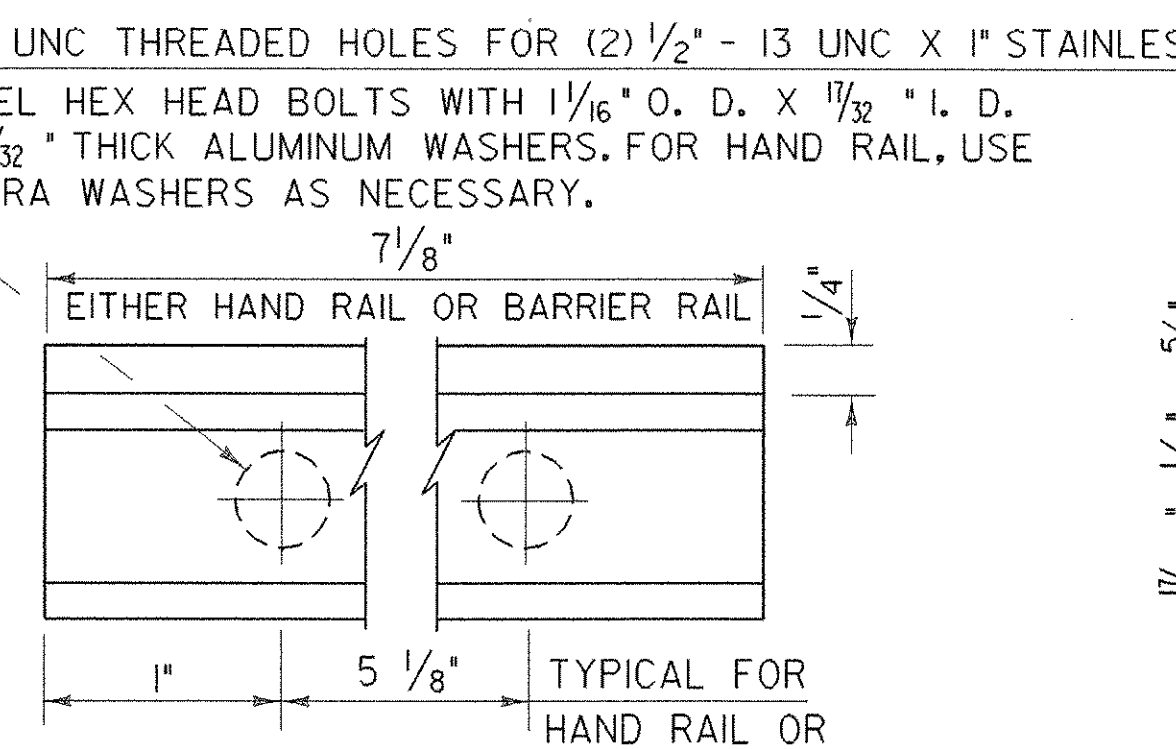
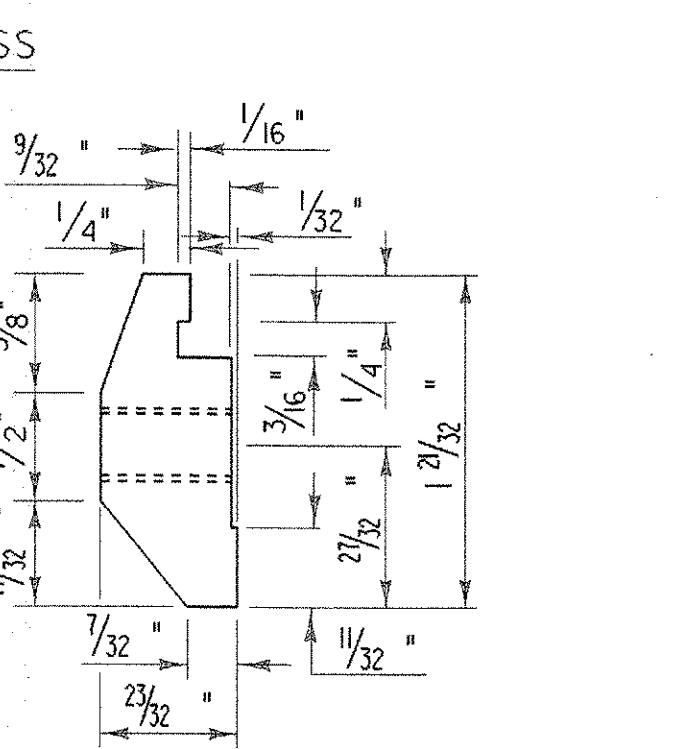


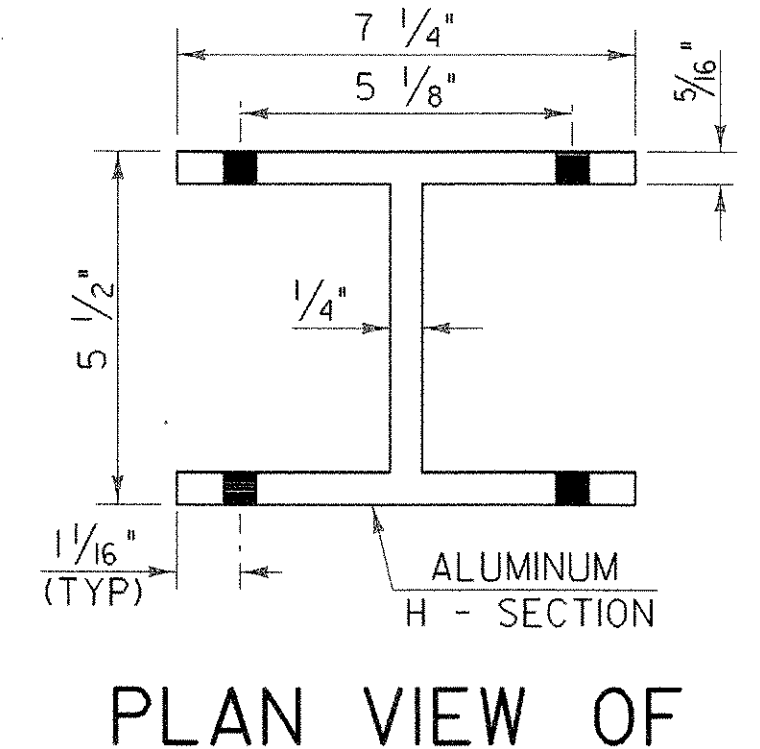
**POST CONNECTION  
HAND RAIL SECTION**



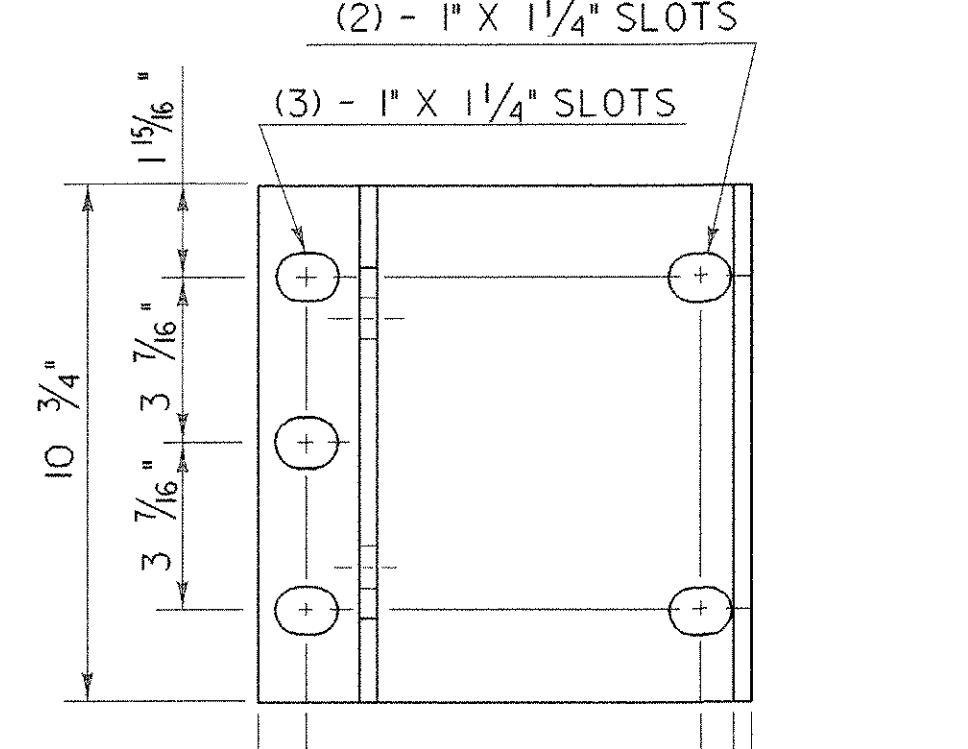
**POST CONNECTION  
BARRIER RAIL SECTION**



**POST CONNECTION  
BARRIER RAIL SECTION**

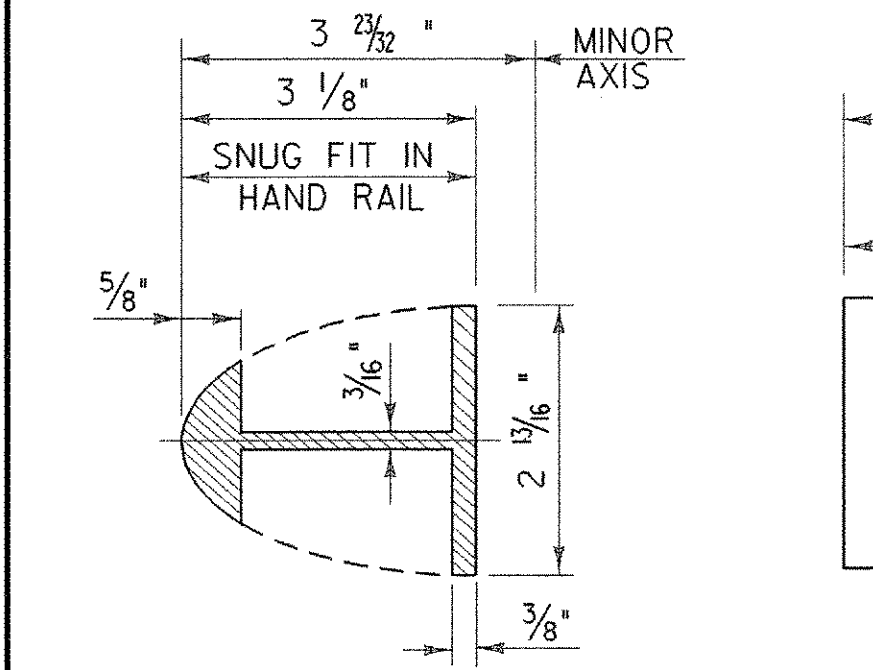


**PLAN VIEW OF  
OFFSET BLOCK  
(TO BE USED ON  
SUPERSTRUCTURE  
ON CURB SIDE)**

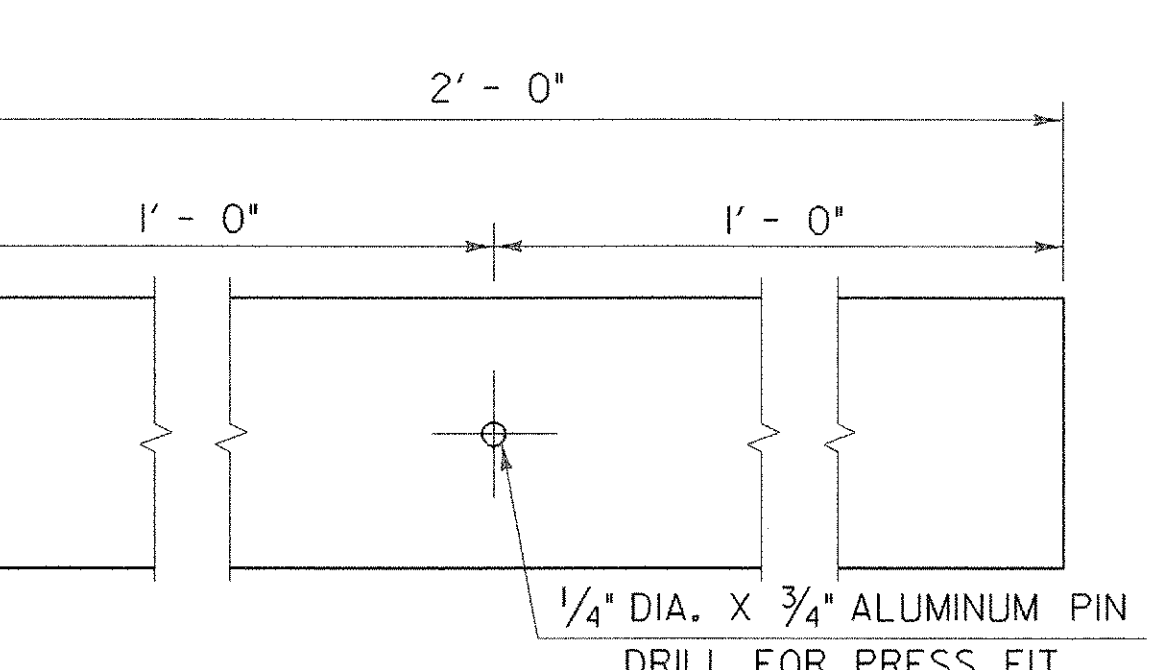


**POST BASE  
PLAN**

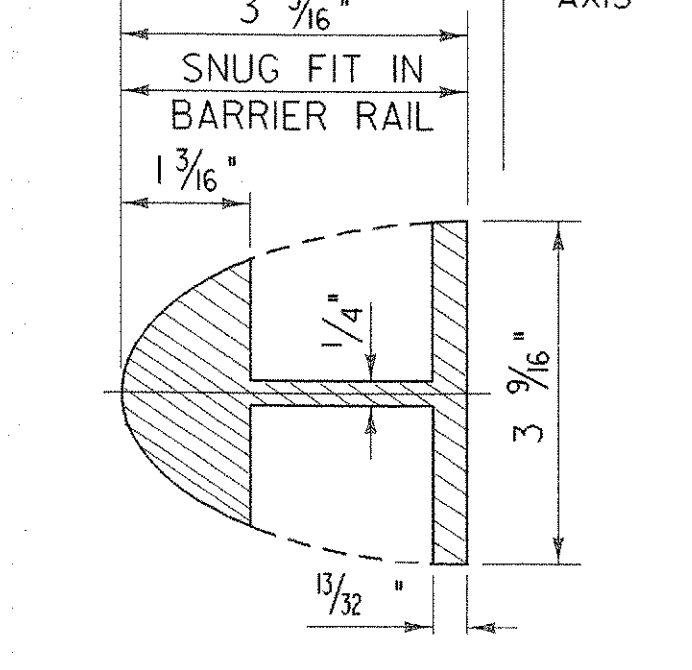
- NOTES**
- ANCHOR BOLTS, WASHERS & HEAVY HEX NUTS MAY BE ANY OF THE FOLLOWING BUT ARE NOT REQUIRED TO BE ANODIZED BLACK:
    - ASTM A449 GALVANIZED, OR
    - BOLTS AND WASHERS OF STAINLESS STEEL ASTM A276, TYPE 304 (MINIMUM ULTIMATE STRENGTH OF 100,000 PSI) WITH STAINLESS STEEL NUTS OF ASTM A194, GRADE 8NA.
  - ALUMINUM POSTS, POST BASES, SPLICE BARS, CONNECTION BARS, RAILS AND BALUSTER FRAMES SHALL CONFORM TO ASTM B221 ALLOY 6061-T6 OR ALLOY 6351-T5. MINIMUM ALLOWABLE STRESS  $F_y = 35,000$  PSI.
  - ALUMINUM BALUSTER TUBES SHALL CONFORM TO ASTM B210 ALLOY 6061-T5 OR 6063-T5.
  - ALUMINUM RAIL END CAPS SHALL CONFORM TO ASTM B26 ALLOY 356-T6.
  - THE POST, RAIL, AND OFFSET BLOCK CONNECTION BOLTS SHALL CONFORM TO ASTM F 738M, CLASS A1-50, CONDITION AF, ALLOY TYPE 304. NUTS FOR THESE BOLTS SHALL CONFORM TO ASTM 836M, CLASS A1-50, CONDITION AF, ALLOY TYPE 304.
  - SET SCREWS FOR ATTACHING BALUSTERS TO RAILING SHALL CONFORM TO ASTM F 808M, CLASS A1-70, CONDITION CW, ALLOY TYPE 304.
  - RIVETS SHALL BE COLD DRIVEN HIGH BUTTON HEAD "CONE POINT", CONFORMING TO ASTM B316 ALLOY 6061-T6.
  - THE ANCHOR PLATE FOR THE POST ANCHOR ASSEMBLY SHALL BE ASTM A36 STRUCTURAL STEEL.
  - WELDING SHALL CONFORM TO THE REQUIREMENTS OF SUBSECTION 506.10 USING THE GMAW-INERT GAS PROCESS AND AWS ER 5356 ELECTRODE WIRE.
  - UNLESS OTHERWISE SPECIFIED, ANCHOR BOLTS SHALL BE CAST INTO THE CONCRETE AS DETAILED.
  - WHENEVER FEASIBLE BARRIER RAIL AND HAND RAIL SECTIONS, SHALL BE FULL LENGTH SECTIONS (40' ±) AND WHEN POSSIBLE SHALL BE ATTACHED TO THREE POSTS. RAILS SHALL BE SPLICED AT EACH DECK JOINT AND INTERMITTENTLY AS REQUIRED. SPLICES SHALL OCCUR WITHIN THE SAME PANEL.
  - ENDS OF RAILS SHALL BE CUT SQUARE AND GROUND FREE OF BURRS OR RAGGED EDGES. EXPOSED ENDS SHALL BE CAPPED.
  - THE CONCRETE CONTACT SURFACE AT THE POST BASE SHALL BE BUSH HAMMERED AND/OR SHIMMED AS REQUIRED FOR PROPER POST ALIGNMENT. POST HEIGHT ADJUSTMENTS LESS THAN 1/4" SHALL BE WITH 1/16" AND 1/8" SHIMS. CORRECTIONS EXCEEDING 1/4" SHALL BE WITH EPOXY MORTAR CONFORMING WITH SECTION 530. FABRIC BEARING PADS AND ANY REQUIRED SHIMS OR EPOXY MORTAR ARE INCIDENTAL TO THE UNIT PRICE BID FOR THE RAILING.
  - SHIMS AND 1/8" FABRIC BEARING PADS SHALL BE 10 3/4" SQUARE WITH SLOTTED HOLES SIZED AND LOCATED THE SAME AS THE POST BASE DETAIL. FABRIC BEARING PADS SHALL CONFORM TO SUBSECTION 731.01 OR 731.02. SHIM MATERIAL SHALL BE ASTM B 209 ALLOY 1100-0.
  - EXTRUDED SECTIONS ARE DETAILED TO COMPLY WITH CURRENT AASHTO-ACC-ARTBA STANDARDS. MINOR VARIATIONS OF THE DETAILS SHOWN MAY BE CONSIDERED PROVIDING THEY DO NOT REDUCE THE STRENGTH CAPACITY OF THE RAIL SYSTEM.
  - ALUMINUM WASHERS SHALL BE ASTM B209 ALLOY ACLAD 2024-T4.
  - RAIL POSTS SHALL CONFORM TO ASTM SPEC. B 308/ B 308M.
  - THE RAILING SYSTEM AND ASSOCIATED HARDWARE SHALL BE ANODIZED TO A BLACK SATIN FINISH EXCEPT AS NOTED, SEE SPECIAL PROVISIONS.



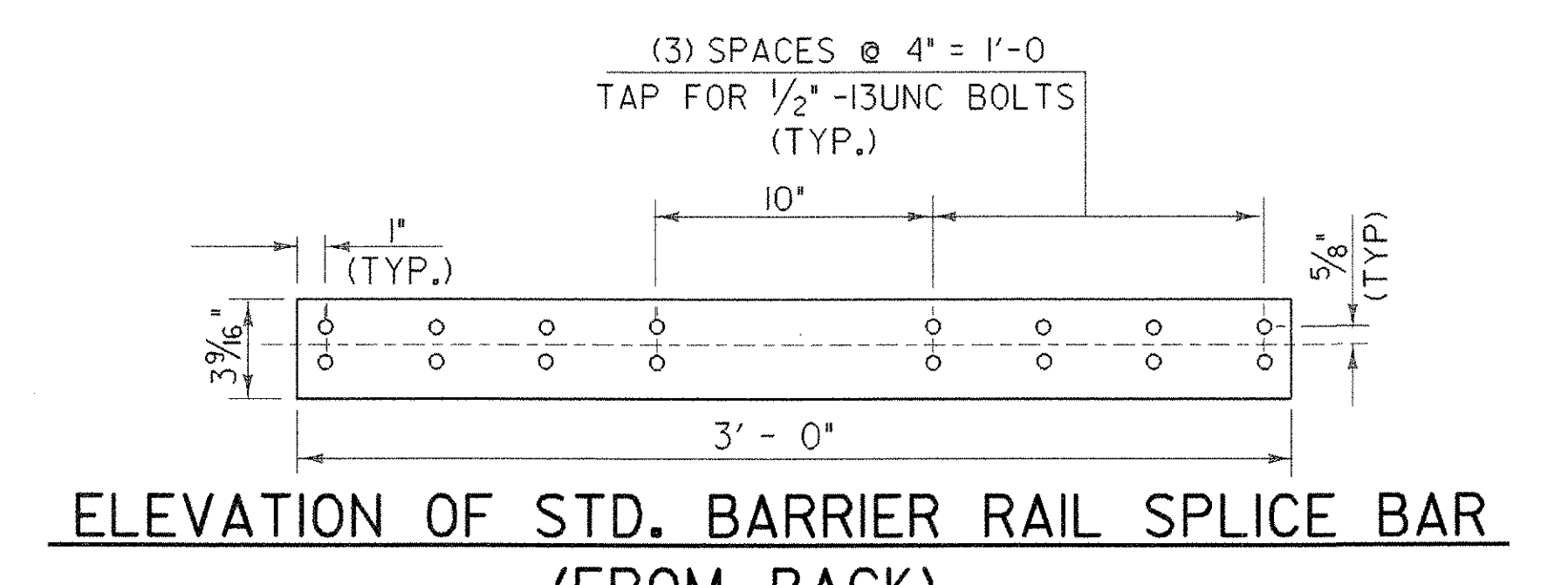
**HAND RAIL  
SPLICE SECTION**



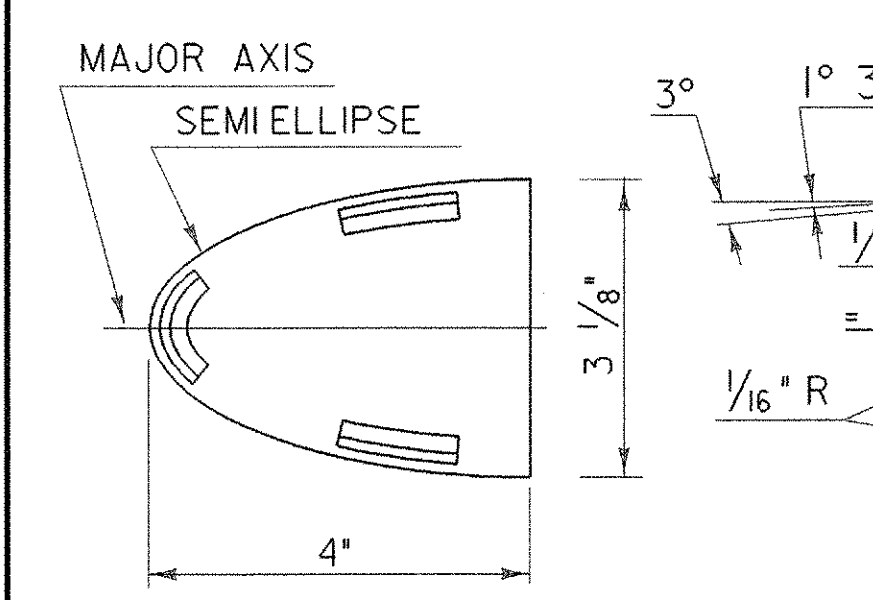
**ELEVATION OF  
HAND RAIL SPLICE BAR**



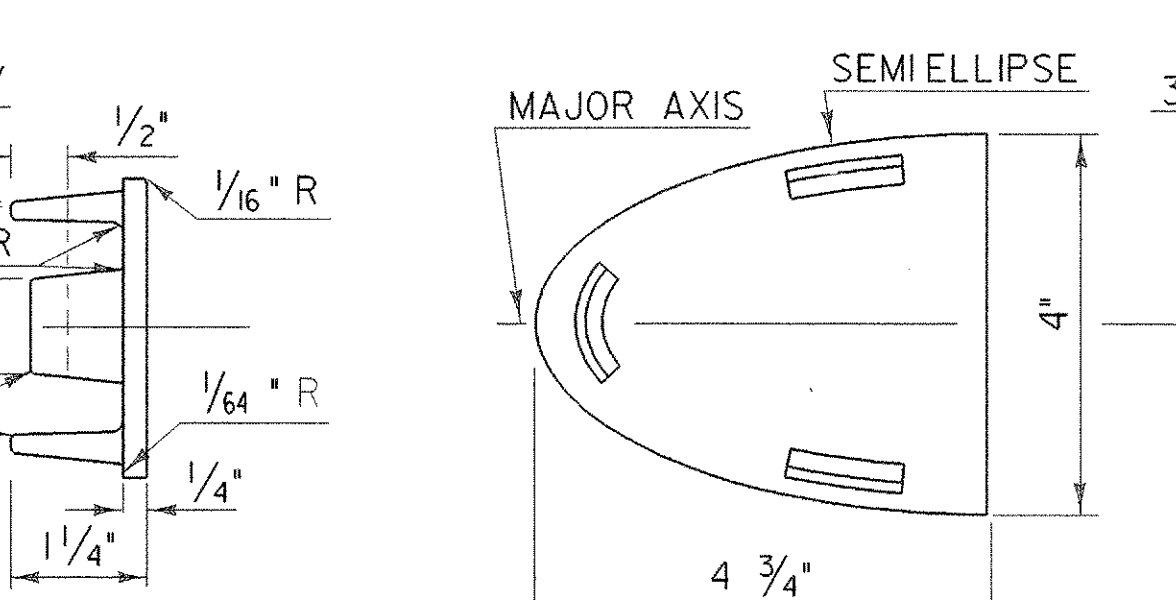
**BARRIER RAIL  
SPLICE SECTION**



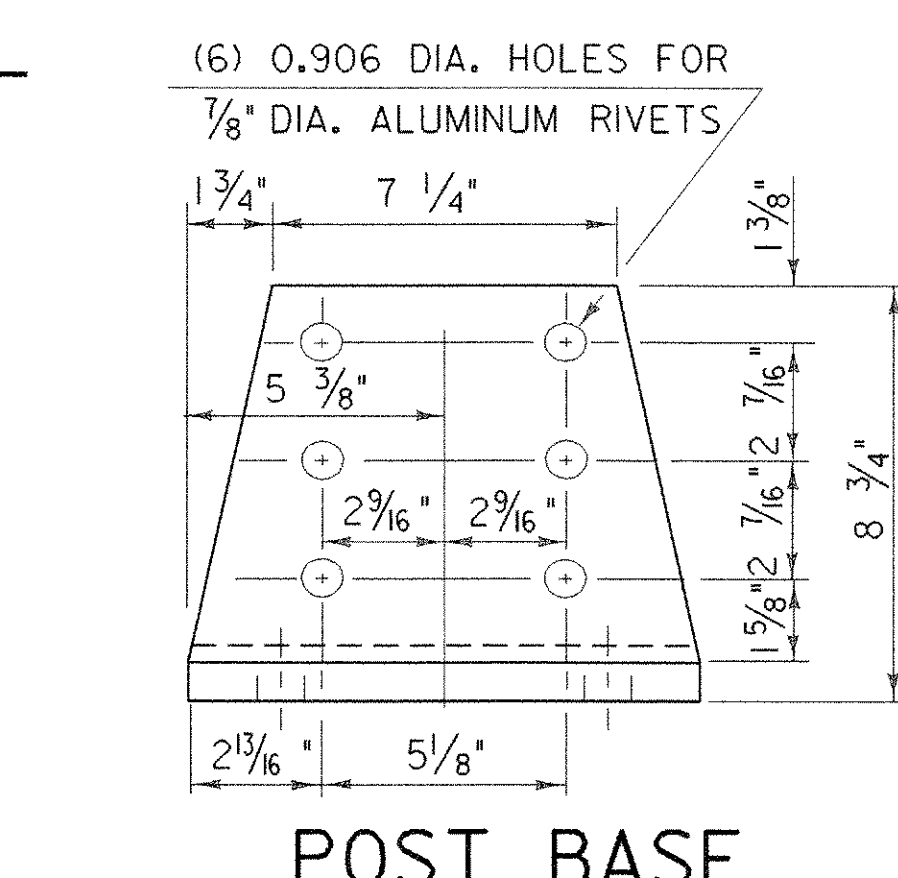
**ELEVATION OF STD. BARRIER RAIL SPLICE BAR  
(FROM BACK)**



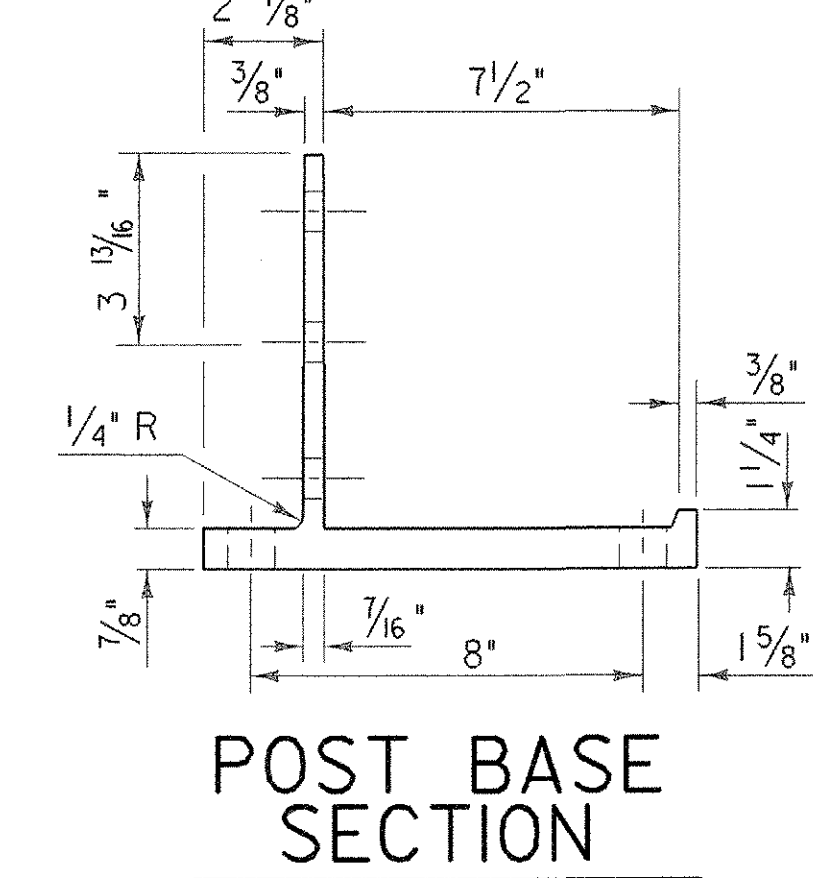
**HAND RAIL END CAP**



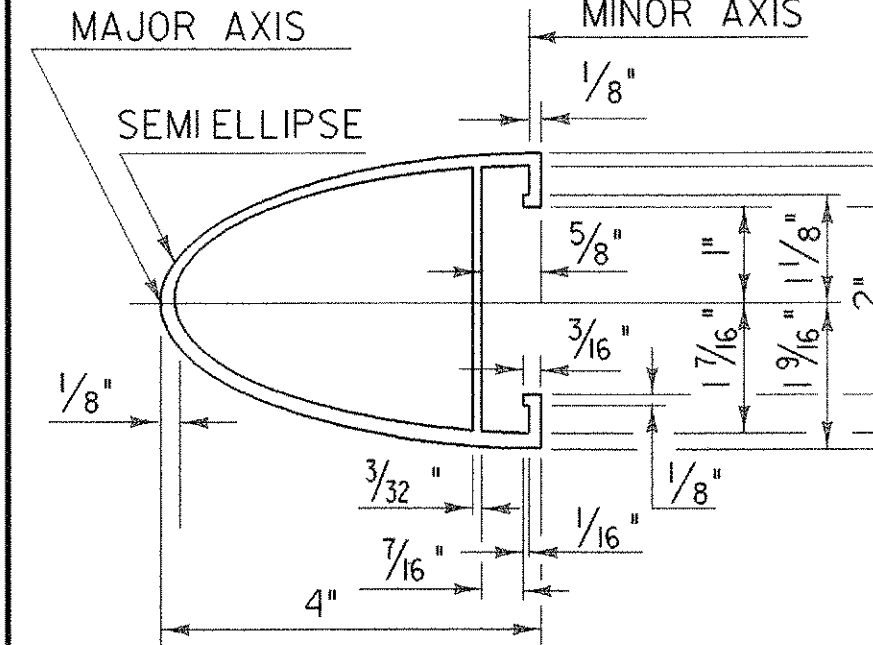
**BARRIER RAIL END CAP**



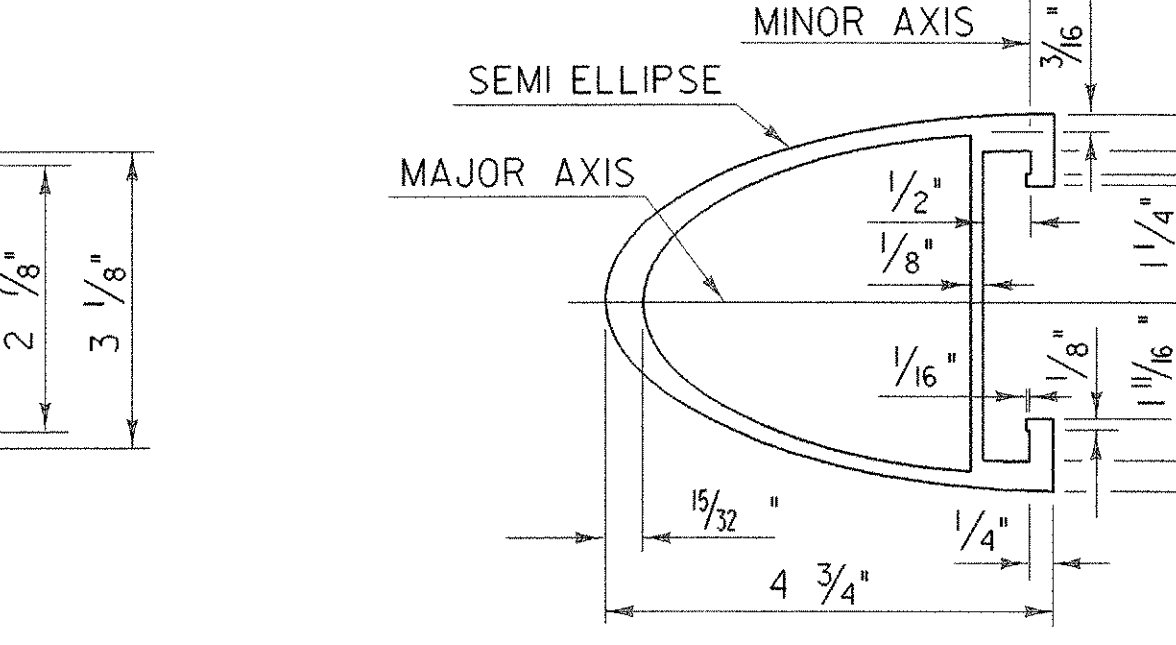
**POST BASE  
FRONT ELEVATION**



**POST BASE  
SECTION**

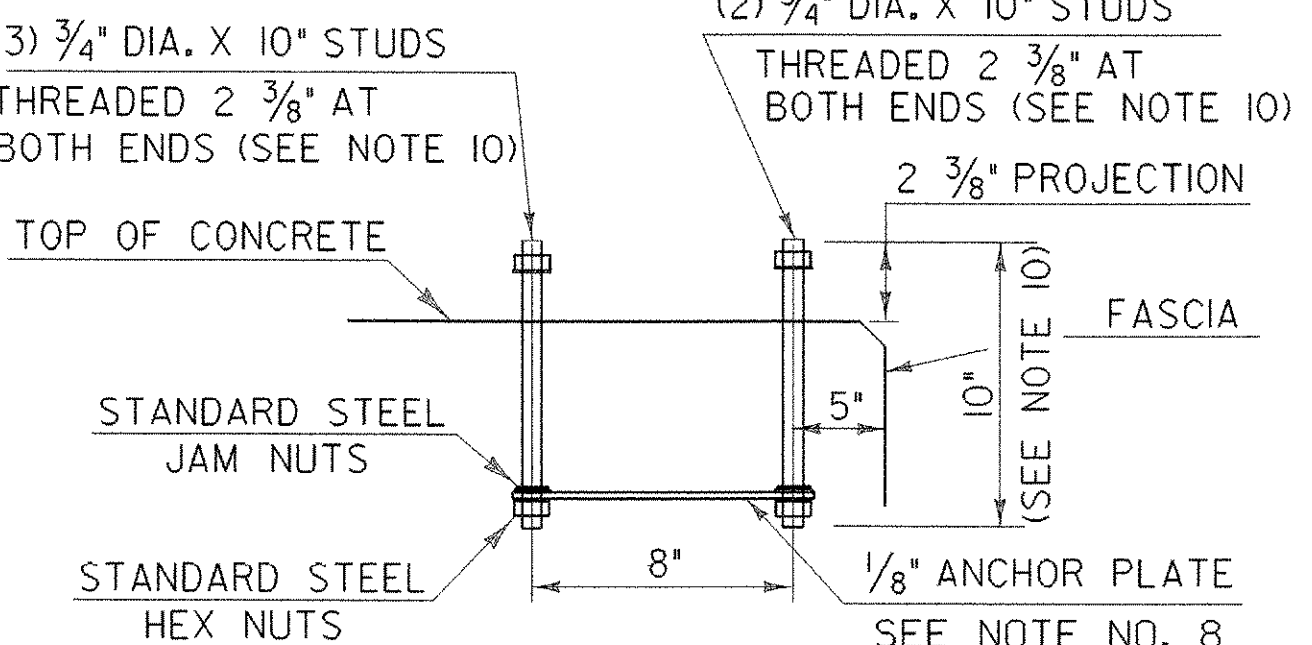


**HAND RAIL SECTION**

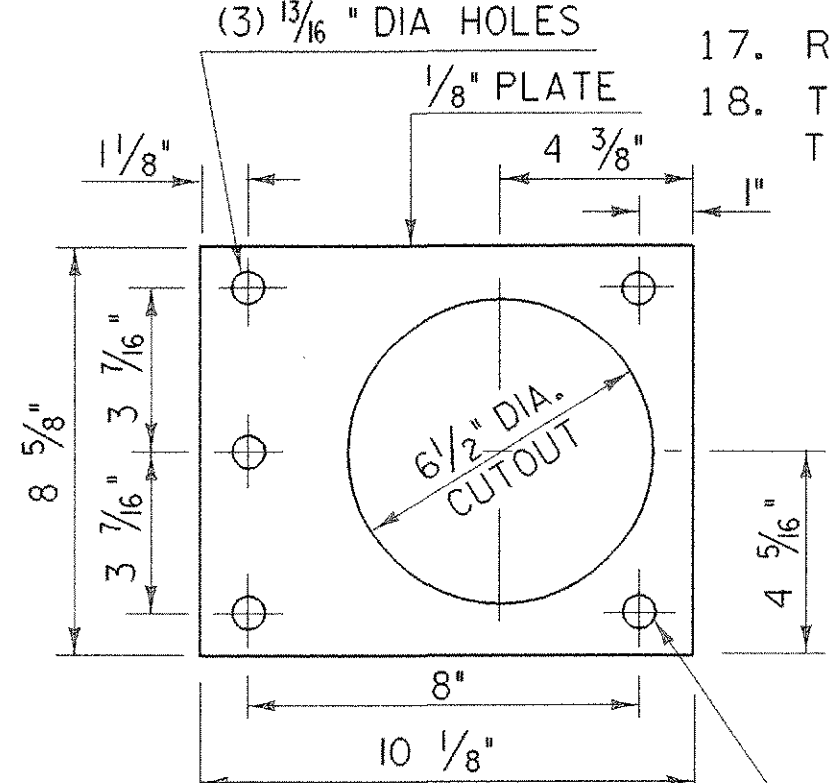


**BARRIER RAIL SECTION**

(SEE SHEET 25 FOR ELEVATION OF BARRIER RAIL)



**POST ANCHOR ASSEMBLY**



**ANCHOR PLATE**

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	CAMBRIDGE	Bridge No.	20
Highway No.	VT 15	Log Sta.	
		Surv. Sta.	
<b>VT 15 OVER LAMOILLE RIVER</b>			
<b>ALUMINUM BRIDGE RAILING DETAILS (SHEET 2)</b>			
Designed By	B. W. ERNST	Drawn By	
Checked By		Bridge Design Supervisor	
		R. R. WHITCOMB	Date: 1/3/2006
PROJECT	CAMBRIDGE	PROJECT NO.	BHF 030-2(1)S
I.G.C. Info.			zb308br2.dgn
Bridge Sheet No.		Sheet	55 of 68