

NOTE:

CENTER SIGN VERTICALLY ON CANTILEVER ARMS



PREPARED BY
TSMO DIVISION

DRAWN BY: _____

CHECKED BY: _____

DEPARTMENT DIRECTOR
Paul C. Ajegba

APPROVED BY: _____
DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: _____
DIRECTOR, BUREAU OF DEVELOPMENT

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN FOR

**STEEL CANTILEVER
TYPE E**

01/16/20
F.H.W.A. APPROVAL

11/20/19
PLAN DATE

SIGN-300-C

SHEET
1 OF 6

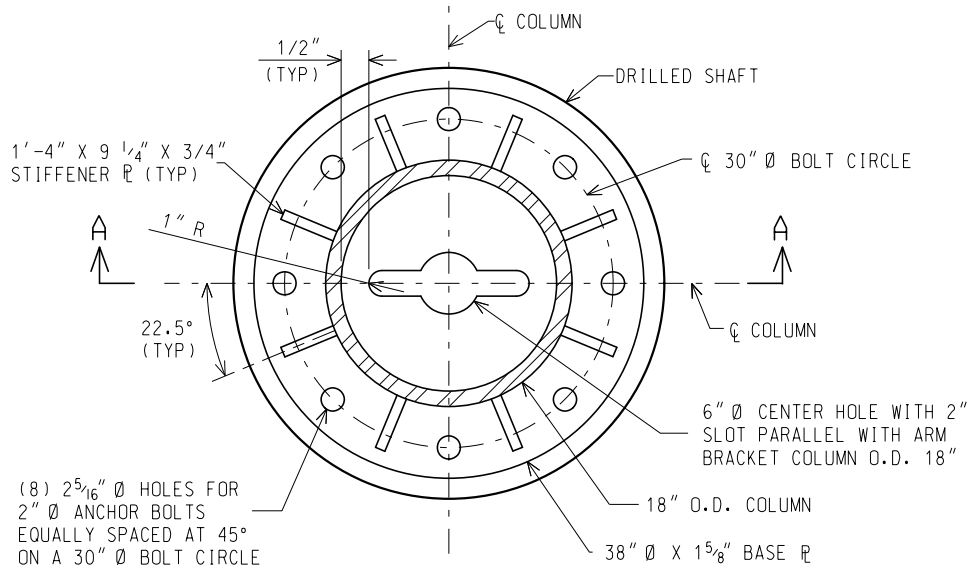
NOTES:

1. THE DESIGN OF THIS STRUCTURE IS BASED ON THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, CURRENT EDITION.
2. WELDING MUST BE IN CONFORMANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1:2010, STRUCTURAL WELDING CODE-STEEL (AS MODIFIED BY THE CURRENT 12SP-707A - STRUCTURAL STEEL AND ALUMINUM CONSTRUCTION), HEREAFTER CALLED AWS D1.1.
3. MAXIMUM SIGN AREA IS 240 SQUARE FEET FOR ONE SIGN. MINIMUM SIGN HIEGHT WITH ALUMINUM BEAM IS 6.5 FEET.
4. HOT-DIP GALVANIZE (HDG) ALL STEEL COMPONENTS PER ASTM A123 PRIOR TO BOLTED ASSEMBLY. HDG ALL FASTENER COMPONENTS PER ASTM A153. BLAST CLEAN BASE PLATES, STIFFENERS, AND ALL WELDMENTS PRIOR TO GALVANIZING.
5. PROVIDE $1\frac{1}{16}$ " \emptyset HOLES FOR 1" \emptyset HIGH STRENGTH (HS) BOLTS FOR ALL CONNECTIONS UNLESS OTHERWISE STATED. PROVIDE HIGH STRENGTH BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH SUBSECTION 906.07 OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. PROVIDE LOCK WAWSHERS THAT MEET ANSI B18.21.1.
6. TIGHTEN ALL HIGH STRENGTH BOLTS BY THE TURN OF NUT METHOD PER SUBSECTION 707.03.D OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
7. ALL WELDS MUST BE 100 PERCENT VISUAL TEST (VT) INSPECTED BY AN AWS CERTIFIED WELDING INSPECTOR (CWI). ALL FILLET WELDS (EXCEPT END CAP AND COLUMN CAP WELDS) MUST BE 25 PERCENT MAGNETIC PARTICLE TEST (MT) INSPECTED BY A TECHNICIAN QUALIFIED IN ACCORDANCE WITH AMERICAN SOCIETY OF NONDESTRUCTIVE TESTING (ASNT) LEVEL II. ALL COMPLETE JOINT PENETRATION (CJP) WELDS MUST BE 100 PERCENT ULTRASONIC TEST (UT) INSPECTED BY A TECHNICIAN QUALIFIED IN ACCORDANCE WITH ASNT LEVEL II.
8. SEE CURRENT MDOT SIGN SUPPORT TYPICAL PLAN SIGN-340-SERIES FOR SIGN FOUNDATION.
9. SEE CURRENT MDOT SIGN SUPPORT TYPICAL PLAN SIGN-700-SERIES FOR SIGN CONNECTION.
10. COLUMN SECTIONS MUST BE 18 INCH DIAMETER AT 93.45 POUNDS PER FOOT, ARM SECTIONS MUST BE 10 3/4 INCH DIAMETER AT 40.48 POUNDS PER FOOT.
11. THE FLANGE PLATES MUST BE WELDED TO ASSURE OBTAINING FULL CONTACT IN THE RELAXED POSITION PRIOR TO SNUGGING UP FLANGE BOLTS. THE FLANGE BOLTS MUST NOT BE TORQUED IN AN ATTEMPT TO CLOSE.
12. BASE PLATE (ϵ) WARPAGE MUST NOT EXCEED 1/16 INCH PER FOOT.
13. BACKING BAR FOR OPTIONAL COLUMN SPLICE MUST BE MINIMUM 1/4 INCH X 2 INCH PLATE OR STANDARD CHILL RING. BACKING BAR FOR COLUMN TO BASE PLATE MUST BE MINIMUM 1/4 INCH X 1 INCH PLATE OR STANDARD CHILL RING.

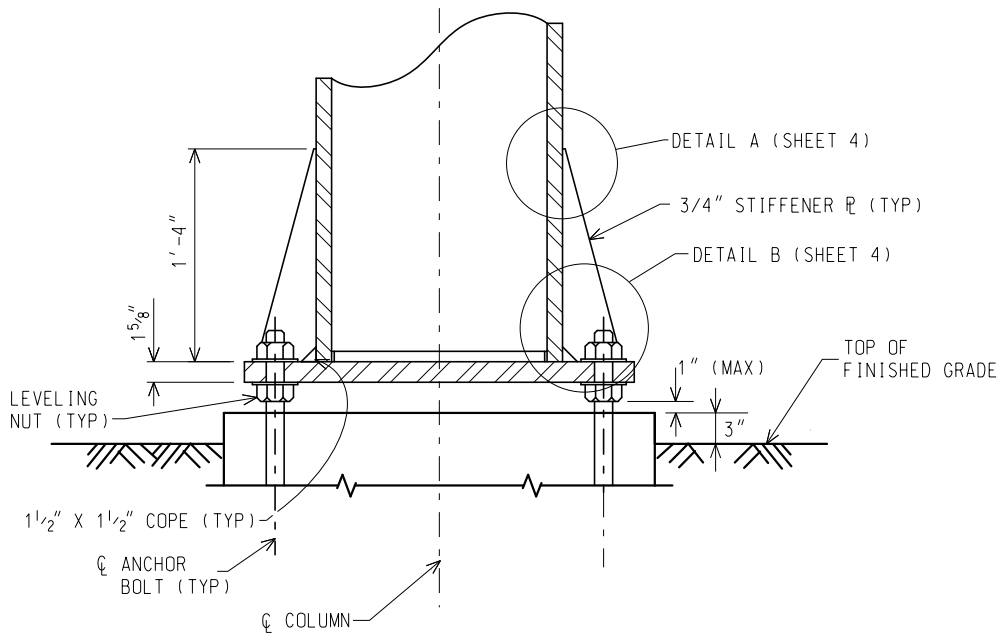
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	01/16/20 F.H.W.A. APPROVAL	11/20/19 PLAN DATE	SIGN-300-C	SHEET 2 OF 6
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PLAN VIEW 38" BASE PLATE DETAIL



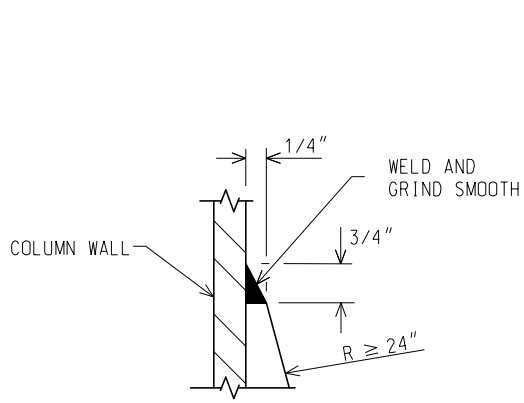
SECTION A-A

SEE SHEET 4 COLUMN BASE CUTTING DETAIL

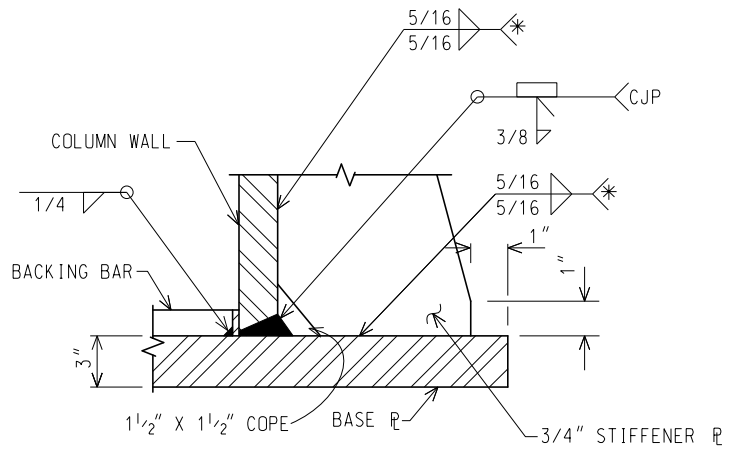
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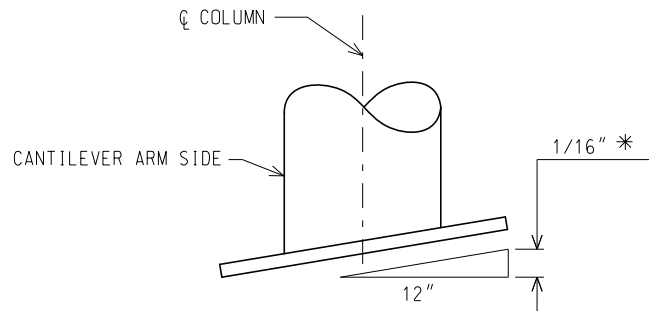


DETAIL A



DETAIL B

* WRAP WELD AROUND OUTSIDE EDGE
STOP 1/4" SHORT OF CORNER CLIP



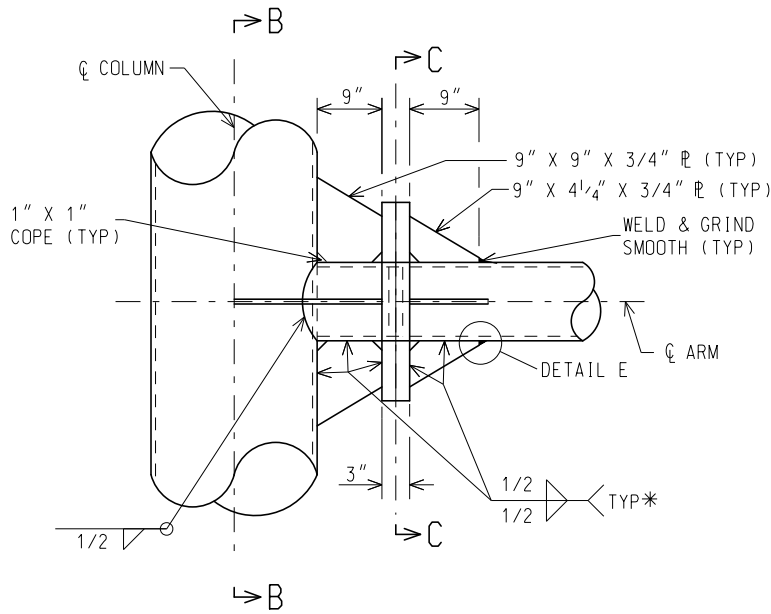
COLUMN BASE CUTTING DETAIL

* CUT PIPE BOTTOM TO PROVIDE FOR COLUMN RAKING

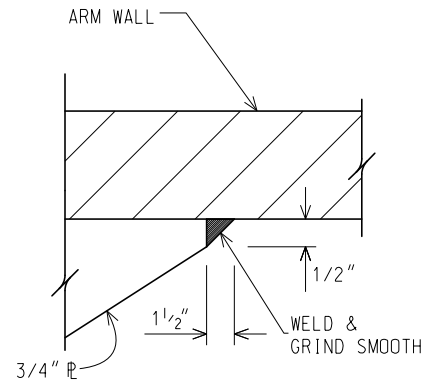
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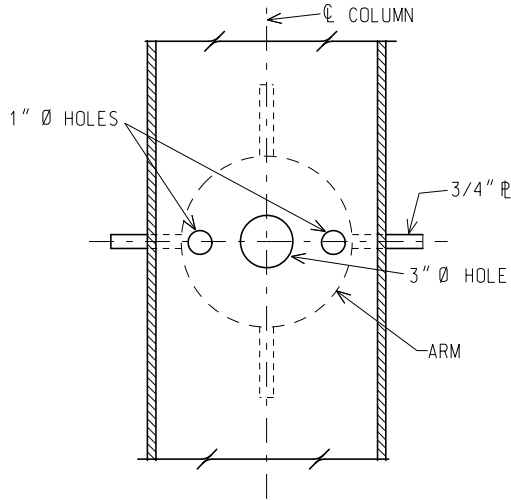
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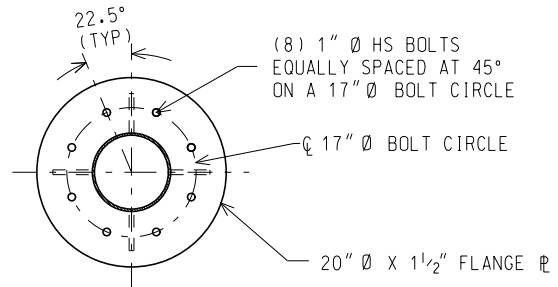
DETAIL C - FRONT



DETAIL E

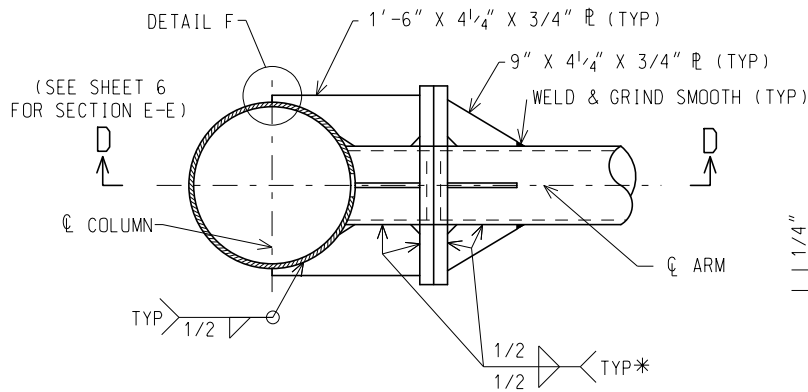


SECTION B-B



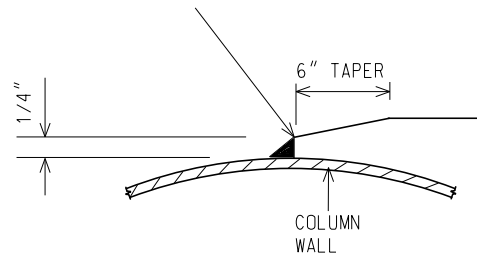
SECTION C-C

SEE SHEET 6 FOR ADDITIONAL FLANGE INFORMATION AND WASHER PLACEMENT



DETAIL C - TOP

BLEND THE WELD TO A SMOOTH TRANSITION WITH THE PIPE WALL BY GRINDING THE FULL LENGTH OF TAPER.



DETAIL F

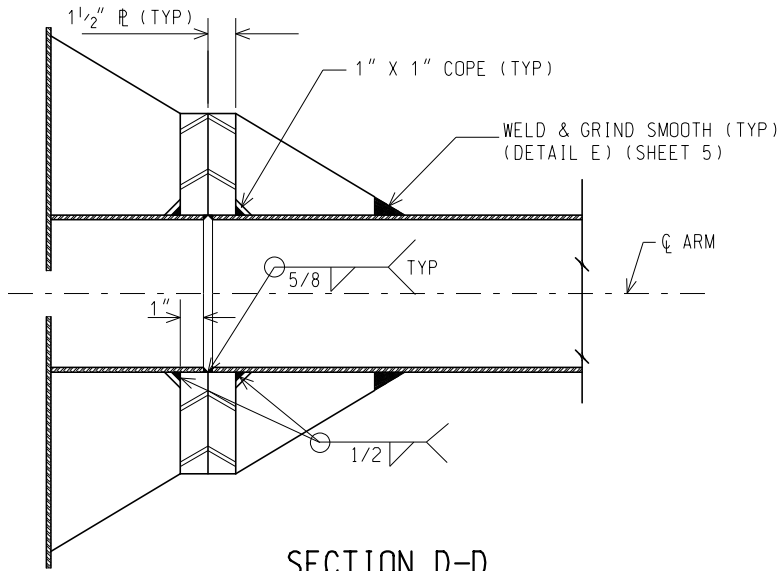
ARM CONNECTION

NOT TO SCALE

*WRAP WELD AROUND OUTSIDE EDGE, STOP 1/4" SHORT OF CORNER CLIP

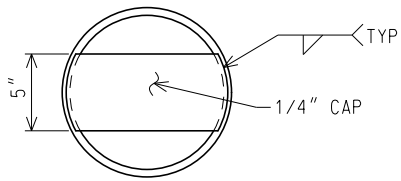
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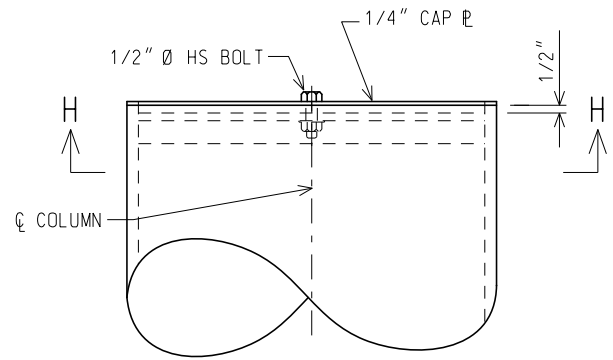


SECTION D-D

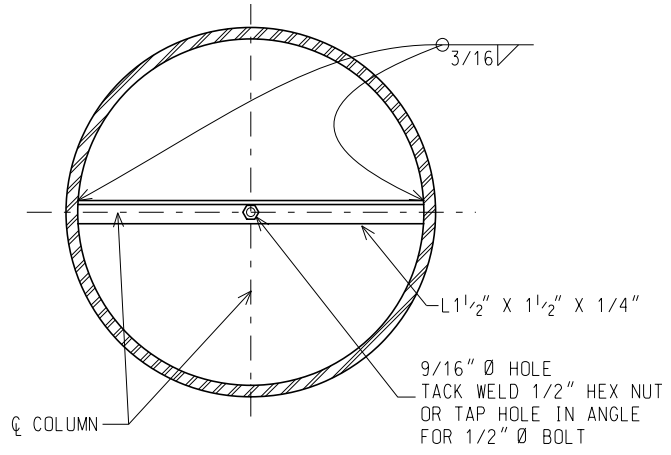
ARM CONNECTION



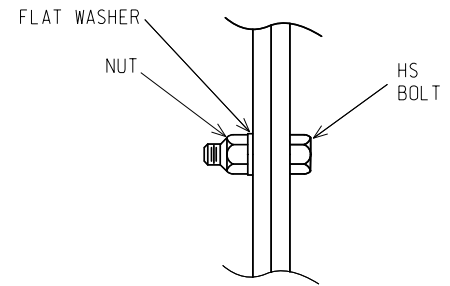
END CAP DETAIL
(USE AT THE END OF EACH ARM)



COLUMN CAP DETAIL



SECTION H-H



DETAIL OF WASHER PLACEMENT

NOT TO SCALE

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