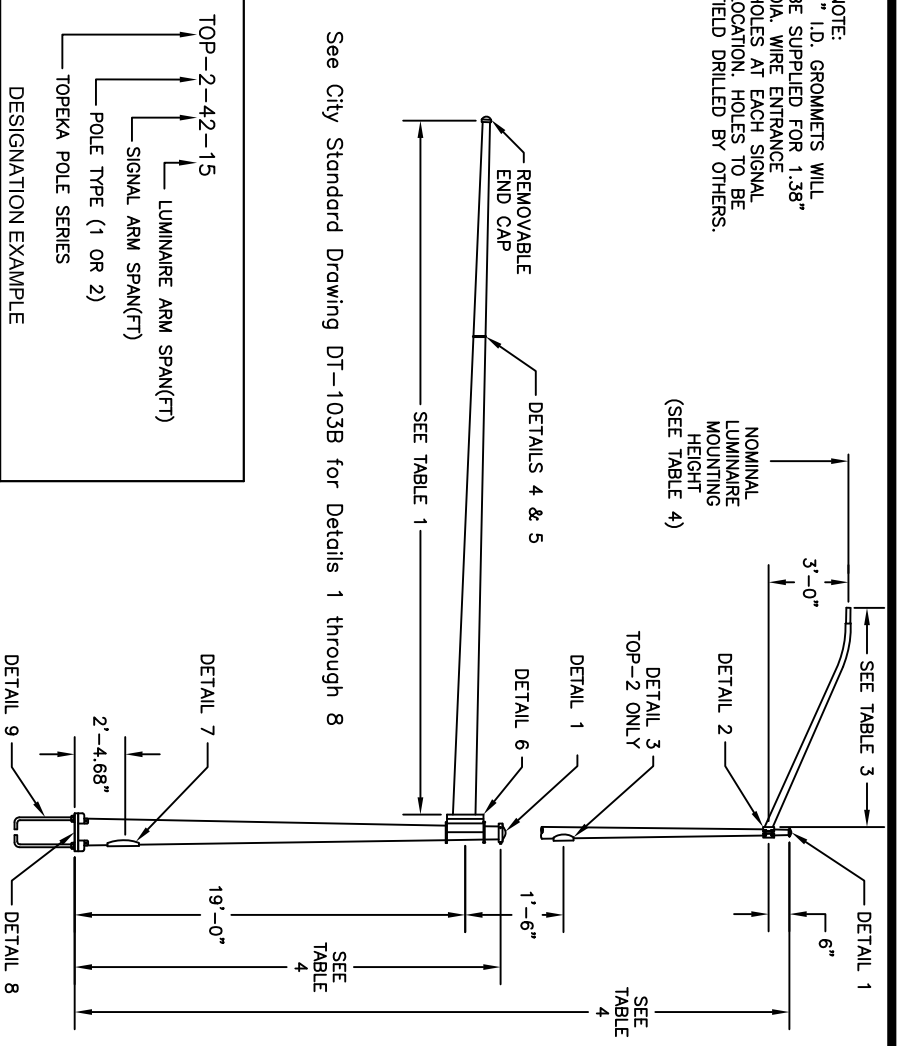


NOTE:  
1" I.D. GROMMETS WILL BE SUPPLIED FOR 1.38" DIA. WIRE ENTRANCE HOLES AT EACH SIGNAL LOCATION. HOLES TO BE FIELD DRILLED BY OTHERS.



See City Standard Drawing DT-103B for Details 1 through 8

**TOPEKA POLE SERIES**

**TABLE 1: POLE AND SIGNAL ARM DATA**

DESIGNATION KEY	POLE DATA			POLE BASE						ANCHOR BOLT DATA			SIGNAL ARM DATA				
	POLE TYPE	SIGNAL ARM SPAN (FT)	BASE DIA. (IN)	LENGTH (FT)	GAUGE OR THK. (IN)	SQUARE S <sub>1</sub> (IN)	BOLT CIRCLE (IN)	THK. T <sub>1</sub> (IN)	CENTER HOLE P <sub>1</sub> (IN)	HOLE DIA. Z <sub>1</sub> (IN)	DIA. K <sub>1</sub> (IN)	LENGTH J <sub>1</sub> (IN)	HOOK H <sub>1</sub> (IN)	THREAD LENGTH U <sub>1</sub> (IN)	FIXED END DIA. (IN)	FREE END DIA. (IN)	GAUGE OR THK. (IN)
TOP	1 OR 2	13.00	13.00	5	18.00	17.00	2.00	11.50	1.75	1.50	54.00	6.00	8.00	9.00	6.76	7	16.00
														9.00	6.48	7	18.00
														9.00	6.20	7	20.00
														9.00	5.92	7	22.00
														9.00	5.64	7	24.00
														9.00	5.36	7	26.00
														9.00	5.08	7	28.00
														9.00	4.80	7	30.00
														9.00	4.52	7	32.00
														9.00	4.24	7	34.00
9.00	4.96	7	36.00														
9.00	5.68	7	38.00														
9.00	6.40	7	40.00														
9.00	7.12	7	42.00														
9.00	7.84	7	44.00														
9.00	8.56	7	46.00														
9.00	9.28	7	48.00														
9.00	10.00	7	50.00														
9.00	10.72	7	52.00														
9.00	11.44	7	54.00														
9.00	12.16	7	56.00														
9.00	12.88	7	58.00														
9.00	13.60	7	60.00														
9.00	14.32	7	62.00														
9.00	15.04	7	64.00														

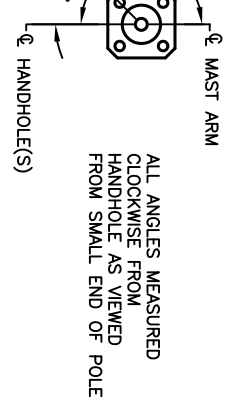
SEE TABLE 4

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 "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS." SIXTH EDITION, LITS-6. THE WIND LOADS WERE CALCULATED FROM A BASIC WIND VELOCITY OF 90 MPH WITH A RECURRENT INTERVAL OF 50 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 111.2 MPH.
- STRUCTURES ARE NOT DESIGNED TO RESIST GALLOPING-INDUCED CYCLIC LOADS DUE TO THE CUSTOMER SPECIFYING THE USE OF A VIBRATION MITIGATION DEVICE.
- 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.

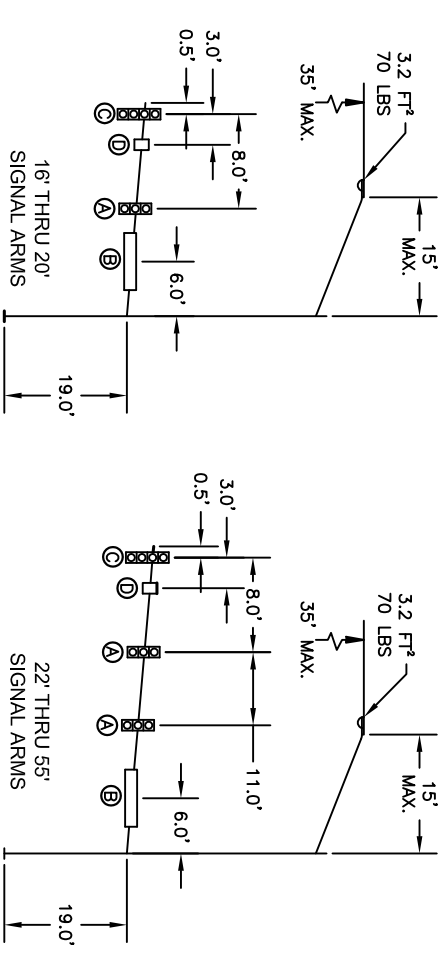
AASHTO 2013 SPECIFICATIONS



**RADIAL INDEX**

**MAXIMUM LOADING INFORMATION**

DEVICE	DESCRIPTION	PROJ. AREA (FT <sup>2</sup> )	WEIGHT (LBS)
A	12" x 3 SEC. SIGNAL WITH BACK PLATES	8.67	30
B	22" x 120" LED STREET NAME SIGN	18.33	102
C	12" x 4 SEC. SIGNAL WITH BACK PLATES	11.00	45
D	24" x 30" SIGNAL ARM MOUNTED SIGN	5.00	15



**STANDARD FINISH**

SYSTEM: GALVANIZED (GV)  
BASE COAT: HOT-DIP GALVANIZED TO ASTM A123  
PRIME COAT: NONE  
FINISH COAT: NONE  
COLOR: NONE  
SPEC: F-1

**SEMI GLOSS BLACK FINISH**

SYSTEM: FINISH PAINT/GALVANIZED (FFGV)  
BASE COAT: HOT-DIP GALVANIZED TO ASTM A123  
PRIME COAT: NONE  
FINISH COAT: TIGIC OR URETHANE POLYESTER POWDER  
COLOR: BLACK  
SPEC: F-283A

**SIGNAL ARM ATTACHMENT DATA**

ARM BASE DIA. (IN)	POLE BASE DIA. (IN)	"A" DIA. (IN)	"B" DIA. (IN)	"C" DIA. (IN)	"D" DIA. (IN)	CENTER HOLE DIA. (IN)	"H" DIA. (IN)
9.00	13.00	17.75	14.50	2.00	1.25 X 6.25	7.64	0.38
10.00	13.00	17.75	14.50	2.00	1.25 X 6.25	8.50	0.38
11.00	16.50	21.75	18.50	2.00	1.25 X 6.25	7.00	0.38
12.00	16.50	21.75	18.50	2.00	1.25 X 6.25	8.25	0.38
13.00	16.50	21.75	18.50	2.00	1.25 X 6.25	7.00	0.38
14.50	16.50	21.75	18.50	2.00	1.25 X 6.25	8.50	0.38

**TABLE 4: LUMINAIRE MOUNTING HEIGHT**

POLE TYPE	TOP-1	TOP-2
LUM. MOUNTING HEIGHT	20'-6"	35'-0"
POLE LENGTH	32'-6"	32'-6"

**TABLE 3: LUMINAIRE ARM DATA**

SPAN (FT)	FIXED END DIAMETER (IN)	FREE END DIAMETER (IN)	GAUGE
6.00	3.40	2.38	11
8.00	3.63	2.38	11
10.00	3.89	2.38	11
12.00	4.16	2.38	11
15.00	4.57	2.38	11

**TABLE 2: MATERIAL DATA**

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
ALL TAPERED TUBES	A595 GRA OR A572	55
BASE PLATE	A36	36
SIMPLEX PLATE	A36	36
ANCHOR BOLTS	F1554 GR.55	55
LUMINAIRE ARM CLAMP	A572	55
GALVANIZING-HARDWARE	F2329	

**STANDARD DETAILS**



620 SE MADISON St., 2nd Floor • TOPEKA, KS 66607  
Phone (785) 286-3822 • Fax (785) 286-3881

**TRAFFIC SIGNAL MAST ARM POLE DETAILS**  
(DT-103A)

DATE: \_\_\_\_\_  
SHEET: \_\_\_\_\_  
PROJ.: \_\_\_\_\_

NO.	DATE	REVISION	BY	APP'D.
1	10/2/17	New Standard Drawing 103A (deleted 103) DHS	TLC	

EDITED BY: Deana Spoor  
APP'D BY: Jerry Corder