

QTY	UMC DESIGN No. (MAST ARM)	ARM SPAN	MAST ARM TUBE SIZE	SIGNAL 'A'	SIGNAL 'B'	SIGN
	50302-B15-Y3	15'-0" [4.6m]	7E-8.00x3.90x15'-0" [4.6E-152x89x4.6m]	14'-6" [4.42m]	10'-0" [3.05m]	12'-3" [3.73m]
	50302-B15-Y4	20'-0" [6.1m]	7E-6.00x3.20x20'-0" [4.6E-152x81x6.1m]	19'-6" [5.94m]	13'-4" [4.06m]	16'-5" [5.0m]
	50302-B15-Y5	25'-0" [7.6m]	7E-7.00x3.50x25'-0" [4.6E-178x89x7.6m]	24'-6" [7.47m]	16'-8" [5.08m]	20'-7" [6.27m]
	50302-B15-Y6	30'-0" [9.1m]	7E-8.00x3.80x30'-0" [4.6E-203x97x9.1m]	29'-6" [8.99m]	20'-0" [6.10m]	24'-9" [7.54m]
	50302-B15-Y7	35'-0" [10.7m]	7E-9.00x4.10x35'-0" [4.6E-229x104x10.7m]	34'-6" [10.52m]	23'-4" [7.11m]	28'-11" [8.81m]
	50302-B15-Y8	40'-0" [12.2m]	7E-9.50x3.90x40'-0" [4.6E-241x99x12.2m]	39'-6" [12.04m]	26'-8" [8.13m]	33'-1" [10.08m]
	50302-B15-Y9	45'-0" [13.7m]	7E-10.50x6.09x31'-6" [4.6E-267x155x9.6m] 11E-6.58x4.48x15'-0" [3.0E-167x114x4.6m]	44'-6" [13.56m]	30'-0" [9.14m]	37'-3" [11.35m]
	50302-B15-Y10	50'-0" [15.2m]	3E-11.00x6.80x30'-0" [6.4E-278x173x9.1m] 11E-7.29x4.28x21'-6" [3.0E-185x109x6.6m]	49'-6" [15.09m]	33'-4" [10.16m]	41'-5" [12.62m]

QTY	UMC DESIGN No. (POLE)	POLE HEIGHT	POLE TUBE SIZE
	50302-B15-Y1	21'-0" [6.4m]	OE-13.00x10.06x21'-0" [7.9E-330x256x6.4m]
	50302-B15-Y2	27'-6" [8.4m]	OE-13.00x9.15x27'-6" [7.9E-330x232x8.4m]

LUMINAIRE ARM DATA	
ARM SPAN	TUBE SIZE
15'-0" [4.6m]	11EV-4.50x2.40x15'-0" [3.0EV-114x61x4.6m]
20'-0" [6.1m]	11EV-5.20x2.40x20'-0" [3.0EV-132x61x6.1m]

11 GA = 0.120" [3.0] WALL THICKNESS
 7 GA = 0.179" [4.6] WALL THICKNESS
 3 GA = 0.250" [6.4] WALL THICKNESS
 0 GA = 0.313" [7.9] WALL THICKNESS
 E = ROUND TAPERED STEEL TUBE @ 0.14 in./ft TAPER [11.67 mm/m]

DESIGN CRITERIA:

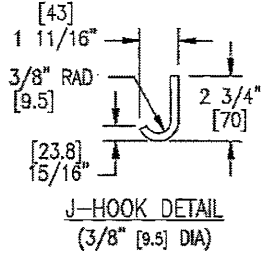
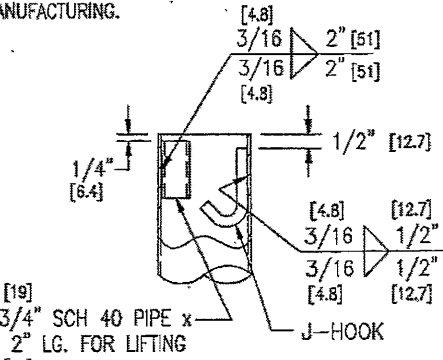
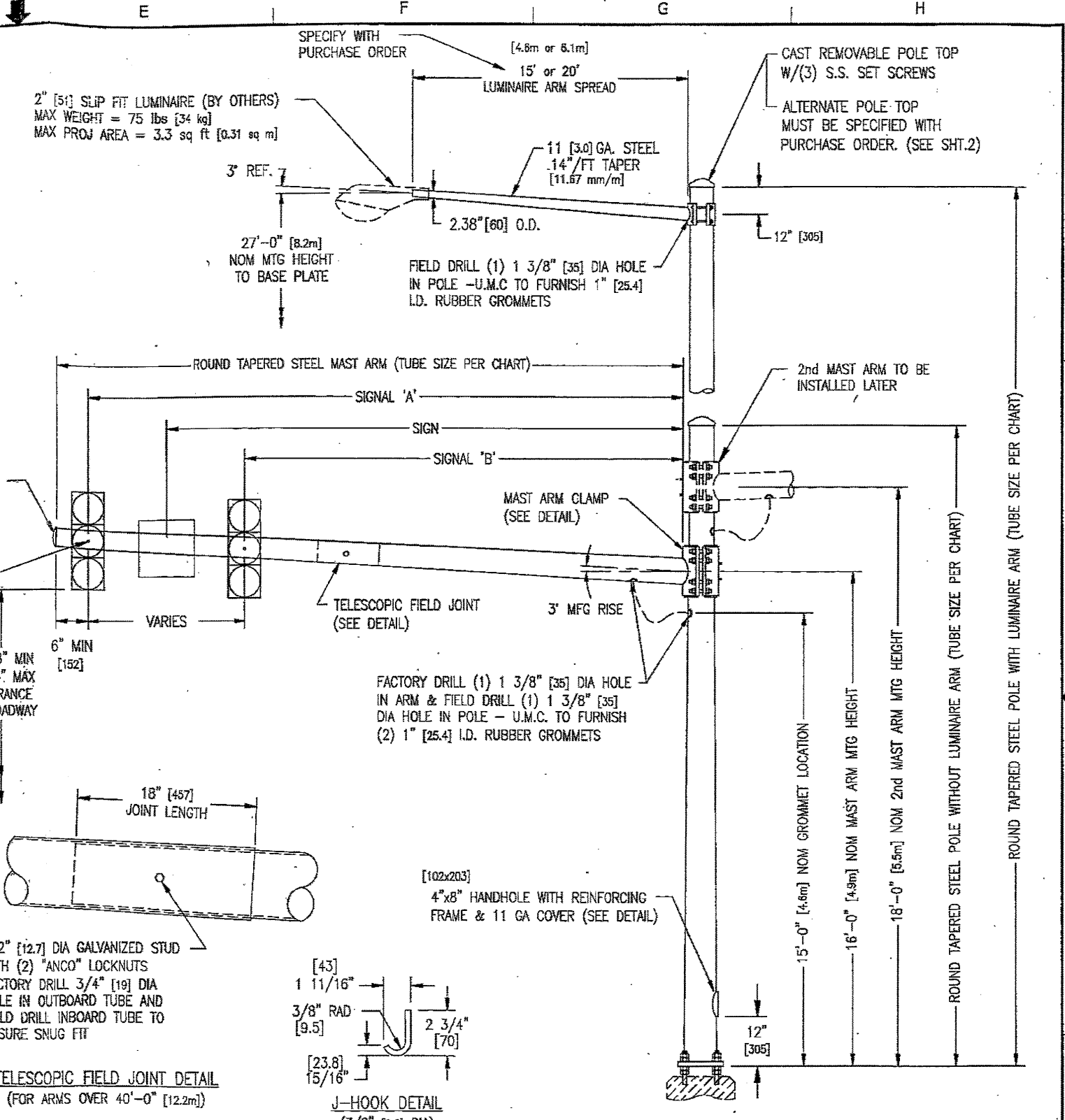
- DESIGNED IN ACCORDANCE WITH 2001 AASHTO "STANDARD SPECIFICATIONS WITH 2002 & 2003 INTERIM REVISIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" FOR 80 M.P.H. [129 km/hr] WIND ZONE.
- MAST ARMS SHALL SUPPORT THE FOLLOWING (MAXIMUM LOADING):
 - FIXED SIGNALS BACK TO BACK AT LOCATIONS PER CHART (TOTAL WEIGHT FOR EACH LOCATION: 100 lbs [45.36 kg] & PROJ AREA = 8.4 sq ft [0.78 sq m])
 - FIXED SIGN AT LOCATION PER CHART (WEIGHT = 70 lbs [31.75 kg] & PROJ AREA = 12 sq ft [1.11 sq m]).
- POLES ARE ALSO DESIGNED TO SUPPORT TWO MAST ARMS, (1) 45' [13.7m] AND (1) 30' [9.1m] EACH WITH THE ABOVE LOADING AND A MINIMUM ARM SEPARATION OF 45' (LOAD CONDITIONS OTHER THAN THOSE NOTED ABOVE MUST BE ADDRESSED WITH U.M.C. ENGINEERING DEPARTMENT).
- PER AASHTO THE MINIMUM LENGTH OF ANY TELESCOPIC FIELD JOINT SHALL BE 1.5 TIMES THE INSIDE DIAMETER OF THE END OF THE FEMALE SECTION.
- VIBRATION IS MORE LIKELY TO OCCUR WHEN STRUCTURES ARE INSTALLED WITHOUT ATTACHING THE SIGNALS AND OR SIGNS. THEREFORE, THE INTENDED EQUIPMENT OR DAMPENING DEVICES MUST BE INSTALLED AT THE TIME OF ERECTION. BECAUSE VIBRATION IS GENERALLY UNPREDICTABLE, A MAINTENANCE PROGRAM SHOULD INCLUDE INSPECTION FOR INDICATIONS OF EXCESSIVE VIBRATION OR FATIGUE AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING.
- CUSTOMER TO CONFIRM ORIENTATIONS & MOUNTING HEIGHTS BEFORE RELEASING ORDER FOR MANUFACTURING.

MATERIAL SPECIFICATIONS

TAPERED TUBE	ASTM A595 GR A
PLATE	ASTM A36
HANDHOLE FRAME	ASTM A529 GR 50 (PREFERRED) or ASTM A572 GR 50 or ASTM A709 GR 50
HANDHOLE COVER	ASTM A1011
ANCHOR BOLTS	ASTM F1554 GR 55
ANCHOR BOLT NUTS	ASTM A563 GR DH
FLAT WASHERS	ASTM F436
MAST ARM CONNECTION STUDS	ASTM A449
LUM. ARM CONNECTION BOLTS	ASTM A325
ARM CONNECTION NUTS	ASTM A563 GR DH
TELESCOPIC FIELD JOINT STUD	ASTM A36
"ANCO" LOCK NUTS	ASTM A563 GR DH
POLE TOP	ASTM B26 (319F)
ARM END CAP	ASTM A1011
PIPE	ASTM A501 or A53 GR B
S.S. HARDWARE	AISI-300 SERIES (18-8)
STRUCTURE FINISH	HD GALV TO ASTM A123
HARDWARE FINISH	HD GALV TO ASTM A153

NOTES:

- POLE AND TRAFFIC ARM ORDERED AS SEPARATE ITEMS.
- LUMINAIRE ARM LENGTH MUST BE SPECIFIED WITH POLE DESIGN NO.
- ALTERNATE POLE TOP MUST BE ORDERED AS SEPARATE ITEM.
- DIMENSIONS IN [] ARE MILLIMETERS (mm) UNLESS OTHERWISE SPECIFIED.



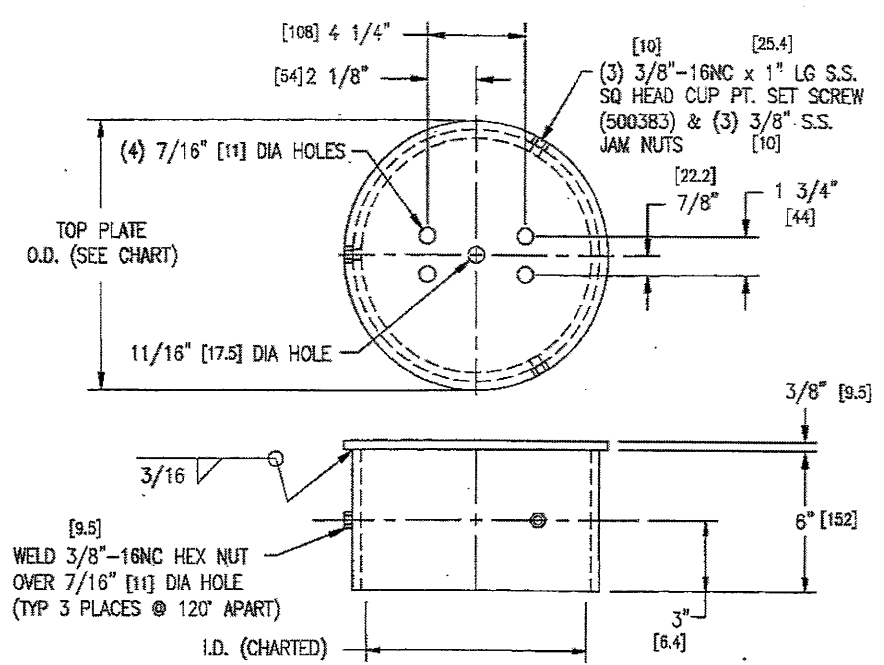
R6	RENAMED "ALTERNATE POLE TOP" TO "LUMINAIRE MOUNT ASSEMBLY TYPE 1". ADDED TYPE 2 AND 3. MOVED HFF DETAIL TO SHEET 3.	6/4/09	LRR	SAD
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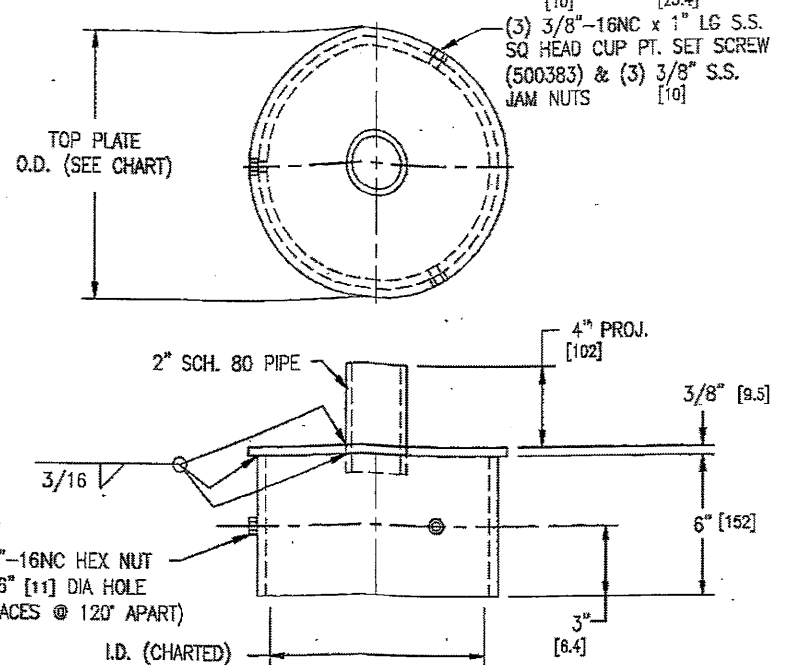
ROUND TAPERED STEEL TRAFFIC CONTROL STRUCTURES WITH or WITHOUT LUMINAIRE ARMS

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50302-B15					REVISION	SHEET
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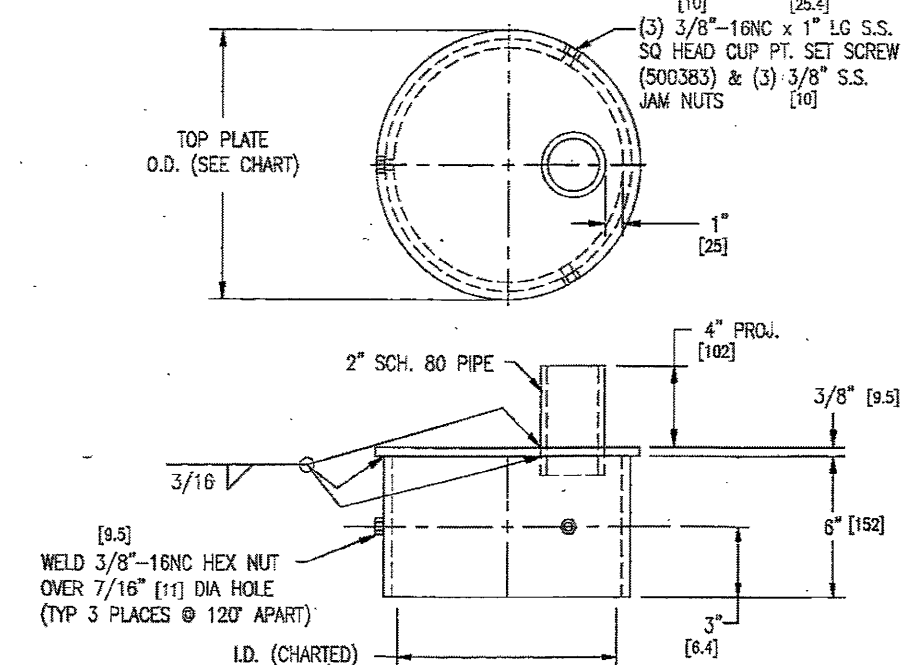
A B C D E F G H



LUMINAIRE MOUNT ASSEMBLY TYPE 1
MUST BE ORDERED AS SEPERATE ITEM

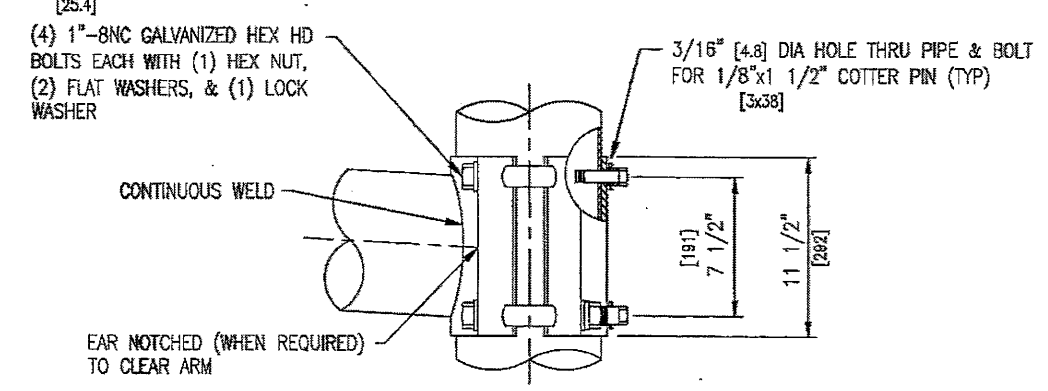
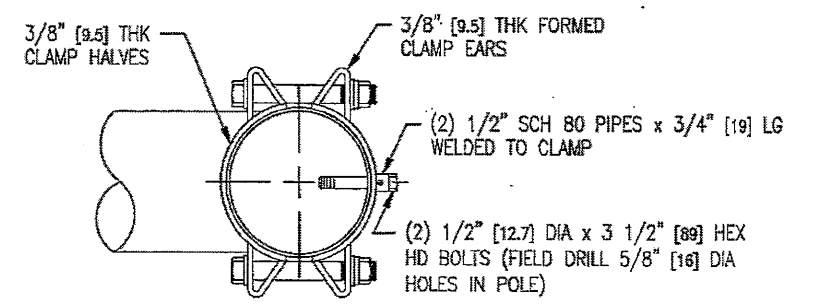


LUMINAIRE MOUNT ASSEMBLY TYPE 2
MUST BE ORDERED AS SEPERATE ITEM

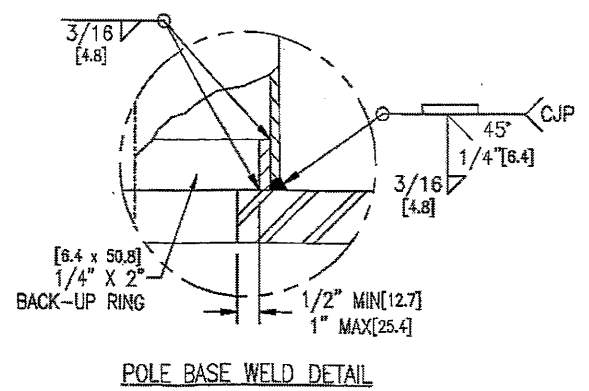


LUMINAIRE MOUNT ASSEMBLY TYPE 3
MUST BE ORDERED AS SEPERATE ITEM

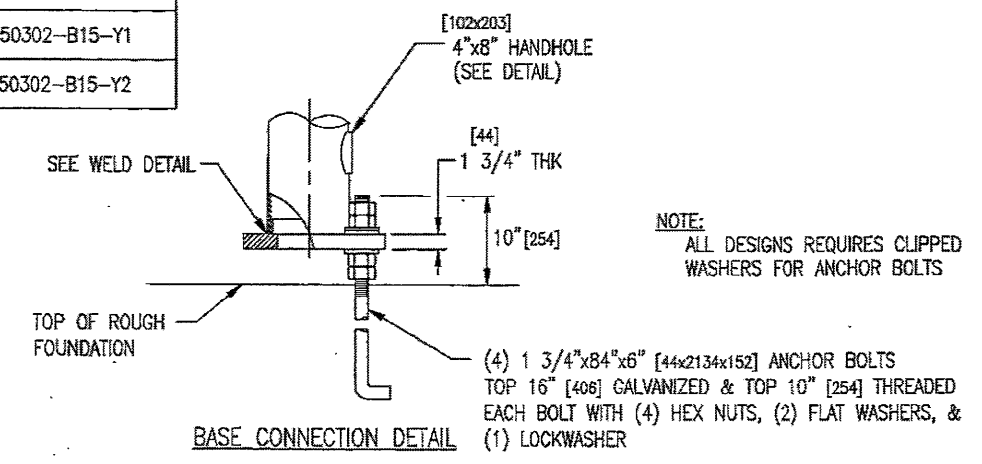
TYPE 1		TYPE 2		TYPE 3		LUMINAIRE MOUNT ASSEMBLY DATA			
QTY	UMC DESIGN No.	QTY	UMC DESIGN No.	QTY	UMC DESIGN No.	TUBE MATERIAL	I.D.	TOP PLATE O.D.	POLE USED WITH
	50302-B15-Y14		50302-B15-Y16		50302-B15-Y18	0 GA [7.9] STEEL FORMED SLEEVE	11" [279]	12.25" [311]	50302-B15-Y1
	50302-B15-Y15		50302-B15-Y17		50302-B15-Y19	10" SCH 40 PIPE	10.02" [255]	11.25" [288]	50302-B15-Y2



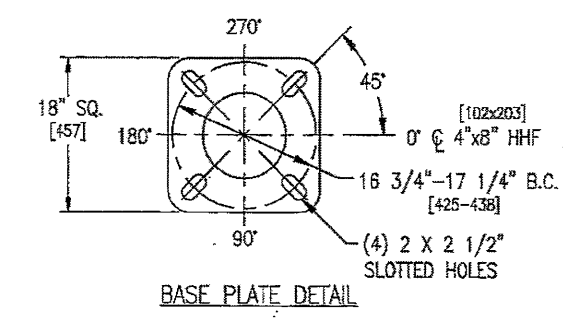
ARM CONNECTION DETAIL FOR LUMINAIRE ARMS



POLE BASE WELD DETAIL



BASE CONNECTION DETAIL



BASE PLATE DETAIL

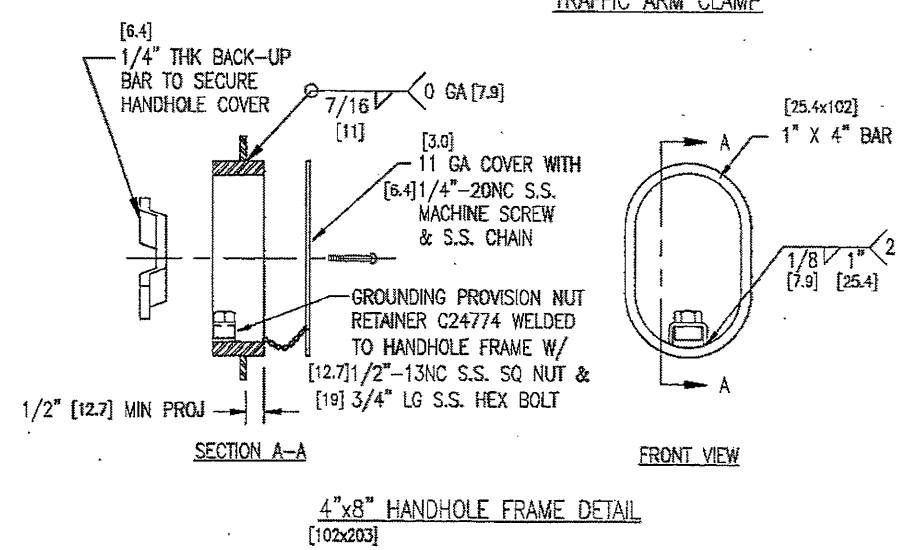
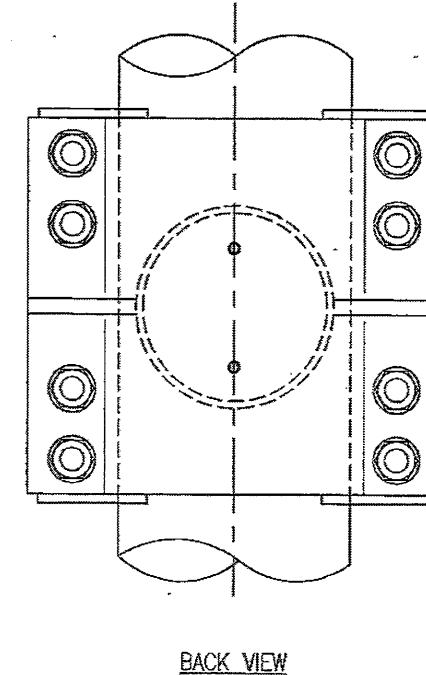
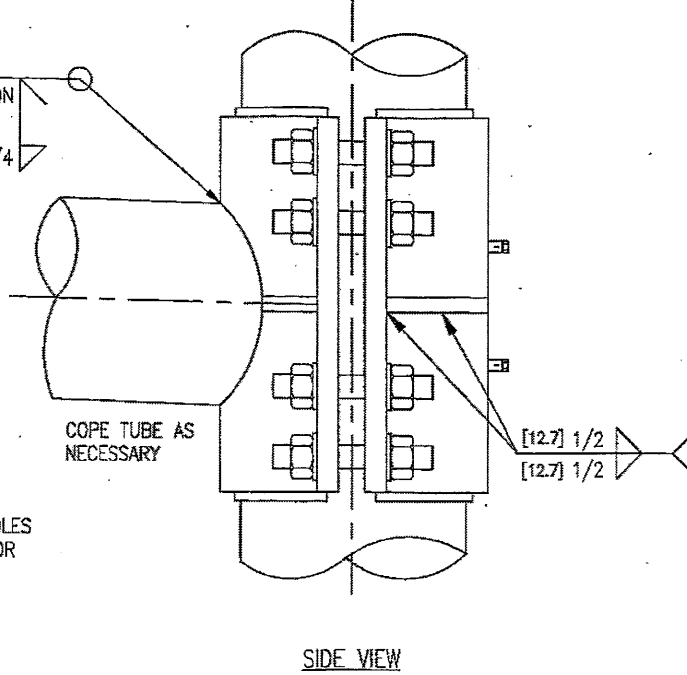
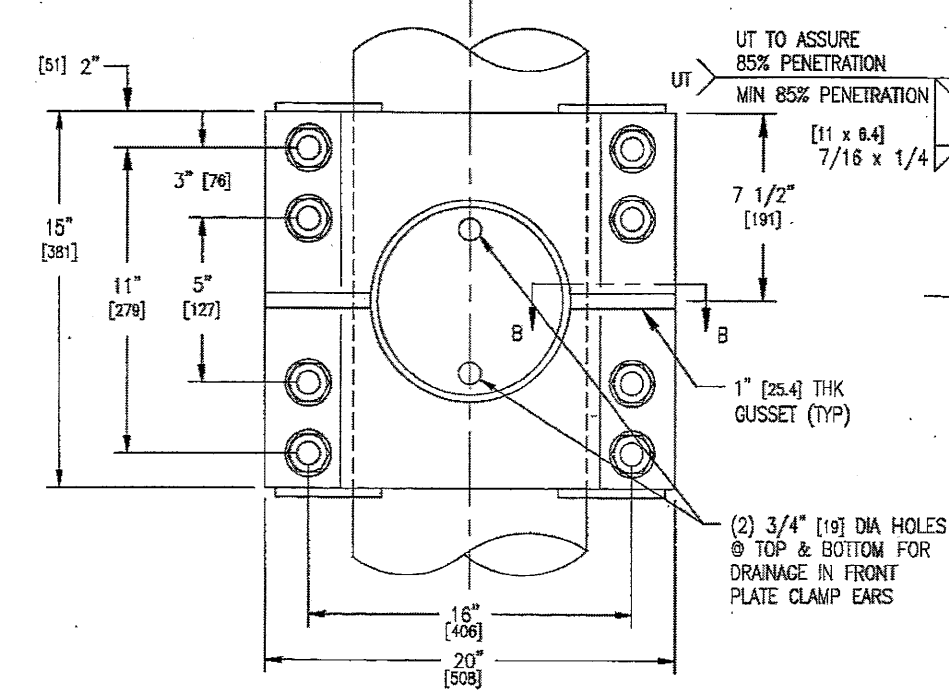
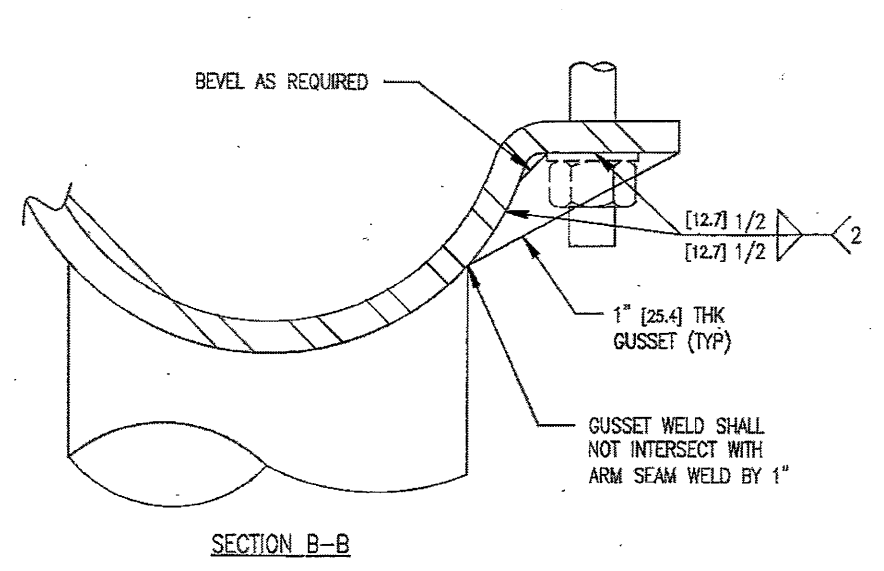
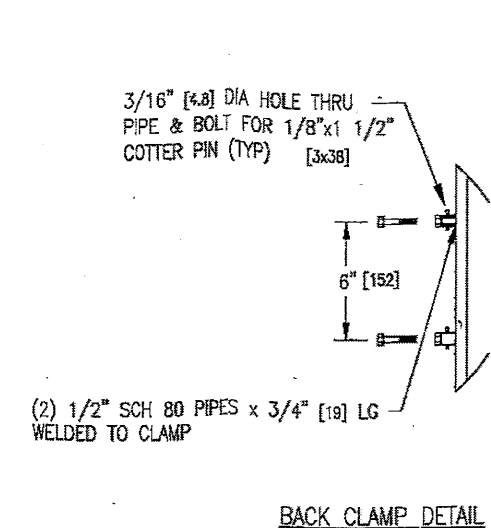
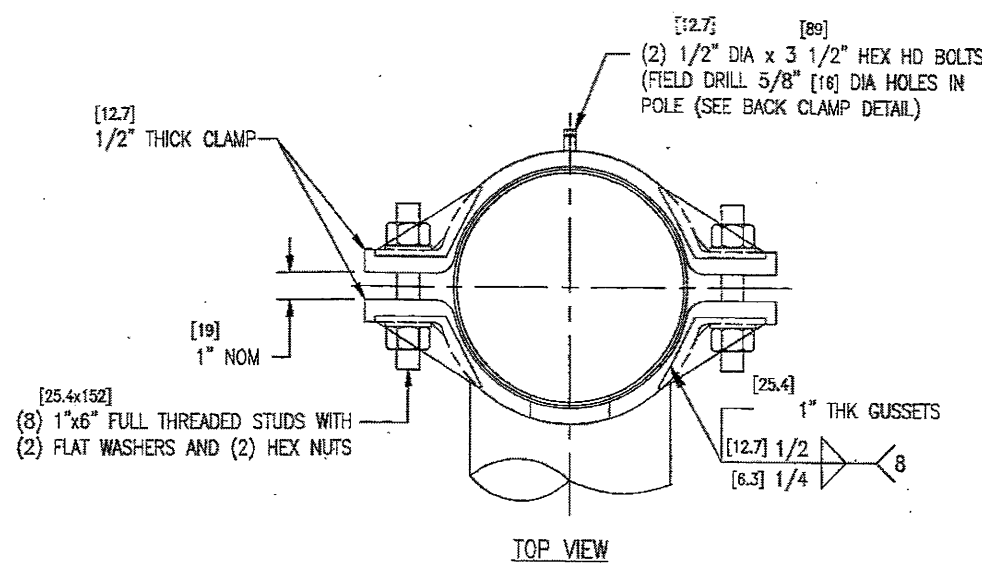
NOTE:
ALL DESIGNS REQUIRES CLIPPED WASHERS FOR ANCHOR BOLTS

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