

STRUCTURAL CONCRETE INSERT

- A. FERRULES SHALL BE MADE FROM STEEL MEETING THE REQUIREMENTS OF AASHTO M169, GRADE 12L14 AND SHALL HAVE A MINIMUM LENGTH OF THREADS OF 1½".
- B. 1 - ¾" Ø x 1⅝" BOLT WITH WASHER. BOLT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307. BOLT AND WASHER SHALL BE GALVANIZED. (AT THE CONTRACTOR'S OPTION, STAINLESS STEEL BOLT AND WASHER MAY BE USED AS AN ALTERNATE FOR THE ¾" Ø x 1⅝" GALVANIZED BOLT AND WASHER. THEY SHALL CONFORM TO OR EXCEED THE MECHANICAL REQUIREMENTS OF ASTM A307. THE USE OF THIS ALTERNATE SHALL BE APPROVED BY THE ENGINEER.)
- C. WIRE STRUT SHOWN IN THE CONCRETE INSERT ASSEMBLY DETAIL IS THE MINIMUM ALLOWABLE SIZE AND SHALL HAVE A MINIMUM TENSILE STRENGTH OF 100,000 PSI. AS AN OPTION, A ⅞" Ø WIRE STRUT WITH A MINIMUM TENSILE STRENGTH OF 90,000 PSI IS ACCEPTABLE.

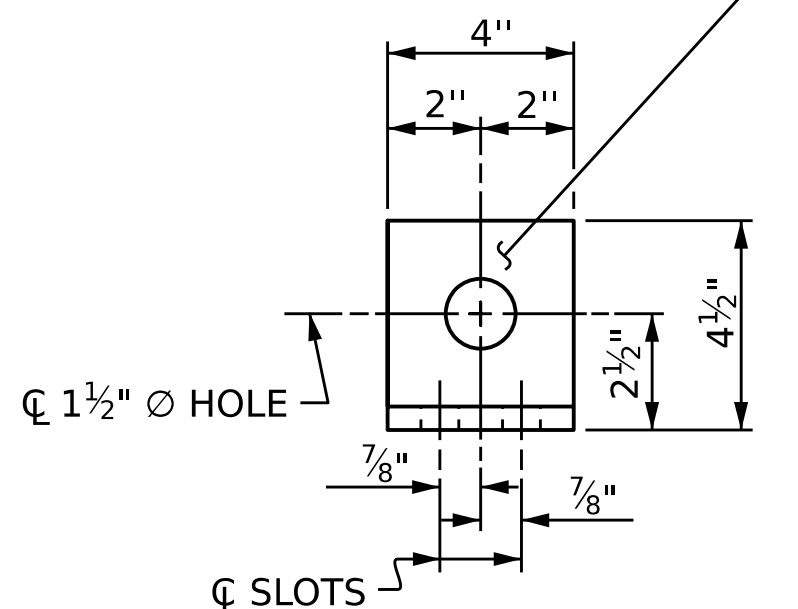
METAL RAIL TO END POST CONNECTION

- A. 1/2" PLATES SHALL CONFORM TO ASTM A36 GRADE 36 AND SHALL BE GALVANIZED AFTER FABRICATION.
- B. 3/4" STRUCTURAL CONCRETE INSERT SHALL HAVE A WORKING LOAD SHEAR CAPACITY OF 4800 LBS. THE FERRULES SHALL ENGAGE A 3/4" Ø x 1 5/8" BOLT WITH 2" O.D. WASHER IN PLACE. THE 3/4" Ø x 1 5/8" BOLT SHALL HAVE N. C. THREADS.
- C. CAP SCREWS FOR RAIL ATTACHMENT TO ANGLE SHALL CONFORM TO THE REQUIREMENTS OF ASTM F593 ALLOY 305 STAINLESS STEEL. CAP SCREWS TO BE CENTERED IN SLOTS AT 60°F.
- D. STANDARD CLAMP BARS (SEE METAL RAIL SHEET).
- E. 1/2" Ø PIPE SLEEVES (IF REQUIRED) TO BE GALVANIZED.

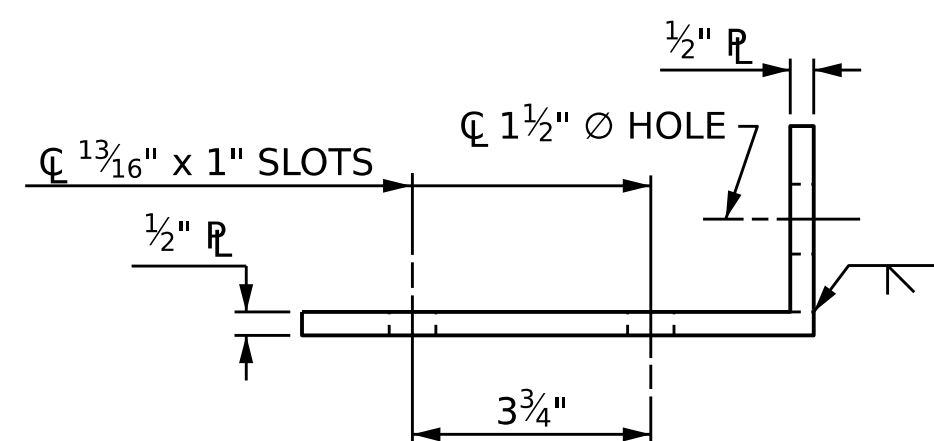
THE 3/4" STRUCTURAL CONCRETE INSERT WITH BOLT SHALL BE ASSEMBLED IN THE SHOP.

THE CONTRACTOR, AT HIS OPTION, MAY USE AN ADHESIVE BONDING SYSTEM IN LIEU OF THE STRUCTURAL CONCRETE INSERT EMBEDDED IN THE END POST. IF THE ADHESIVE BONDING SYSTEM IS USED, THE $\frac{3}{4}$ " \times $1\frac{5}{8}$ " BOLT WITH WASHER SHALL BE REPLACED WITH A $\frac{3}{4}$ " \times $6\frac{1}{2}$ " BOLT AND 2" O.D. WASHER. ALL SPECIFICATIONS THAT APPLY TO THE $\frac{3}{4}$ " \times $1\frac{5}{8}$ " BOLT SHALL APPLY TO THE $\frac{3}{4}$ " \times $6\frac{1}{2}$ " BOLT. FIELD TESTING OF THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

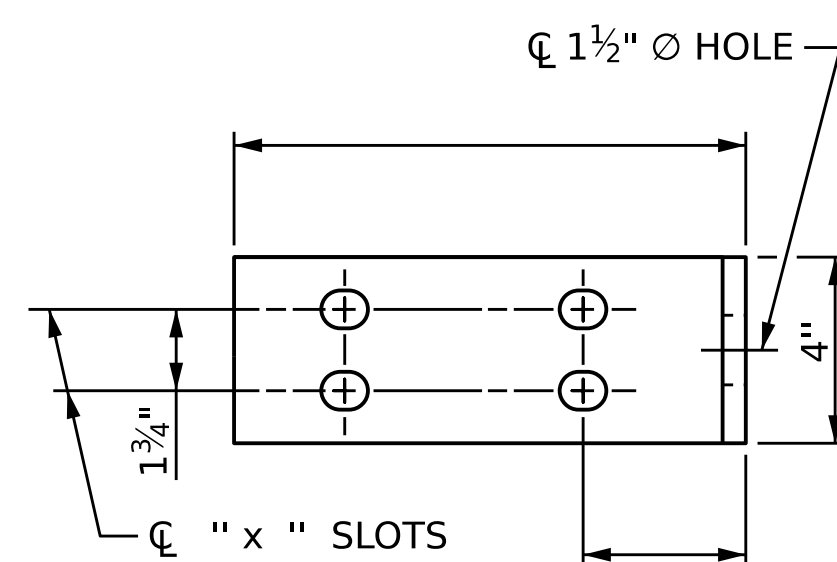
ANGLE TO BE MADE FROM
 $\frac{1}{2}$ " x 4" x 11" PL AND
 $\frac{1}{2}$ " x 4" x 4" PL \longrightarrow



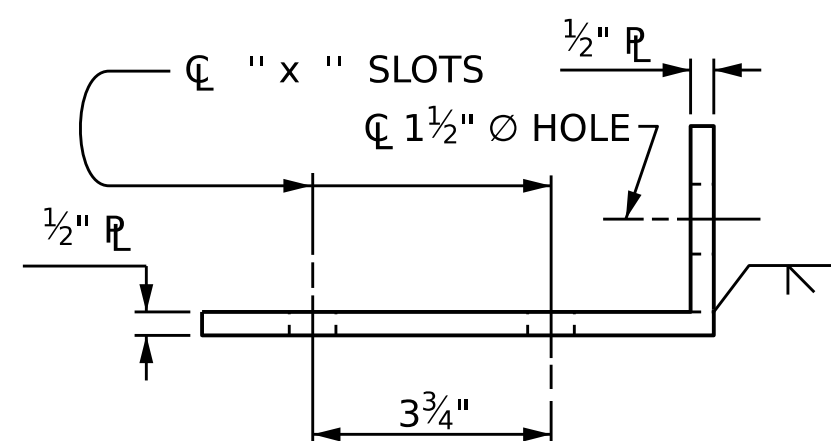
END VIEW (FIX AND EXP.)



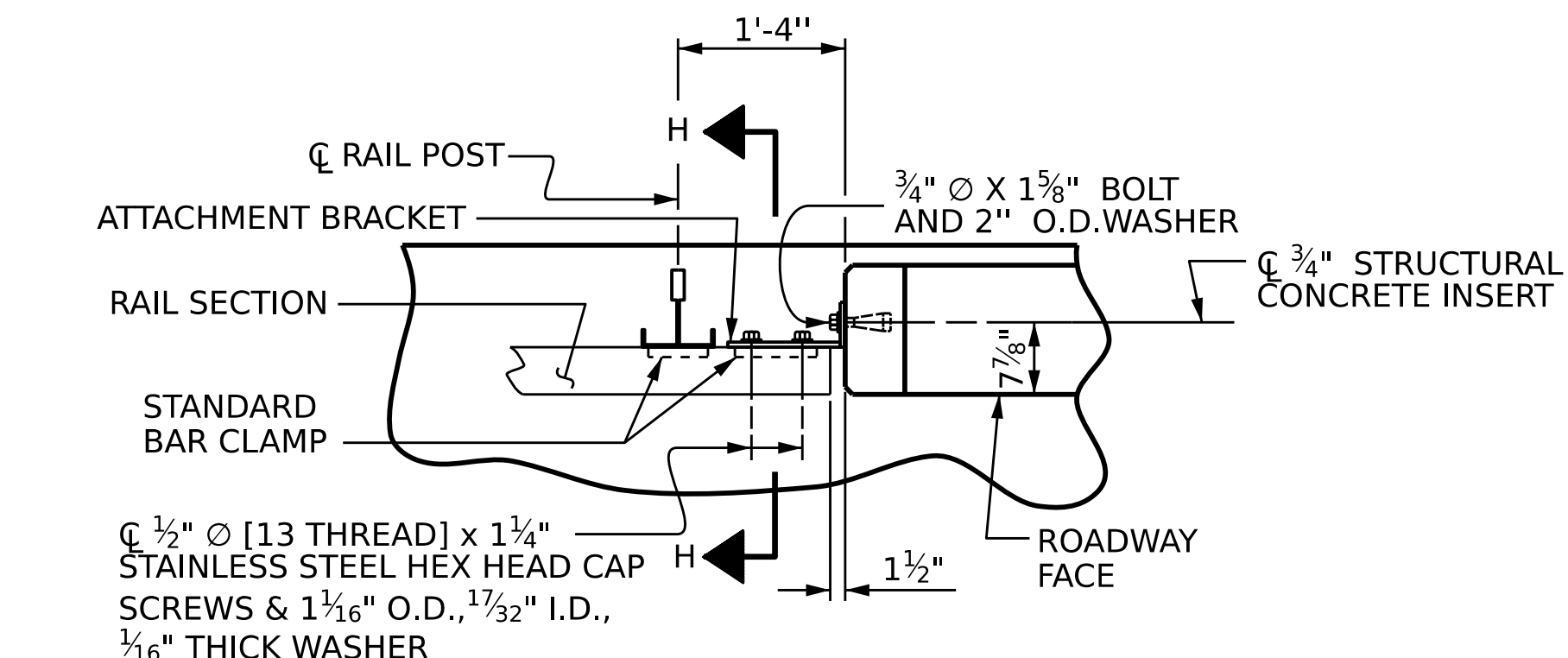
FIXED



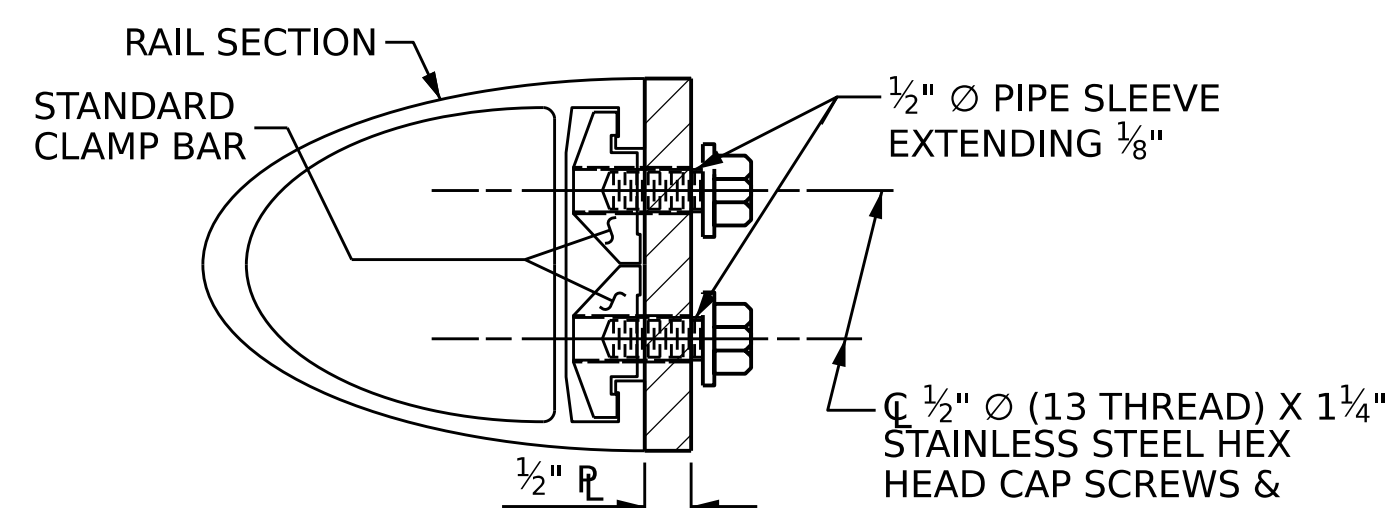
ELEVATION



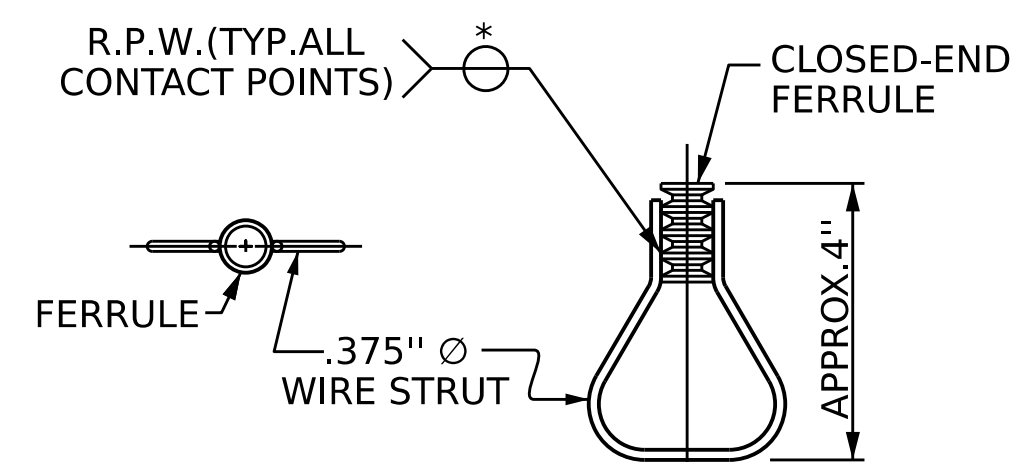
TOP VIEW



PLAN - RAIL AND END POST



SECTION H-H (EXP.)



PLAN ELEVATION STRUCTURAL CONCRETE INSERT

* EACH WELDED ATTACHMENT OF WIRE TO FERRULE SHALL DEVELOP THE TENSILE STRENGTH OF THE WIRE.

PROJECT NO. _____

____ COUNTY

STATION: _____

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION

RALEIGH

STANDARD

RAIL POST SPACINGS

AND

END OF RAIL DETAILS

FOR ONE OR TWO BAR METAL RAILS

| REVISIONS | | | | | | SHEET |
|-----------|-----|-------|-----|-----|-------|-----------------|
| NO. | BY: | DATE: | NO. | BY: | DATE: | |
| 1 | | | 3 | | | TOTAL SHEETS |
| 2 | | | 4 | | | |

STD, NO, BMR2

| | | | |
|-----------------------|--|--------------|---------|
| ASSEMBLED BY : | | DATE : | |
| CHECKED BY : | | DATE : | |
| DRAWN BY : FCJ 1/88 | | REV. 10/1/11 | MAA/GM |
| CHECKED BY : CRK 3/89 | | REV. 12/17 | MAA/THC |
| | | REV. 10/23 | BNB/SNM |

11/27/2023
S:\DEV\Squad.D\EDS Documents\Standards\working Standards\OBD STANDARD\BMR TO OBD\BMR2.dgn
bbaradawala

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED