

OP POLE SERIES

DEVICE	DESCRIPTION	PROJ. AREA (FT ²)	WEIGHT (LBS)
A	12"-4 SEC. SIGNAL HEAD W/ BACK PLATES	12.00	54
B	12"-3 SEC. SIGNAL HEAD W/ BACK PLATES	10.00	42
C	12"-4 SEC. SIGNAL HEAD W/ NO BACK PLATES	6.00	40
D	16" X 18"-1 SEC. PEDESTRIAN SIGNAL	3.00	20
E	36" X 36" FLATSHEET ALUMINUM SIGN (MAX)	9.00	20
F	24" X 96" ILLUMINATED STREET NAME SIGN (MAX)	16.00	120
G	ADVANCE RADAR DETECTOR	1.00	15
H	PRESENCE RADAR DETECTOR	1.00	15
I	CCTV CAMERA	1.00	15
J	LUMINAIRE	1.00	30
K	EMERGENCY VEHICLE PRE-EMPTION DETECTOR	0.50	5
L	36" X 36" FLATSHEET ALUMINUM SIGN (MAX)	9.00	20

THE MAST ARM TRAFFIC STRUCTURES SHOWN ON THIS DRAWING HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LOADING AND THE ALLOWABLE STRESS REQUIREMENTS OF THE 2013 AASHTO STANDARDS SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, SIXTH EDITION, L15-6. THE WIND LOADS WERE CALCULATED FROM A BASIC WIND VELOCITY OF 90 MPH WITH A RECURRENCE INTERVAL OF 25 YEARS, AND A FATIGUE CATEGORY OF 2. THE FATIGUE LOADS WERE CALCULATED ON THE REQUIREMENTS OF SECTION 11 OF THE CODE, AND THE FOLLOWING DESIGN CONDITIONS.

-STRUCTURES ARE DESIGNED TO RESIST NATURAL WIND GUSTS BASED ON THE YEARLY MEAN WIND VELOCITY OF 11.2 MPH.

-STRUCTURES ANR NOT DESIGNED TO RESIST GALLOPING-INDUCED CYCLIC LOADS.

-TRUCK-INDUCED GUST LOADS ARE EXCLUDED PER THE REQUIREMENTS OF THE CODE

**NOTE: UPON INITIAL FIELD ASSEMBLY OF THE MAST-ARM'S FIRST SECTION'S BUTT PLATE TO THE MAST-ARM VERTICAL POLE'S BUTT PLATE, IF THE END USER DETERMINES THAT THERE IS A SUFFICIENT GAP AT A BOLT HOLE SUCH THAT THERE WILL NOT BE FACE-TO-FACE CONTACT BETWEEN THE TWO BUTT PLATES, THEN A WASHER SHALL BE INSERTED TO PROVIDE FACE-TO-FACE CONTACT BETWEEN THE TWO BUTT PLATES IN ACCORDANCE WITH SECTION 5.16 "BOLTED CONNECTIONS" OF THE 2013 EDITION OF AASHTO.

TABLE 1: POLE AND SIGNAL ARM DATA

POLE SERIES	SIGNAL ARM SPAN (FT)	LUMINAIRE ARM				BASE DIA. (IN)	LENGTH (FT)	WALL GAUGE OR THK. (IN)	BASE PLATE DATA			ANCHOR BOLT DATA			SIGNAL ARM DATA			SIGNAL ARM ATTACHMENT DATA									
		TYPE	ARM 1 STYLE	ARM 2 STYLE	SPAN (FT)				SQUARE "S" (IN)	BOLT "Y" (IN)	THK. "M" (IN)	CENTER HOLE "P" (IN)	BOLT HOLE "Z" (IN)	DIA. "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	BOLT QTY.	FIXED END DIA (IN)	FREE END DIA (IN)	GAUGE OF THK (IN)	SIGNAL ARM SPAN (FT)	SQUARE "A" (IN)	ARM & POLE THK. "D" (IN)	BOLT SIZE "N" (IN)	BOLT PATTERN "B" (IN)	CENTER HOLE "C" (IN)
OP	20	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	12.00	7	17.00	16.00	2.00	10.50	1.75	1.50	54.00	6.00	8.00	4	8.00	5.20	20.00	17.25	2.00	1.25 X 6.25	14.00	7.00	
OP	22																										
OP	24	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	12.50	5	17.50	16.50	2.00	11.00	1.75	1.50	54.00	6.00	8.00	4	9.00	5.64	24.00	17.75	2.00	1.25 X 6.25	14.50	7.64	
OP	26																										
OP	28																										
OP	30																										
OP	32	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	13.00	3	18.50	17.50	2.00	11.50	2.00	1.75	84.00	6.00	8.00	4	10.00	5.80	30.00	18.25	2.00	1.25 X 6.25	15.00	8.50	
OP	34																										
OP	36																										
OP	38																										
OP	40																										
OP	42																										
OP	44	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	16.00	4	22.00	21.00	2.25	14.00	2.00	1.75	84.00	6.00	8.00	4	15.00	7.20	44.00	21.25	2.00	1.25 X 6.25	18.00	10.50	
OP	46																										
OP	48																										
OP	50																										
OP	52																										
OP	54	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	17.00	4	23.00	22.00	2.25	14.75	2.25	2.00	84.00	6.00	10.00	4	15.00	7.80	44.00	23.25	2.50	1.50 X 7.50	19.50	12.50	
OP	56																										
OP	58																										
OP	60																										
OP	62																										
OP	64	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	20.00	4	28.00	27.00	2.25	14.25	2.25	2.00	84.00	6.00	10.00	4	18.50	9.36	48.00	26.75	2.50	1.50 X 7.50	23.00	10.50	
OP	66																										
OP	68																										
OP	70																										

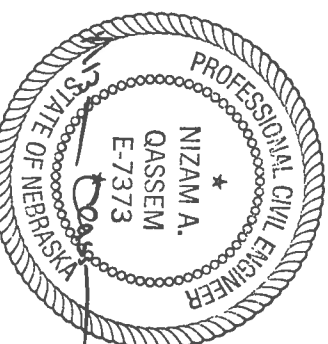
SEE TABLE 2

TABLE 2: ELEVATIONS

ELEVATIONS	TYPE			
	NO LUM (NL)	LOW RISE (LR)	MEDIUM RISE (MR)	HIGH RISE (HR)
LUMINAIRE MOUNTING HEIGHT	N/A	30'-0"	35'-0"	40'-0"
POLE LENGTH	20'-6"	27'-0"	32'-0"	37'-0"

ALTHOUGH RARE, VIBRATIONS SEVERE ENOUGH TO CAUSE DAMAGE CAN OCCASIONALLY OCCUR IN STRUCTURES OF ALL TYPES. BECAUSE THEY ARE INFLUENCED BY MANY INTERACTING VARIABLES, VIBRATIONS ARE GENERALLY UNPREDICTABLE. THE USER'S MAINTENANCE PROGRAM SHOULD INCLUDE OBSERVATION FOR EXCESSIVE VIBRATION AND EXAMINATION FOR ANY STRUCTURAL DAMAGE OR BOLT LOOSENING. THE VALMONT WARRANTY SPECIFICALLY EXCLUDES FATIGUE FAILURE OR SIMILAR PHENOMENA RESULTING FROM INDUCED VIBRATION, HARMONIC OSCILLATION OR RESONANCE ASSOCIATED WITH MOVEMENT OF AIR CURRENTS AROUND THE PRODUCT.

VIBRATION DISCLAIMER



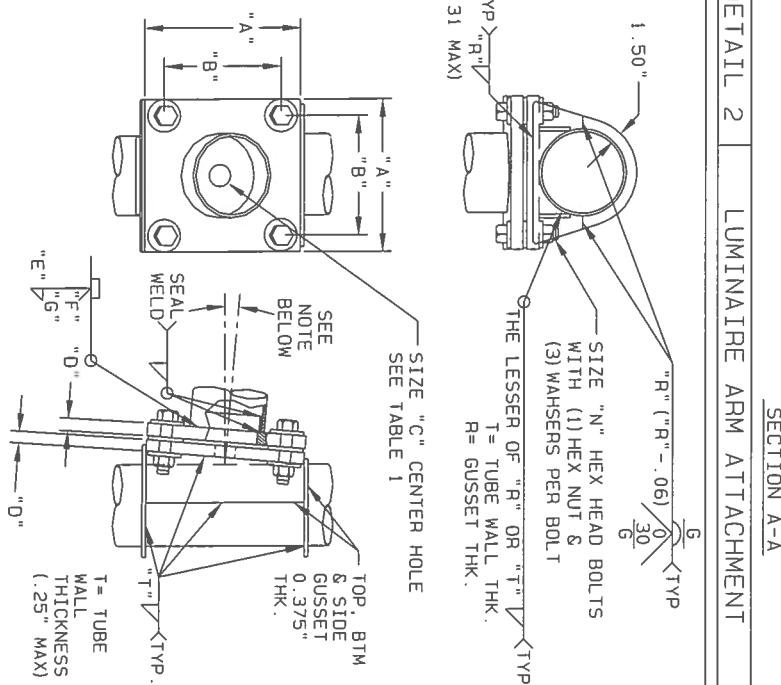
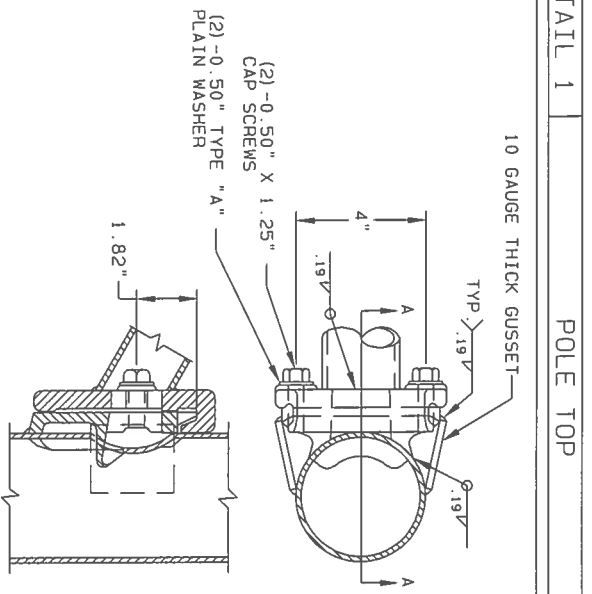
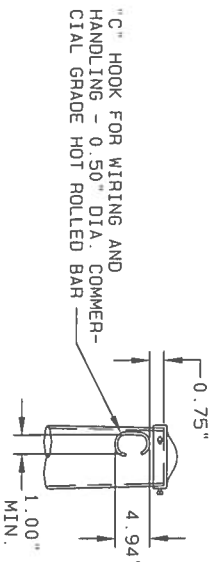
11/27/19

REV	DATE	BY	DESCRIPTION
G	AT7 11/27/19	AT7 11/27/19	REMOVED OPTION FINISH F-283 & ADDED F-306
F	B04 09/08/17	B04 09/08/17	ADDED ID TAG
E	KJMS 02/28/17	KJMS 02/28/17	REMOVED NUT COVERS
D	JMK3 05/02/14	NKL 05/07/14	CHECK BY-DATE
C			
B			
A			

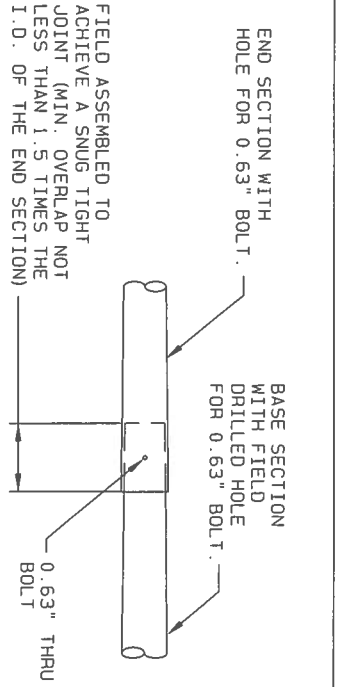
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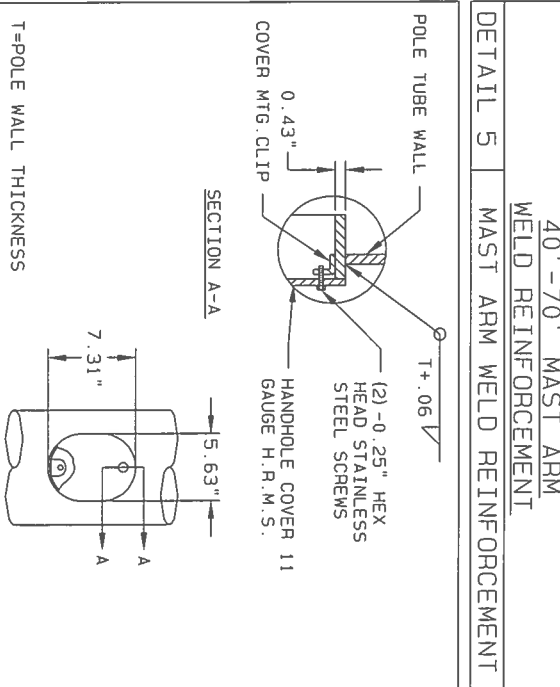
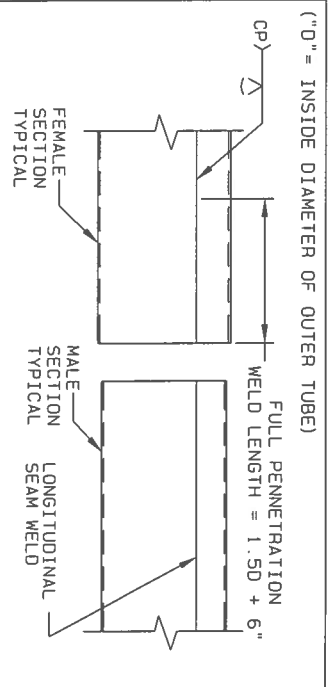




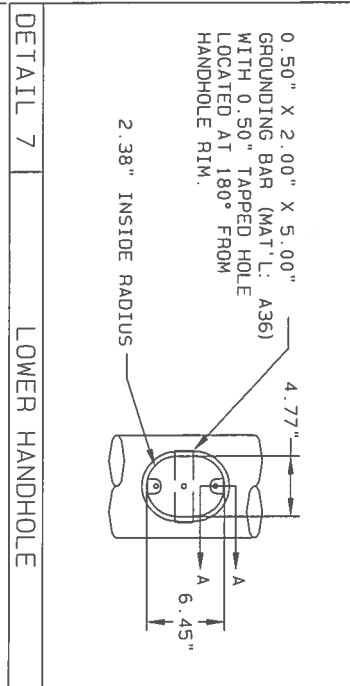
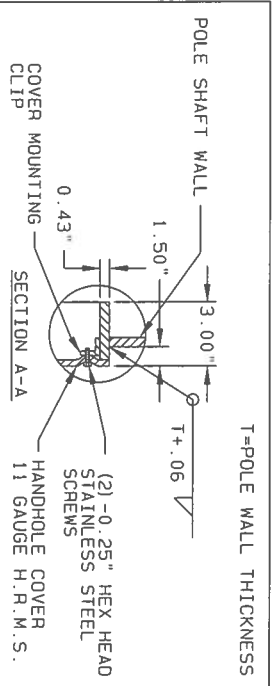
ARM SHAFT WALL THK.	ARM-TO-PLATE WELD "E"	BEVEL "F" X "G"
ALL	(ARM THK. + .25") X ARM THK.	.19" X 30°



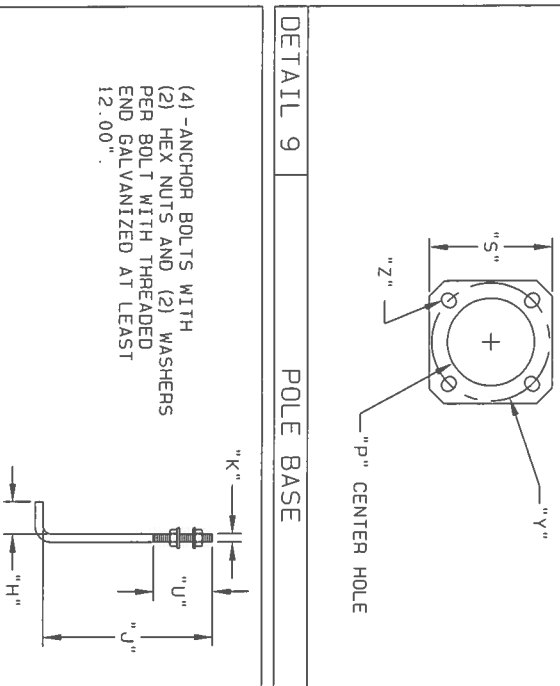
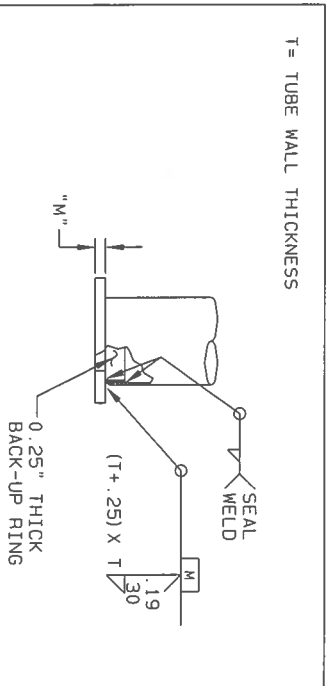
SPAN (F'T)	BASE SECTION		END SECTION	
	LENGTH (F'T)	GAUGE/THK (IN)	BASE DIA. (IN)	LENGTH (F'T)
40.00	19.29	0.313	11.00	23.15
42.00	19.29	0.313	11.00	25.15
44.00	19.29	0.313	11.00	27.15
46.00	26.43	0.313	11.00	22.01
48.00	26.43	0.313	11.00	24.01
50.00	15.97	0.313	13.00	36.72
52.00	19.42	0.375	12.00	35.15
54.00	19.54	0.375	13.00	37.15
56.00	19.54	0.375	13.00	39.15
58.00	23.11	0.375	13.00	37.58
60.00	19.75	0.375	14.00	43.07
62.00	19.83	0.375	14.50	45.05
64.00	19.92	0.375	15.00	47.02
66.00	27.00	0.375	14.50	41.88
68.00	27.08	0.375	15.50	43.93
70.00	27.08	0.375	15.50	45.93



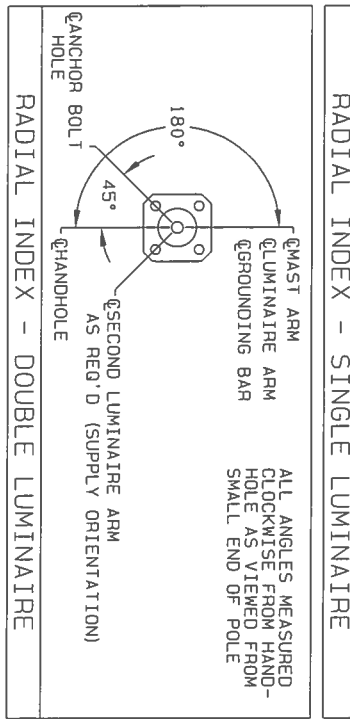
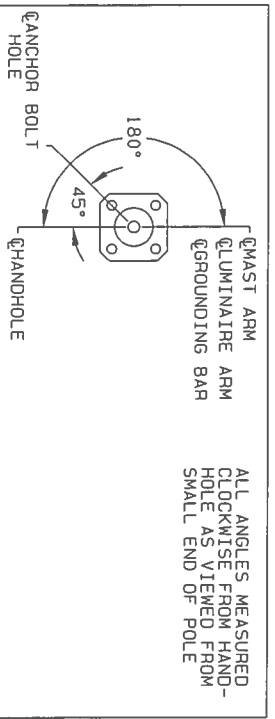
DETAIL 6	UPPER HANDHOLE
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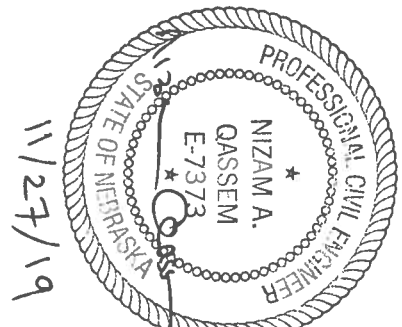
COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
ALL TAPERED SHAFTS	A595 GR. A OR A572 A572 GR. 50	55
BASE PLATE	A572 GR. 50	50
SIMPLEX PLATE	A572 GR. 50	50
LUM. ARM ATTACHMENT	A27 GR. 65-35 OR A36	35
LUMINAIRE ARM - LUMINAIRE CONN. BOLTS	ASTM A501 A513 A618 OR A500 GR. B	36
2" SCHEDULE 40 PIPE	SAE GR. 5	--
ANCHOR BOLTS	F1554 GR. 55	55
ARM CONNECTING HARDWARE	A325	--
GALVANIZING-HARDWARE	HOT DIP ZINC	--



DETAIL 10	ANCHOR BOLT
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FINISH DATA	OPTIONAL FINISH
SYSTEM: GALVANIZED (GV)	V-PRO 32 (VP32)
BASE COAT: HOT-DIP GALVANIZED TO ASTM A123	LIQUID (ALTERNATE) HOT-DIP GALVANIZED TO ASTM A123
PRIME COAT: NONE	POLYAMIDAMINE OR POLYAMIDE EPOXY
FINISH COAT: NONE	ALIPHATIC ACRYLIC POLYURETHANE
COLOR: F-1	COLOR: 2222
SPEC: F-1	SPEC: F-3067772



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