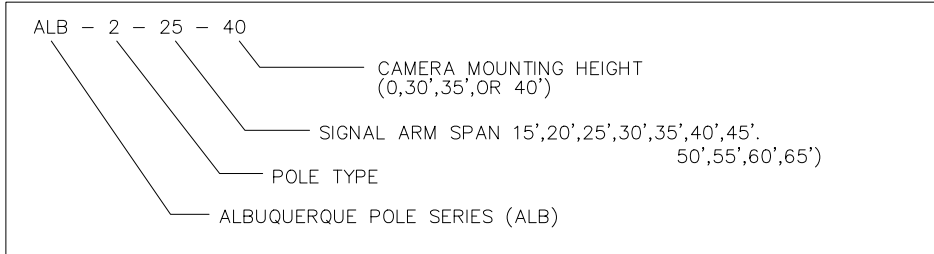


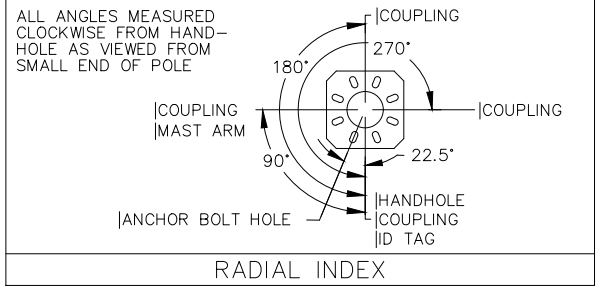
ALBUQUERQUE, NM POLE SERIES

TABLE 1: MATERIAL DATA

COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)	COMPONENT	ASTM DESIGNATION	MIN. YIELD (KSI)
TAPERED TUBES	A595 GR.A OR A572	55	POLE TOP PLATE	A36	36
BASE PLATE	A36	36	CAMERA ARM PLATE	A36	36
SIGNAL ARM PLATE	A36	36	ARM STRUTS	A36	36
SIGNAL ARM CONN BOLTS	A325	--	ANCHOR BOLTS	F1554 GR.55	55
			GALVANIZING-HARDWARE	HOT DIP ZINC	--



DESIGNATION EXAMPLE



SYSTEM: GALVANIZED (GV)

BASE COAT: HOT-DIP GALVANIZED TO ASTM A123

PRIME COAT: NONE

FINISH COAT: NONE

COLOR: NONE

SPEC: F-1

FINISH SPECIFICATION

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.

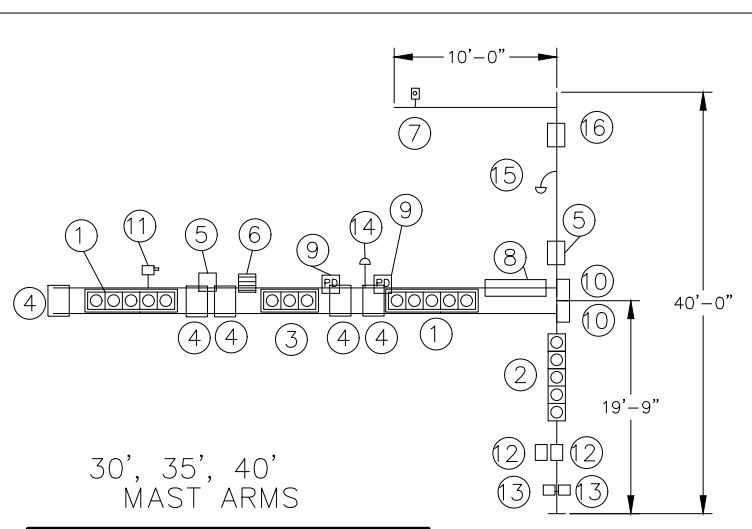
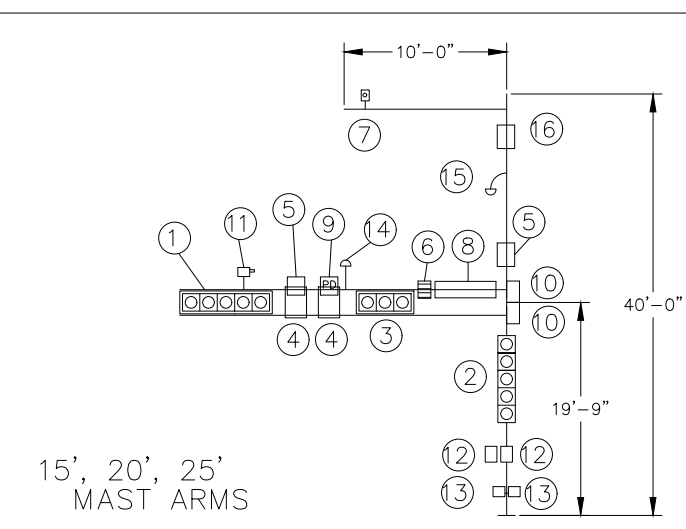
VIBRATION DISCLAIMER

THIS DRAWINGS AASHTO CODE COMPLIANCE IS CONTINGENT ON THE MANDATORY USE OF THE MITIGATOR (TR1) IN CONJUNCTION WITH THIS STRUCTURE DESIGN. OMITTING SUCH DEVICE VOIDS THE PE STAMP AND SHALL NOT BE CONSIDERED TO MEET AASHTO.

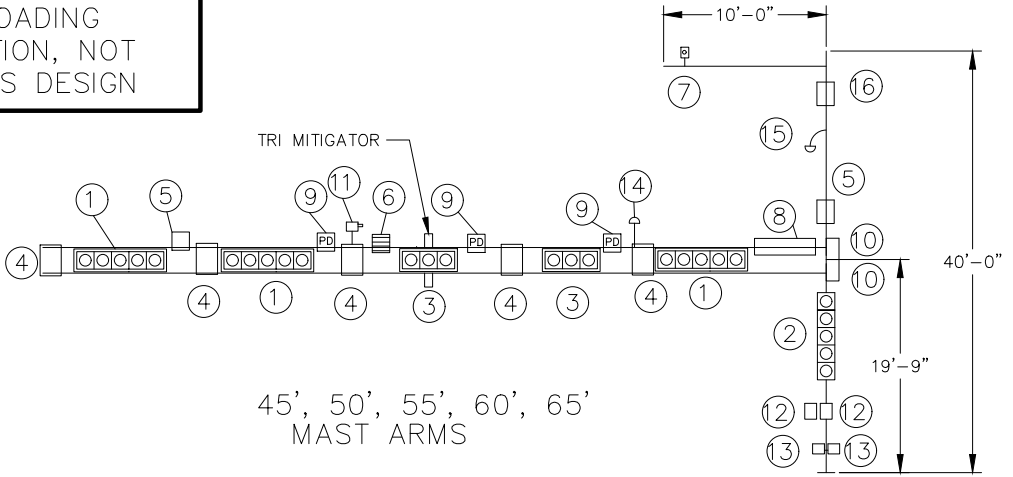
MITIGATOR DEVICE DISCLAIMER

DEVICE	DESCRIPTION	PROJ AREA (SQ.FT.)	WEIGHT (LBS)
1 - SIGNAL	12" 5-SECTION TRAFFIC ASSEMBLY W/BACK PLATE	13.40	80
2 - SIGNAL	12"-5 SECTION TRAFFIC ASSEMBLY	13.40	80
3 - SIGNAL	12" 3-SECTION TRAFFIC ASSEMBLY W/BACK PLATE	8.67	60
4 - SIGN	ALUMINUM SIGN 24" X 36"	7.50	13
5 -	RADAR PRESENCE DETECTOR	12.00	100
6 -	RADAR ADVANCED DETECTOR	12.00	20
7 -	VIDEO CAMERA DETECTOR	2.00	15
8 - SIGN	STREET NAME SIGN	0.80	2
9 -	LICENSE PLATE READER	1.00	30
10 -	LICENSE PLATE READER EQUIPMENT	1.50	30
11 -	OPTICAL DETECTOR	1.00	5
12 - SIGNAL	PEDESTRIAN SIGNAL (EACH)	4.00	40
13 -	PUSH BUTTON STATION	0.75	20
14 -	BUS PRECEPTION	0.50	1
15 -	CCTV CAMERA	1.00	1
16 -	WIRELESS SIGNAL COMMUNICATION DEVICE	1.00	10

MAX LOADING INFORMATION



ULTIMATE LOADING CONFIGURATION, NOT INTENDED AS DESIGN

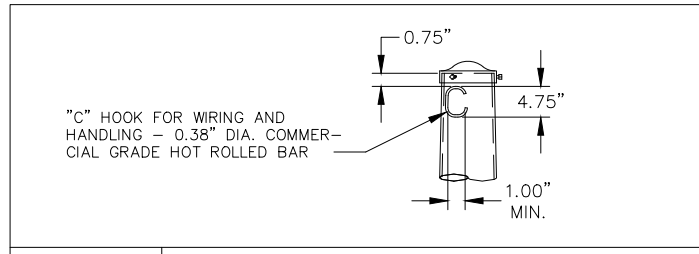


THE MAST ARM TRAFFIC STRUCTURES SHOWN ON THIS DRAWING HAVE BEEN DESIGNED IN ACCORDANCE WITH THE LOADING AND THE NOMINAL STRENGTH REQUIREMENTS OF THE 2015 AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, FIRST EDITION" SLTS-1. THE WIND LOADS WERE CALCULATED FROM AN ULTIMATE WIND VELOCITY OF 115 MPH WITH A MEAN RECURRENCE INTERVAL OF 700 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:

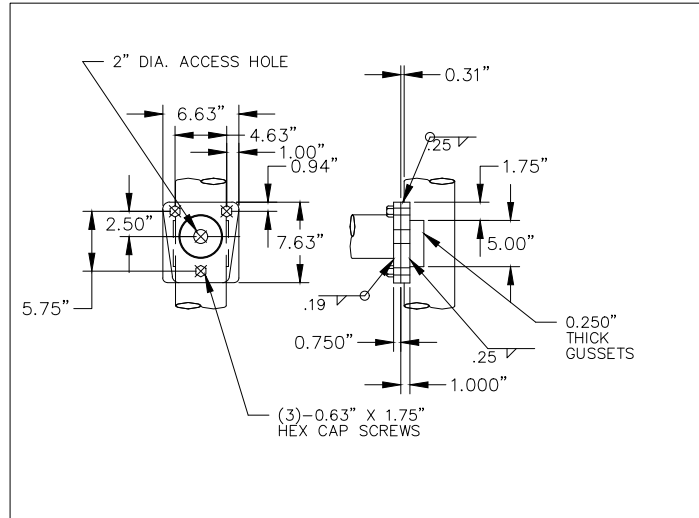
- STRUCTURES ARE DESIGNED TO RESIST NATURAL WIND GUSTS BASED ON THE YEARLY MEAN WIND VELOCITY OF 11.2 MPH.
- STRUCTURES ARE NOT DESIGNED TO RESIST GALLOPING-INDUCED CYCLIC LOADS.
- STRUCTURES ARE DESIGNED FOR TRUCK-INDUCED GUST LOADS, AS REQUIRED BY THE OWNER OF THE STRUCTURES.

LOADING INFORMATION

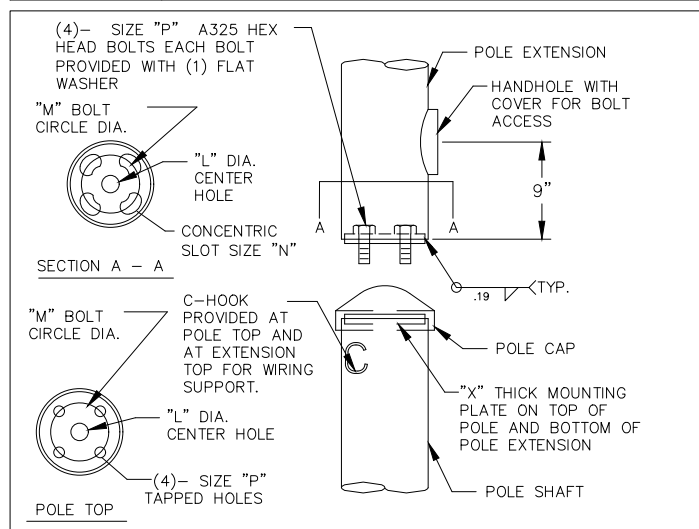
REVISIONS	CITY OF ALBUQUERQUE
	TRAFFIC SIGNAL MASTARM DETAILS TYPE II/III STANDARD DWG. 2562c AUGUST 2022



DETAIL 1 POLE TOP



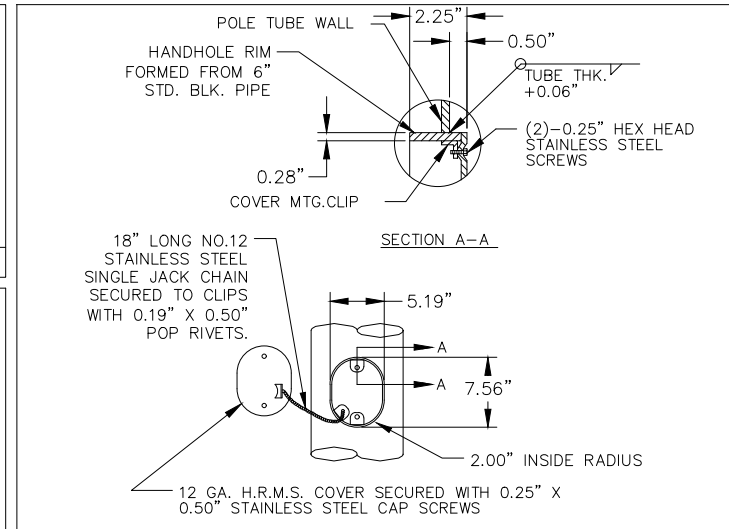
DETAIL 2 CAMERA ARM ATTACHMENT



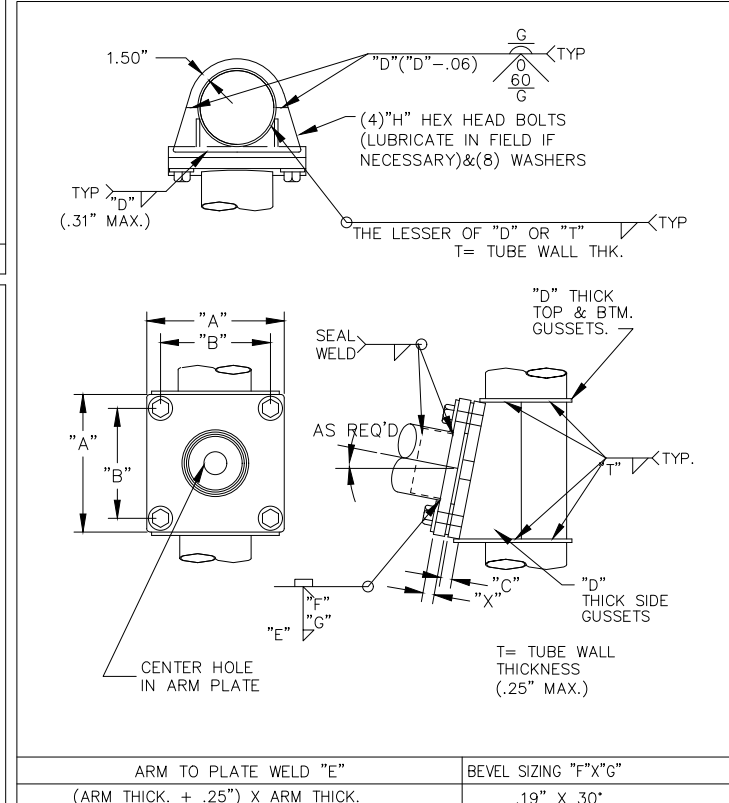
DETAIL 3 POLE EXTENSION CONNECTION

TABLE 4: EXTENSION CONNECTION DATA

ARM SPAN RANGE (FT)	CENTER HOLE "L" (IN)	BOLT CIRCLE "M" (IN)	PLATE THK "X" (IN)	CONCENTRIC SLOT SIZE "N" (IN)	BOLT "P" (IN)	SIZE (IN)
15-25	4.00	8.50	1.00	0.88 X 2.00	0.75 X 2.25	
30-40	4.00	9.50	1.00	0.88 X 2.00	0.75 X 2.25	
45-65	4.00	11.00	1.25	0.88 X 2.00	1.00 X 2.75	



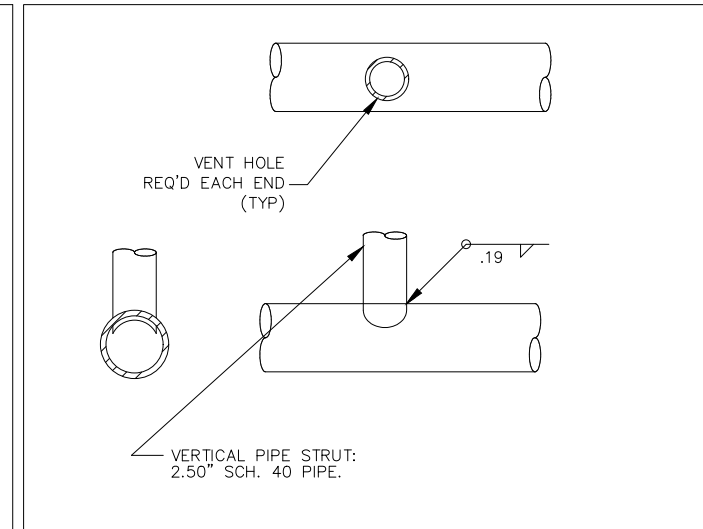
DETAIL 4 MAST ARM & EXTENSION HANDHOLE



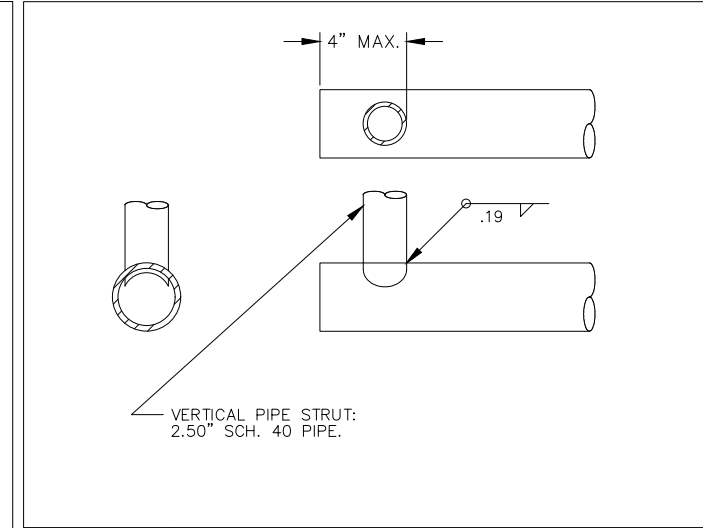
DETAIL 5 SIGNAL ARM ATTACHMENT

TABLE 5: SIGNAL ARM ATTACHMENT DATA

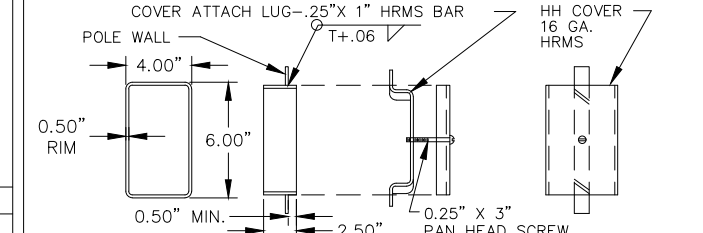
ARM SPAN RANGE (FT)	"A" (IN)	"B" (IN)	POLE PLATE "C" (IN)	ARM PLATE "X" (IN)	"D" (IN)	CENTER HOLE DIA. (IN)	"H" (IN)
15-25	21.25	18.00	2.00	2.00	0.375	7.00	1.25 X 4.50
30-40	21.25	18.00	2.00	2.00	0.375	7.00	1.25 X 4.50
45-65	24.75	21.00	2.00	2.50	0.375	7.00	1.50 X 5.00



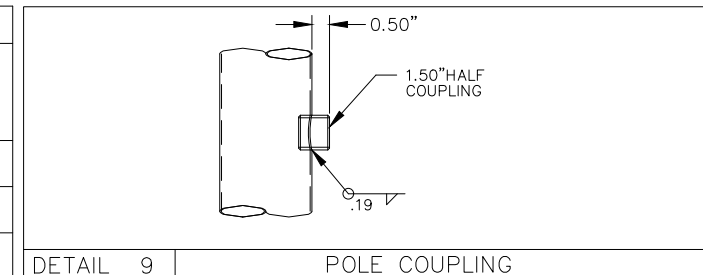
DETAIL 6 MID PIPE STRUT



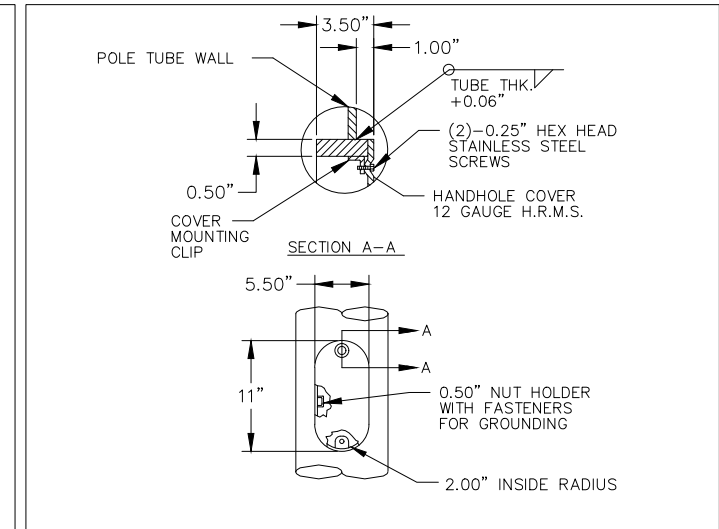
DETAIL 7 END PIPE STRUT



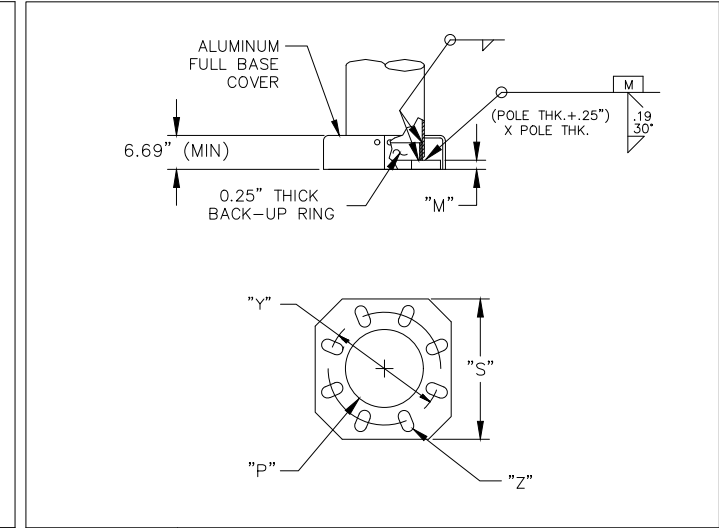
DETAIL 8 ARM HANDHOLE



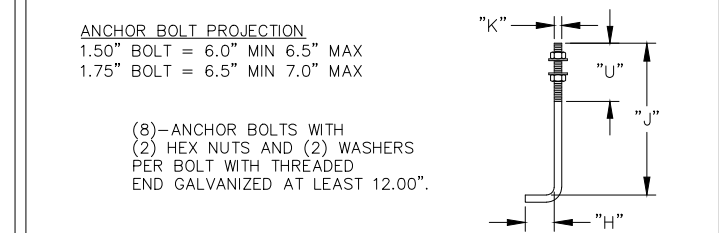
DETAIL 9 POLE COUPLING



DETAIL 10 BASE HANDHOLE



DETAIL 11 POLE BASE



DETAIL 12 ANCHOR BOLT

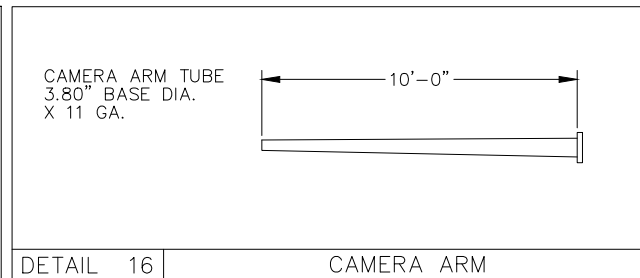
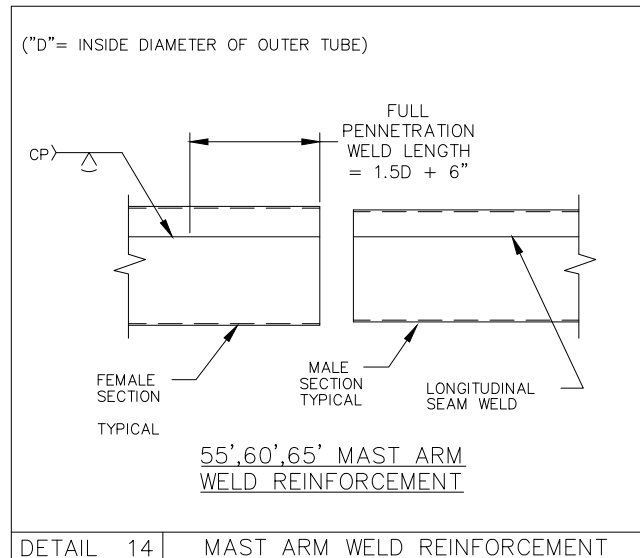
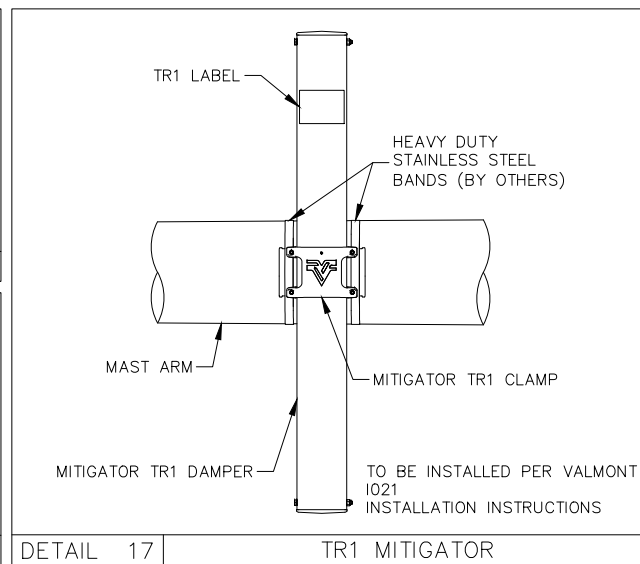
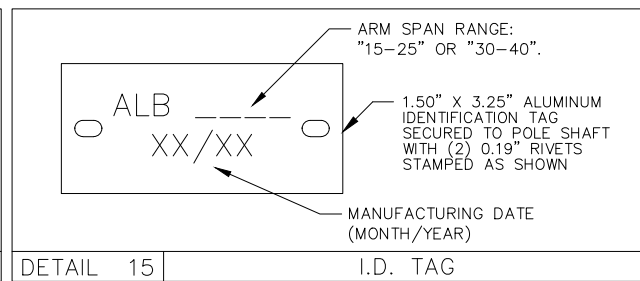
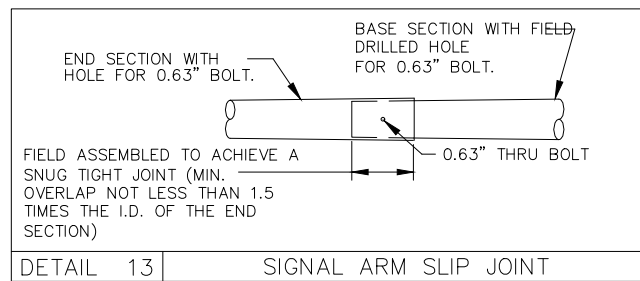
REVISIONS	CITY OF ALBUQUERQUE
	TRAFFIC TYPE II/III STANDARD - MISCELLANEOUS DETAILS DWG. 2562d AUGUST 2022

TABLE 2: POLE AND MAST ARM SCHEDULE

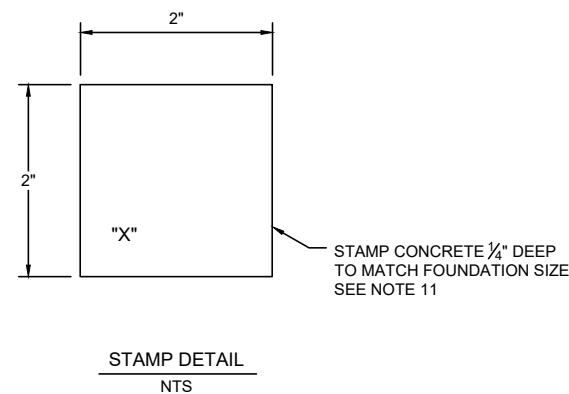
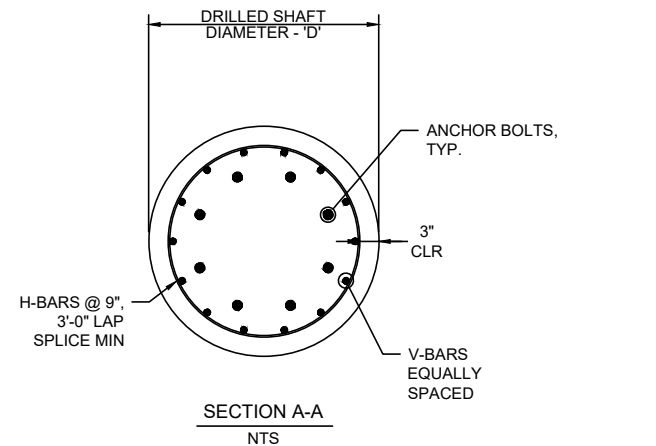
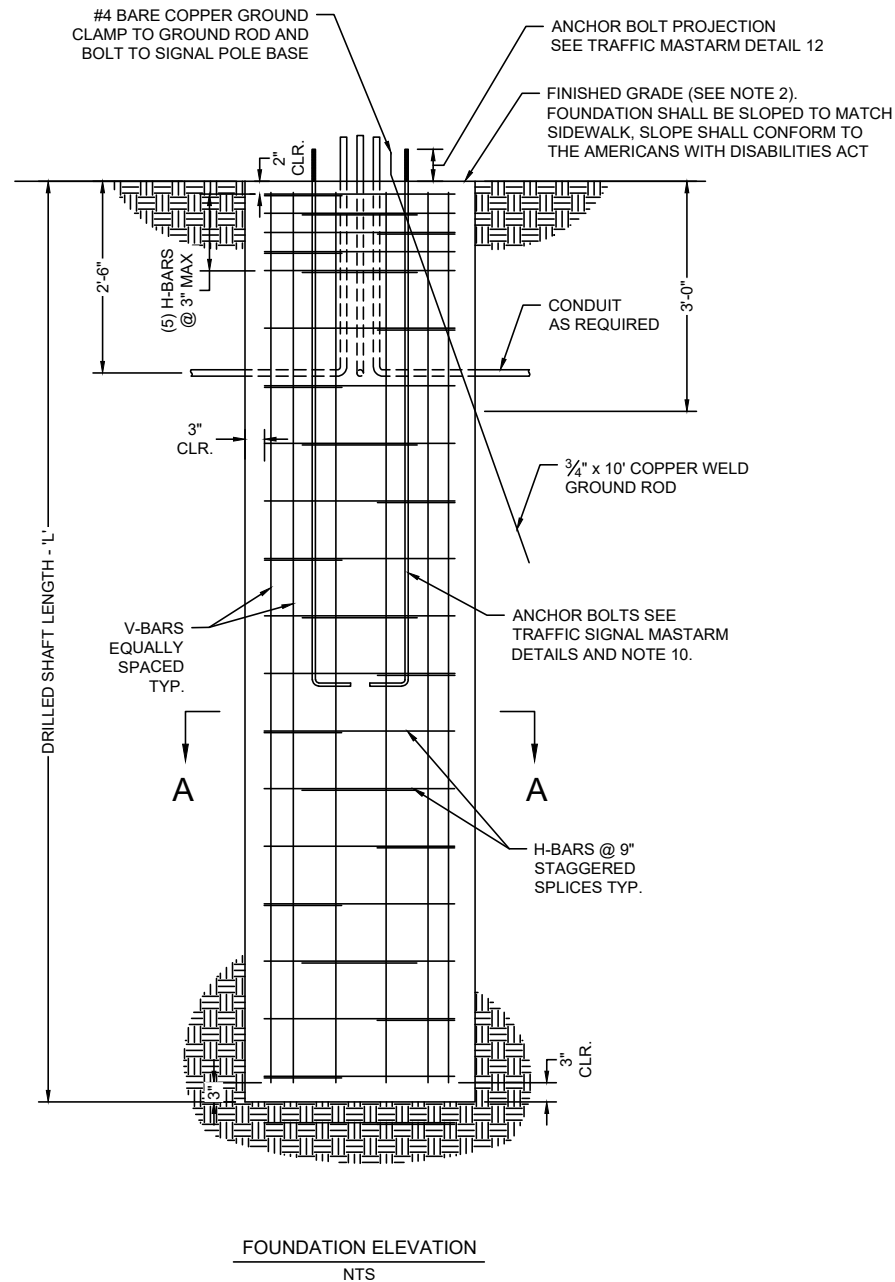
DESIGNATION (SEE EXAMPLE ABOVE)				POLE DATA				BASE PLATE DATA					ANCHOR BOLT DATA				MAST ARM DATA				
POLE SERIES	POLE TYPE	SIGNAL ARM SPAN (FT)	CAMERA MOUNTING HEIGHT 0=NO CAMERA	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	WALL	SQUARE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	"Z" SLOT (IN)	CENTER HOLE "P" (IN)	DIA "K" (IN)	LENGTH "J" (IN)	HOOK "H" (IN)	THREAD LENGTH "U" (IN)	FIXED END DIA. (IN)	FREE END DIA. (IN)	WALL /GAUGE	LENGTH (FT)	OVERALL SPAN (FT)
ALB	2	15.00	0, 30, 35, 40	16.00	12.78	23.00	0.313	24.50	20.50	2.00	1.75 X 3.25	10.00	1.50	54.00	6.00	8.00	11.00	8.90	7	15.00	15.00
ALB	2	20.00	0, 30, 35, 40														12.00	9.20	7	20.00	20.00
ALB	2	25.00	0, 30, 35, 40														12.00	8.50	7	25.00	25.00
ALB	2	30.00	0, 30, 35, 40	16.50	13.28	23.00	0.313	26.00	22.00	2.00	1.75 X 3.25	10.00	1.50	54.00	6.00	8.00	12.50	8.30	3	30.00	30.00
ALB	2	35.00	0, 30, 35, 40														13.00	8.10	3	35.00	35.00
ALB	2	40.00	0, 30, 35, 40														13.00	7.40	3	40.00	40.00
ALB	2	45.00	0, 30, 35, 40	19.00	15.78	23.00	0.375	28.50	24.00	2.00	2.00 X 3.50	15.00	1.75	84.00	6.00	8.00	14.00	7.70	0.250	45.00	45.00
ALB	2	50.00	0, 30, 35, 40														14.50	7.50	0.313	50.00	50.00
ALB	2	55.00	0, 30, 35, 40														14.50	11.66	0.313	20.32	55.00
ALB	2	60.00	0, 30, 35, 40	19.00	15.78	23.00	0.375	28.50	24.00	2.00	2.00 X 3.50	15.00	1.75	84.00	6.00	8.00	12.50	7.28	3	37.31	60.00
ALB	2	65.00	0, 30, 35, 40														15.00	12.15	0.313	20.38	60.00
ALB	2	65.00	0, 30, 35, 40														13.00	7.08	3	42.31	65.00
ALB	2	65.00	0, 30, 35, 40	19.00	15.78	23.00	0.375	28.50	24.00	2.00	2.00 X 3.50	15.00	1.75	84.00	6.00	8.00	15.00	12.15	0.313	20.38	65.00
ALB	2	65.00	0, 30, 35, 40	19.00	15.78	23.00	0.375	28.50	24.00	2.00	2.00 X 3.50	15.00	1.75	84.00	6.00	8.00	13.00	6.38	3	47.31	65.00

TABLE 3: EXTENSION TUBE DATA

ARM SPAN RANGE (FT)	CAMERA MOUNTING HEIGHT (FT)	EXTENSION TUBE			
		BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	WALL / GAUGE (IN)
15-25	30.00	12.78	11.80	7.00	7
	35.00	12.78	11.10	12.00	7
	40.00	12.78	10.40	17.00	7
30-40	30.00	13.28	12.30	7.00	0.188
	35.00	13.28	11.60	12.00	0.188
	40.00	13.28	10.90	17.00	0.188
45-65	30.00	15.78	14.80	7.00	0.188
	35.00	15.78	14.10	12.00	0.188
	40.00	15.78	13.40	17.00	0.188



REVISIONS	CITY OF ALBUQUERQUE
	TRAFFIC SIGNAL MASTARM DETAILS TYPE II/III STANDARD DWG. 2562e AUGUST 2022



FOUNDATION TYPE	MASTARM LENGTH (FT)	DRILLED SHAFT DIAMETER 'D' (IN)	DRILLED SHAFT LENGTH 'L' (FT)	FOUNDATION DIMENSION AND QUANTITIES						QUANTITIES	
				V-BARS			H-BARS			CONCRETE (CY)	REBAR (LBS)
				SIZE	NO.	LENGTH	SIZE	NO.	LENGTH		
A	15-25	36	12	#8	14	11'-6"	#5	19	11'-0"	3.14	552
B	30-40	42	16	#8	18	15'-6"	#5	24	12'-0"	5.70	921
C	45-65	48	16	#8	24	15'-6"	#5	24	13'-6"	7.45	1194

TRAFFIC SIGNAL MASTARM FOUNDATION NOTES

- REFER TO THE PLANS FOR LOCATIONS OF TRAFFIC SIGNAL MASTARM FOUNDATIONS.
- FINISHED GRADE FOR THE FOUNDATIONS SHALL BE APPROVED IN THE FIELD BY THE PROJECT ENGINEER.
- THE FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARDS SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, CURRENT REVISION.
- CONCRETE SHALL BE 3000 PSI FOR EXTERIOR STRUCTURES. REFER TO TABLE 101.C OF THE SPECIFICATIONS.
- REINFORCING STEEL SHALL BE GRADE 60 IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- THE TOP 6 INCHES OF THE DRILLED SHAFT SHALL BE FORMED TO THE DIMENSIONS SHOWN ON THIS SHEET TO FORM NEAT LINES. CONCRETE BELOW 6 INCHES MAY BE CAST AGAINST THE EARTH.
- THE CONCRETE SHALL GAIN 80% OF THE DESIGN STRENGTH PRIOR TO INSTALLING THE TRAFFIC SIGNAL MASTARM.
- ALL FOUNDATIONS SHALL INCLUDE COPPER WELD GROUND RODS. ALL GROUND RODS SHALL BE 3/4" DIA. X 10'-0" WHICH SHALL NOT BE INSTALLED INSIDE THE CONDUIT AND WILL BE CONSIDERED INCIDENTAL TO THE FOUNDATIONS BID ITEMS.
- MASTARM FOUNDATION ARE DESIGNED FOR TYPICAL SOIL CONDITIONS FOR THE ALBUQUERQUE AREA AS APPROXIMATED BY THE DESIGN DATA. IF DIFFERING SUBSURFACE CONDITIONS ARE ANTICIPATED OR ENCOUNTERED IN THE FIELD, A DESIGN STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN NEW MEXICO SHALL BE SUBMITTED TO THE PROJECT ENGINEER FOR REVIEW AND APPROVAL. DIFFERING SURFACE CONDITIONS MAY INCLUDE THE FOLLOWING:
 - (A) BEDROCK
 - (B) CAVING SOILS
 - (C) GROUNDWATER
 - (D) TRASH OR DEBRIS
 - (E) OBSTACLES TO DRILLED SHAFT CONSTRUCTION
 - (F) VERY LOOSE SAND SOILS
 - (G) SOFT CLAY SOILS
- MAINTAIN ANCHOR BOLT ALIGNMENT AND LOCATION AS REQUIRED TO MEET MASTARM REQUIREMENTS. STEEL ANCHOR PLATES COMPATIBLE WITH THE BOLT MATERIAL ARE PRE-APPROVED FOR THIS PURPOSE. OTHER METHODS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
- ALL FOUNDATIONS SHALL BE STAMPED EITHER "A", "B", OR "C" TO SHOW TYPE CONSTRUCTED (SEE STAMP DETAIL).

DESIGN DATA

- DESIGN FOUNDATIONS ARE BASED ON TRAFFIC SIGNAL POLE CONFIGURATIONS AND LOADS PROVIDED BY THE MANUFACTURER FOR THE CITY OF ALBUQUERQUE.
- DESIGN CRITERIA: 2015 AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORT FOR HIGHWAY SIGNS, LUMINARIES, AND TRAFFIC SIGNALS. ACI 318-19.
- ULTIMATE DESIGN WIND SPEED OF 115 MPH.
- THE FOLLOWING NON-COHESIVE SOIL DESIGN PARAMETERS WERE ASSUMED FOR THE FOUNDATION DESIGN:

APPROXIMATE DEPTH (FT)	SOIL UNIT WEIGHT (PCF)	FRICTION ANGLE (φ)	SOIL MODULUS (PCl)
0-15	105	29	25
15-25	110	30	25
25-35	115	31	90

REVISIONS	CITY OF ALBUQUERQUE
	TRAFFIC SIGNAL FOUNDATION DETAILS TYPE II AND TYPE III STANDARDS DWG. 2558 JUNE 2022