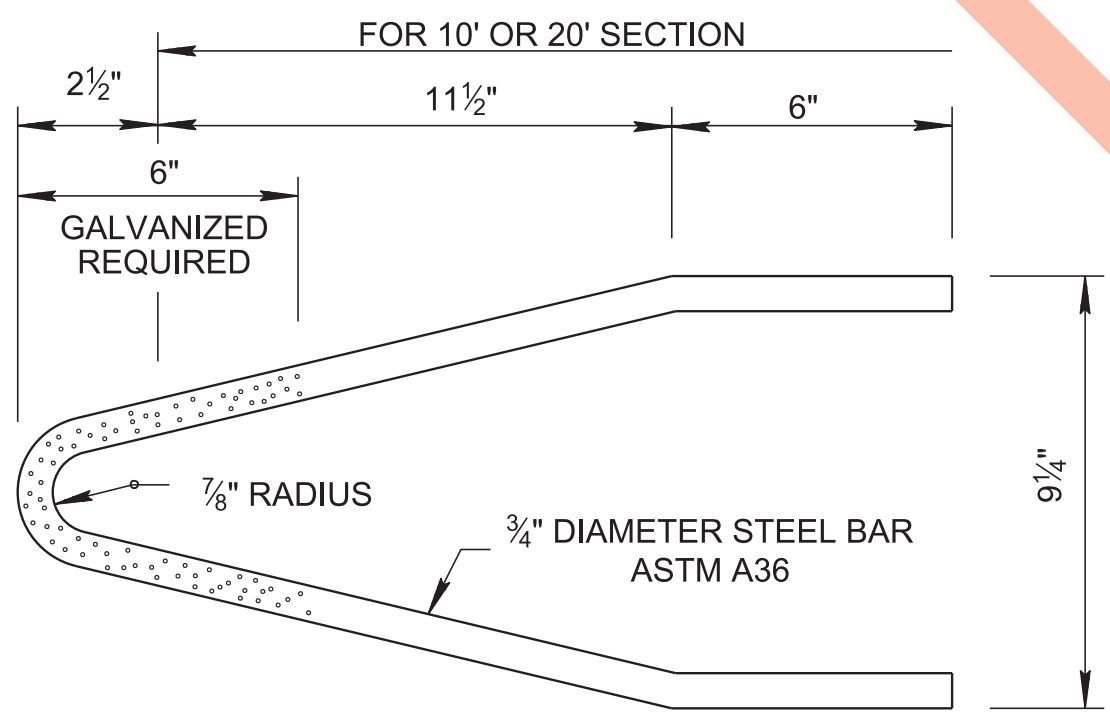
**PLAN OF CONNECTION DETAIL**



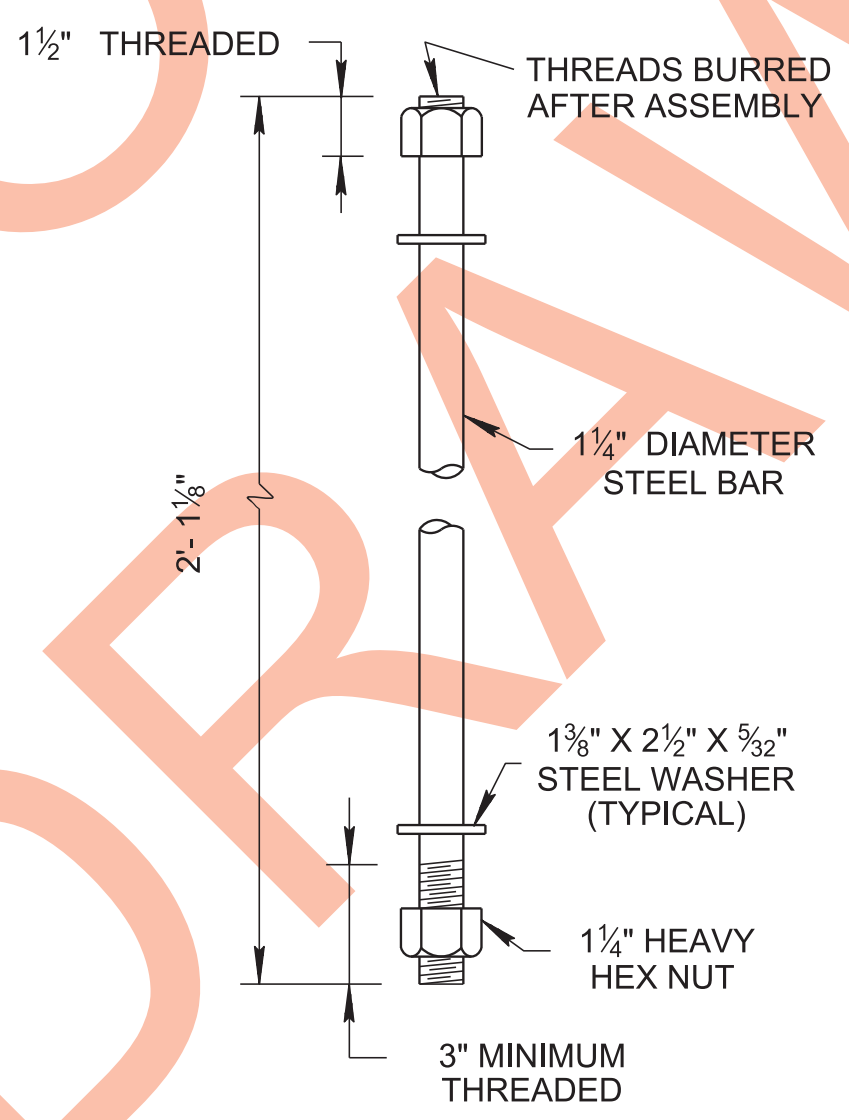
**ELEVATION OF CONNECTION DETAIL**



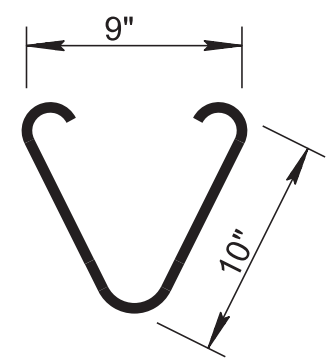
**TOP CONNECTOR**  
(GALVANIZE AFTER FORMING)



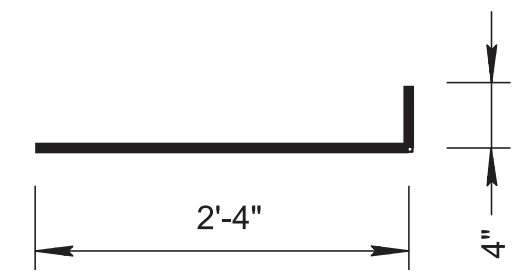
**BOTTOM CONNECTOR**  
(GALVANIZE AFTER FORMING)



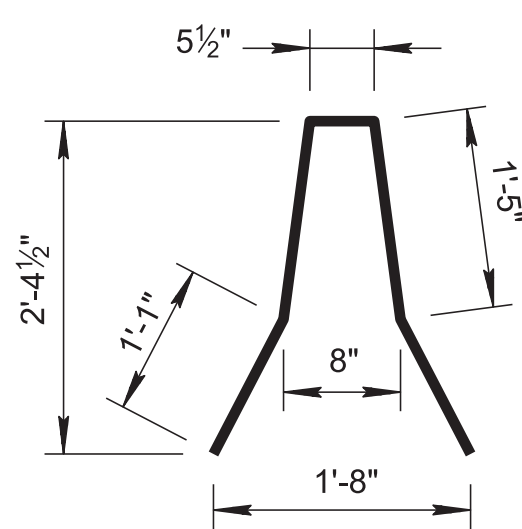
**CONNECTOR PIN**



**BAR VB400**  
(SEE GENERAL NOTE (G))



**BAR C400**



**BAR U400**

**GENERAL NOTES**

- (A) PRECAST CONCRETE BARRIER SHALL BE CONSTRUCTED WITH CLASS 'A' CONCRETE MANUFACTURED IN ACCORDANCE WITH SECTION 604 OF THE STANDARD SPECIFICATIONS.
- (B) REINFORCING STEEL: TO BE ASTM A615.
- (C) THE CONNECTOR PIN, 1 1/4" X 25 1/2" THREADED ROD OR 1 1/4" X 25 1/2" BOLT SHALL HAVE A MINIMUM OF 50,000 POUNDS TENSILE STRENGTH. THE HEAVY HEX NUTS AND THE TWO HEAVY FLAT WASHERS SHALL MEET ASTM A-325. THE CONNECTOR PIN, TOP CONNECTOR, BOTTOM CONNECTOR, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M-111.
- (D) PLACE ALL STEEL REINFORCEMENT 2" MINIMUM FROM OUTSIDE FACE OF WALL, EXCEPT AS OTHERWISE SHOWN.
- (E) PAYMENT WILL BE MADE UNDER ITEM NO. 712-02.02, INTERCONNECTED PORTABLE BARRIER RAIL PER LINEAR FOOT.
- (F) ANY SALVABLE VALUE OF THE PORTABLE BARRIER RAIL WILL BECOME THE PROPERTY OF THE CONTRACTOR. THE PORTABLE BARRIER RAIL SHALL BE MOVED OFF THE PROJECT.
- (G) WHEN INTERCONNECTED PORTABLE BARRIER RAIL IS CONSTRUCTED IN THE UPRIGHT POSITION AS SHOWN ON THIS DRAWING THE VB400 BAR WILL BECOME OPTIONAL AND MAYBE OMITTED FROM THE INSTALLATION.
- (H) ALTERNATE PRECAST BARRIERS OF THE SAME EXACT CROSS-SECTION HAVING EQUIVALENT REINFORCEMENT, BUT EQUIPPED WITH OTHER FEDERALLY APPROVED, CRASH TESTED INTERCONNECTING HARDWARE MEETING TL-3 EVALUATION CRITERIA SPECIFIED IN NCHRP REPORT 350 MAY BE SUBMITTED TO THE DIVISION OF STRUCTURES FOR AN APPROVAL. IF APPROVED, THE ALTERNATE WILL BE ADDED TO THE TDOT APPROVED QUALIFIED PRODUCT LISTS FOR ACCEPTABLE PRODUCTS.
- (I) THE CONTRACTORS, IF THEY WISH TO USE AN ALTERNATE, SHOULD CONSULT THE TDOT APPROVED QUALIFIED PRODUCT LISTS FOR ALTERNATES TO THE INTERCONNECTED PORTABLE BARRIER RAIL SHOWN ON THIS STANDARD DRAWING. THE DIVISION OF MATERIALS AND TESTS SHOULD BE CONTACTED FOR THIS LIST.
- (J) DIFFERENT SECTION LENGTHS AND DIFFERENT APPROVED CONNECTIONS CAN BE USED ON A SPECIFIC PROJECT (REFER TO GENERAL NOTES H AND I ABOVE), ONLY ONE SECTION LENGTH AND CONNECTION TYPE SHALL BE USED IN A SINGLE RUN OF INTERCONNECTED PORTABLE BARRIER RAIL.
- (K) IT IS IMPORTANT TO PROVIDE MIN. 4' DEFLECTION ZONE BEHIND THE BARRIER RAIL.
- (L) A 3" X 4" DELINEATOR SHALL BE INSTALLED ON EACH BARRIER WALL. SEE STANDARD DRAWING T-PBR-2.
- (M) WHEN A 2' OFFSET BETWEEN THE TRAVELED WAY AND BARRIER IS NOT FEASIBLE, MOUNT A DELINEATOR AS SHOWN ON T-PBR-2 AT EVERY 50'.
- (N) INTERCONNECTED PORTABLE BARRIER RAIL TO BE PAID FOR UNDER ITEM NUMBER:  
712-02.02 INTERCONNECTED PORTABLE BARRIER RAIL PER L.F.
- (O) ONLY PRODUCTS LISTED ON THE DEPARTMENT'S QPL SHALL BE USED.

**LIFTING HOLE AND SLOT FOOTNOTES**

- ① 2" DIAMETER LIFTING HOLE - 2 REQUIRED FOR EACH SECTION TO BE PLACED 3'-4" FROM EITHER END OF THE BARRIER WALL. ADDITIONAL HOLES MAY BE ADDED TO 20 FOOT SECTION LENGTHS, PLACEMENT OF ADDITIONAL HOLES TO BE AT THE DISCRETION OF THE FABRICATOR. FORMED WITH 2" PVC PIPE OR EQUAL.
- ② LIFTING BARS SHALL BE REQUIRED TO PREVENT SPALLING OF CONCRETE AROUND HOLES.
- ③ 6" LIFT SLOTS PROVIDES DRAINAGE FOR PAVEMENT DO NOT BLOCK THE OPENINGS.

**APPROXIMATE WEIGHT AND QUANTITIES**

SECTION LENGTH FEET	WEIGHT POUND	REINFORCING STEEL POUND	CONCRETE (CUBIC YARD)
10	4,860	108	1.2
20	9,720	180	2.4

**BILL OF STEEL**

BAR	SIZE	NO. REQUIRED	LENGTH	
			10'	20'
A400	4	4	9'-6"	19'-6"
A600	6	1	9'-0"	19'-0"
A601	6	2	8'-1"	18'-1"
C400	4	8	2'-8"	2'-8"
U400	4	8	5'-6"	5'-6"
VB400	4	2	2'-1"	2'-1"

- REV. 4-22-91: CHANGED GENERAL NOTE (C) TO INCLUDE TOP CONNECTOR AND BOTTOM CONNECTOR UNDER GALVANIZING SPECIFICATION AASHTO M-111.
- REV. 7-29-91: ADDED GENERAL NOTE (E).
- REV. 1-19-92: CHANGED DRAWING NUMBER FROM S-PR-1 TO T-PBR-1. ADDED 3/4" DIAMETER CONCRETE ANCHORS. CHANGED FOOTNOTE (I) ADDED FOOTNOTE (J).
- REV. 1-19-96: CHANGED DIMENSION ON C400 BAR.
- REV. 5-27-99: ADDED GENERAL NOTES (H) AND (L).
- REV. 3-10-00: ADDED GENERAL NOTE (I).
- REV. 2-22-04: ADDED C400 BAR TO BILL OF STEEL TABLE.
- REV. 6-30-09: ADDED GENERAL NOTE (K) AND CHANGED GENERAL NOTE (H) CHANGED SLOT FOOTNOTES (J) AND APPROXIMATE WEIGHT AND QUANTITIES.
- REV. 3-16-17: ADDED GENERAL NOTES (L), (M), (N) AND ITEM NUMBERS. REVISED BILL OF STEEL. REPLACED VERTICAL PANELS WITH DELINEATORS.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

**STATE OF TENNESSEE  
DEPARTMENT OF  
TRANSPORTATION**

**INTERCONNECTED  
PORTABLE  
BARRIER  
RAIL**

2-28-91 T-PBR-1