

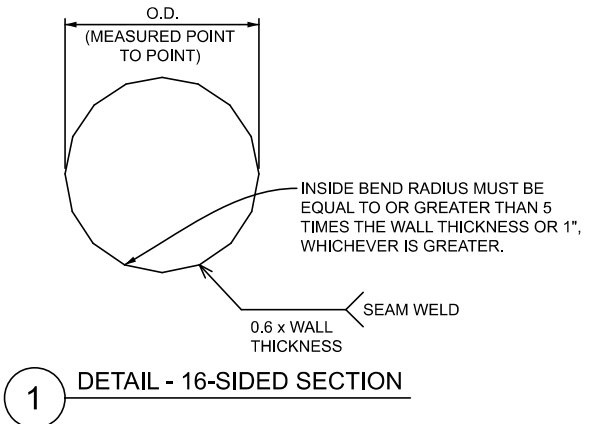
ELEVATION - MAST ARM POLE

TAPERED STEEL MAST ARM POLE			
POLE DIMENSIONS*	LUMINAIRE ARM DIMENSIONS	STEEL TRUSS BRACKET	MAST ARM LENGTH (FT)
0.4375"-14.00" x 11.06" x 21'-0"	6'-0"	NO	20, 25, 30, 35, 40, 45, 50
0.4375"-14.00" x 9.80" x 30'-0"	8'-0"	YES	
0.4375"-14.00" x 8.96" x 36'-0"	10'-0"	YES	
0.4375"-14.00" x 8.40" x 40'-0"	24'-0"	YES	
0.4375"-15.50" x 12.56" x 21'-0"	6'-0"	NO	55, 60
0.4375"-15.50" x 11.30" x 30'-0"	8'-0"	YES	
0.4375"-15.50" x 10.46" x 36'-0"	10'-0"	YES	
0.4375"-15.50" x 9.90" x 40'-0"	24'-0"	YES	

POLE TUBE TAPER IS 0.140 IN/FT
 * DIAMETERS GIVEN ARE O.D.

TAPERED STEEL MAST ARM	
MAST ARM LENGTH	MAST ARM DIMENSIONS*
20'-0"	0.2500"-8.00" x 5.20" x 20'-0"
25'-0"	0.2500"-8.00" x 4.50" x 25'-0"
30'-0"	0.2500"-8.00" x 3.80" x 30'-0"
35'-0"	0.2500"-11.00" x 6.10" x 35'-0"
40'-0"	0.2500"-11.00" x 5.40" x 40'-0"
45'-0"	0.3125"-11.00" x 8.66" x 16'-9" 0.1793"-9.18" x 5.10" x 29'-5"
50'-0"	0.3750"-15.00" x 12.66" x 16'-9" 0.2391"-13.37" x 8.48" x 34'-11"
55'-0"	0.3750"-15.00" x 12.66" x 16'-9" 0.2391"-13.37" x 7.78" x 39'-11"
60'-0"	0.4290"-15.00" x 12.66" x 16'-9" 0.3125"-13.52" x 7.23" x 44'-11"

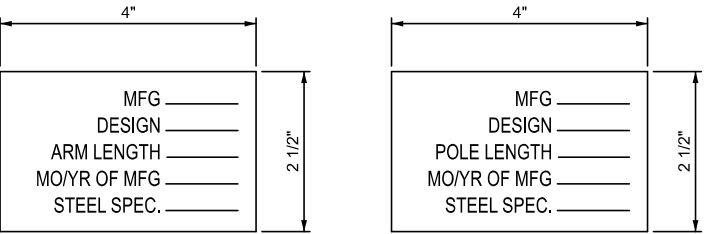
MAST ARM TUBE TAPER IS 0.140 IN/FT
 * DIAMETERS GIVEN ARE O.D.



1 DETAIL - 16-SIDED SECTION

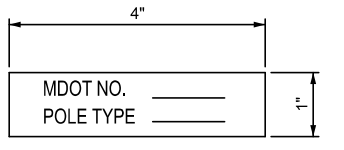
NOTES:

- THE DESIGN OF THIS STRUCTURE IS BASED ON CATEGORY III GALLOPING, NATURAL WIND GUSTS, AND TRUCK INDUCED FATIGUE LOADS.
- WELD THE LONGITUDINAL ARM SEAM ON THE INBOARD AND OUTBOARD SECTIONS OF THE TELESCOPIC FIELD SPLICE WITH A COMPLETE JOINT PENETRATION (CJP) WELD WITH A LENGTH EQUAL TO THE TELESCOPIC FIELD SPLICE LENGTH PLUS 6 INCHES. THE LAP OF THE ARM SECTIONS CANNOT EXTEND BEYOND THE LONGITUDINAL ARM SEAM CJP WELD WHEN THE FIELD SPLICE IS ERECTED AND IN ITS FINAL POSITION. IN ADDITION, LONGITUDINAL SEAM WELDS MUST HAVE 60% MINIMUM PENETRATION OR FUSION AND MUST BE CJP FOR A MINIMUM OF 6 INCHES FROM TUBE TO PLATE CJP WELDS.
- SEAM WELDS IN MAST ARM POLE MUST BE 90° ± FROM HAND HOLE AT BASE. SEAM WELDS IN MAST ARM MUST BE LOCATED ON BOTTOM OF MAST ARMS.
- LUMINAIRE ARM IS 11 GAUGE ROUND STEEL WITH 0.140 INCH PER FOOT TAPER.
- BACKING BAR FOR PIPE TO BASE PLATE (R) AND MAST ARM TO MAST ARM PLATE MUST BE MINIMUM 5/16 INCH X 2 INCH PLATE.
- 1/2 INCH DIAMETER (Ø) ROUND STOCK C-HOOK ATTACHED TO ALL POLE SIZES. 1 INCH SCHEDULE (SCH.) 80 PIPE ATTACHED TO ALL POLE SIZES AND INBOARD AND OUTBOARD ARM.
- S.S. DENOTES STAINLESS STEEL. GA. DENOTES GAUGE. O.D. DENOTES OUTSIDE DIAMETER. I.D. DENOTES INSIDE DIAMETER. H.S. DENOTES HIGH STRENGTH.
- ROUND OR 16-SIDED SECTIONS ARE ALLOWED.
- MULTI-PLY SECTIONS ARE NOT ALLOWED.



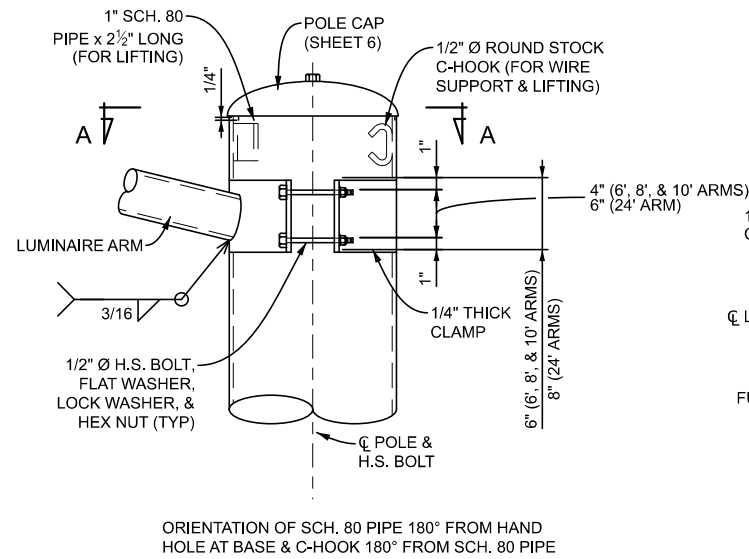
ATTACH TO POLE AND MAST ARM AT LOCATIONS SHOWN
 4" FROM BASE OF TUBE BELOW HANDHOLE WITH (4) #8 x 3/8"
 S.S. TYPE U DRIVE SCREWS.
 (LETTERS STAMPED IN 3/8" CHARACTERS)
 STEEL SPEC. REFERS TO THE ASTM SPECIFICATION AND GRADE: "AXXX GR YY"

2 DETAIL - ARM/POLE S.S. ID TAG

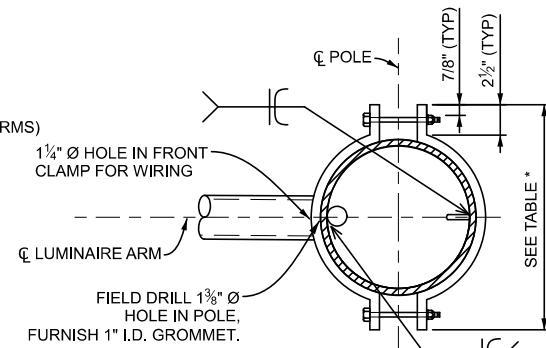


WELD TAG TO EDGE OF BASE PLATE
 (LETTERS STAMPED IN 3/8" CHARACTERS)

3 DETAIL - BASE S.S. ID TAG

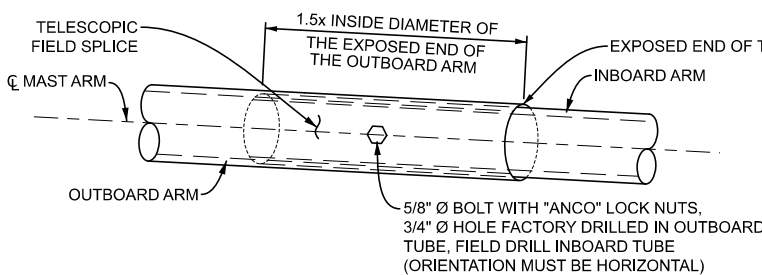


4 DETAIL - LUMINAIRE ARM BRACKET

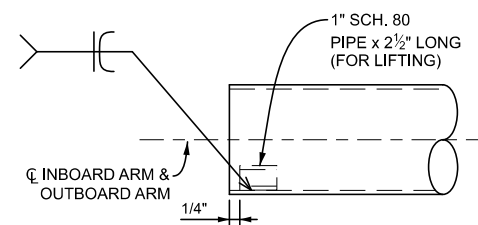


	CLAMP WIDTHS*	
	20'-50' ARMS	55'-60' ARMS
30' POLE	1'-2 1/2"	1'-4 3/8"
36' POLE	1'-2"	1'-3 1/2"
40' POLE	1'-1 1/2"	1'-3"

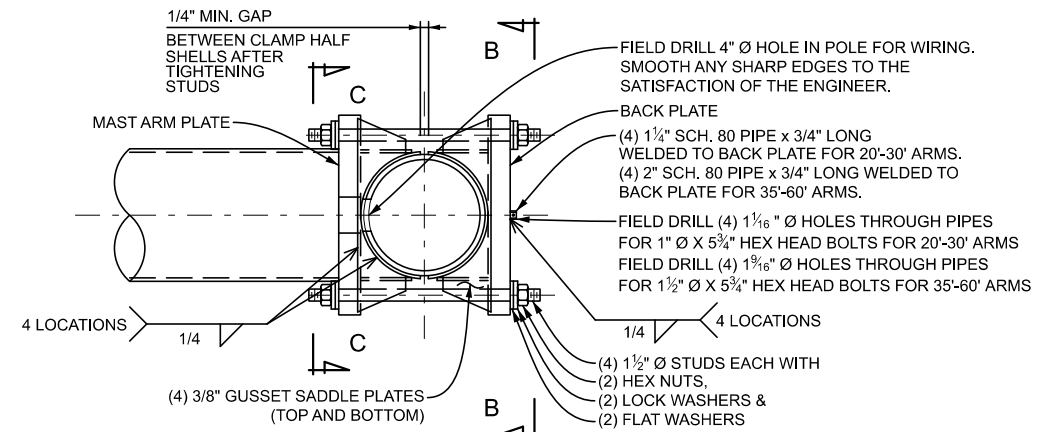
A SECTION - LUMINAIRE ARM BRACKET



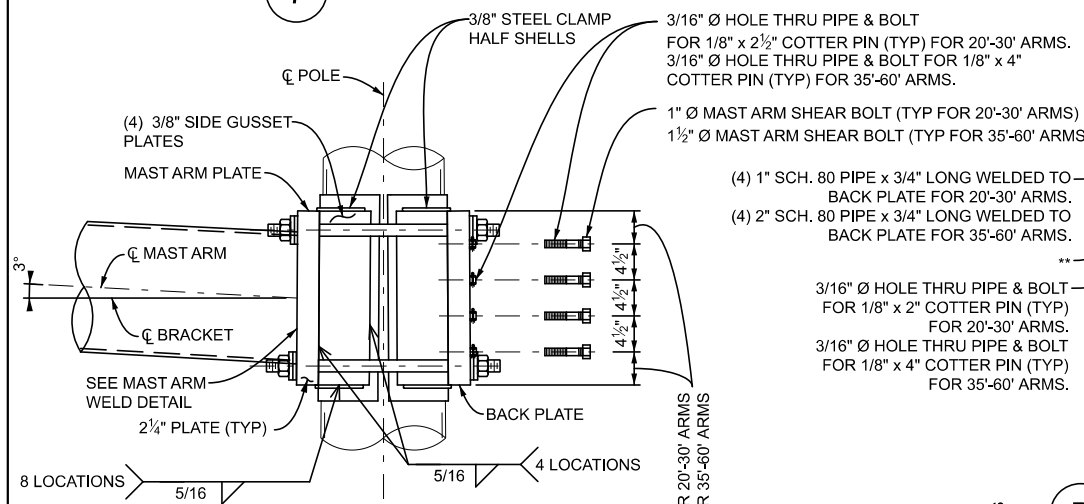
5 DETAIL - TELESCOPIC SPLICE



6 INBOARD/OUTBOARD ARM
DETAIL - LIFTING DEVICE



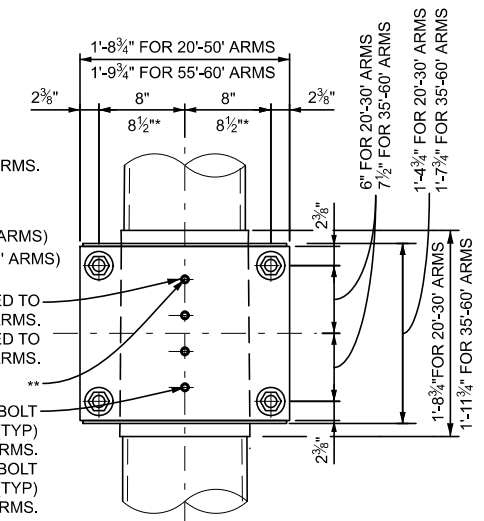
7 DETAIL - MAST ARM BRACKET PLAN



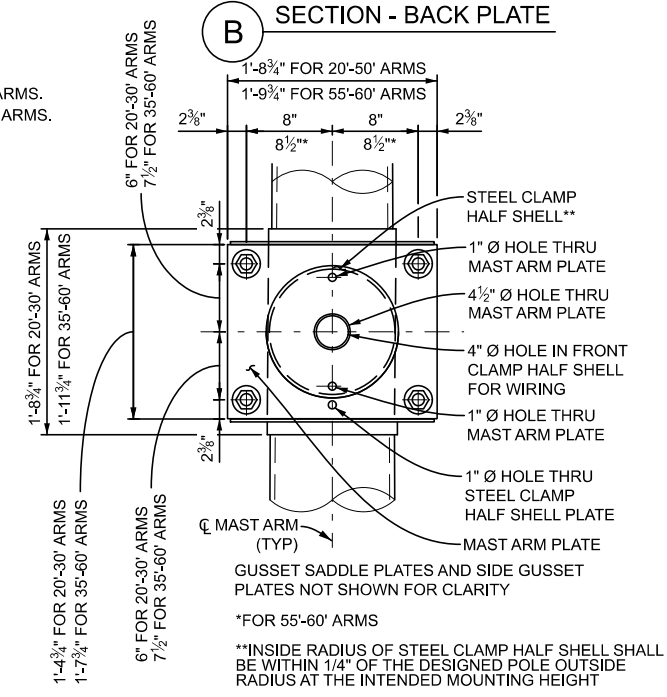
8 DETAIL - MAST ARM BRACKET ELEVATION

** FIELD DRILL (4) 1 1/16" Ø HOLES IN POLE FOR 1" Ø X 5 3/4" HEX HEAD BOLTS FOR 20'-30' ARMS.
FIELD DRILL (4) 1 3/16" Ø HOLES IN POLE FOR 1 1/2" Ø X 5 3/4" HEX HEAD BOLTS FOR 35'-60' ARMS.

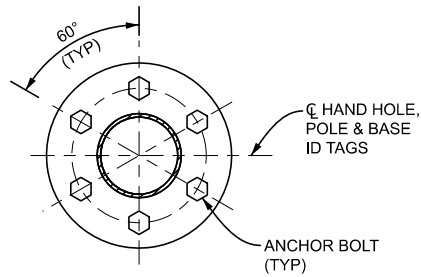
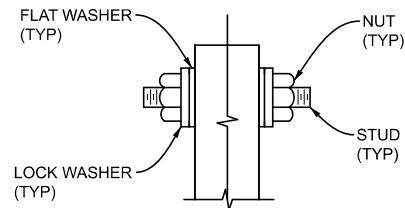
9 DETAIL - MAST ARM WELD



B SECTION - BACK PLATE

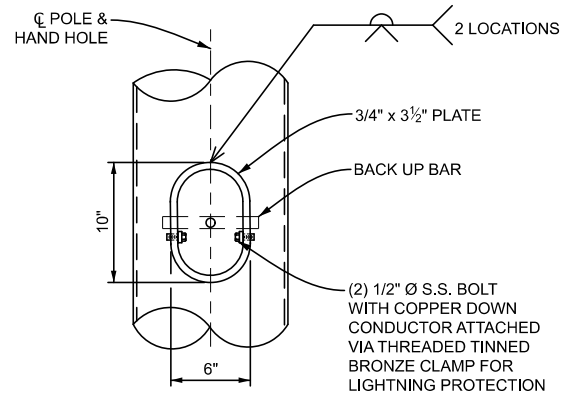
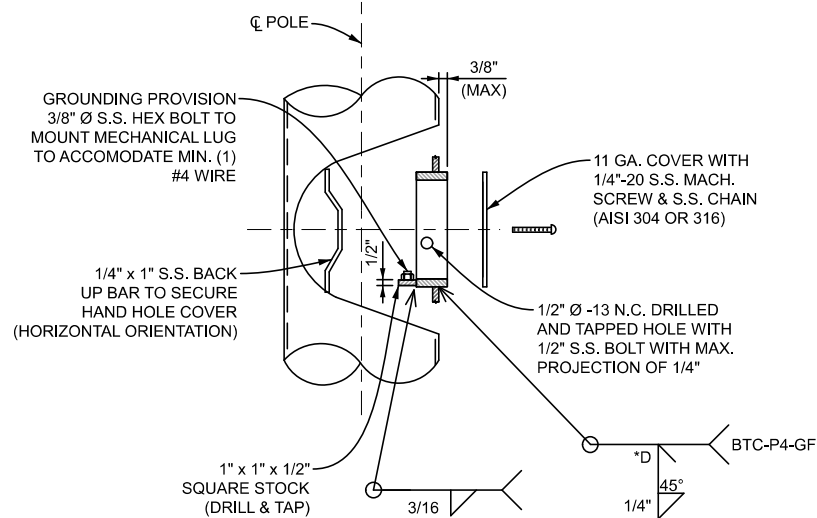


C SECTION - MAST ARM PLATE



10 DETAIL - MAST ARM BRACKET WASHERS

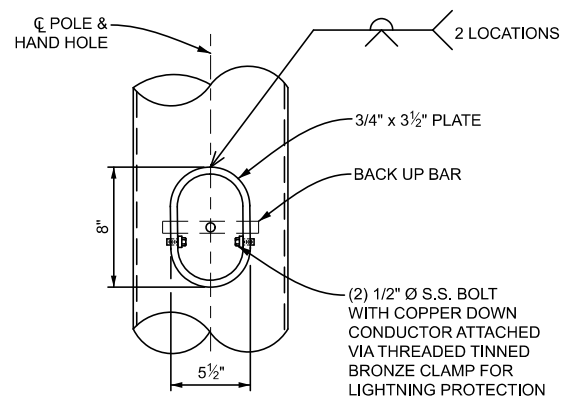
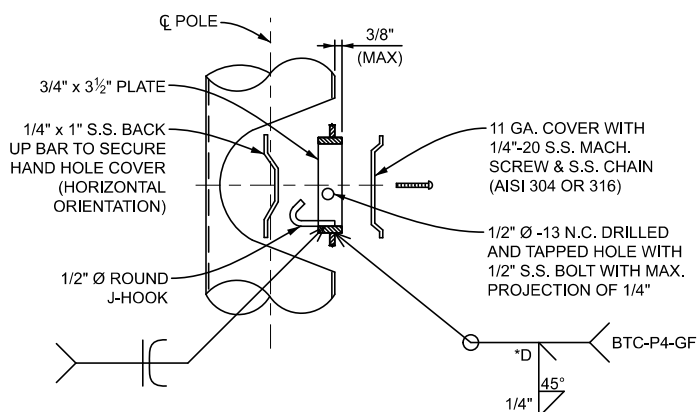
11 DETAIL - ORIENTATION OF HAND HOLE



*GROOVE DEPTH (D) EQUALS WELD SIZE (S) EQUALS POLE WALL THICKNESS MINUS 1/8 INCH FLAT (1G) OR HORIZONTAL (2G) POSITION

13 DETAIL - 6" X 10" BAR BOTTOM HAND HOLE
VIEW ROTATED 90 DEGREES

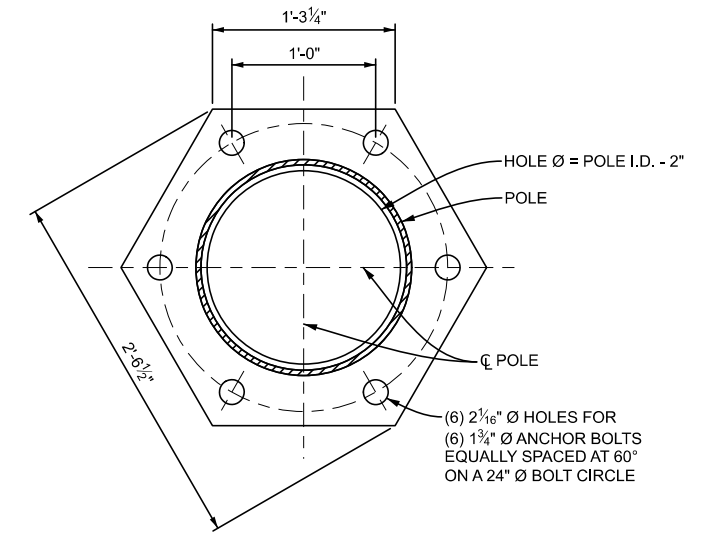
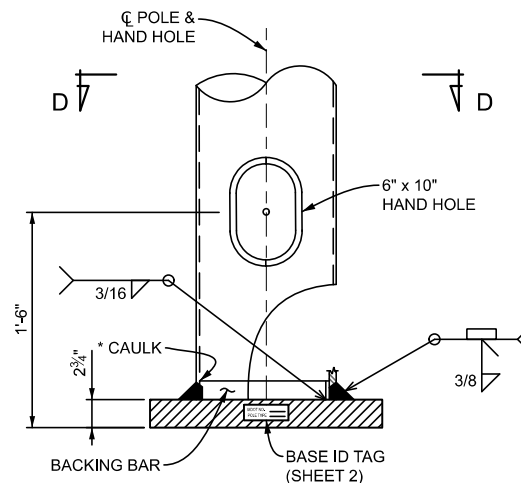
12 DETAIL - 6" X 10" BAR BOTTOM HAND HOLE



*GROOVE DEPTH (D) EQUALS WELD SIZE (S) EQUALS POLE WALL THICKNESS MINUS 1/8 INCH FLAT (1G) OR HORIZONTAL (2G) POSITION

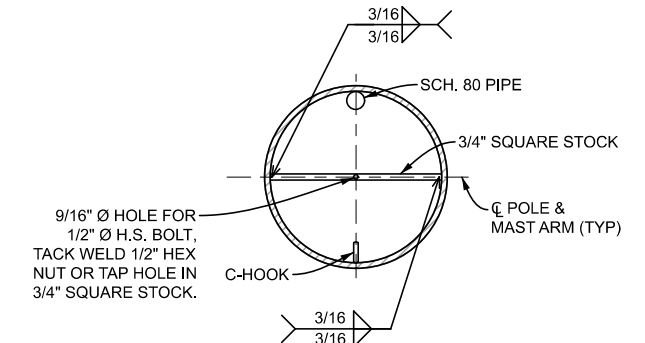
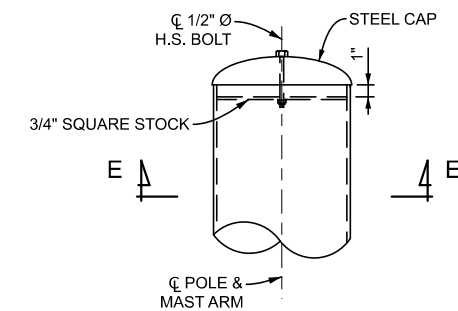
15 DETAIL - 5 1/2" X 8" BAR TOP HAND HOLE
VIEW ROTATED 90 DEGREES

14 DETAIL - 5 1/2" X 8" BAR TOP HAND HOLE



16 DETAIL - BASE PLATE WELD
VIEW ROTATED 90 DEGREES

D SECTION - BASE PLATE



17 DETAIL - POLE AND MAST ARM CAP

E SECTION - POLE AND MAST ARM CAP

 Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR HAND HOLE DETAILS			SHEET 5 OF 6
	(SPECIAL DETAIL) FHWA APPROVAL	05/17/24 PLAN DATE	SIG-033-B	

 Michigan Department of Transportation DEPARTMENT DIRECTOR BRADLEY C. WIEFERICH, PE	STANDARD PLAN FOR BASE PLATE, MAST ARM POLE CAP, AND MAST ARM CAP DETAILS			SHEET 6 OF 6 SECT
	(SPECIAL DETAIL) FHWA APPROVAL	05/17/24 PLAN DATE	SIG-033-B	