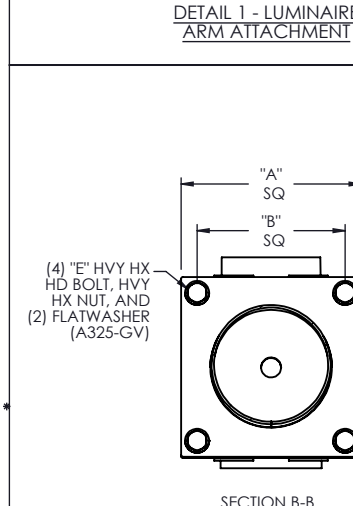
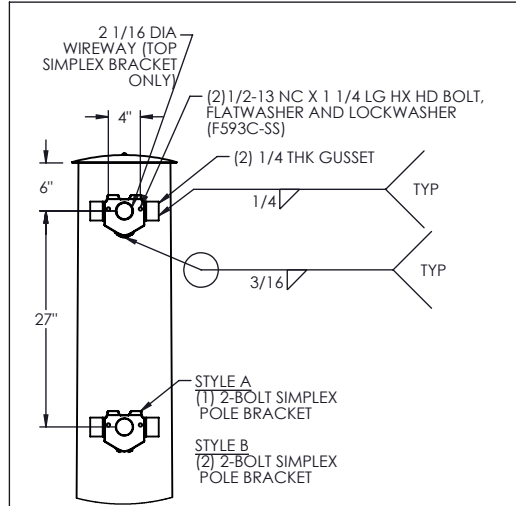


NOTE: 6'-0" AND 8'-0" LUMINAIRE ARMS CAN BE SUPPLIED AS STYLE A OR B. LUMINAIRE ARMS LONGER THAN 8'-0" MUST BE STYLE B.

RISE:
FINAL DEFLECTED MASTARM RISE SHALL NOT BE LESS THAN 0.5° ABOVE HORIZONTAL WHEN SUPPORTING THE MASTARM'S DESIGNED LOADING

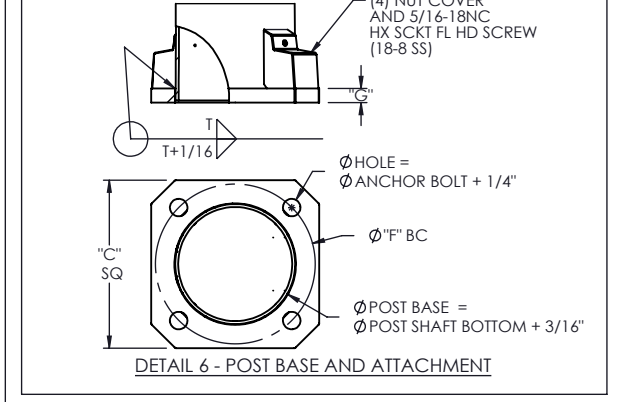
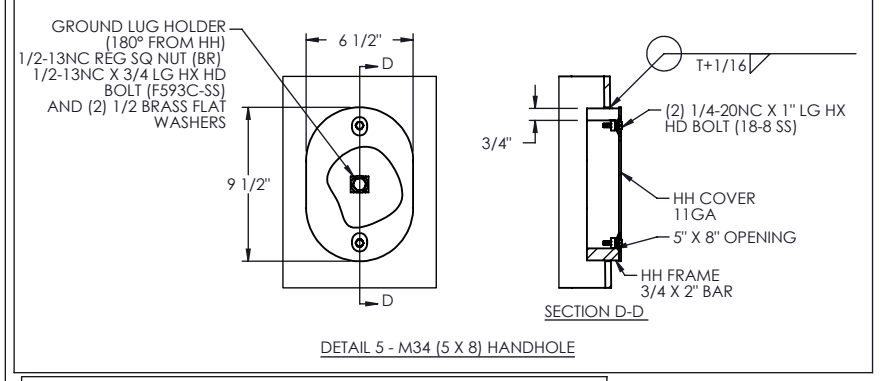
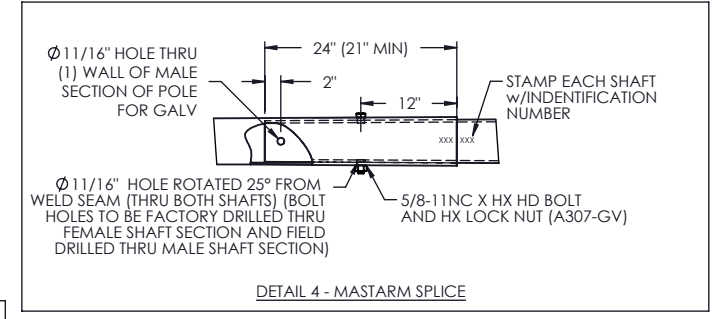
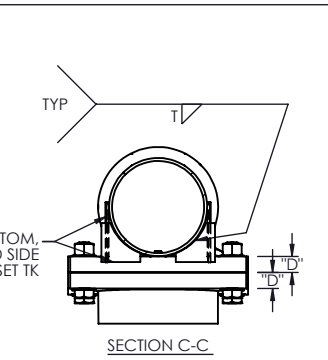
NOTE: 1" I.D. GROMMETS WILL BE SUPPLIED FOR Ø 1 3/8" WIRE ENTRANCE HOLES AT EACH SIGNAL LOCATION. HOLES TO BE FIELD DRILLED BY OTHERS

NOTE:
T = TUBE WALL THK FOR POST AND MASTARM

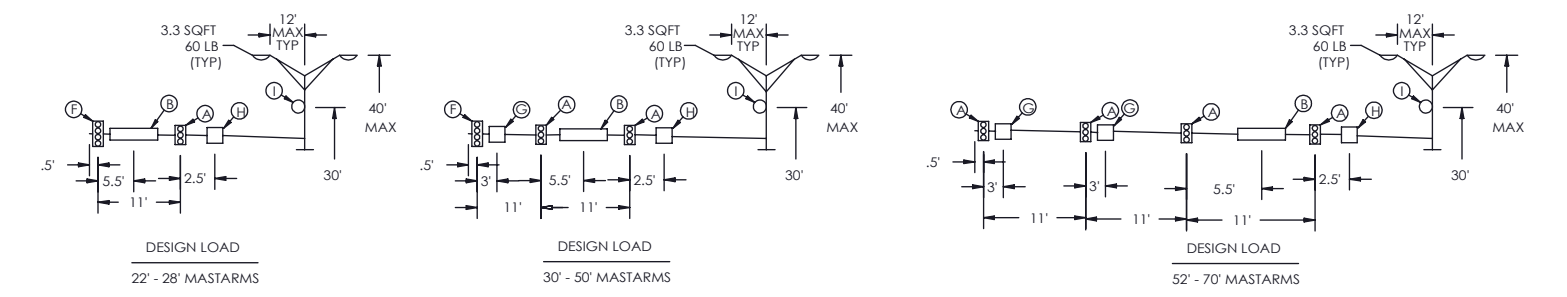


T = TUBE WALL THK
RISE NOTE:
RISE SHALL BE BUILT INTO THE MOUNTING PLATE ATTACHED TO THE POST. RISE IN MTG PLATES MAY VARY DEPENDING ON POLE SIZE AND MASTARM LOADING.

DETAIL 2 - MASTARM ATTACHMENT

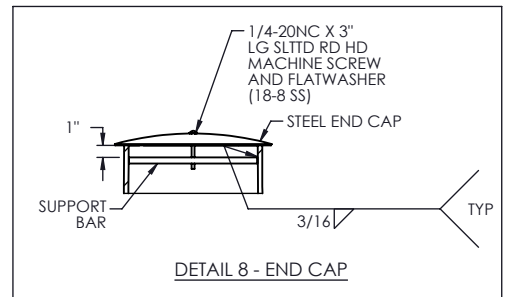
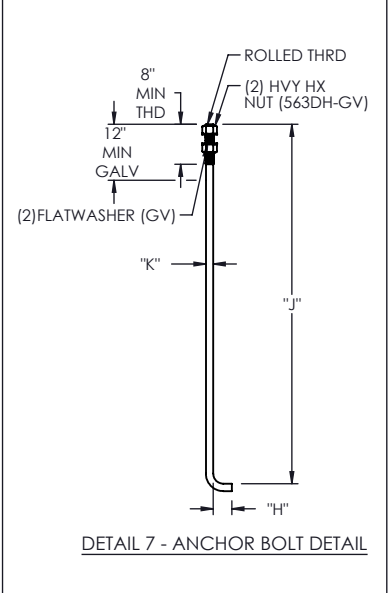


DESIGN LOAD CHART				
DEVICE	DESCRIPTION	BACKPLATES	PROJ AREA (SQ FT)	WEIGHT (LBS)
(A)	12"-3 SEC. SIGNAL WITH BACKPLATES		8.67	30
(B)	18" X 72" STREETNAME SIGN		9.0	20
(C)	12"-4 SEC. SIGNAL WITH NO BACKPLATES		5.44	40
(D)	DUAL - 2 SECTION PEDESTRIAN SIGNAL		8.0	40
(E)	30" X 30" POLE MOUNTED SIGN		6.25	13
(F)	12"-4 SEC. SIGNAL WITH BACKPLATES		11.0	40
(G)	24" X 30" SIGNAL ARM MOUNTED SIGN		5.0	10
(H)	RADAR DETECTOR		1.0	20
(I)	CAMERA		.5	20



DESIGN CRITERIA
THESE TRAFFIC SIGNAL SUPPORT STRUCTURES ARE DESIGNED IN ACCORDANCE WITH LOADING AND ALLOWABLE STRESS REQUIREMENTS OF 1994 "STANDARDS SPECIFICATION FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRE, AND TRAFFIC SIGNALS. WIND LOADS ARE BASED ON A WIND SPEED OF 80 MPH ISOTACH.

MATERIAL DATA		
COMPONENT	ASTM DESIGNATION	MIN YIELD (KSI)
POST SHAFT	A572 GR 50	50
MASTARMS	A572 GR 50	50
BASE PLATE	A36	36
SIMPLEX PLATES	A36	36
GUSSET PLATES	A36	36
LUMINAIRE ARM	2" SCH 40 PIPE	36
ANCHOR BOLTS	F1554 GR 55	55
GALVANIZE - STRUCTURE	A123	N/A
GALVANIZE - HARDWARE	A153	N/A



DWN: CET	ROUND TRAFFIC SIGNAL STANDARD OVERLAND PARK, KS	
DATE: 8-10-10		
CHK: FRF	Millerbernd MANUFACTURING CO. WINSTED, MN	780B661 SHEET 1 OF 2
SCALE: NTS		

TABLE 1: POST AND SIGNAL MASTARM

DESIGNATION KEY							POST DATA			BASE PLATE			ANCHOR BOLT			SIGNAL MASTARM DATA					SIGNAL MASTARM ATTACHMENT				
SERIES	SIGNAL MASTARM SPAN (FT)	LUMINAIRE ARM (IF ANY)				BASE DIA. (IN)	WALL THK (IN)	LENGTH	"C" SQ (IN)	"F" BOLT CIRCLE (IN)	"G" THK (IN)	"K" DIA (IN)	"J" LENGTH (IN)	"H" HOOK (IN)	SPAN LENGTH	FIXED END DIA (IN)	FREE END DIA (IN)	WALL THK (IN)	LENGTH (FT)	"A" SQ (IN)	"D" THK (IN)	"E" BOLT SIZE	"B" BOLT CTRS (IN)	"N" GUSSET THK (IN)	
		TYPE	ARM 1 STYLE	ARM 1 SPAN (FT)	ARM 2 STYLE																				ARM 2 SPAN (FT)
OP	14	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	10	3/16	14	13 1/2	1 1/2	1 1/2	55 3/4	6 1/4	14'-0"	7.0	5.0	3/16	14	14 1/2	1 1/4	1-8NC	11 1/2	1/4	
OP	16	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	10	3/16	14	13 1/2	1 1/2	1 1/2	55 3/4	6 1/4	16'-0"	7.0	4.8	3/16	16	14 1/2	1 1/4	1-8NC	11 1/2	1/4	
OP	18	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	10	3/16	14	13 1/2	1 1/2	1 1/2	55 3/4	6 1/4	18'-0"	7.0	4.5	3/16	18	14 1/2	1 1/4	1-8NC	11 1/2	1/4	
OP	20	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	10	3/16	14	13 1/2	1 1/2	1 1/2	55 3/4	6 1/4	20'-0"	7.0	4.2	3/16	20	14 1/2	1 1/4	1-8NC	11 1/2	1/4	
OP	22	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	11 1/2	3/16	15 1/2	15	1 1/2	1 1/2	55 3/4	6 1/4	22'-0"	7.0	3.9	3/16	22	16	1 1/4	1-8NC	13	1/4	
OP	24	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	11 1/2	3/16	15 1/2	15	1 1/2	1 1/2	55 3/4	6 1/4	24'-0"	7.0	3.6	3/16	24	16	1 1/4	1-8NC	13	1/4	
OP	26	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	11 1/2	3/16	15 1/2	15	1 1/2	1 1/2	55 3/4	6 1/4	26'-0"	7.0	3.4	3/16	26	16	1 1/4	1-8NC	13	1/4	
OP	28	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	11 1/2	3/16	15 1/2	15	1 1/2	1 1/2	55 3/4	6 1/4	28'-0"	7.0	3.1	3/16	28	16	1 1/4	1-8NC	13	1/4	
OP	30	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	13	3/16	18	17	1 1/2	1 1/2	55 3/4	6 1/4	30'-0"	9.0	4.8	3/16	30	16 1/2	1 1/2	1-8NC	13 1/2	1/4	
OP	32	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	13	3/16	18	17	1 1/2	1 1/2	55 3/4	6 1/4	32'-0"	9.0	4.5	3/16	32	16 1/2	1 1/2	1-8NC	13 1/2	1/4	
OP	34	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	13	3/16	18	17	1 1/2	1 1/2	55 3/4	6 1/4	34'-0"	9.0	4.2	3/16	34	16 1/2	1 1/2	1-8NC	13 1/2	1/4	
OP	36	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	13	3/16	18	17	1 1/2	1 1/2	55 3/4	6 1/4	36'-0"	9.0	4.0	3/16	36	16 1/2	1 1/2	1-8NC	13 1/2	1/4	
OP	38	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	13	1/4	18	17 1/2	1 3/4	1 3/4	84	6	38'-0"	10.0	4.7	3/16	38	18	1 1/2	1-8NC	15	1/4	
OP	40	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	13	1/4	18	17 1/2	1 3/4	1 3/4	84	6	40'-0"	10.0	4.4	3/16	40	18	1 1/2	1-8NC	15	1/4	
OP	42	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	13	1/4	18	17 1/2	1 3/4	1 3/4	84	6	42'-0"	10.0	4.1	3/16	42	18	1 1/2	1-8NC	15	1/4	
OP	44	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	13	1/4	18	17 1/2	1 3/4	1 3/4	84	6	44'-0"	10.0	3.8	3/16	44	18	1 1/2	1-8NC	15	1/4	
OP	46	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	14	1/4	19	19	1 3/4	1 3/4	84	6	46'-0"	11.0	4.6	3/16	46	18	1 3/4	1-8NC	15 1/2	1/4	
OP	48	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	14	1/4	19	19	1 3/4	1 3/4	84	6	48'-0"	11.0	4.3	3/16	48	18	1 3/4	1-8NC	15 1/2	1/4	
OP	50	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	14	1/4	19	19	1 3/4	1 3/4	84	6	50'-0"	11.0	4.0	3/16	50	18	1 3/4	1-8NC	15 1/2	1/4	
OP	52	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	16	1/4	20	20	1 3/4	1 3/4	84	6	52'-0"	12.0	7.8	1/4	30	22 1/2	2	1 1/2-6NC	18 1/2	5/16	
OP	54	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	16	1/4	20	20	1 3/4	1 3/4	84	6	54'-0"	12.0	7.8	1/4	30	22 1/2	2	1 1/2-6NC	18 1/2	5/16	
OP	56	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	16	1/4	20	20	1 3/4	1 3/4	84	6	56'-0"	12.0	7.8	1/4	30	22 1/2	2	1 1/2-6NC	18 1/2	5/16	
OP	58	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	16	1/4	20	20	1 3/4	1 3/4	84	6	58'-0"	12.0	7.8	1/4	30	22 1/2	2	1 1/2-6NC	18 1/2	5/16	
OP	60	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	16	1/4	20	20	1 3/4	1 3/4	84	6	60'-0"	12.0	7.8	1/4	30	22 1/2	2	1 1/2-6NC	18 1/2	5/16	
OP	62	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	16	5/16	22	22	1 3/4	1 3/4	84	6	62'-0"	13.0	8.8	1/4	30	22 1/2	2	1 1/2-6NC	18 1/2	5/16	
OP	64	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	16	5/16	22	22	1 3/4	1 3/4	84	6	64'-0"	13.0	8.8	1/4	30	22 1/2	2	1 1/2-6NC	18 1/2	5/16	
OP	66	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	16	5/16	22	22	1 3/4	1 3/4	84	6	66'-0"	13.0	8.8	1/4	30	22 1/2	2	1 1/2-6NC	18 1/2	5/16	
OP	68	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	16	5/16	22	22	1 3/4	1 3/4	84	6	68'-0"	13.0	8.8	1/4	30	22 1/2	2	1 1/2-6NC	18 1/2	5/16	
OP	70	NL, LR, MR, HR	A OR B	6-12	A OR B	6-12	16	5/16	22	22	1 3/4	1 3/4	84	6	70'-0"	13.0	8.8	1/4	30	22 1/2	2	1 1/2-6NC	18 1/2	5/16	

SEE TABLE 2

TABLE 2: ELEVATIONS

POLE ELEVATION TYPE	LUMINAIRE MTG HEIGHT	POLE SHAFT LENGTH
NO LUMINAIRE (NL)	----	19'-0"
LOW RISE (LR)	30'-0"	27'-0"
MEDIUM RISE (MR)	35'-0"	32'-0"
HIGH RISE (HR)	40'-0"	37'-0"

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SCALE: 1:128		