

07 - MAST ARM SUBSET

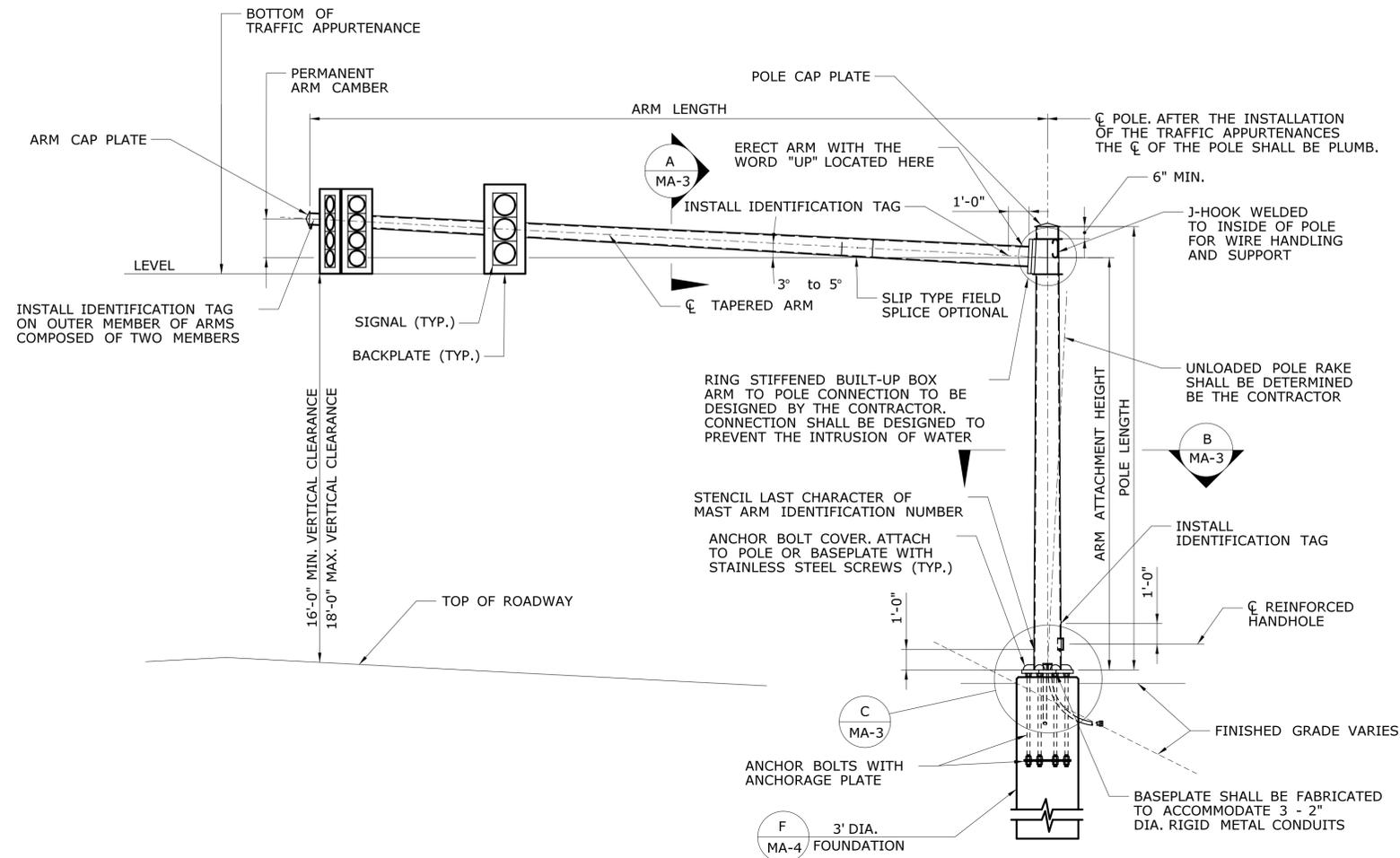
INDEX OF DRAWINGS

DRAWING NUMBER	DRAWING TITLE
MA-1	INDEX OF DRAWINGS
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MA-3	MAST ARM ASSEMBLY DETAILS
MA-4	MAST ARM ASSEMBLY FOUNDATION DETAILS

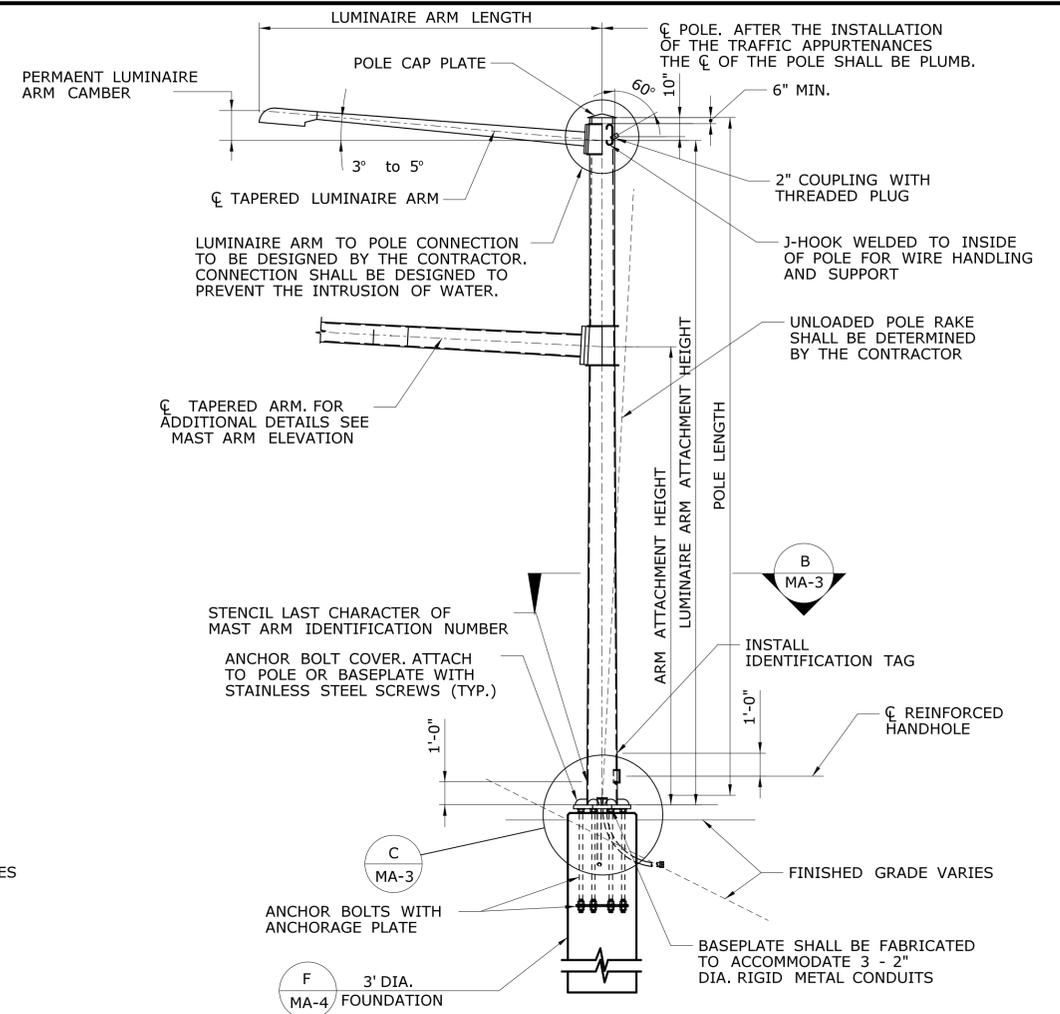
THE DESIGN APPEARS TO CONFORM TO APPLICABLE CRITERIA. APPROVAL IS NOT TO BE CONSTRUED TO MEAN THAT ALL ASPECTS OF THE DESIGN HAVE BEEN PERSONALLY CHECKED BY THE UNDERSIGNED.

TRANSPORTATION PRINCIPAL ENGINEER

		THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER/DRAFTER: JJK CHECKED BY: RDD SCALE AS NOTED	 STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION <small>Filename: ...XXXXXXXXXX.SB_IndexOfDrawings.dgn</small>	SIGNATURE/ BLOCK: OFFICE OF ENGINEERING APPROVED BY: 	PROJECT TITLE: SAFETY & TRAFFIC OPERATIONAL IMPROVEMENTS ON ROUTE 4 (FARMINGTON AVE) FROM GARDEN ST. TO MOUNTAIN SPRING RD.	TOWN: FARMINGTON DRAWING TITLE: INDEX OF DRAWINGS	PROJECT NO. 51-260 DRAWING NO. MA-1 SHEET NO. 07.01	
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 6/25/2015					



**ELEVATION
MAST ARM**
SCALE: 1/4" = 1'-0"



**ELEVATION
COMBINATION MAST ARM**
SCALE: 1/4" = 1'-0"

MAST ARM ASSEMBLY NOTES

THE MAST ARM, INCLUDING THE ANCHORAGE TO THE FOUNDATION, SHALL BE DESIGNED, FABRICATED AND INSTALLED BY THE CONTRACTOR, OF THE SPAN SPECIFIED, IN ACCORDANCE WITH THE SPECIAL PROVISION "XX STEEL MAST ARM ASSEMBLY" OR "XX STEEL COMBINATION MAST ARM ASSEMBLY".

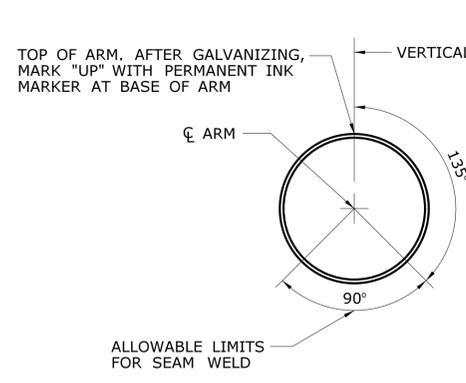
THE DIMENSIONS OF THE MAST ARM ASSEMBLY AND DETAILS OF THE TRAFFIC APPURTENANCES SUPPORTED BY THE MAST ARM ASSEMBLY ARE SHOWN ON THE TRAFFIC SIGNAL PLANS, ELEVATIONS, CROSS-SECTIONS OR IN THE SPECIAL PROVISIONS. THE ARM AND POLE LENGTHS AND THE ATTACHMENT HEIGHTS SHALL BE VERIFIED BY THE CONTRACTOR BASED ON THE FINISHED GRADE AT THE SITE, TOP OF FOUNDATION ELEVATION, THE LOCATIONS OF OVERHEAD UTILITY CABLES AND THE TRAFFIC APPURTENANCE MOUNTING HEIGHTS. IF EITHER THE ARM OR POLE LENGTH IS INADEQUATE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

THE MAST ARMS SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, INCLUDING THE LATEST INTERIM SPECIFICATIONS, AS AMENDED BY THE AS SPECIAL PROVISION "XX STEEL MAST ARM ASSEMBLY" OR "XX STEEL COMBINATION MAST ARM ASSEMBLY".

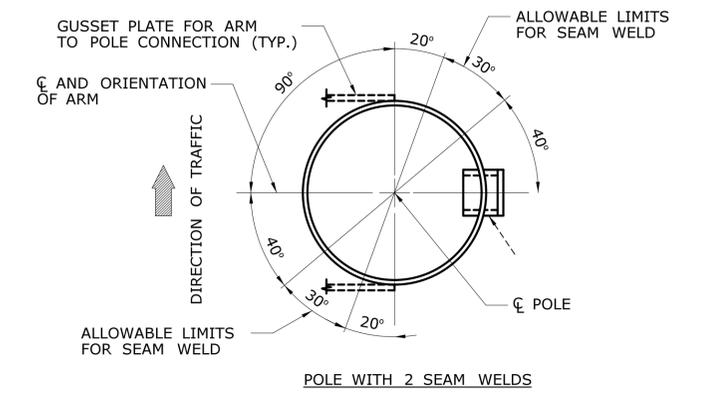
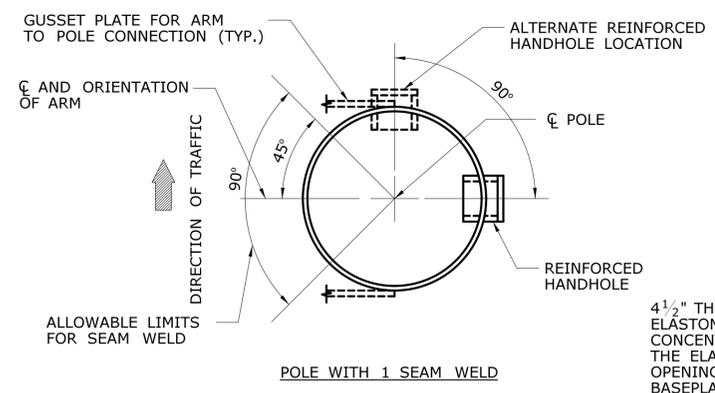
THE MAST ARM SHALL BE DESIGNED FOR THE LOAD EFFECTS DUE TO THE ACTUAL TRAFFIC APPURTENANCES (SIGNALS, SIGNS, LUMINAIRES, CAMERAS, ETC.). THE MAST ARMS SHALL ALSO BE DESIGNED FOR THE EFFECTS OF TRAFFIC APPURTENANCES DURING ALL STAGES OF CONSTRUCTION THAT MAY EXIST DURING THE PROJECT UNDER WHICH THE MAST ARMS ARE INSTALLED.

THE MAST ARMS SHALL BE DESIGNED TO SUPPORT TRAFFIC APPURTENANCES WITH PROPERTIES NO LESS THAN THOSE SHOWN IN THE TABLE ENTITLED "TRAFFIC APPURTENANCE PROPERTIES - MINIMUM DESIGN VALUES".

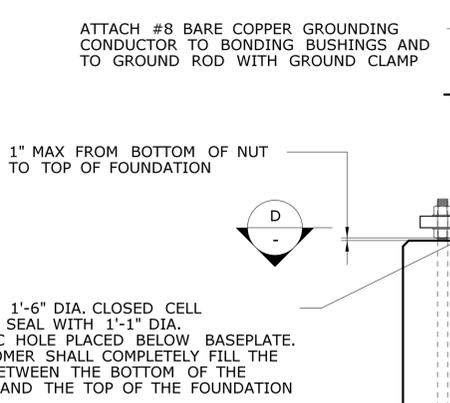
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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 6/25/2015	Filename: ...XXXXXXXXX.SB.MastArm.S2.Elev.dgn		



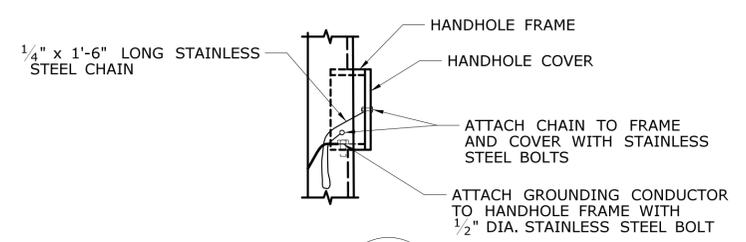
SECTION A
SCALE: 1 1/2" = 1'-0"
MA-2



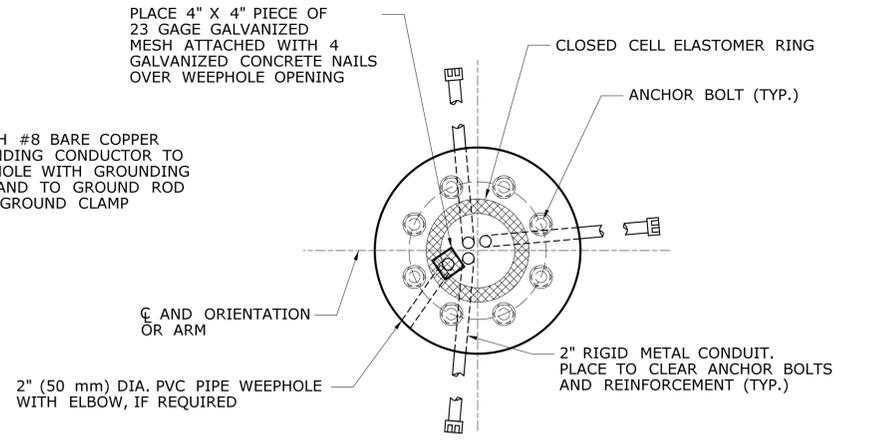
SECTION B
SCALE: 1 1/2" = 1'-0"
MA-1



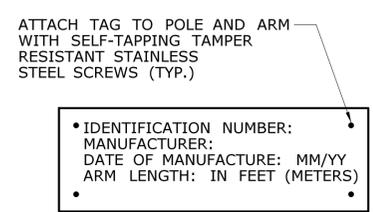
SECTION C
SCALE: 3/4" = 1'-0"
MA-2



DETAIL E
SCALE: 1 1/2" = 1'-0"



SECTION D
SCALE: 3/4" = 1'-0"



• IDENTIFICATION NUMBER:
• MANUFACTURER:
• DATE OF MANUFACTURE: MM/YY
• ARM LENGTH: IN FEET (METERS)

IDENTIFICATION TAG
NTS

TRAFFIC APPURTENANCE PROPERTIES
MINIMUM DESIGN VALUES

	2'-0"	2'-0"	2'-0"	3'-2"	WIDTH
	3 SECTION, 12" DIA. TRAFFIC SIGNAL W/ BACKPLATE	4 SECTION, 12" DIA. TRAFFIC SIGNAL W/ BACKPLATE	5 SECTION, 12" DIA. TRAFFIC SIGNAL W/ BACKPLATE	5 SECTION, 12" DIA. TRAFFIC SIGNAL W/ BACKPLATE	SHEET ALUMINUM SIGN PANEL
WEIGHT, INCLUDING MOUNTING HARDWARE	65 LBS	80 LBS	95 LBS	105 LBS	4 LBS/SQ.FT.
TOTAL SURFACE AREA	28.04 SQ. FT.	35.46 SQ. FT.	45.16 SQ. FT.	41.04 SQ. FT.	BASED ON PANEL DIMENSIONS
PROJECTED AREA, FRONT FACE	8.62 SQ. FT.	10.91 SQ. FT.	13.34 SQ. FT.	13.72 SQ. FT.	BASED ON PANEL DIMENSIONS
PROJECTED AREA, BOTTOM FACE	1.18 SQ. FT.	1.18 SQ. FT.	1.18 SQ. FT.	2.58 SQ. FT.	BASED ON PANEL DIMENSIONS

NOTES:

THE TABULATED VALUES ARE THE MINIMUM VALUES THAT SHALL BE USED FOR THE DESIGN.

MAST ARMS SHALL BE DESIGNED ASSUMING ALL TRAFFIC SIGNALS ARE COMPOSED OF 12" DIAMETER SECTIONS WITH BACKPLATES.

THE PROJECTED FRONT FACE AREA IS IN A PLANE PARALLEL TO THE PLANE FORMED BY THE ARM AND THE POLE.

IF MULTIPLE APPURTENANCES ARE ATTACHED AT THE SAME LOCATION, THE MINIMUM DESIGN VALUE SHALL BE NO LESS THAN THE SUM OF THE CORRESPONDING TRAFFIC APPURTENANCE PROPERTIES.

FOR TRAFFIC APPURTENANCES NOT SHOWN, THE PROPERTIES SHALL BE DETERMINED BY THE CONTRACTOR AND SUBMITTED FOR REVIEW WITH THE WORKING DRAWING SUBMITTAL.

DESIGNER/DRAFTER: JJK	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	SIGNATURE/ BLOCK: OFFICE OF ENGINEERING	PROJECT TITLE: SAFETY & TRAFFIC OPERATIONAL IMPROVEMENTS ON ROUTE 4 (FARMINGTON AVE) FROM GARDEN ST. TO MOUNTAIN SPRING RD.	TOWN: FARMINGTON	PROJECT NO. 51-260
CHECKED BY: RDD		APPRO: 	MAST ARM ASSEMBLY DETAILS	DRAWING NO. MA-3	SHEET NO. 07.03
REV. DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 6/25/2015	Filename: ...XXXXXXX_SB_MastArm_53_Details.dgn	

FOUNDATION NOTES

THE DRILLED SHAFT FOUNDATION FOR THE MAST ARM ASSEMBLY SHALL BE DESIGNED, FABRICATED, AND CONSTRUCTED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIAL PROVISION "TRAFFIC CONTROL FOUNDATION - MAST ARM".

THE FOUNDATION SHALL BE DESIGNED FOR THE SOILS AND ROCK PROPERTIES BASED ON THE SUBSURFACE CONDITIONS (CHARACTER OF THE SOIL AND ROCK, PRESENCE OF GROUND WATER, ETC.) IN THE LOCATION OF, ADJACENT TO AND BELOW THE DRILLED SHAFT FOUNDATION EXCAVATION. THE NEED AND EXTENT OF ALL SUBSURFACE EXPLORATIONS AND INVESTIGATIONS SHALL BE DETERMINED BY THE CONTRACTOR.

THE DESIGN OF THE FOUNDATION SHALL BE COORDINATED WITH THE MAST ARM ASSEMBLY AND THE MAST ARM ANCHORAGE TO ENSURE THAT THE FOUNDATION IS ADEQUATE FOR THE MAST ARM REACTIONS AND TO AVOID CONFLICTS BETWEEN THE EMBEDDED MAST ARM ANCHORAGE AND THE FOUNDATION REINFORCEMENT.

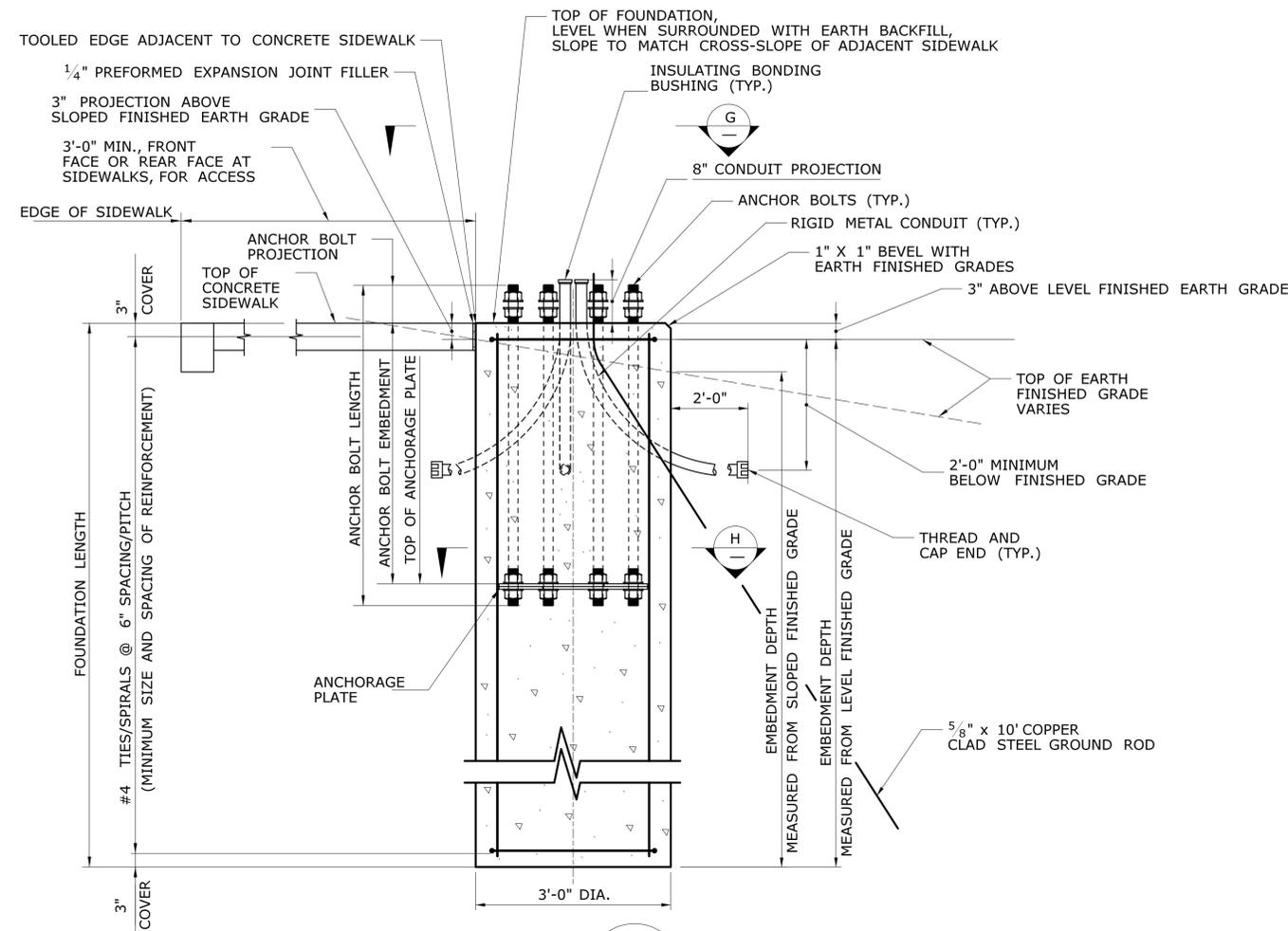
THE CONCRETE FOR THE FOUNDATION SHALL CONFORM TO CLASS "F" CONCRETE. THE MINIMUM 28 DAY COMPRESSIVE STRENGTH OF THE CONCRETE IN THE CONSTRUCTED FOUNDATION SHALL BE 4,400 PSI.

THE REINFORCEMENT SHALL BE UNCOATED AND CONFORM TO ASTM A615, GRADE 60 (ASTM A615M, GRADE 420). THE REINFORCEMENT SHALL BE ASSEMBLED WITH WIRE TIES. WELDING TO ASSEMBLE REINFORCEMENT IS NOT PERMITTED. ALL REINFORCEMENT SHALL HAVE 3" COVER, UNLESS OTHERWISE NOTED.

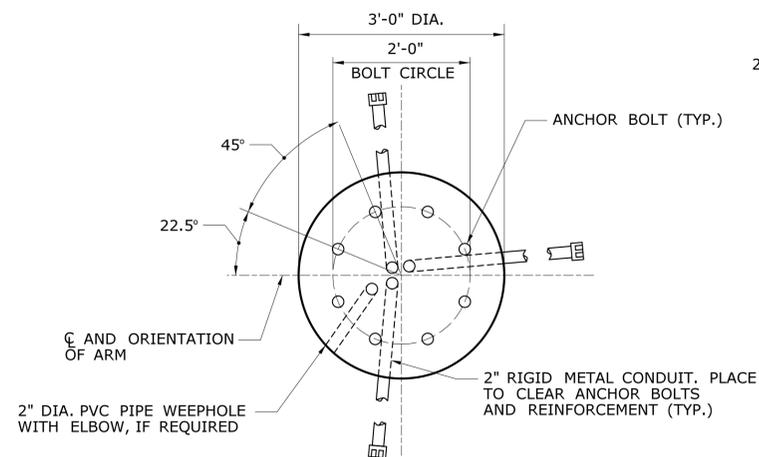
THE CONCRETE SHALL BE PLACED IN THE EXCAVATION AGAINST UNDISTURBED EARTH.

THE MAST ARM SHALL NOT BE ERECTED ON THE FOUNDATION UNTIL THE CONCRETE HAS ATTAINED A 28 DAY COMPRESSIVE STRENGTH, f_c , GREATER THAN OR EQUAL TO 4000 PSI.

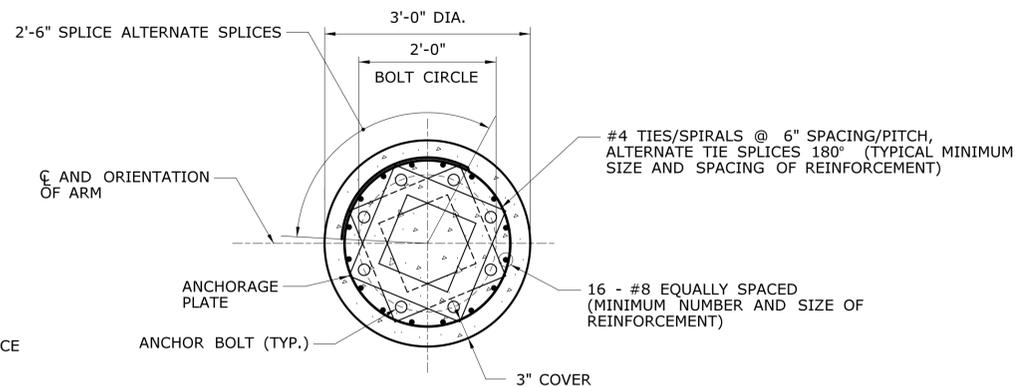
THE COST OF THE FOUNDATION, INCLUDING THE EXCAVATION, CONCRETE AND REINFORCEMENT, INCLUDING THE DESIGN AND FABRICATION, SHALL BE PAID FOR UNDER THE ITEM "TRAFFIC CONTROL FOUNDATION - MAST ARM".



SECTION F
SCALE: 3/4"=1'-0"
MA-2



SECTION G
SCALE: 3/4"=1'-0"



SECTION H
SCALE: 3/4"=1'-0"

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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 6/25/2015				