

**PLAN**

\* CONTRACTOR TO VERIFY DIMENSION CONFORMS TO DMS CABINET.

Rev.

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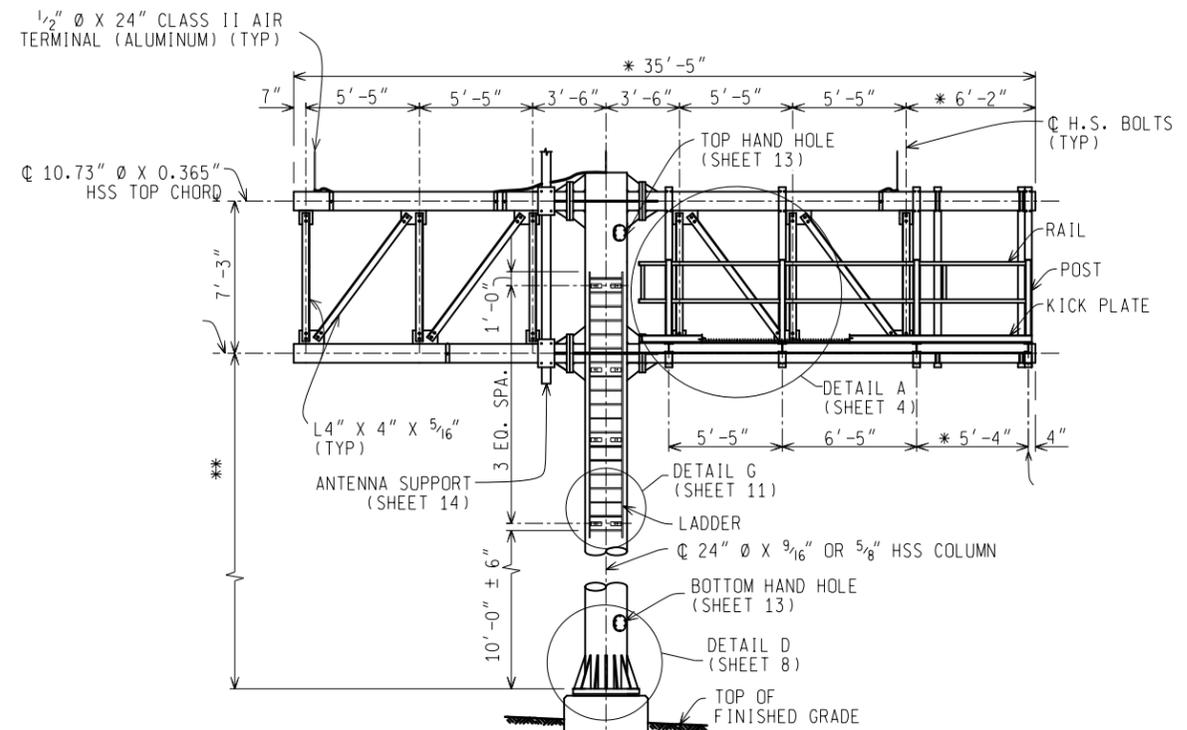


PREPARED BY  
ANCILLARY STRUCTURES

DRAWN BY: HNTB  
CHECKED BY: MLO

ENGINEER OF DELIVERY  
ENGINEER OF DEVELOPMENT  
(SPECIAL DETAIL)  
FHWA APPROVAL DATE

MICHIGAN DEPARTMENT OF TRANSPORTATION  
**LH MASTER  
DMS STRUCTURE**  
08/08/23  
PLAN DATE  
ITS-030-A  
SHEET  
1 of 16



**ELEVATION**

OUTLINE OF DMS CABINET NOT SHOWN FOR CLARITY.  
\* CONTRACTOR TO VERIFY DIMENSION CONFORMS TO DMS CABINET.  
\*\* SEE CONTRACT PLANS FOR HEIGHT (32'-0" MAXIMUM).

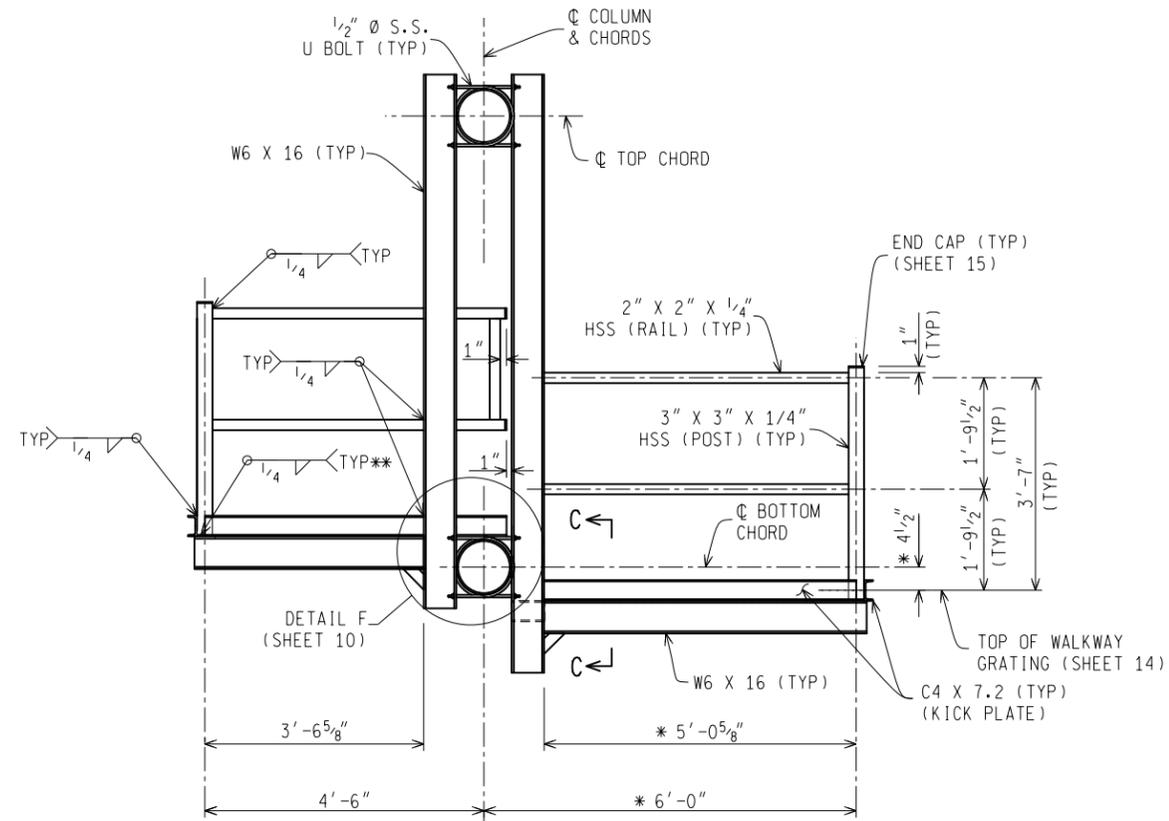
**NOTES:**

1. THE DESIGN OF THIS STRUCTURE IS BASED ON THE AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 1ST EDITION, WITH INTERIM REVISIONS THROUGH 2022.
2. THE DESIGN OF THE CONNECTION OF THE DMS CABINET MOUNTING POSTS TO TRUSS CHORDS MUST BE SUBMITTED FOR APPROVAL.
3. MAXIMUM SIGN AREA IS 285 SQUARE FEET.
4. PROVIDE 1 5/16" DIAMETER HOLES FOR 7/8" DIAMETER HIGH STRENGTH (H.S.) BOLTS FOR ALL CONNECTIONS UNLESS OTHERWISE STATED.
5. CONTRACTOR TO ORIENT THE L4" X 4" X 5/16" DIAGONAL AND VERTICAL BRACING PER FABRICATORS RECOMMENDATION. ALL BRACING ON THE STRUCTURE TO BE AT THE SAME ORIENTATION.
6. IF ANTENNA SUPPORT POLE IS REQUIRED, PROVIDE AIR TERMINAL, DOWN CONDUCTOR, AND MOUNTING STRAPS IN ADDITION TO LIGHTNING PROTECTION (LP) EQUIPMENT TO BE SUPPLIED FOR THE DMS CASE. THE TOP OF THE ANTENNA SUPPORT MUST BE SEALED WITH A TENON. CONTRACTOR TO VERIFY WITH ENGINEER METHOD TO ROUTE THE WIRE TO THE INTERIOR OF THE ANTENNA SUPPORT SUCH THAT A WATER TIGHT SEAL IS MAINTAINED.
7. INSTALL FLEXIBLE CONDUITS IN THE DMS SUPPORT STRUCTURE CENTER COLUMN TO SEPARATE POWER AND COMMUNICATIONS CABLING.
8. INSTALL RODENT SCREEN BETWEEN THE BASE PLATE (R) AND TOP OF FOUNDATION.
9. S.S. DENOTES STAINLESS STEEL. EQ. DENOTES EQUAL. SPA. DENOTES SPACED. W/ DENOTES WITH.
10. CONTRACTOR MAY ALSO USE STRUCTURAL STEEL PLATE AND ROLLED SHAPES MEETING THE REQUIREMENTS OF AASHTO M270M/M270, GR. 50 IF READILY AVAILABLE.
11. CHARPY V-NOTCH TESTING IS REQUIRED FOR THE COLUMN UPRIGHT IN ACCORDANCE WITH THE AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 1ST EDITION, WITH INTERIM REVISIONS THROUGH 2022.
12. SELECT SEALANT FOR PERIMETER OF BACKING BAR PLATE FROM THE QUALIFIED PRODUCTS LIST. PROVIDE SEALANT IN CAULKING TUBES.

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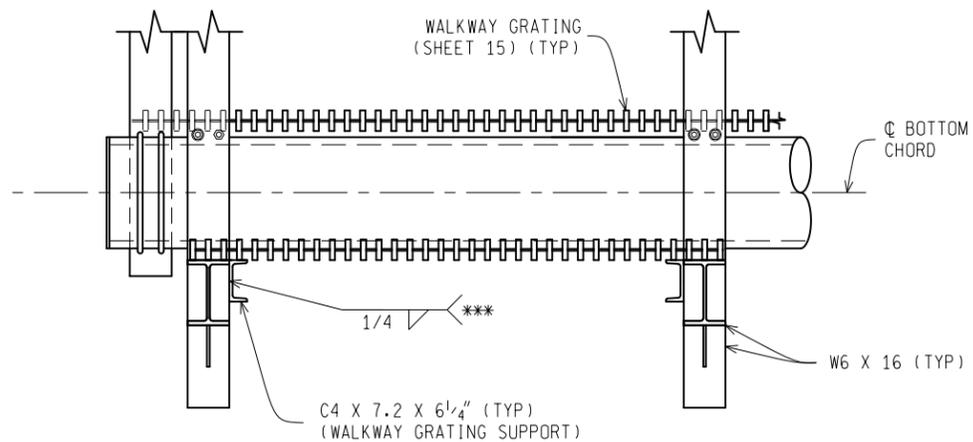
MICHIGAN DEPARTMENT OF TRANSPORTATION (SPECIAL DETAIL) 08/08/23 ITS-030-A SHEET  
FHWA APPROVAL DATE PLAN DATE 2 of 16



**SECTION A-A**

OUTLINE OF DMS CABINET, WALKWAY GRATING, AND COLUMN NOT SHOWN FOR CLARITY.  
DO NOT PLACE DMS CABINET ON PLATFORM.

- \* CONTRACTOR TO VERIFY DIMENSION CONFORMS TO DMS CABINET.
- \*\* WELD 3" X 3" X 1/4" HSS (POST) TO W6 X 16

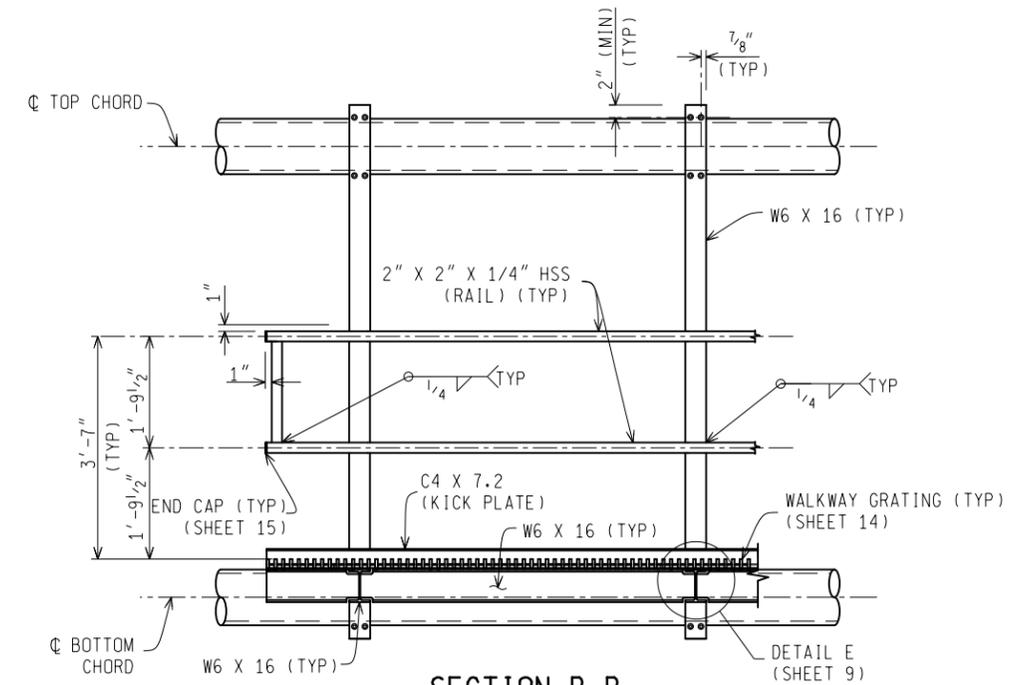


**SECTION C-C**

\*\*\* C4 X 7.2 X 6 1/4" WELDED TO VERTICAL W6 X 16 MEMBERS. (BOTH ENDS OF GRATING)

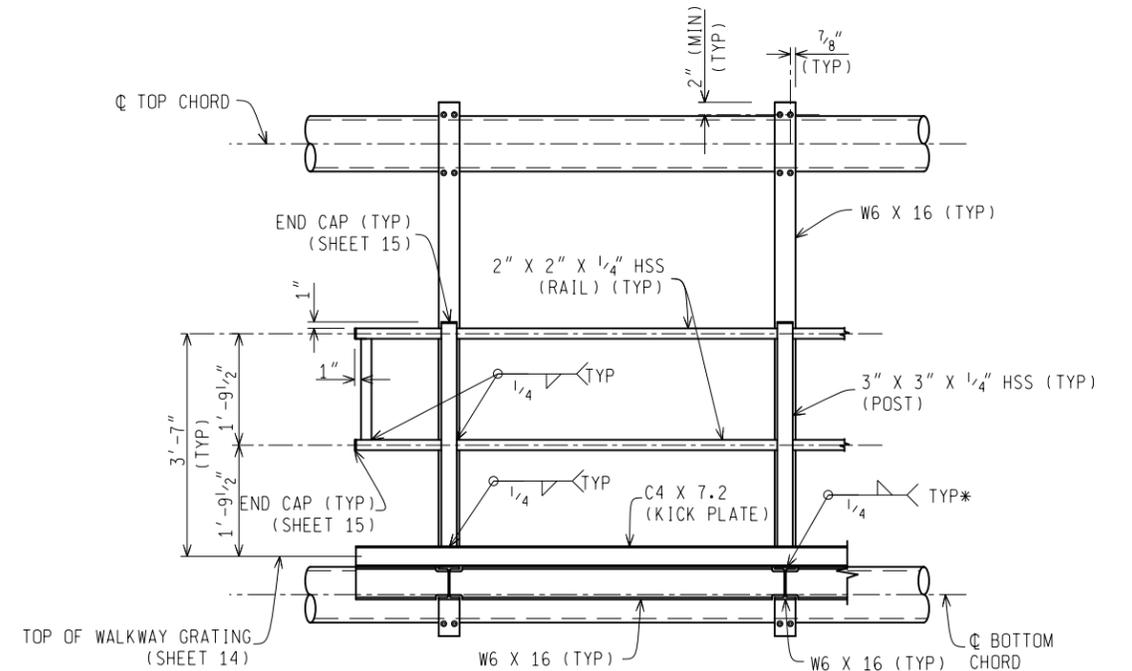
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**SECTION B-B**

COLUMN AND TRUSS WEB ANGLES NOT SHOWN FOR CLARITY.



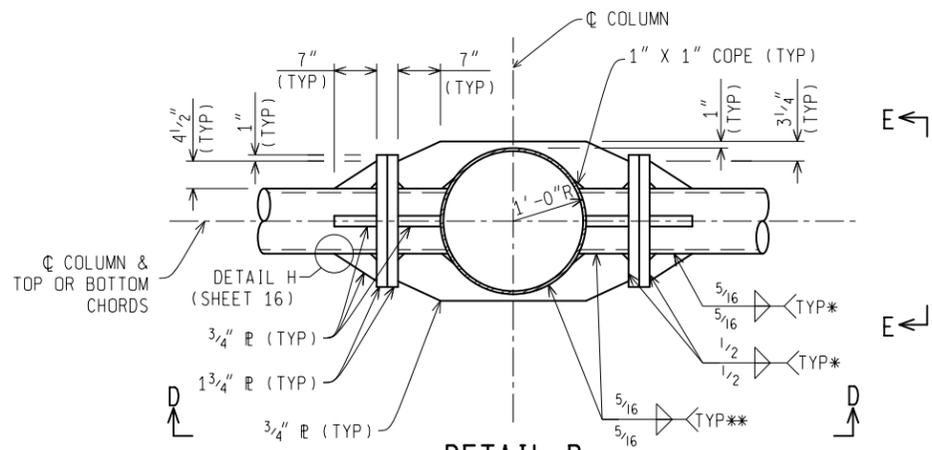
**DETAIL A**

COLUMN, TRUSS WEB ANGLES, AND WALKWAY GRATING NOT SHOWN FOR CLARITY.

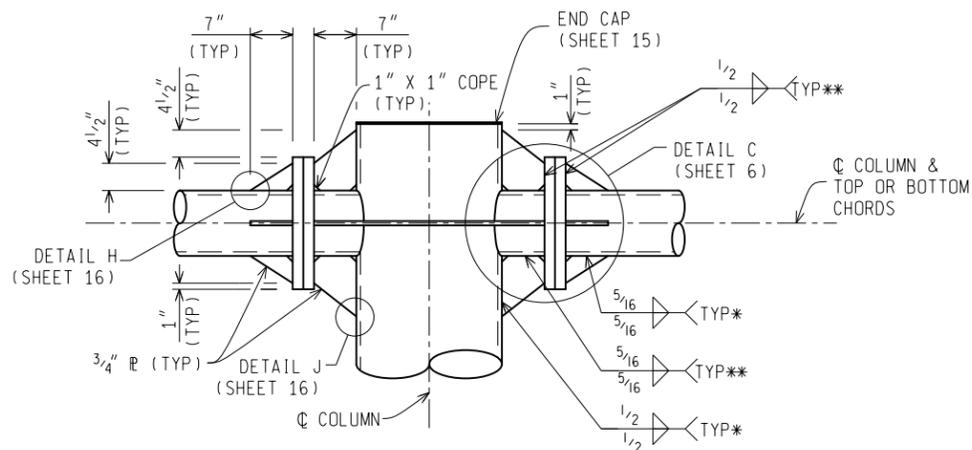
\* WELD 3" X 3" X 1/4" HSS (POST) TO W6 X 16

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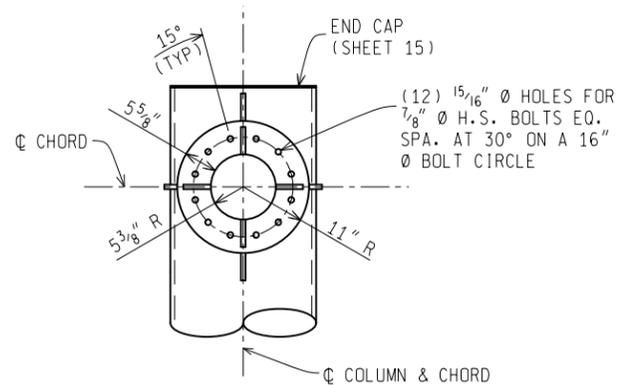
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**DETAIL B**  
VIEW ROTATED 90°  
LADDER NOT SHOWN FOR CLARITY.  
CONNECTION USED FOR TOP AND BOTTOM CHORDS.



**SECTION D-D**  
CONNECTION USED FOR TOP AND BOTTOM CHORDS.  
OMIT COLUMN END CAP FOR BOTTOM CHORD.

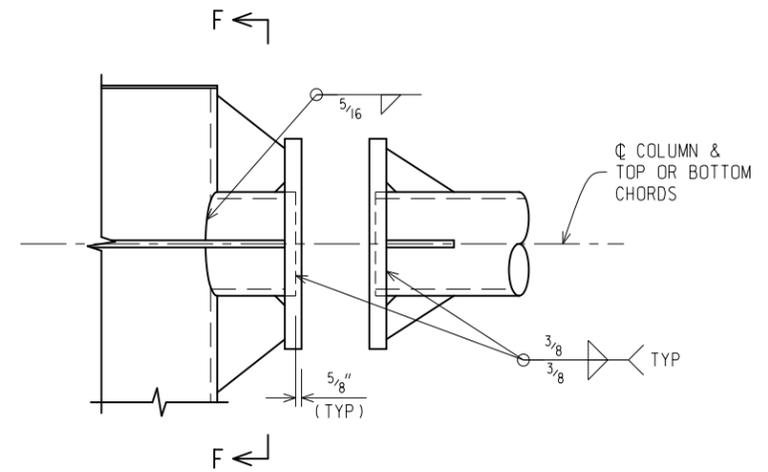


**SECTION E-E**  
CONNECTION USED FOR TOP AND BOTTOM CHORDS.

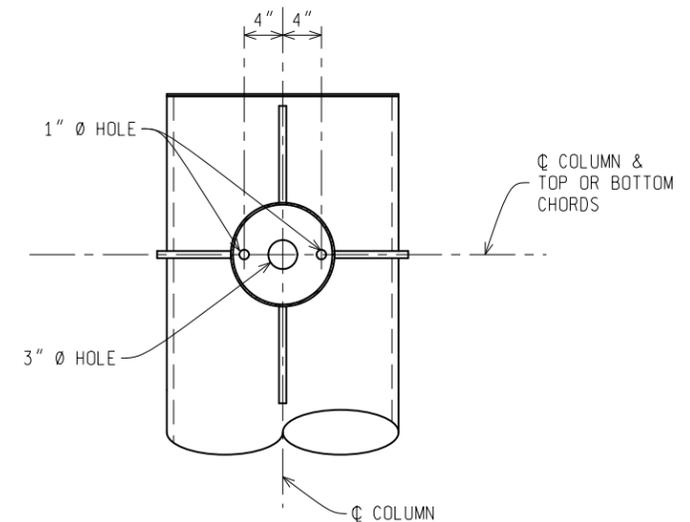
\* WRAP WELD AROUND OUTSIDE EDGE AND STOP 1/4" SHORT OF CLIP.  
\*\* STOP WELD 1/4" SHORT OF CLIP.

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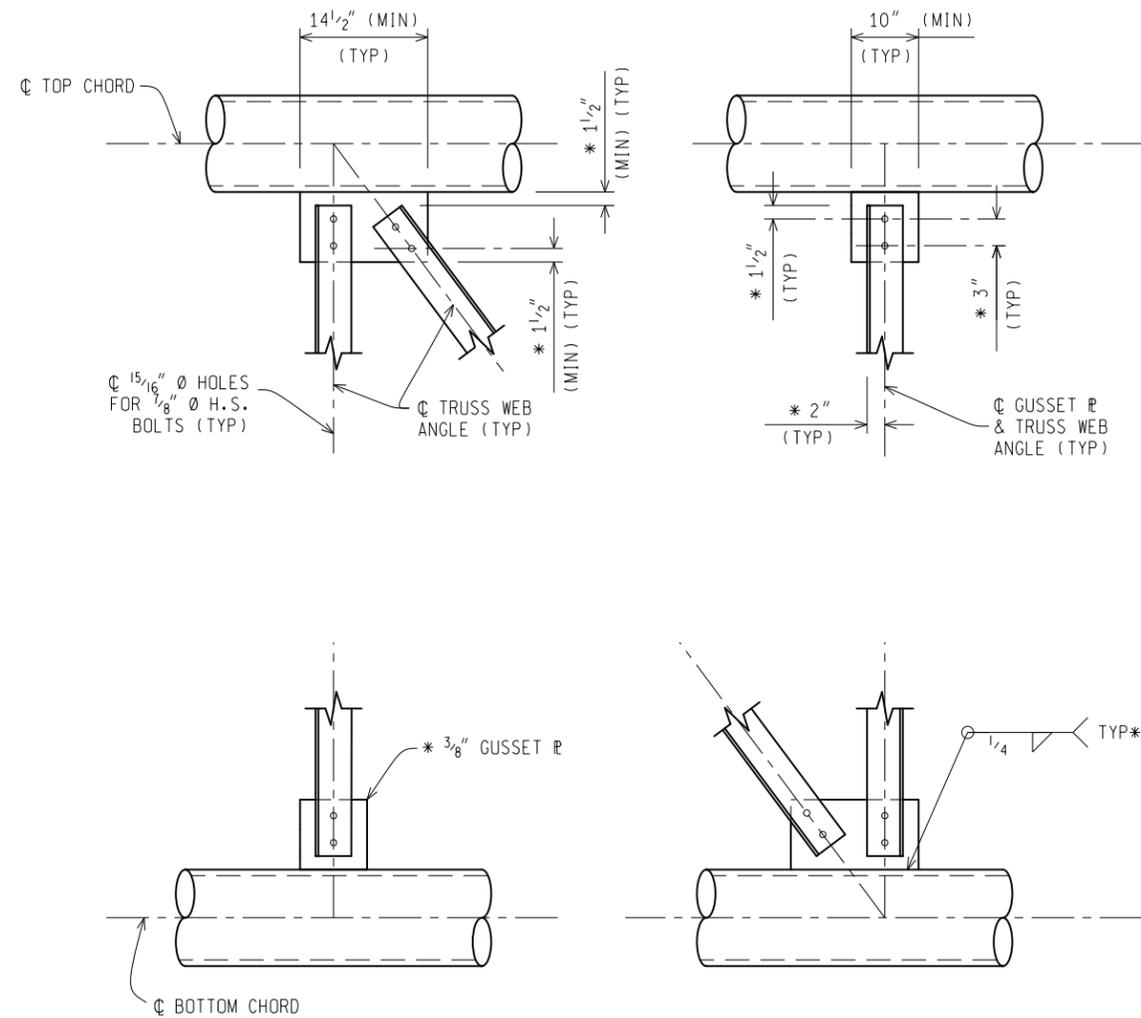
**DETAIL C**  
DETAIL USED FOR TOP AND BOTTOM CHORDS.



**SECTION F-F**  
DETAIL USED FOR TOP AND BOTTOM CHORDS.

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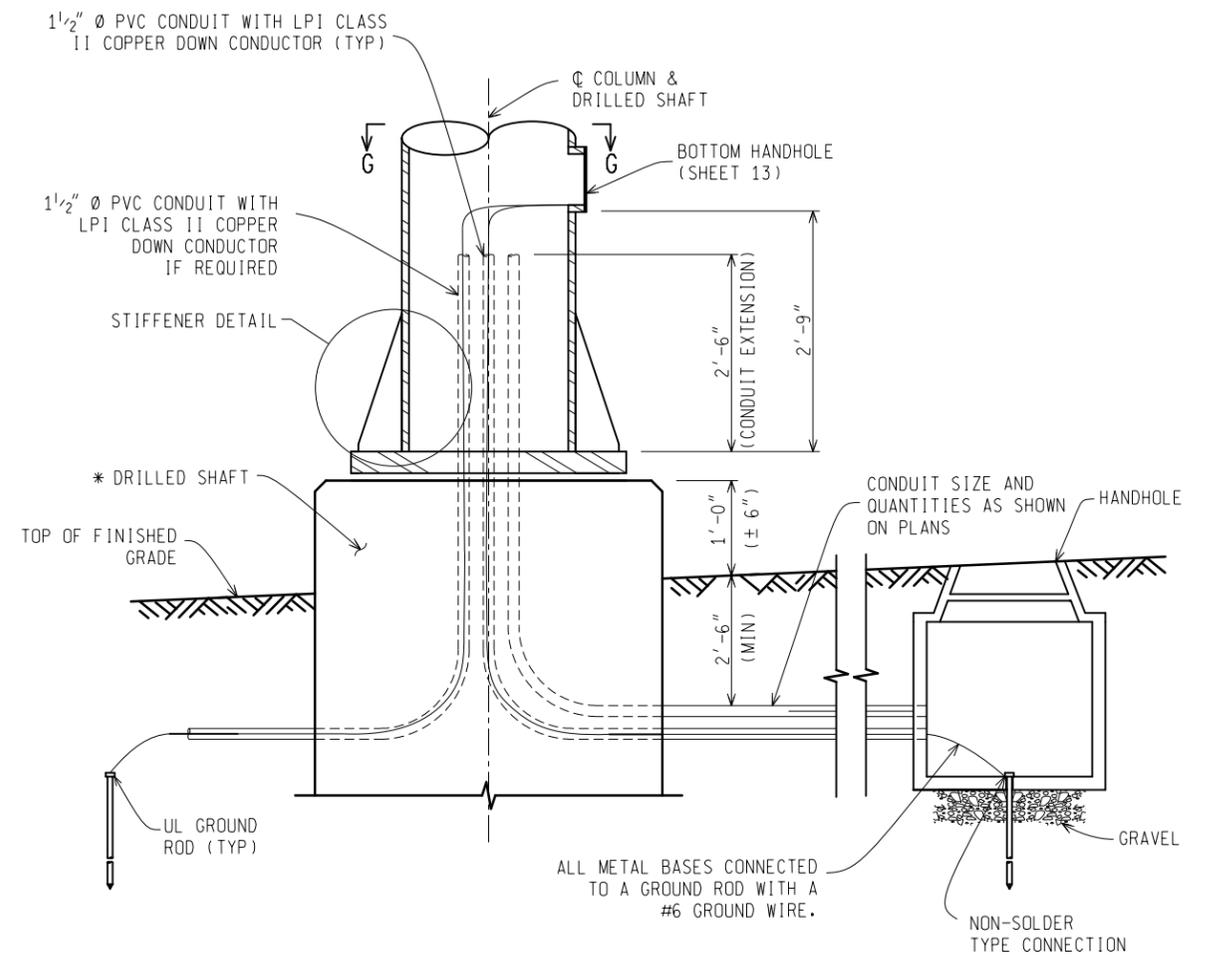
**GUSSET PLATE CONNECTION DETAILS**

\* TYPICAL FOR ALL GUSSET PLATE CONNECTION DETAILS.

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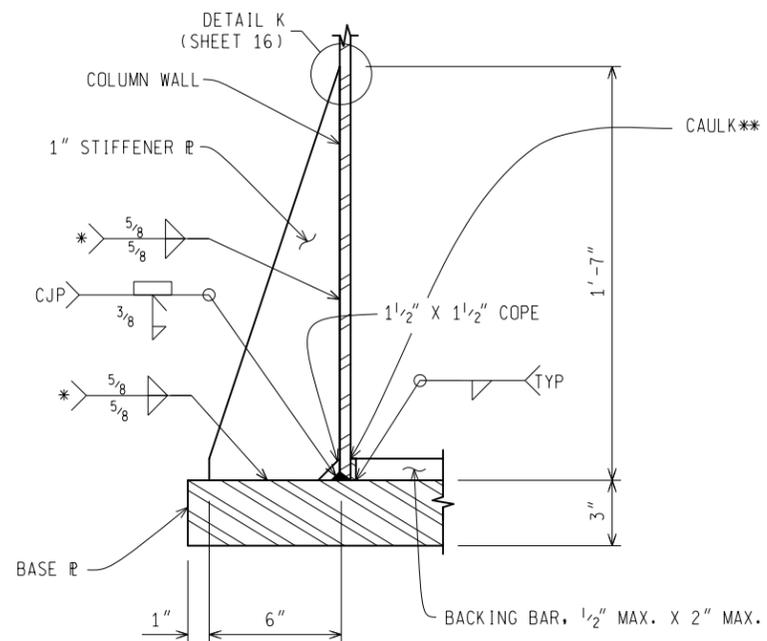
**DETAIL D**

\* TYPE A DRILLED SHAFT SHOWN. REFER TO TYPE B DRILLED SHAFT DETAILS FOR BARRIER WALL INSTALLATION.

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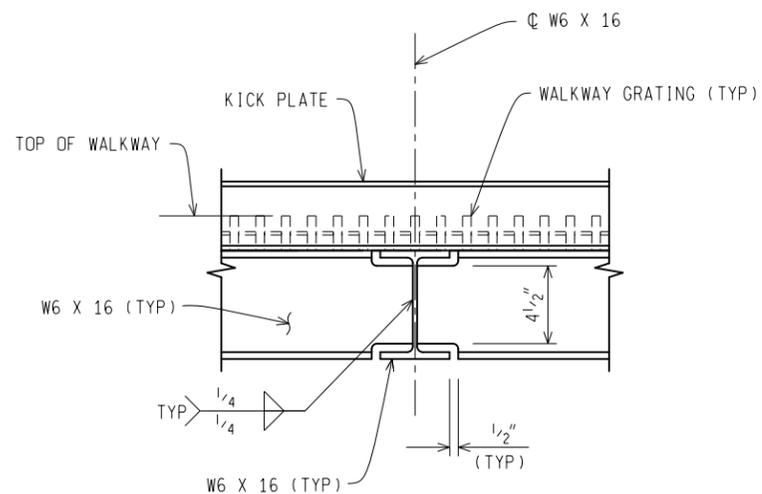
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**STIFFENER DETAIL**

\* WRAP WELD AROUND OUTSIDE EDGE AND STOP 1/4" FROM CLIP.  
 \*\* CAULK TOP OF UNWELDED JOINT BETWEEN BACKING BAR AND COLUMN WALL AFTER HDG

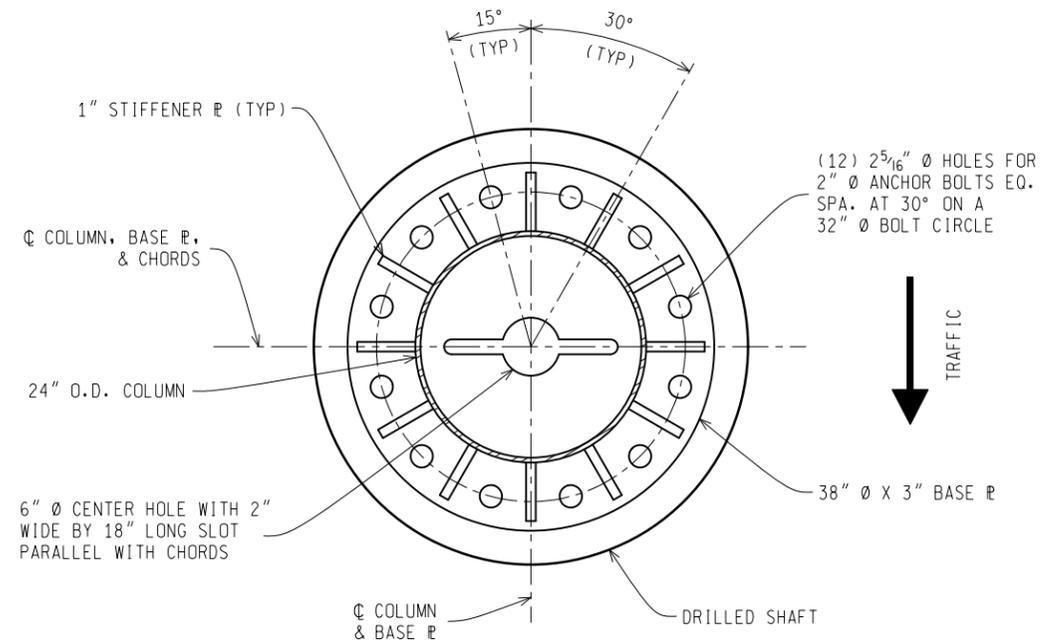


**DETAIL E**

TYPICAL WALKWAY BRACE CONNECTION.

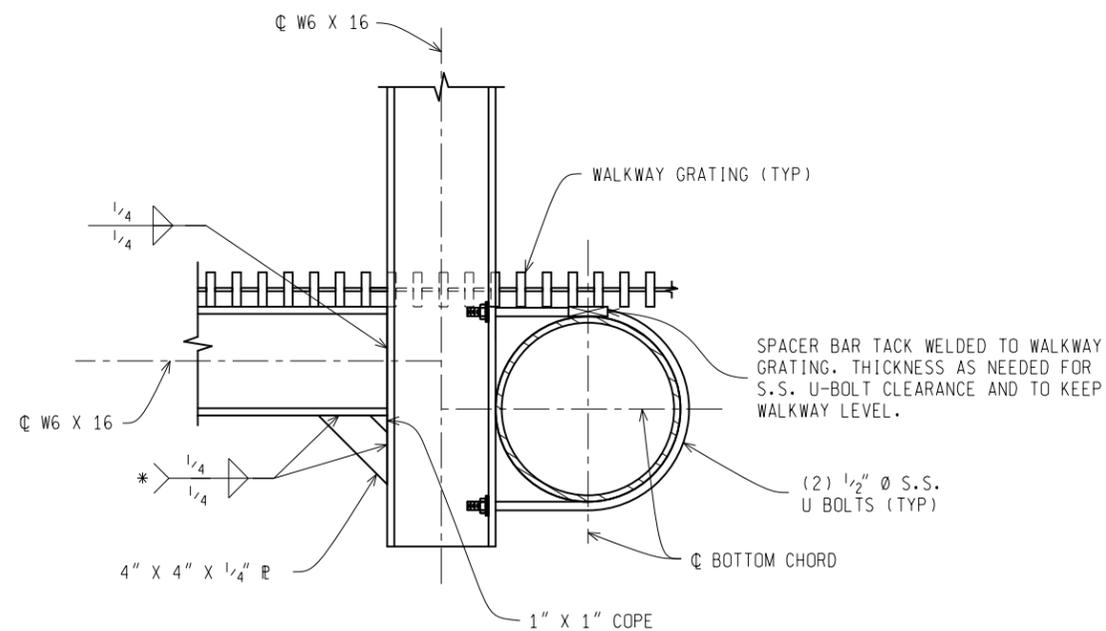
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**SECTION G-G**

ALIGN BASE PLATE AND ANCHOR BOLTS SO THAT THE DMS SIGN FACE IS POSITIONED TOWARDS TRAFFIC AT ANGLE SPECIFIED IN PLANS



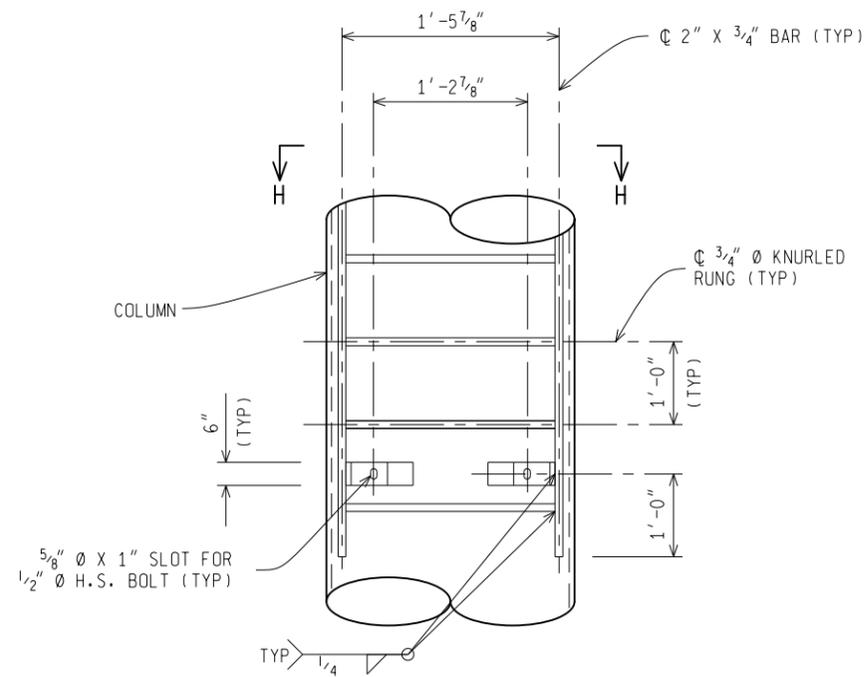
**DETAIL F**

TYPICAL WALKWAY BRACE CONNECTION.

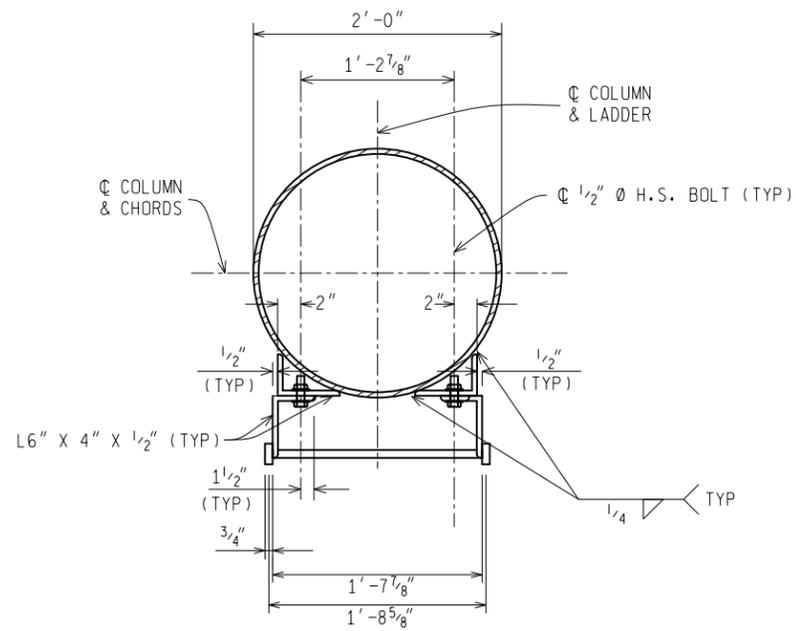
\* WRAP WELD AROUND OUTSIDE EDGE AND STOP 1/4" FROM CLIP.

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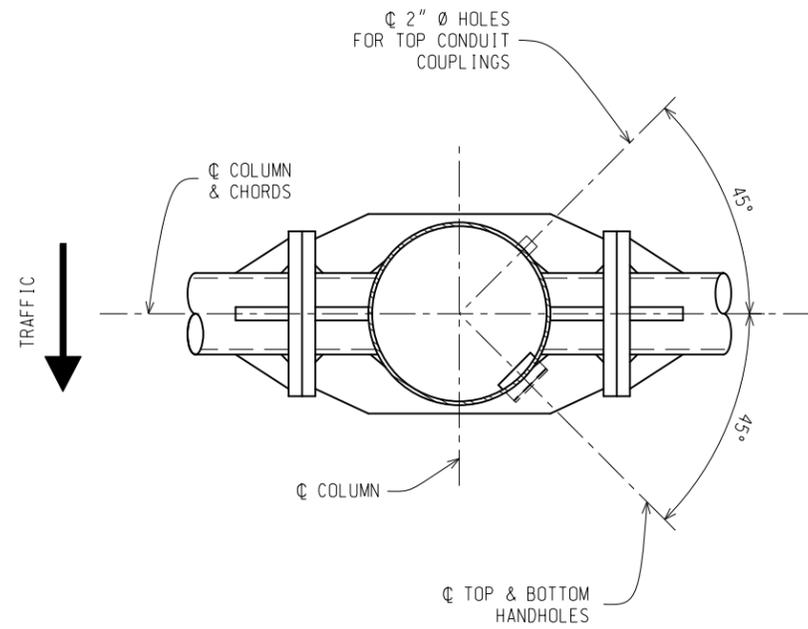
**DETAIL G**



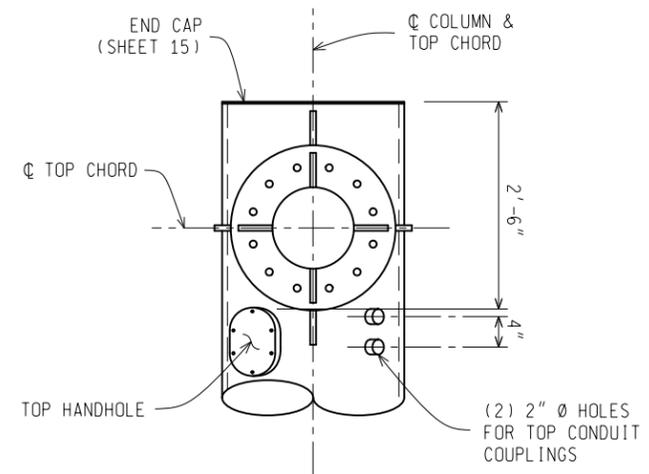
**SECTION H-H**

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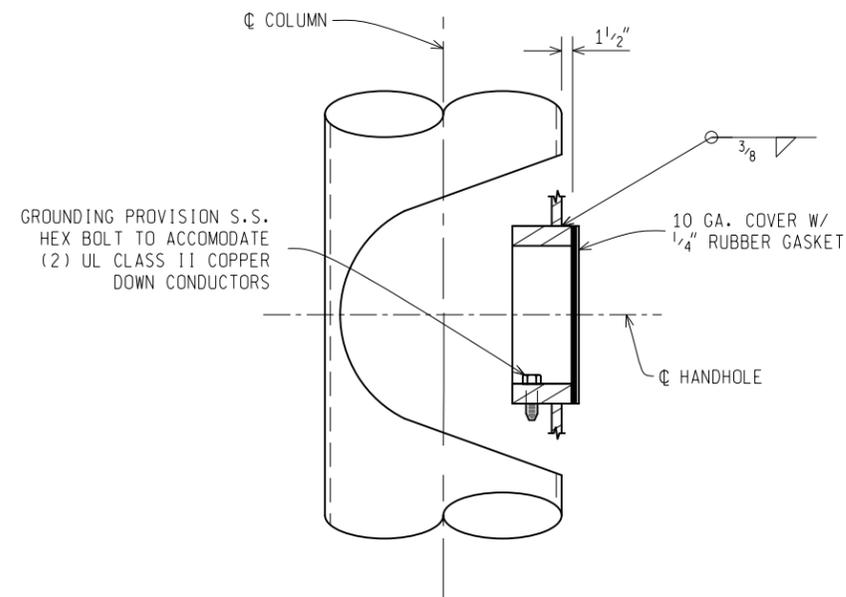
**HANDHOLE AND COUPLING ORIENTATION**



**COUPLINGS**

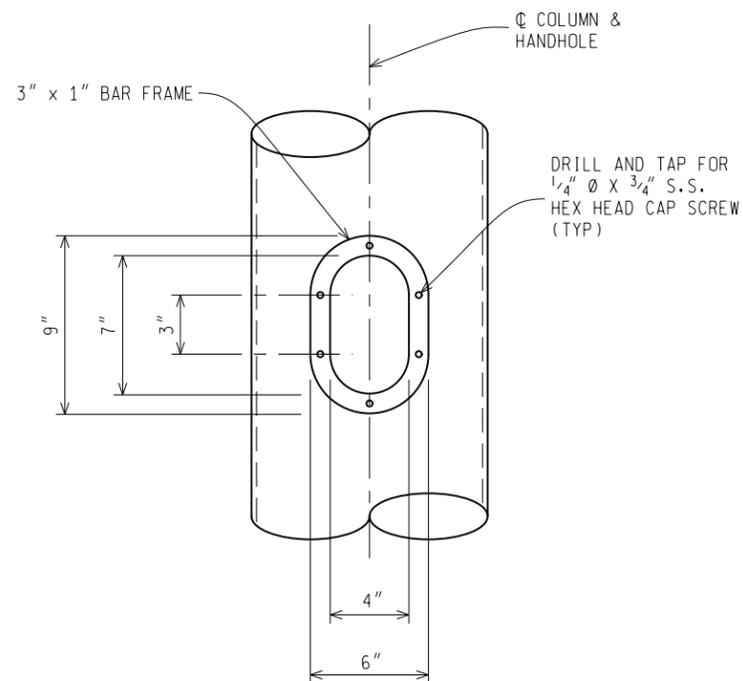
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**TOP AND BOTTOM HANDHOLE  
DETAIL**

PLACE  $\phi$  OF TOP HANDHOLE 2'-10 1/2" BELOW THE TOP OF COLUMN.  
PLACE  $\phi$  OF BOTTOM HANDHOLE 3'-1 1/2" ABOVE THE TOP OF BASE PLATE.

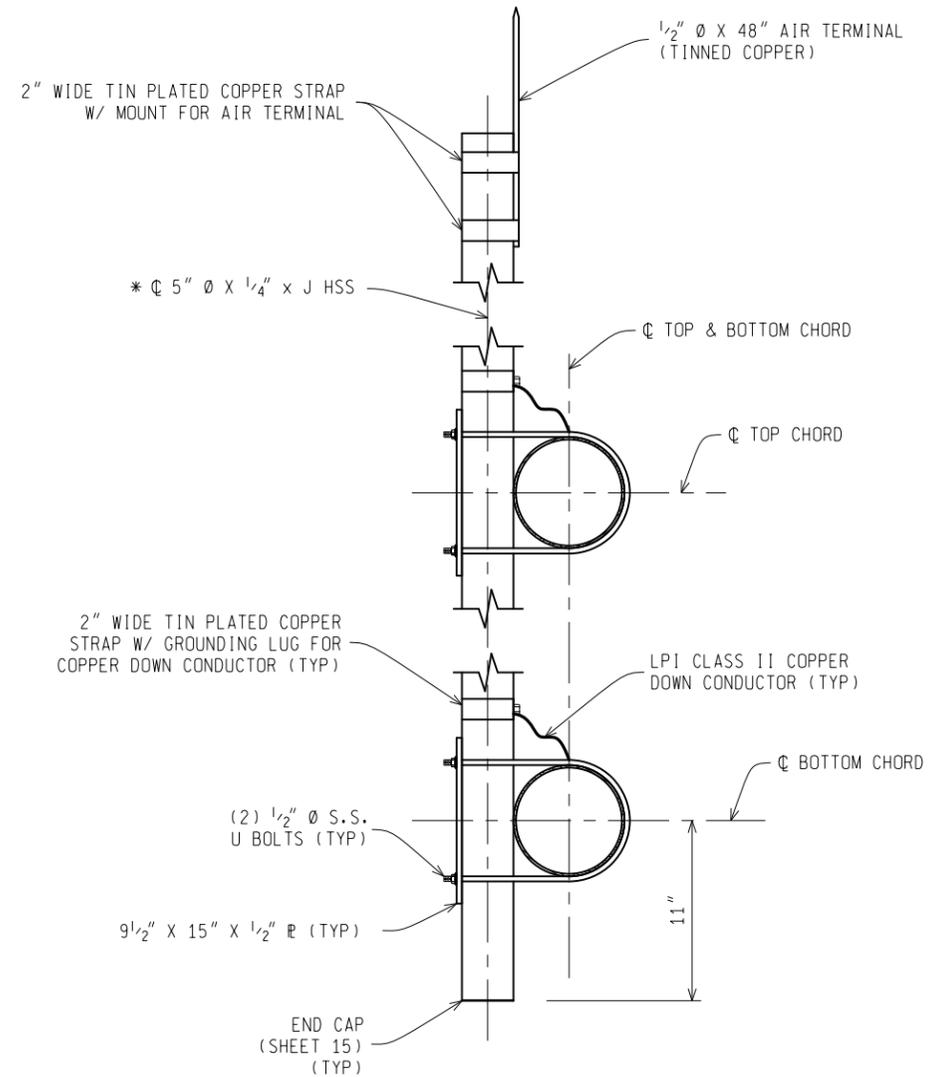


**TOP AND BOTTOM HANDHOLE  
DETAIL**

(VIEW ROTATED 90 DEGREES)

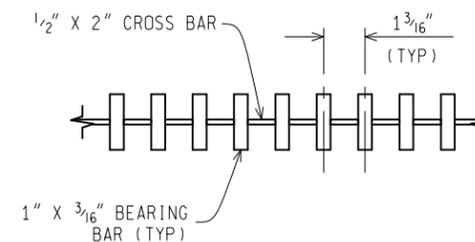
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**ANTENNA SUPPORT DETAIL**

\* SEE CONTRACT PLANS FOR HEIGHT (21'-6" MAXIMUM).

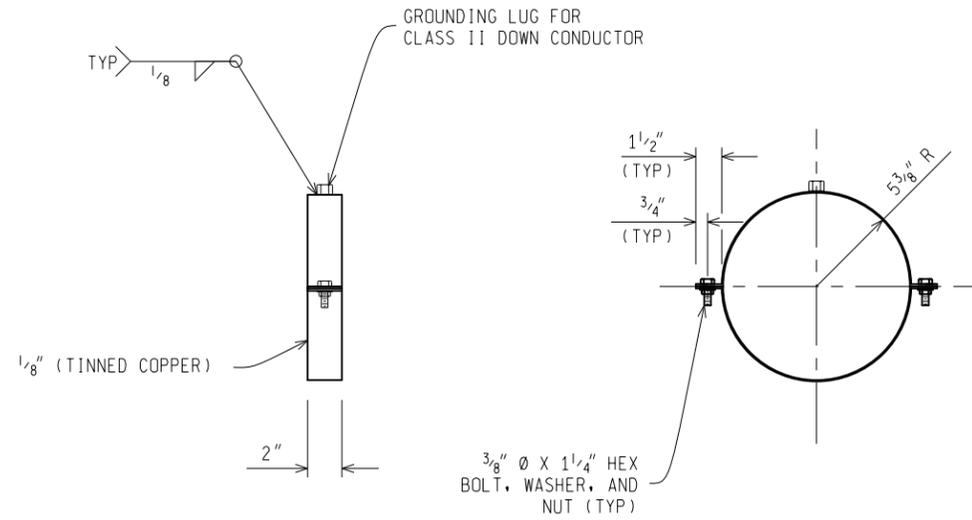


**WALKWAY GRATING DETAIL**

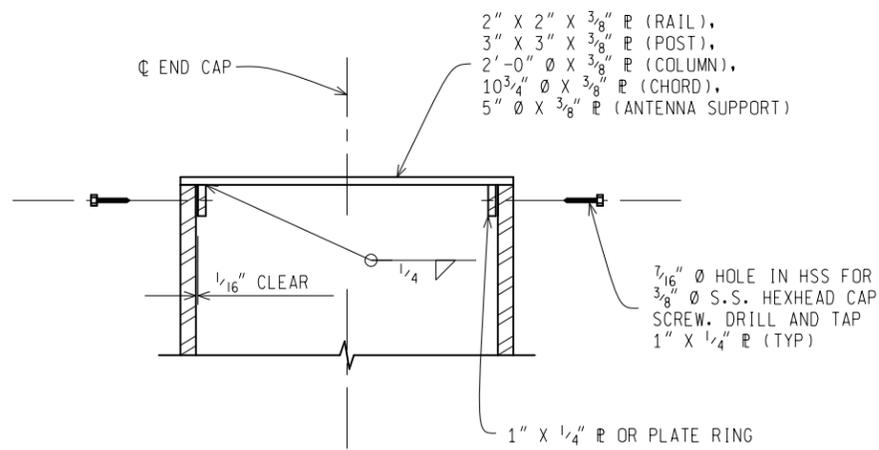
ATTACH WALKWAY GRATING TO W6 X 16 MEMBER WITH GALVANIZED FASTENERS APPROVED BY ENGINEER, 2 MIN. PER W6 X 16 MEMBER PER GRATING PIECE.

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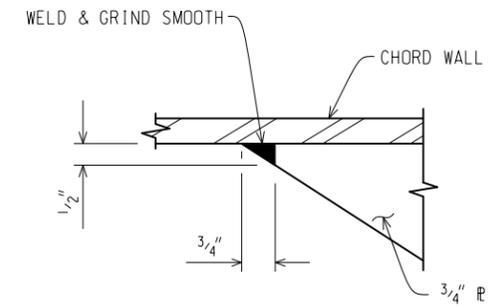
**BONDING CLAMP DETAIL**



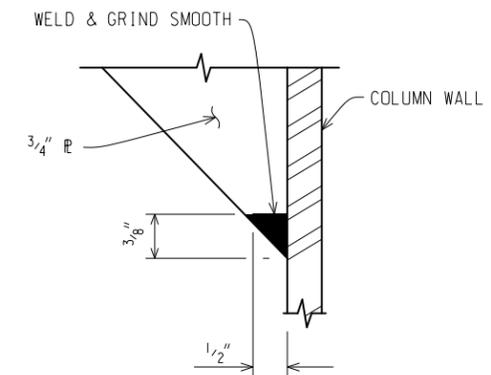
**END CAP DETAIL**

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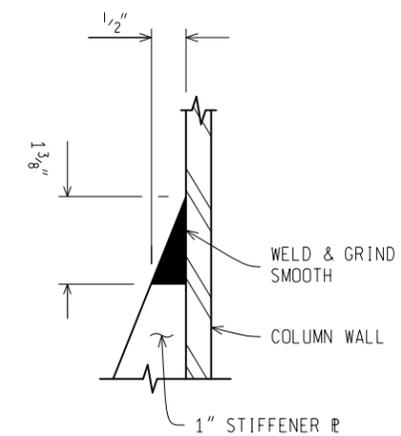
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**DETAIL H**



**DETAIL J**



**DETAIL K**

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