

A		B		C		D		E		F		G		H																																																																
QTY	UMIC DESIGN NUMBER	MAST ARM DATA						MAST ARM FLANGE CONNECTION DATA (in)										QTY GROMMETS	POLE TUBE SIZE	POLE BASE CONNECTION DATA (in)																																																										
		MAX SPAN	TUBE SIZE	JOINT LENGTH	MTG HEIGHT	RISE ANGLE	ORIENT	BOLT SIZE	X	Y1	Y2	W	H	APL	PPL	G	øCA			WELD TYPE	BC	S	øCB	F	P	T	WELD TYPE	ANCHOR BOLT SIZE																																																		
	50700-B1991-Y1	40'-0"	3E-9.50x3.90x40'-0"	-	20'-0"	3'	180'	1 1/2	8 1/2	15	-	13	19 1/2	2	1 1/2	1/4	-	SOCKET	4	3E-13.00x8.80x30'-0"	19	21	-	9 1/2	9	2	SOCKET	1 1/2 x 70																																																		
	50700-B1991-Y2	40'-0"	3E-9.50x3.90x40'-0"	-	20'-0"	3'	180'	1 1/2	8 1/2	15	-	13	19 1/2	2	1 1/2	1/4	-	SOCKET	4	0E-13.50x9.30x30'-0"	19	21	-	9 1/2	9	2	SOCKET	1 1/2 x 70																																																		
		40'-0"	3E-9.50x3.90x40'-0"	-	20'-0"	3'	270'	1 1/2	8 1/2	15	-	13	19 1/2	2	1 1/2	1/4	-	SOCKET	4																																																											
	50700-B1991-Y3	48'-0"	3E-11.75x9.37x17'-0" 7E-10.01x5.43x32'-9"	1'-9"	20'-0"	3'	180'	1 1/2	11	17 1/2	-	16	22	2	1 1/2	1/4	-	SOCKET	5	3E-15.00x10.80x30'-0"	20	22	-	10	9	2	SOCKET	1 1/2 x 70																																																		
4	50700-B1991-Y4	48'-0"	3E-11.75x9.37x17'-0" 7E-10.01x5.43x32'-9"	1'-9"	20'-0"	3'	180'	1 1/2	11	17 1/2	-	16	22	2	1 1/2	1/4	-	SOCKET	5	0E-16.00x11.80x30'-0"	22	24 1/2	-	11	10	2	SOCKET	1 3/4 x 70																																																		
		48'-0"	3E-11.75x9.37x17'-0" 7E-10.01x5.43x32'-9"	1'-9"	20'-0"	3'	270'	1 1/2	11	17 1/2	-	16	22	2	1 1/2	1/4	-	SOCKET	5																																																											
	50700-B1991-Y5	60'-0"	0E-14.75x10.41x31'-0" 7E-11.09x6.75x31'-0"	2'-0"	20'-0"	3'	180'	1 1/2	14	15	4	20	28	2 1/2	1 3/4	5/16	8	FULL PEN	6	3E-19.50x15.30x30'-0"	25	27 1/2	16 1/2	12 1/2	10	2	FULL PEN	1 3/4 x 70																																																		
	50700-B1991-Y6	60'-0"	0E-14.75x10.41x31'-0" 7E-11.09x6.75x31'-0"	2'-0"	20'-0"	3'	180'	1 1/2	14	15	4	20	28	2 1/2	1 3/4	5/16	8	FULL PEN	6	0E-21.00x16.80x30'-0"	27	29 1/2	15 1/2	13 1/2	11	2	FULL PEN	2 x 70																																																		
		60'-0"	0E-14.75x10.41x31'-0" 7E-11.09x6.75x31'-0"	2'-0"	20'-0"	3'	270'	1 1/2	14	15	4	20	28	2 1/2	1 3/4	5/16	8	FULL PEN	6																																																											
	50700-B1991-Y7	66'-0"	0E-16.00x11.66x31'-0" 3E-12.48x7.30x37'-0"	2'-0"	20'-0"	3'	180'	1 1/2	17 1/2	16	4	23	29	2 1/2	1 3/4	5/16	8	FULL PEN	7	3E-22.00x17.80x30'-0"	27 1/2	30	18	13 3/4	11	2	FULL PEN	2 x 70																																																		
3	50700-B1991-Y8	66'-0"	0E-16.00x11.66x31'-0" 3E-12.48x7.30x37'-0"	2'-0"	20'-0"	3'	180'	1 1/2	17 1/2	16	4	23	29	2 1/2	1 3/4	5/16	8	FULL PEN	7	0E-23.00x18.80x30'-0"	29	32	18 1/2	14 1/2	12 1/4	2 1/4	FULL PEN	2 1/4 x 70																																																		
		66'-0"	0E-16.00x11.66x31'-0" 3E-12.48x7.30x37'-0"	2'-0"	20'-0"	3'	270'	1 1/2	17 1/2	16	4	23	29	2 1/2	1 3/4	5/16	8	FULL PEN	7																																																											
<div>7 GA = 0.179" WALL THICKNESS 3 GA = 0.250" WALL THICKNESS 0 GA = 0.313" WALL THICKNESS E = ROUND TAPERED STEEL TUBE @ 0.14 in/ft TAPER</div> <div><div>DESIGN CRITERIA:</div><div><div>1. DESIGNED IN ACCORDANCE WITH 2013 AASHTO (APPENDIX C) "AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 6TH EDITION (LTS-6), 2013 WITH 2015 INTERIMS" FOR 80 MPH WIND ZONE.</div><div>2. DESIGNS Y1 THRU Y4 DO NOT REQUIRE FATIGUE STRESS CALCULATION FACTOR.</div><div>3. FOR POLES WITHOUT LUMINAIRE, THE HEIGHT OF POLE SHALL BE 2'-0" ABOVE THE TOP OF THE ARM CONNECTON PLATE.</div><div>4. ANCHOR BOLTS ANALYZED FOR STEEL STRENGTH ONLY. THE ANCHOR BOLT EMBEDMENT LENGTH SHOWN ON THIS DRAWING SHALL BE VERIFIED BY THE FOUNDATION ENGINEER.</div><div>5. THE EXPOSED LENGTH OF THE ANCHOR BOLT BETWEEN THE TOP OF THE FOUNDATION AND THE BOTTOM OF THE LEVELING NUT SHOULD NOT EXCEED ONE BOLT DIAMETER.</div><div>6. ALL WELDING SHALL BE IN ACCORDANCE WITH SECTIONS 1 THRU 8 OF THE AMERICAN WELDING SOCIETY (AWS) D1.1 STRUCTURAL WELDING CODE.</div><div>7. ASTM F959 GALVANIZED DTI WASHERS SHALL BE FURNISHED WITH HIGH STRENGTH BOLTS FOR MAST ARM CONNECTIONS. ASTM F2437 GALVANIZED DTI WASHERS SHALL BE FURNISHED WITH ANCHOR BOLTS FOR POLE BASE CONNECTIONS. CONTRACTOR TO PROVIDE PROPER DTI FEELER GAGES.</div><div>8. 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.</div><div>9. CUSTOMER TO CONFIRM ALL DIMENSIONS & ORIENTATIONS BEFORE RELEASING ORDER FOR MANUFACTURING.</div></div></div>																																																																														
<div><div><div>MATERIAL SPECIFICATIONS</div><table><tr><td>TAPERED TUBE</td><td>ASTM A595 GR A</td></tr><tr><td>PLATE</td><td>ASTM A36</td></tr><tr><td>BAR HANDHOLE FRAME</td><td>ASTM A529 GR 50 or ASTM A572 GR 50 or ASTM A500 GR B</td></tr><tr><td>HANDHOLE COVER</td><td>ASTM A1011 or A36</td></tr><tr><td>ANCHOR BOLTS</td><td>ASTM F1554 GR 55</td></tr><tr><td>ANCHOR BOLT NUTS</td><td>ASTM A563 GR A</td></tr><tr><td>FLAT WASHERS</td><td>ASTM F436</td></tr><tr><td>DTI WASHERS (ARM CONNECTION)</td><td>ASTM F959</td></tr><tr><td>DTI WASHERS (POLE CONNECTION)</td><td>ASTM F2437</td></tr><tr><td>CAN COVERS</td><td>ASTM B26 (319F or 356.0F)</td></tr><tr><td>ARM CONN. BOLTS</td><td>ASTM F3125 GRADE A325</td></tr><tr><td>ARM JOINT STUD</td><td>ASTM A36</td></tr><tr><td>"ANCO" LOCK NUTS</td><td>ASTM A563 GR DH</td></tr><tr><td>POLE TOP/ARM END CAP</td><td>ASTM B26 (356.0F) or A1011</td></tr><tr><td>PIPE</td><td>ASTM A500 GR B or A53 GR B</td></tr><tr><td>S.S. HARDWARE</td><td>AISI-300 SERIES (18-8)</td></tr><tr><td>STRUCTURE FINISH</td><td>H.D. GALV TO ASTM A123 & POWDER COAT BLACK</td></tr><tr><td>HARDWARE FINISH</td><td>H.D. GALV TO ASTM A153</td></tr></table></div><div><table><tr><td>R2</td><td>UPDATED TO UMIC</td><td>9/20/18</td><td>KS</td><td>KS</td></tr><tr><td>R1.1</td><td>SHEET 2: ADDED LUMINAIRE ARM ORIENTATION NOTE SHEET 3: ADDED LUMINAIRE ARM CONNECTION DETAIL</td><td>8/2/17</td><td>JMW</td><td>JW</td></tr><tr><td>R1</td><td>SHEET 1: CHANGED STRUCTURE FINISH IN MATERIAL SPECIFICATIONS SHEET 3: CORRECTED TEMPLATE TO 6 HOLE PATTERN & CORRECTED TEMPLATE I.D. & O.D. FOR Y6</td><td>7/18/17</td><td>JMW</td><td>JW</td></tr></table></div></div> <div><div><div>STATE: VA</div><div>REQ# / SO# : VA-60218-1-D</div></div><div>PROJECT NAME: ARLINGOTN COUNTY STANDARDS (NON-ORNAMENTAL)</div><div>REV</div><div>DESCRIPTION</div><div>DATE</div><div>REV BY</div><div>CHK BY</div></div> <div>ROUND TAPERED STEEL TRAFFIC CONTROL STRUCTURES ARLINGTON COUNTY, VIRGINIA</div> <div><div>UNION METAL INDUSTRIES CORPORATION</div><div>This document and the contents herein are proprietary and the property of Union Metal Industries. This document is not to be, copied, reproduced, or used for any reason except for the purposes which it was issued without the express written consent of Union Metal Industries. Furthermore Union Metal Industries reserves the right to recall this document and all copies at any time for any reason. A regular and periodic system of inspections and maintenance must be performed by qualified technicians to ensure ongoing safety for all UMI pole structures.</div></div> <div><div>DESIGNED BY JEF</div><div>CHECKED BY JMW</div><div>DATE 1/9/17</div><div>SCALE NTS</div><div>ENG REF 50700-SERIES</div></div> <div>50700-B1991</div> <div>REVISION R2</div> <div>SHEET 1 OF 4</div>																												TAPERED TUBE	ASTM A595 GR A	PLATE	ASTM A36	BAR HANDHOLE FRAME	ASTM A529 GR 50 or ASTM A572 GR 50 or ASTM A500 GR B	HANDHOLE COVER	ASTM A1011 or A36	ANCHOR BOLTS	ASTM F1554 GR 55	ANCHOR BOLT NUTS	ASTM A563 GR A	FLAT WASHERS	ASTM F436	DTI WASHERS (ARM CONNECTION)	ASTM F959	DTI WASHERS (POLE CONNECTION)	ASTM F2437	CAN COVERS	ASTM B26 (319F or 356.0F)	ARM CONN. BOLTS	ASTM F3125 GRADE A325	ARM JOINT STUD	ASTM A36	"ANCO" LOCK NUTS	ASTM A563 GR DH	POLE TOP/ARM END CAP	ASTM B26 (356.0F) or A1011	PIPE	ASTM A500 GR B or A53 GR B	S.S. HARDWARE	AISI-300 SERIES (18-8)	STRUCTURE FINISH	H.D. GALV TO ASTM A123 & POWDER COAT BLACK	HARDWARE FINISH	H.D. GALV TO ASTM A153	R2	UPDATED TO UMIC	9/20/18	KS	KS	R1.1	SHEET 2: ADDED LUMINAIRE ARM ORIENTATION NOTE SHEET 3: ADDED LUMINAIRE ARM CONNECTION DETAIL	8/2/17	JMW	JW	R1	SHEET 1: CHANGED STRUCTURE FINISH IN MATERIAL SPECIFICATIONS SHEET 3: CORRECTED TEMPLATE TO 6 HOLE PATTERN & CORRECTED TEMPLATE I.D. & O.D. FOR Y6	7/18/17	JMW	JW
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1

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ROUND TAPERED STEEL TRAFFIC CONTROL STRUCTURES ARLINGTON COUNTY, VIRGINIA															
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						JEF		JUN		1/9/17		NTS		50700-SERIES	
		A regular and periodic system of inspections and maintenance must be performed by qualified technicians to ensure ongoing safety for all UMI pole structures.				50700-B1991				REVISION R2		SHEET 2 OF 4			

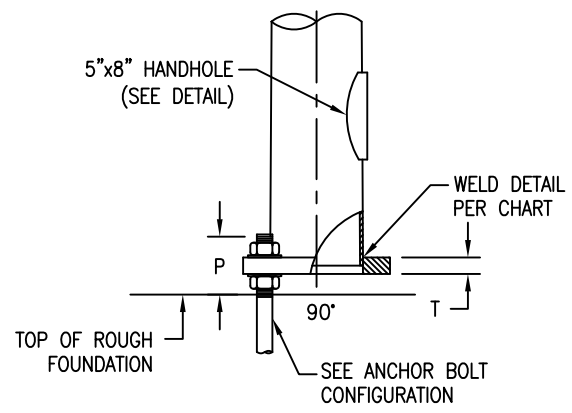
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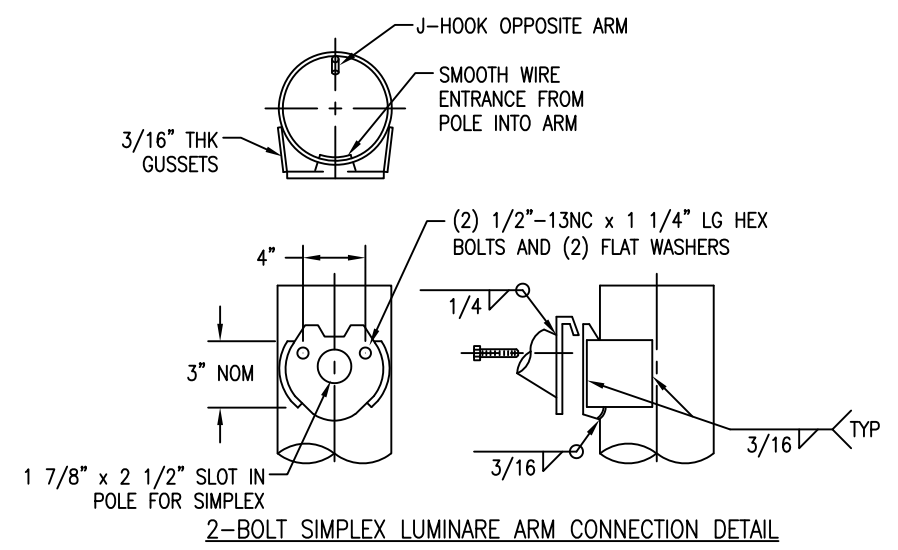
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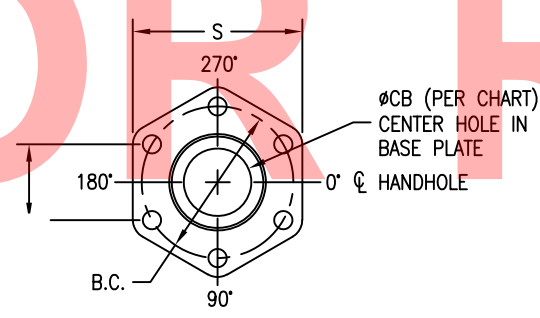
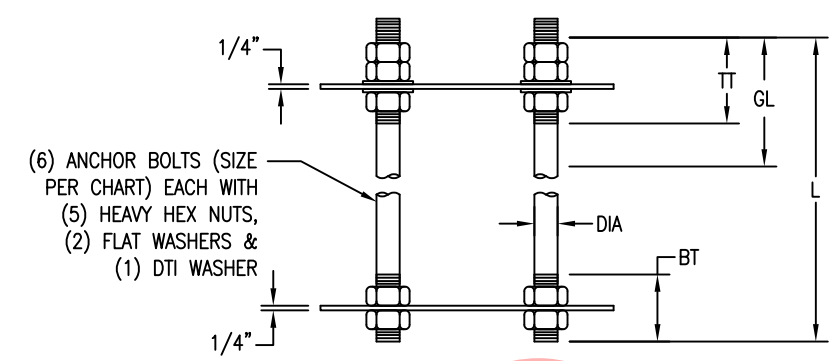
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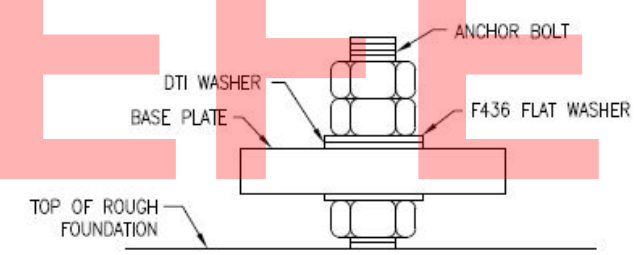
BASE CONNECTION DETAIL



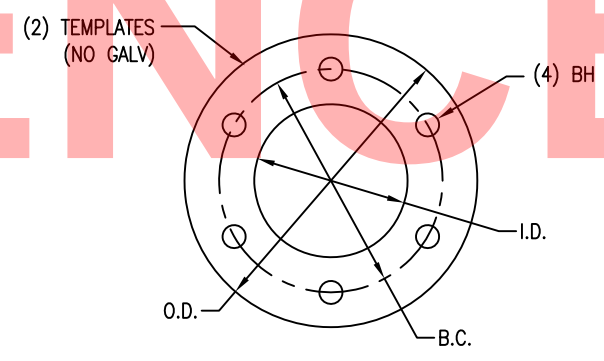
2-BOLT SIMPLEX LUMINAIRE ARM CONNECTION DETAIL



BASE PLATE DETAIL

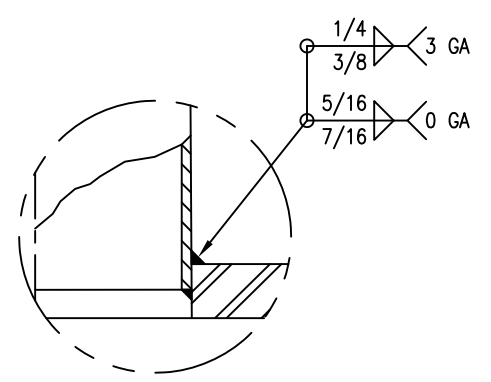


PLACEMENT OF F2437 DTI WASHER AT POLE BASE CONNECTIONS

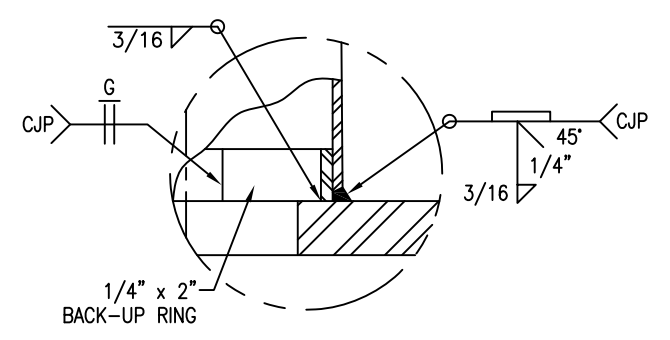


ANCHOR BOLT CONFIGURATION (SHIPPED UNASSEMBLED)

ANCHOR BOLT & TEMPLATE DATA									
DESIGN	DIA	L	TT	BT	GL	B.C.	I.D.	O.D.	BH
Y1 & Y2	1 1/2	70	10	5	FULL	19	16	22	1 9/16
Y3	1 1/2	70	10	5	FULL	20	17	23	1 9/16
Y4	1 3/4	70	11	5	FULL	22	18 1/2	25 1/2	1 13/16
Y5	1 3/4	70	11	5	FULL	25	21 1/2	28 1/2	1 13/16
Y6	2	70	12	6	FULL	27	23	31	2 1/16
Y7	2	70	12	6	FULL	27 1/2	23 1/2	31 1/2	2 1/16
Y8	2 1/4	70	14	6	FULL	29	24 1/2	33 1/2	2 5/16



POLE BASE SOCKET WELD DETAIL (PER CHART)

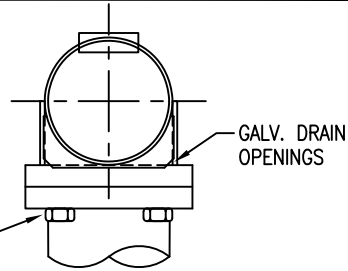


POLE BASE & ARM FLANGE FULL PEN WELD DETAIL (PER CHART)

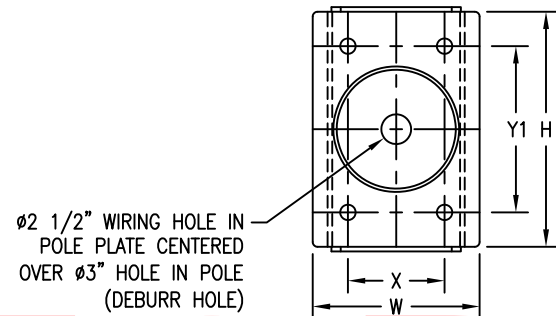
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	A regular and periodic system of inspections and maintenance must be performed by qualified technicians to ensure ongoing safety for all UMI pole structures.			50700-B1991			REVISION R2	SHEET 3 OF 4	

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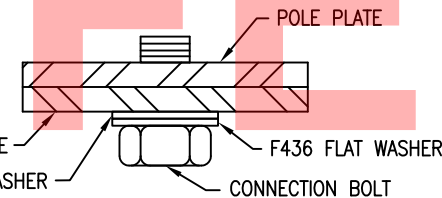
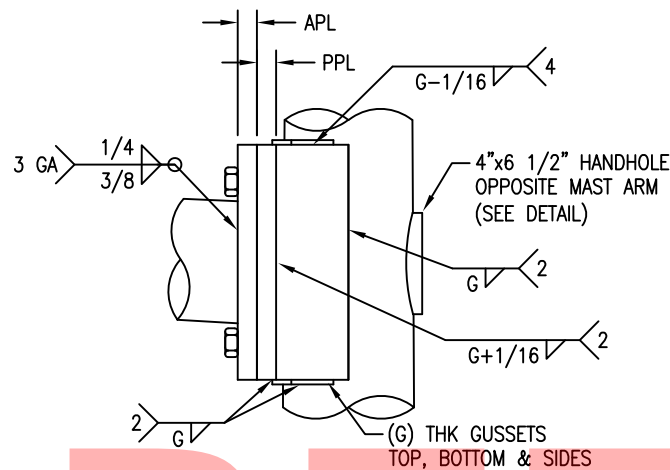
FOR REFERENCE ONLY



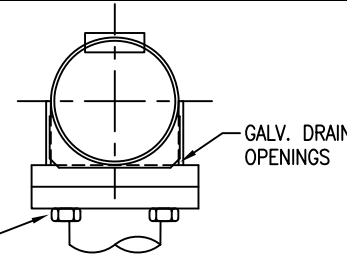
(4) HEX HD CONNECTION BOLTS (SIZE PER CHART) EACH W/ (1) FLAT WASHER & (1) DTI WASHER



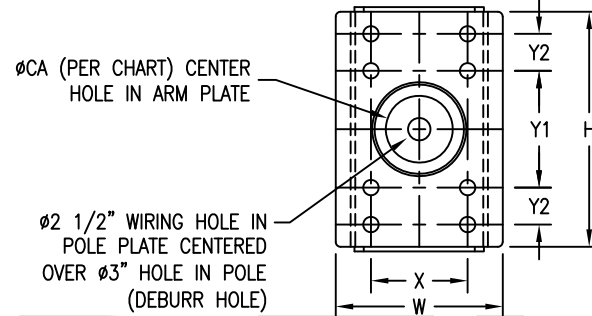
SINGLE MAST ARM CONNECTION DETAIL (4-BOLT)
(Y1 & Y3 ONLY)



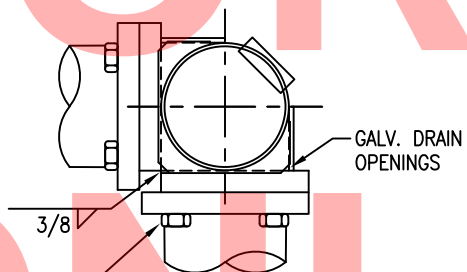
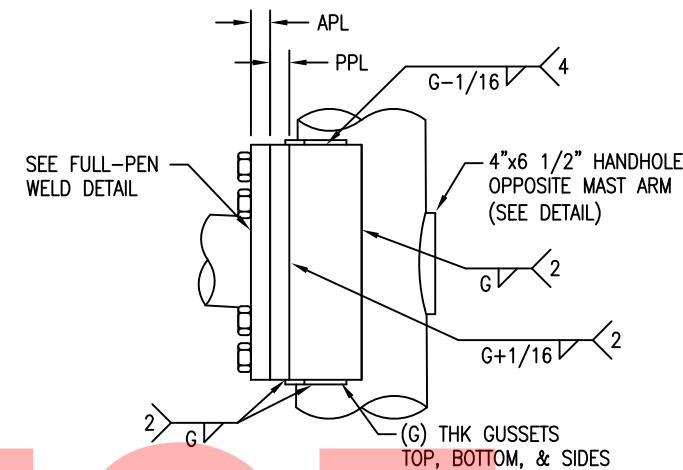
PLACEMENT OF F959 DTI WASHER



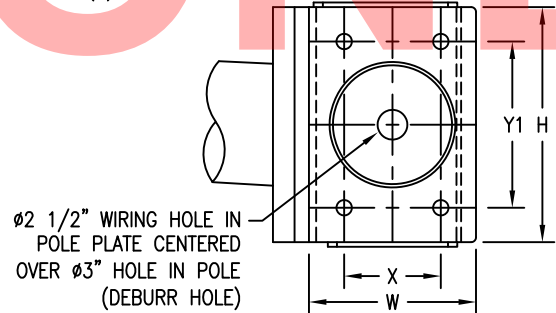
(8) HEX HD CONNECTION BOLTS (SIZE PER CHART) EACH W/ (1) FLAT WASHER & (1) DTI WASHER



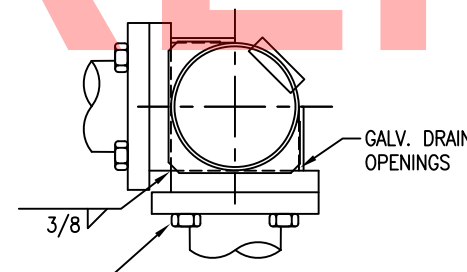
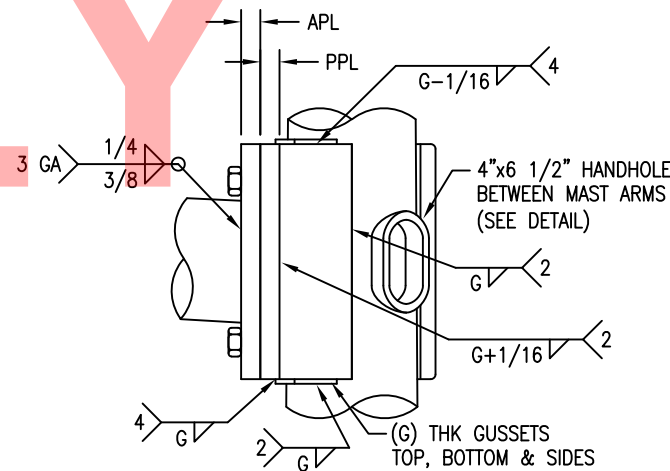
SINGLE MAST ARM CONNECTION DETAIL (8-BOLT)
(Y5 & Y7 ONLY)



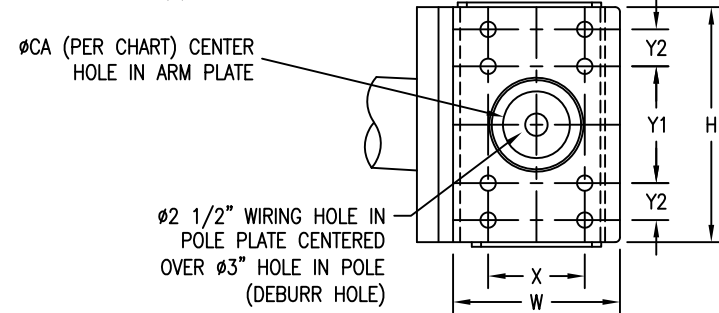
(8) HEX HD CONNECTION BOLTS (SIZE PER CHART) EACH W/ (1) FLAT WASHER & (1) DTI WASHER



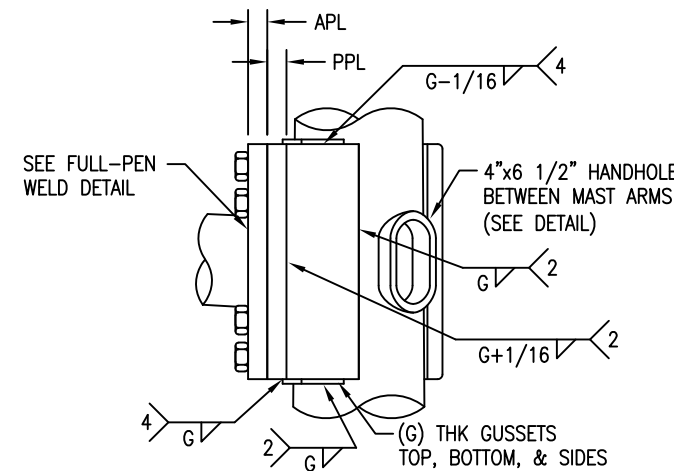
DUAL MAST ARM CONNECTION DETAIL (4-BOLT)
(Y2 & Y4 ONLY)



(16) HEX HD CONNECTION BOLTS (SIZE PER CHART) EACH W/ (1) FLAT WASHER & (1) DTI WASHER



DUAL MAST ARM CONNECTION DETAIL (8-BOLT)
(Y6 & Y8 ONLY)



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				JEF	JMW	1/9/17	NTS	50700-SERIES	
	A regular and periodic system of inspections and maintenance must be performed by qualified technicians to ensure ongoing safety for all UMI pole structures.			50700-B1991			REVISION R2	SHEET 4 OF 4	

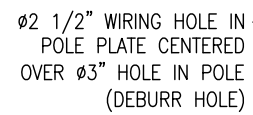
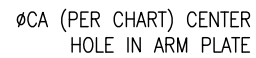
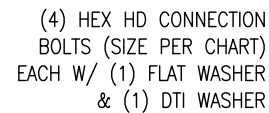
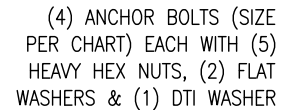
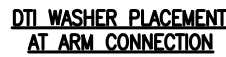
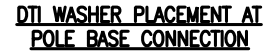
ONLY

TO HANDHOLE FRAME WITH
1/2"-13NC S.S. SQ NUT &
3/4" LG S.S. HEX BOLT

SECTION A-A

FRONT VIEW

4"x8" HANDHOLE FRAME DETAIL



ANCHOR BOLT & TEMPLATE DATA									
DESIGN	DIA	L	TT	BT	GL	B.C.	I.D.	O.D.	BH
Y1	1 1/4	70	9	5	FULL	12	10	14	1 5/16

STATE: VA		REQ# / SO# : VA-66263-2		REV	DESCRIPTION		DATE	REV BY	CHK BY
PROJECT NAME: S FILLMORE ST & 2ND ST, S				REVISIONS					
<p style="text-align: center;">ROUND TAPERED STEEL TRAFFIC CONTROL STRUCTURES ARLINGTON COUNTY, VIRGINIA</p>									
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	A regular and periodic system of inspections and maintenance must be performed by qualified technicians to ensure ongoing safety for all UMI pole structures.			50700-B2355			REVISION R0	SHEET 2 OF 2	