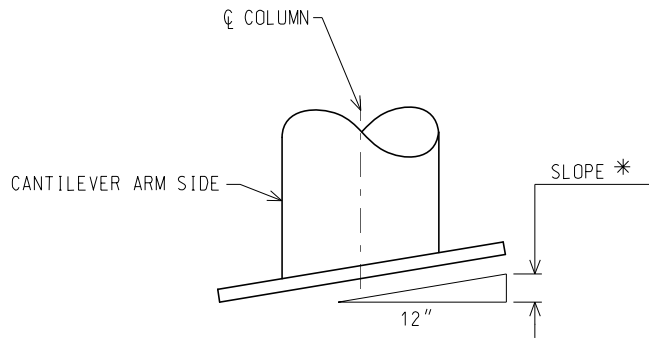


ISOMETRIC VIEW



COLUMN BASE CUTTING DETAIL

*CUT PIPE BOTTOM TO PROVIDE FOR COLUMN RAKING PER TABLE BELOW

CANTILEVER TRUSS DATA			
CANTILEVER ARM LENGTH (FT)	NUMBER OF PANELS	SUPPORT END PANEL LENGTH (FT)	SLOPE (IN)
40	4	2 @ 10.0	1/8
35	4	2 @ 7.5	1/8
30	3	2 @ 10.0	1/8
25	3	2 @ 7.5	1/16
20	2	2 @ 10.0	1/16

NOTE:

CANTILEVER "TYPE J" CAN ONLY BE USED WITH WRITTEN AUTHORIZATION FROM THE MDT - TRAFFIC AND SAFETY SUPPORT AREA.



PREPARED BY
DESIGN DIVISION

DRAWN BY: QN

CHECKED BY: DK

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 TRUSS
TYPE J (20FT - 40 FT)**

05/24/18
F.H.W.A. APPROVAL

REV. 06/01/20
PLAN DATE

SIGN-370-B

SHEET
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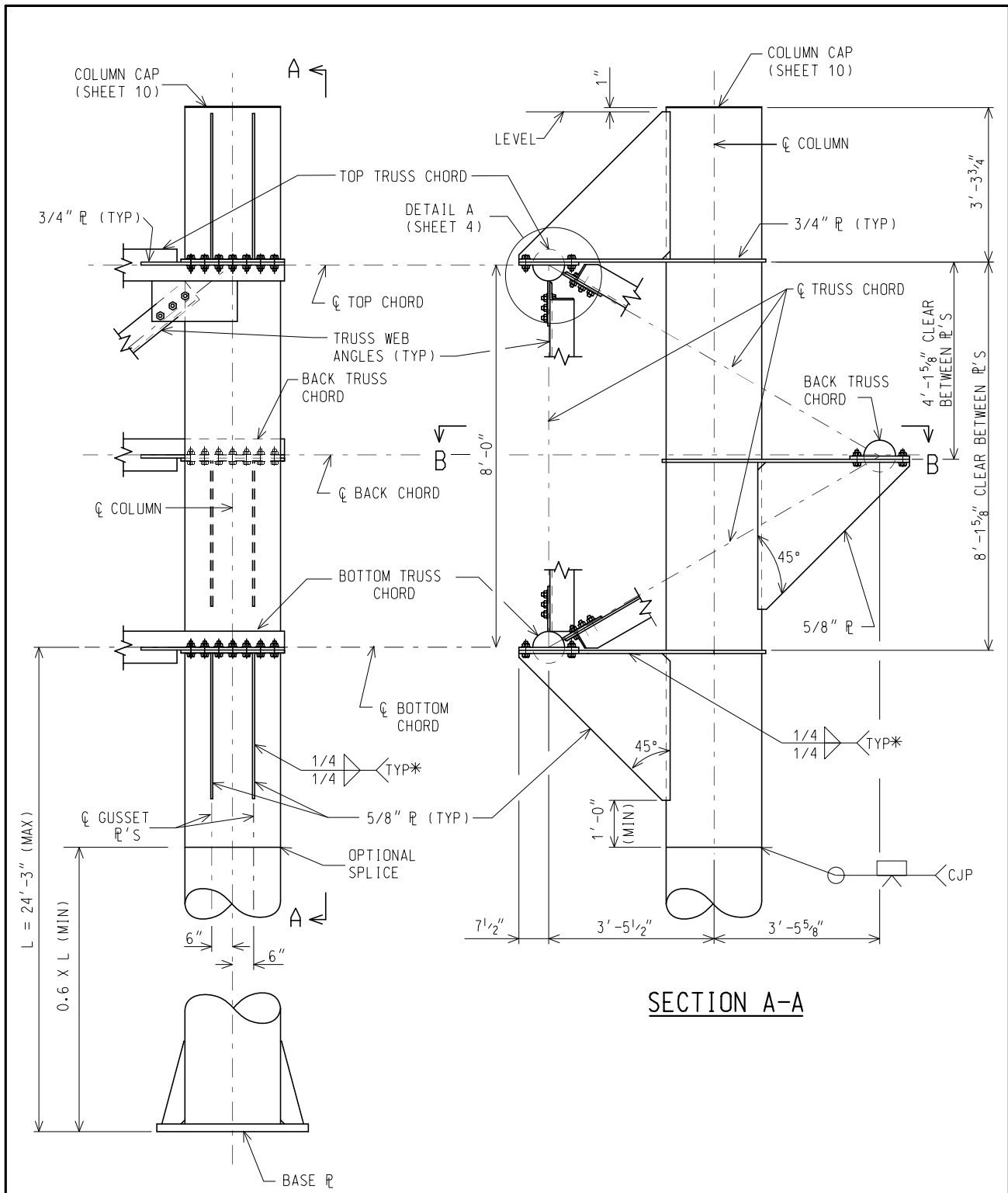
NOTES:

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, STRUCTURAL WELDING CODE-STEEL (YEAR AND MODIFICATIONS PER THE FREQUENTLY USED SPECIAL PROVISION IN THE CONTRACT), HEREAFTER CALLED AWS D1.1.
3. ONLY TYPE I SIGNS ARE TO BE USED WITH THE TYPE J CANTILEVER.
4. MAXIMUM SIGN AREA IS 450 SQUARE FEET. SIGNS MUST NOT PROJECT PAST THE ENDS OF THE TRUSS. MAXIMUM 6 FOOT SIGN PROJECTION ABOVE THE TOP CHORD. MINIMUM SIGN HEIGHT WITH ALUMINUM BEAM IS 8.5 FEET.
5. 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.
6. PROVIDE 15/16" Ø HOLES FOR 7/8" Ø 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 MDT STANDARD SPECIFICATIONS FOR CONSTRUCTION. PROVIDE LOCK WASHERS THAT MEET ANSI B18.21.1.
7. TIGHTEN ALL HIGH STRENGTH BOLTS BY THE TURN OF NUT METHOD PER SUBSECTION 707.03.D OF THE MDT STANDARD SPECIFICATIONS FOR CONSTRUCTION, EXCEPT AT SPLICE CONNECTIONS. SPLICE CONNECTIONS MUST HAVE A FLAT WASHER AND LOCK WASHER UNDER EACH NUT AND TIGHTENED TO A SNUG TIGHT CONDITION PER SUBSECTION 707.03.D OF THE MDT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
8. DO NOT LIFT THE TRUSS BY THE WEB MEMBERS.
9. FIELD SPLICES MAY BE PLACED ALONG THE TRUSS CHORD TO FACILITATE FABRICATION. PLACE FIELD SPLICE C 1'-6" MINIMUM TO THE GUSSET PLATE EDGE. ANY DEVIATION FROM THE DETAILS SHOWN ON THIS TYPICAL WILL REQUIRE APPROVAL BY THE ENGINEER IN WRITING BEFORE FABRICATION.
10. 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.
11. SEE CURRENT MDT SIGN SUPPORT TYPICAL PLAN SIGN-350-SERIES FOR SIGN FOUNDATION.
12. SEE CURRENT MDT SIGN SUPPORT TYPICAL PLAN SIGN-700-SERIES FOR SIGN CONNECTION.
13. COLUMN SECTIONS MUST BE ASTM A53, GRADE B OR API-5L-X42 24" Ø X 1.219". CHORD SECTIONS MUST BE ASTM A500, GRADE B HSS 6" Ø X 0.500", ASTM 519-4140 ANNEALED HSS 6" Ø X 0.375", OR ASTM A500, GRADE B HSS 6 5/8" Ø X 0.432".
14. WEB ANGLES MUST BE ASTM A709, GRADE 36 OR ASTM A36 L5" X 5" X 7/16" OR L5" X 5" X 1/2". STEEL PLATES MUST BE ASTM A709, GRADE 36 OR ASTM A36.
15. THE ESTIMATED WEIGHT OF THE TRUSS IS 190 POUNDS PER FOOT.
16. BASE PLATE (R) WARPAGE MUST NOT EXCEED 1/16 INCH PER FOOT.
17. BACKING BAR FOR OPTIONAL COLUMN SPLICE MUST BE 1/4 INCH X 2 INCH PLATE MINIMUM 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

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COLUMN TRUSS CONNECTION DETAIL

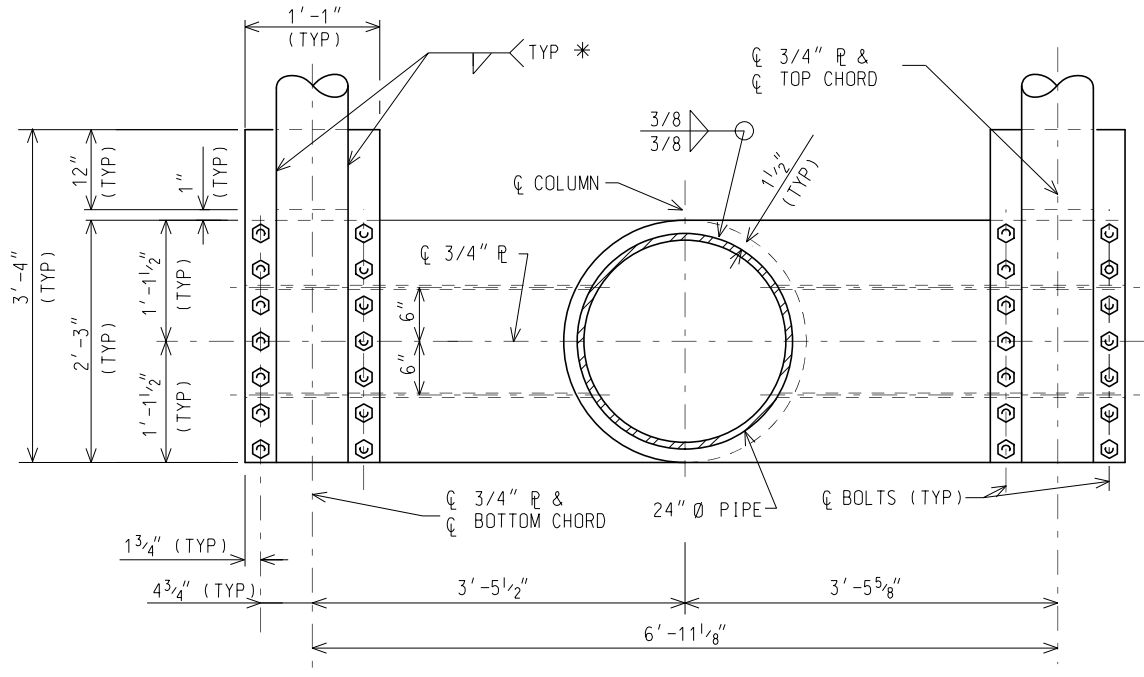
(WEB MEMBERS AND CONNECTION P'S OMITTED FOR CLARITY)

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

NOT TO SCALE

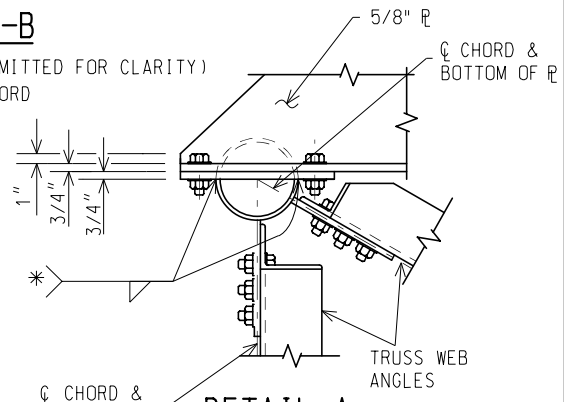
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	05/24/18	REV. 06/01/20	SIGN-370-B	SHEET 3 OF 10
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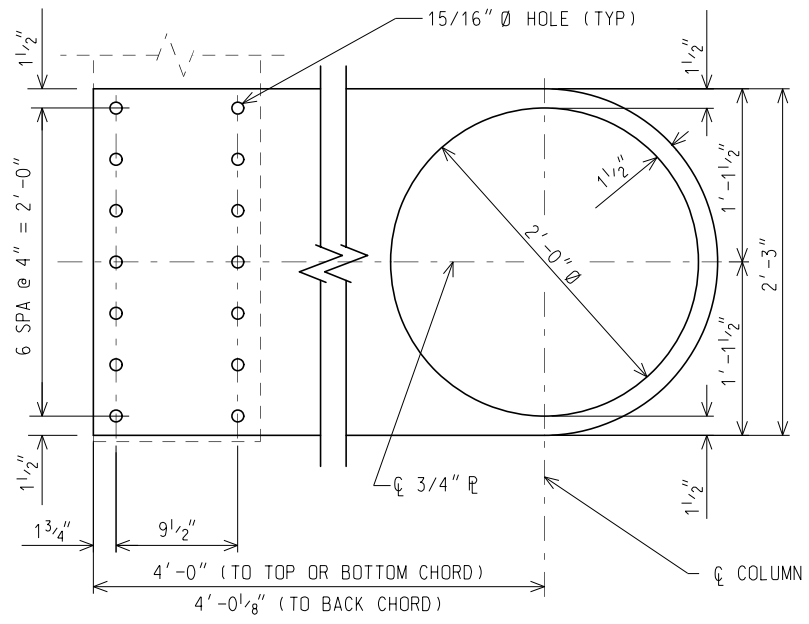
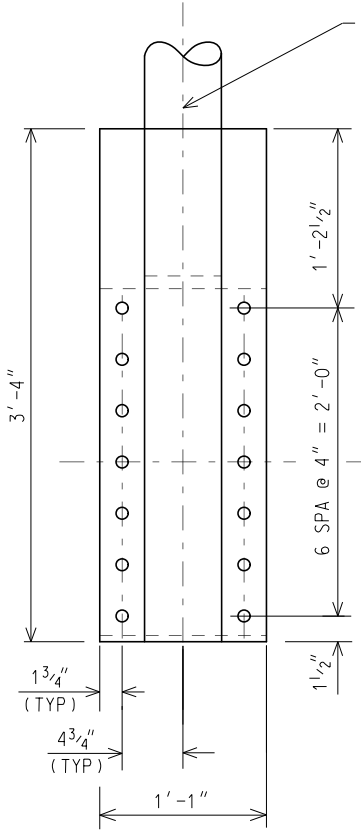
SECTION B-B

(WEB MEMBERS AND CONNECTION R'S OMITTED FOR CLARITY)
 *TOP AND BOTTOM CHORD



DETAIL A

*TOP AND BOTTOM CHORD

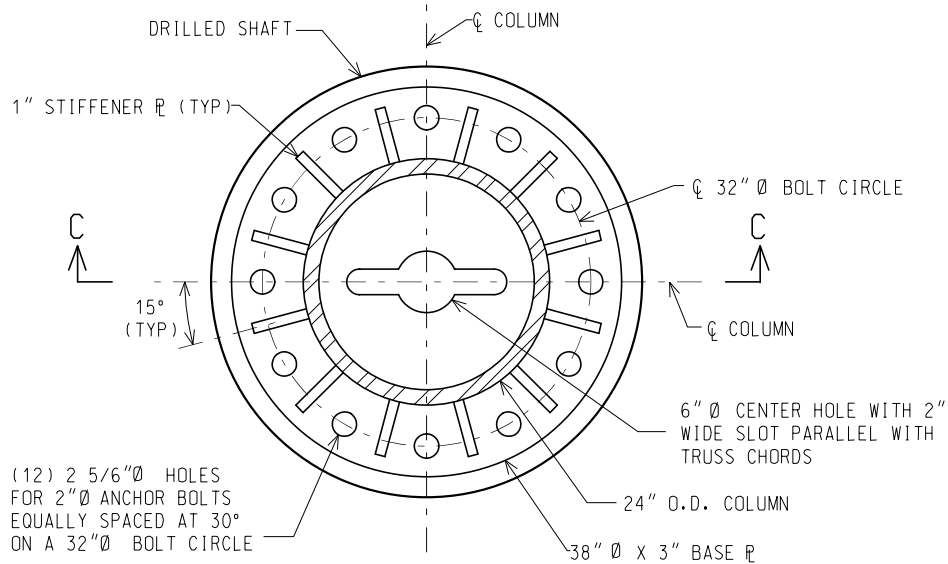


CHORD-COLUMN CONNECTION PLATE DETAILS

NOT TO SCALE

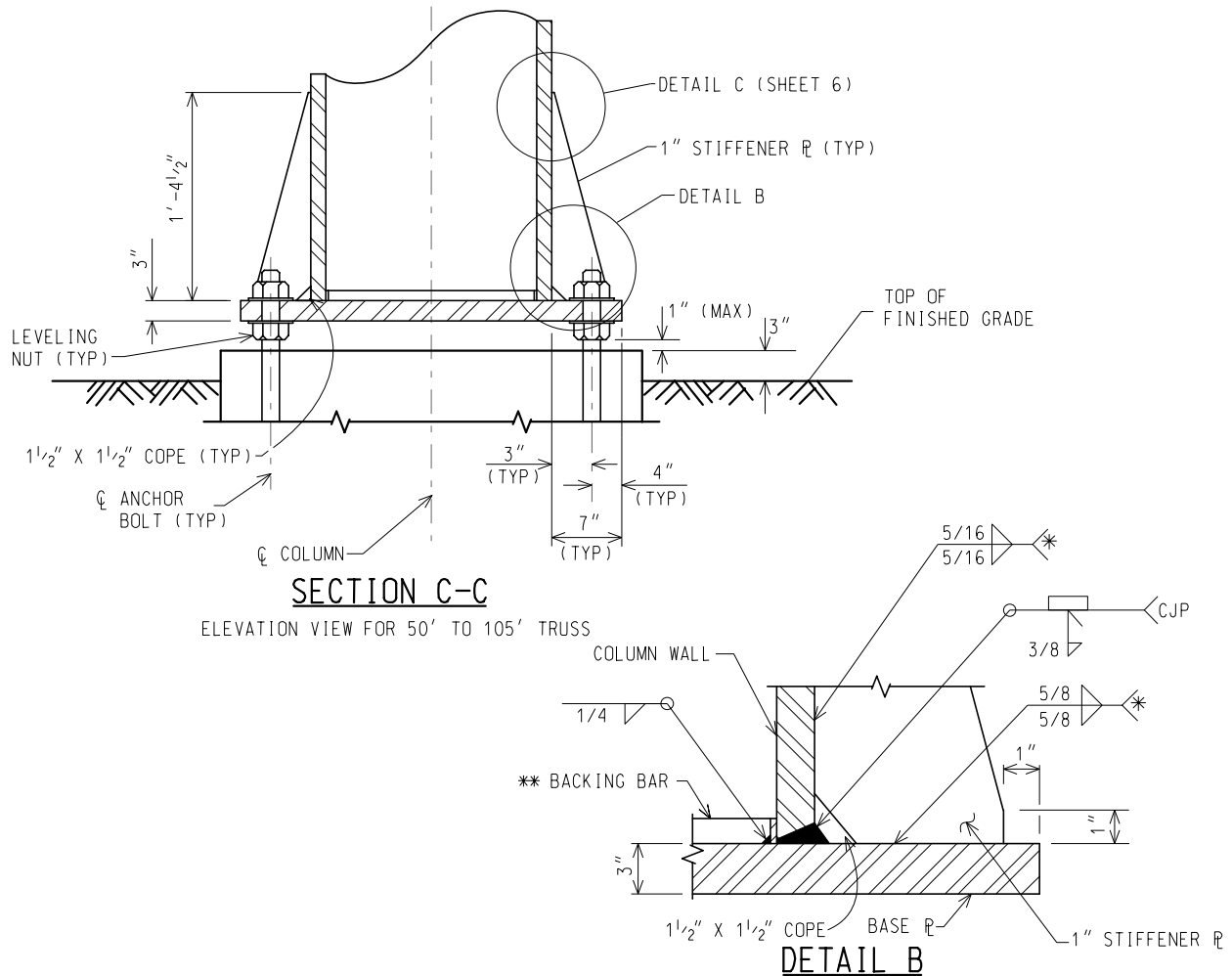
MICHIGAN DEPARTMENT OF TRANSPORTATION BUREAU OF DEVELOPMENT STANDARD PLAN	05/24/18	REV. 06/01/20	SIGN-370-B	SHEET 4 OF 10
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PLAN VIEW 38" BASE PLATE DETAIL

FOR USE WITH 20 FT., 25 FT., AND 30 FT CANTILEVER ARMS.



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

** CAULK UNWELDED JOINT BETWEEN BACKING BAR AND COLUMN WALL AFTER HDG.

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

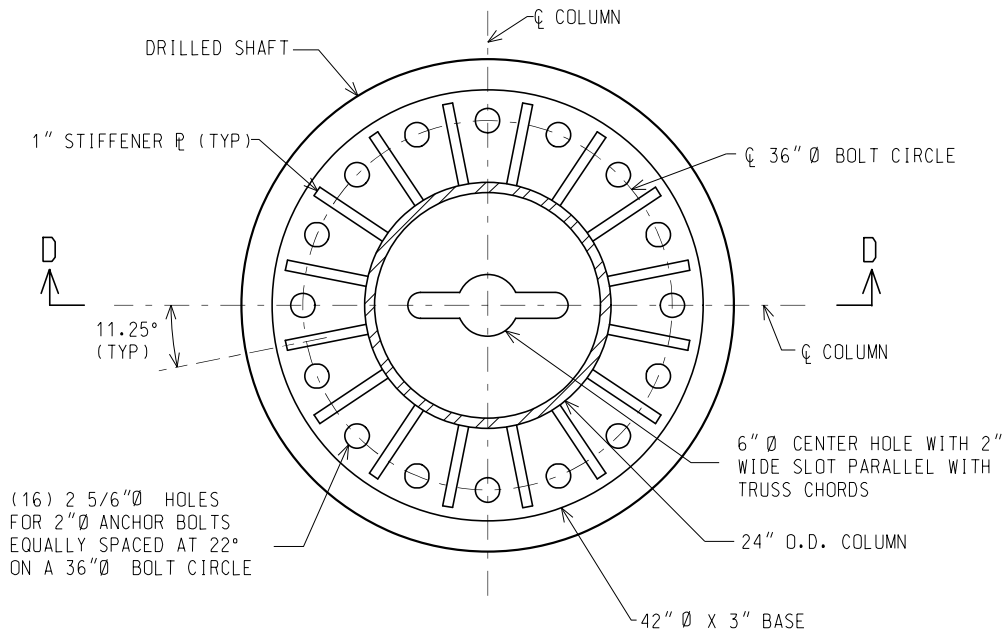
05/24/18
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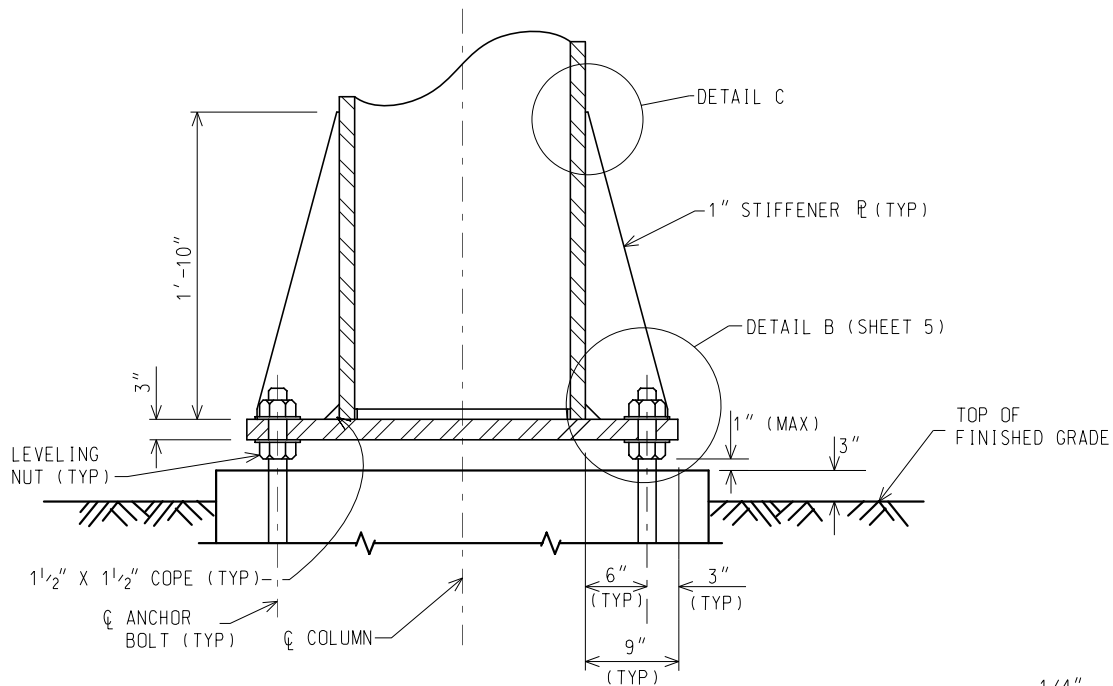
SHEET
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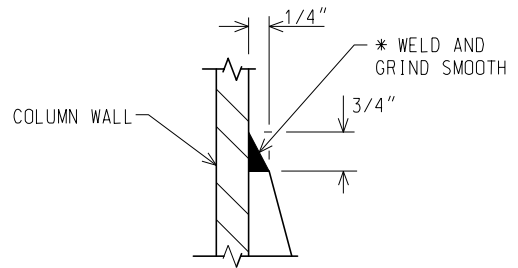
PLAN VIEW 42" BASE PLATE DETAIL

FOR USE WITH 35 FT AND 40 FT CANTILEVER ARMS



SECTION D-D

ELEVATION VIEW FOR 110' TO 140' TRUSS



DETAIL C

* GRIND TO 250 RMS OR SMOOTHER PER AWS D1.1

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

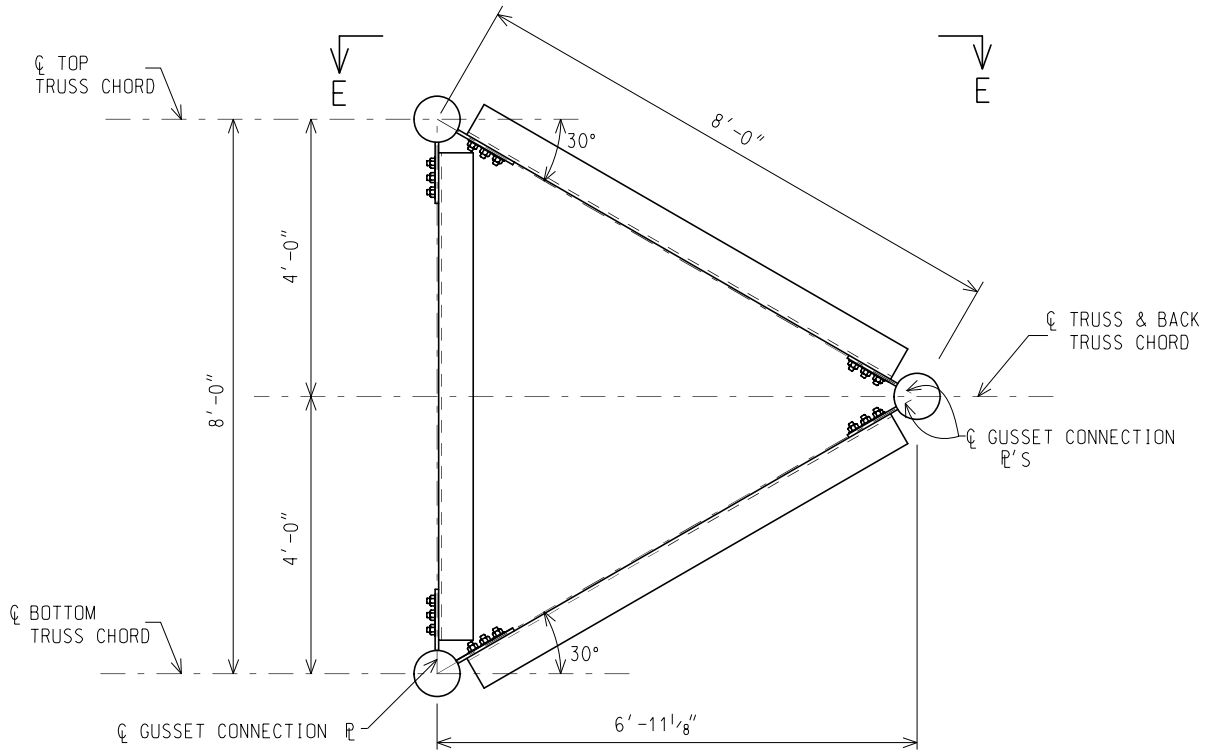
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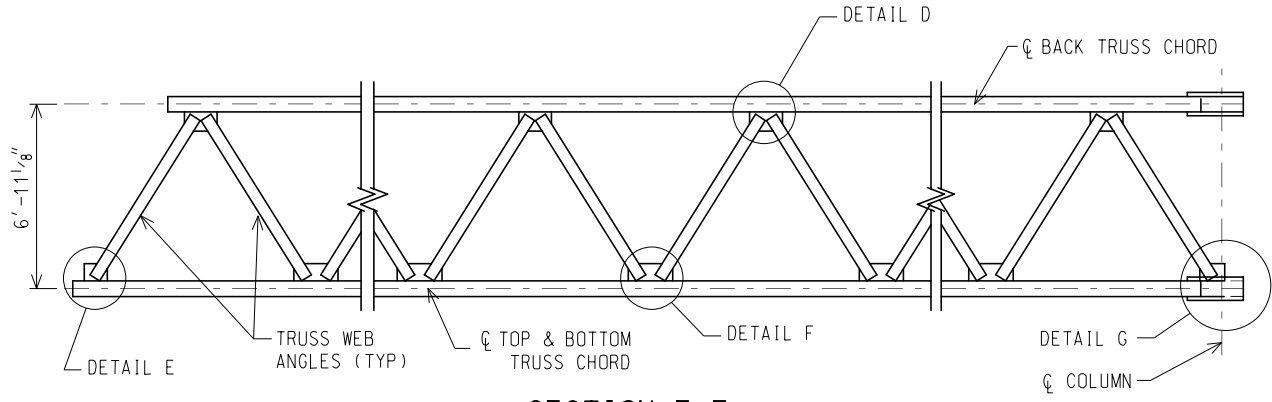
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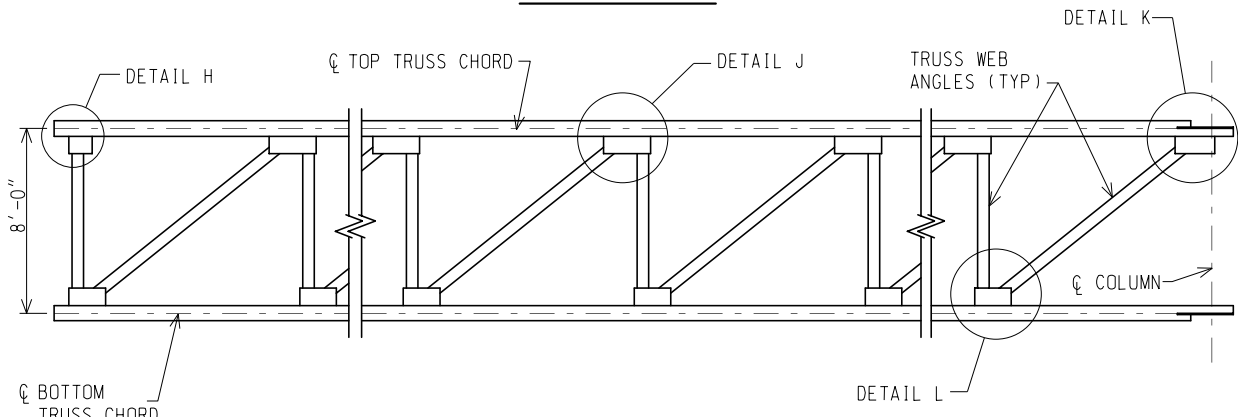
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TYPICAL SECTION OF TRUSS



SECTION E-E



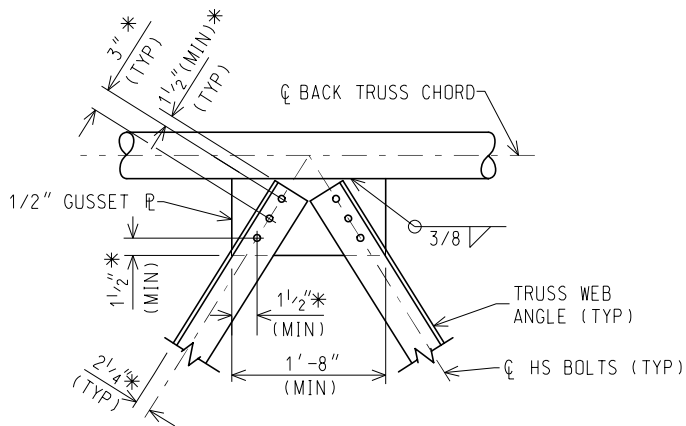
FRONT OF TRUSS ELEVATION

(BACK TRUSS CHORD AND ATTACHED ANGLES NOT SHOWN FOR CLARITY)

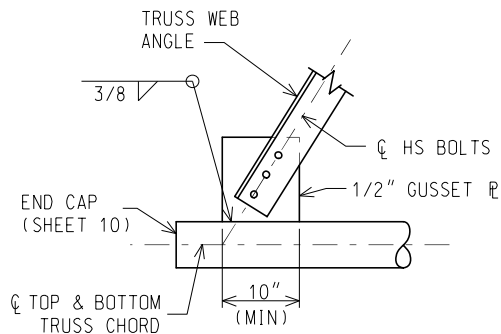
NOT TO SCALE

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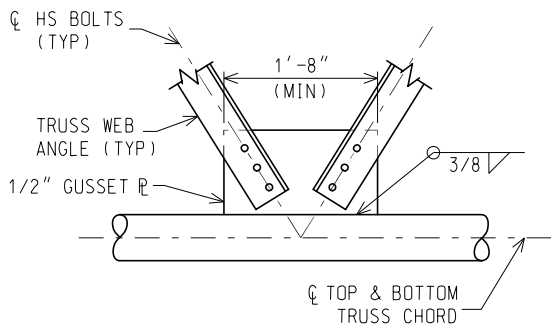
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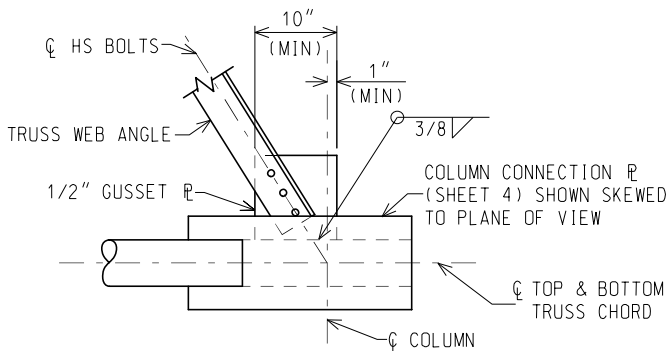
DETAIL D



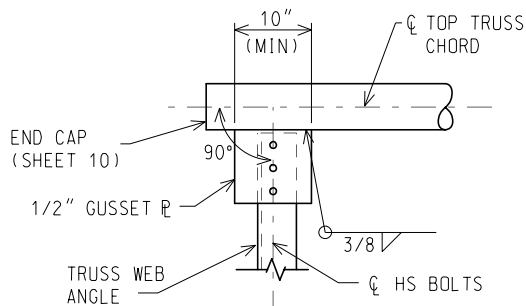
DETAIL E



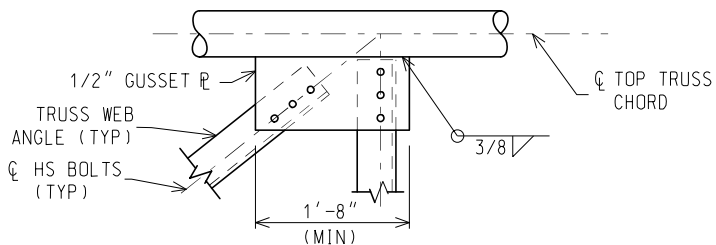
DETAIL F



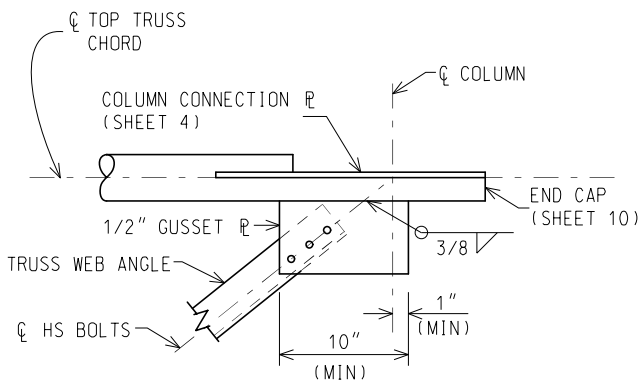
DETAIL G



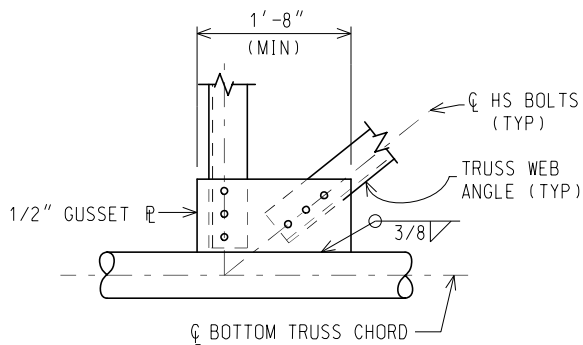
DETAIL H



DETAIL J



DETAIL K



DETAIL L

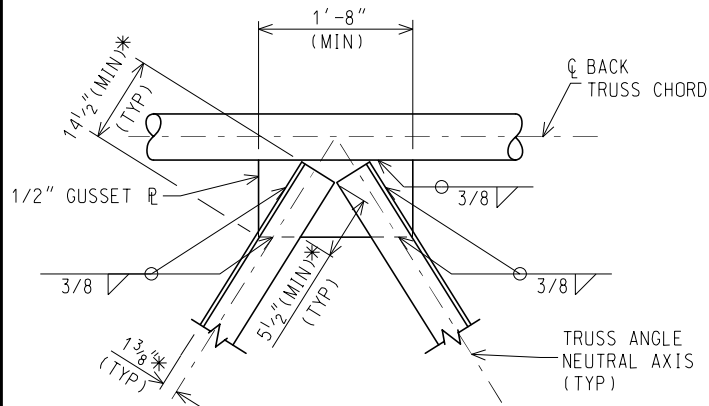
SEE SHEET 9 FOR ALTERNATE CONNECTION DETAILS.

* DIMENSION TYPICAL FOR ALL CONNECTION DETAILS.

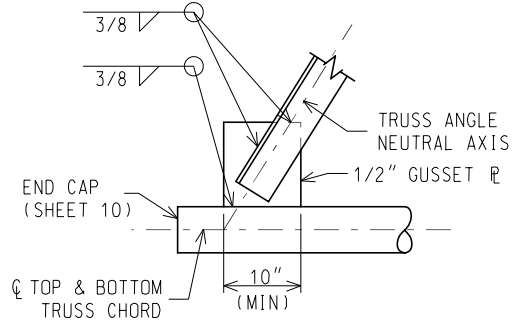
NOT TO SCALE

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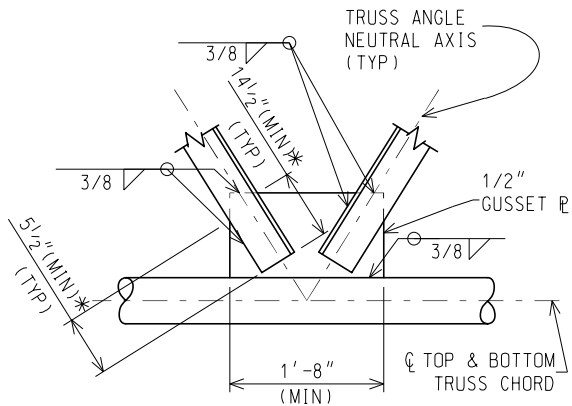
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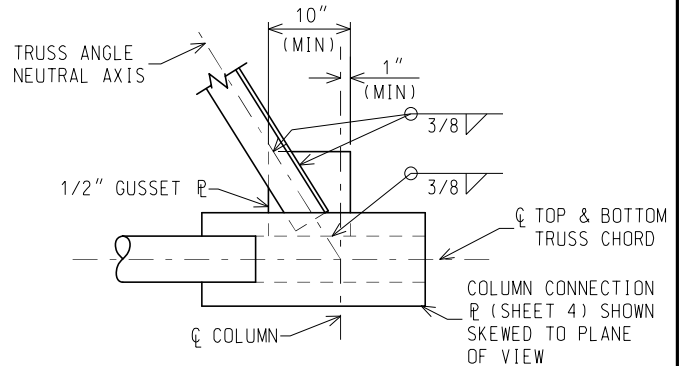
ALTERNATE DETAIL D



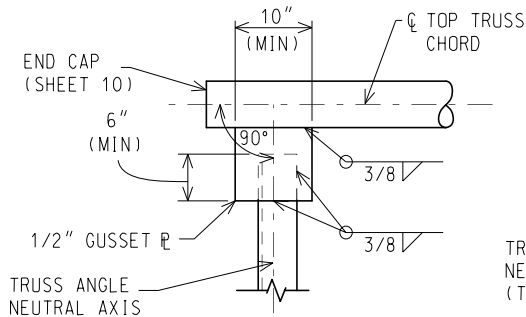
ALTERNATE DETAIL E



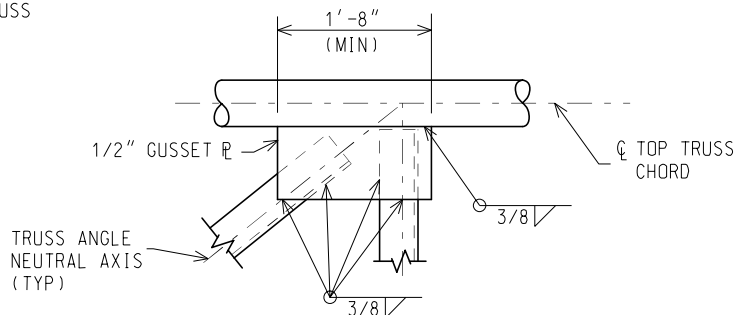
ALTERNATE DETAIL F



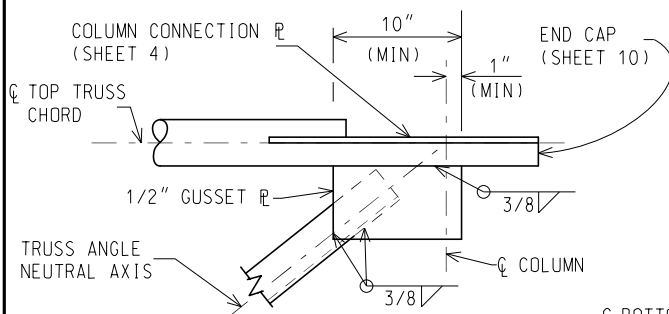
ALTERNATE DETAIL G



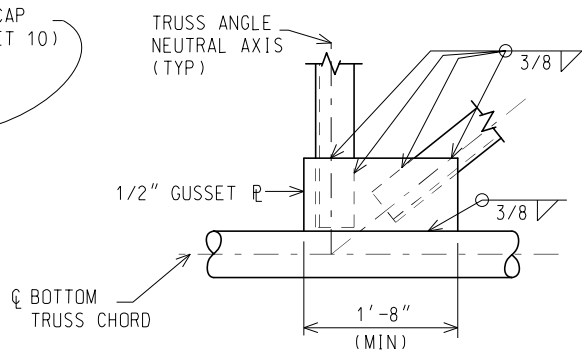
ALTERNATE DETAIL H



ALTERNATE DETAIL J



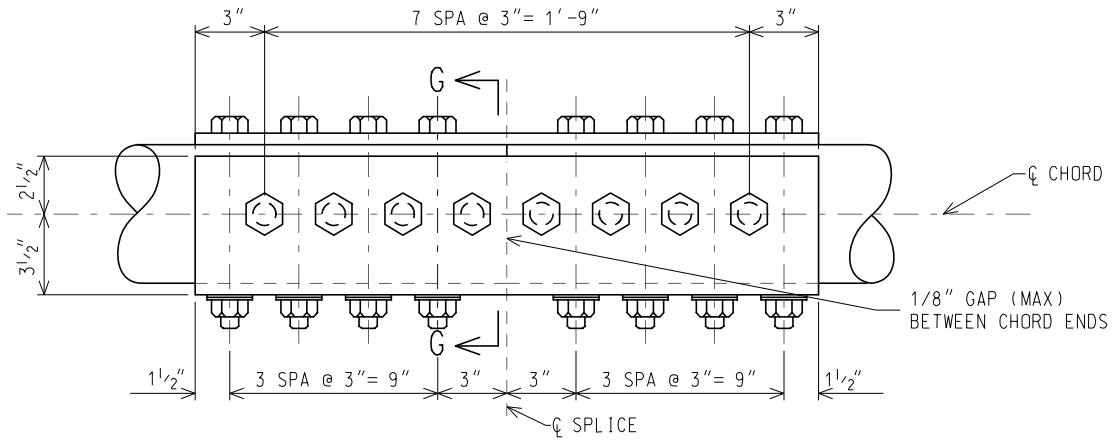
ALTERNATE DETAIL K



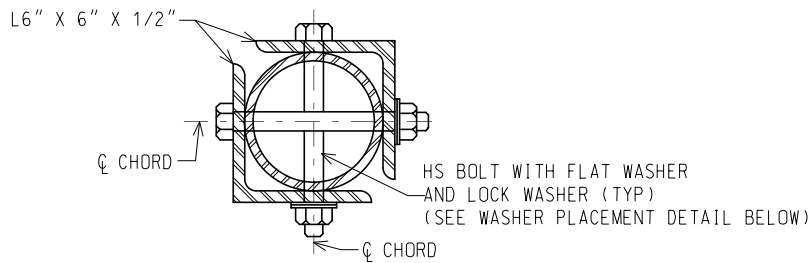
ALTERNATE DETAIL L

NOT TO SCALE

* DIMENSION TYPICAL FOR ALL CONNECTION DETAILS.

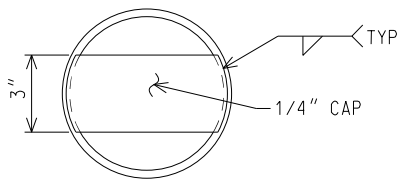


ELEVATION



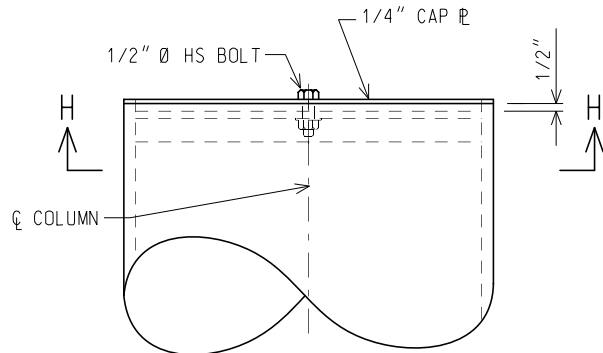
SECTION G-G

CHORD SPLICE CONNECTION DETAILS

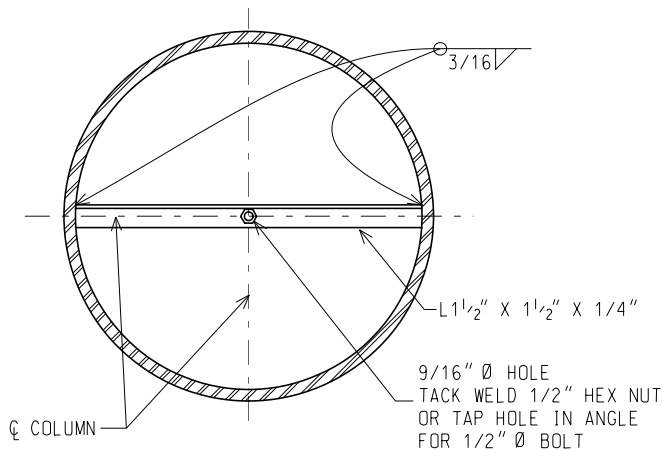


END CAP DETAIL

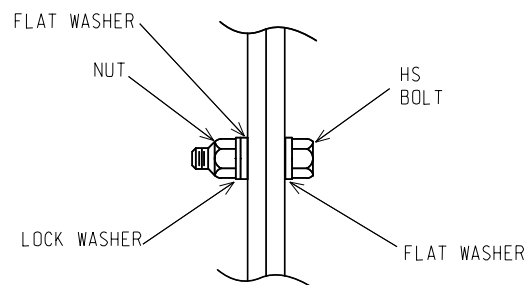
(USE AT EACH END OF BACK TRUSS CHORD)



COLUMN CAP DETAIL



SECTION H-H



DETAIL OF WASHER PLACEMENT

NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF DEVELOPMENT STANDARD PLAN

05/24/18
F.H.W.A. APPROVAL

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