

| REVISIONS |   |           |      |
|-----------|---|-----------|------|
| REV.      | DESCRIPTION   | DATE      | DRFT |
| A         | chgd name was 2017 is 2021 & updated chart with new end cap parts #, update design criteria | 12/4/2020 | pfj  |
| B         | added id tag to arm and post  | 9/29/2021 | pfj  |
| C         | REMOVED STAMPING BASEPLATE NOTE & UPDATED ID TAG INFO                                       | 9/15/2022 | PJF  |

**MATERIAL SPECIFICATIONS**

POST: ASTM A 572 GR 50  
 BASE PLATE: ASTM A36  
 MAST ARM: ASTM A 572 GR 50  
 MOUNTING PLATE: ASTM A36  
 HARDWARE FINISH: ASTM A153  
 ANCHOR BOLTS: ASTM F1554 GR 55 (FBO)

**DESIGN CRITERIA**

2015 AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS LRFDLTS-1, FATIGUE CATEGORY III, AND PER WISDOT STANDARD S.D.D 9 E 8-9A, 9K.

**WELD SPECIFICATION**

THE POST AND MAST ARM TO BE ROUND TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE AND 60% FOR REMAINDER. GAS METAL ARC WELDING PROCESS WITH 60% PENETRATION MAY BE USED FOR REMAINDER OF WELDED FABRICATION.

WELD TESTING: 100% OF ALL WELDS VISUAL TESTED (VT), 100% OF ALL COMPLETE JOINT PENETRATION (CJP) WELDS ULTRASONIC TESTED (UT) BASED ON THE THINNEST MATING MATERIAL: (PER AASHTO 2013 5.15.5-WELD INSP) THICKNESS.  
 < 6MM (0.25 IN) MT  
 ≥ 6MM (0.25 IN) UT  
 A RANDOM 30% OF ALL FILLET WELDS AND PARTIAL JOINT PENETRATION (PJP) LONGITUDINAL SEAM WELDS MAGNETIC PARTICLE TESTED (MT).

**FINISH SPECIFICATION**

GALV. OR PRIME COAT: HOT DIP GALV PER ASTM A123  
 FINISH COAT: N/A  
 COLOR: N/A  
 FEDERAL OR RAL SPEC.:  
 WEIGHT W/GALV.:  
 WEIGHT W/GALV. & PAINT:  
 SURFACE AREA:  
 GAL. OF PAINT:



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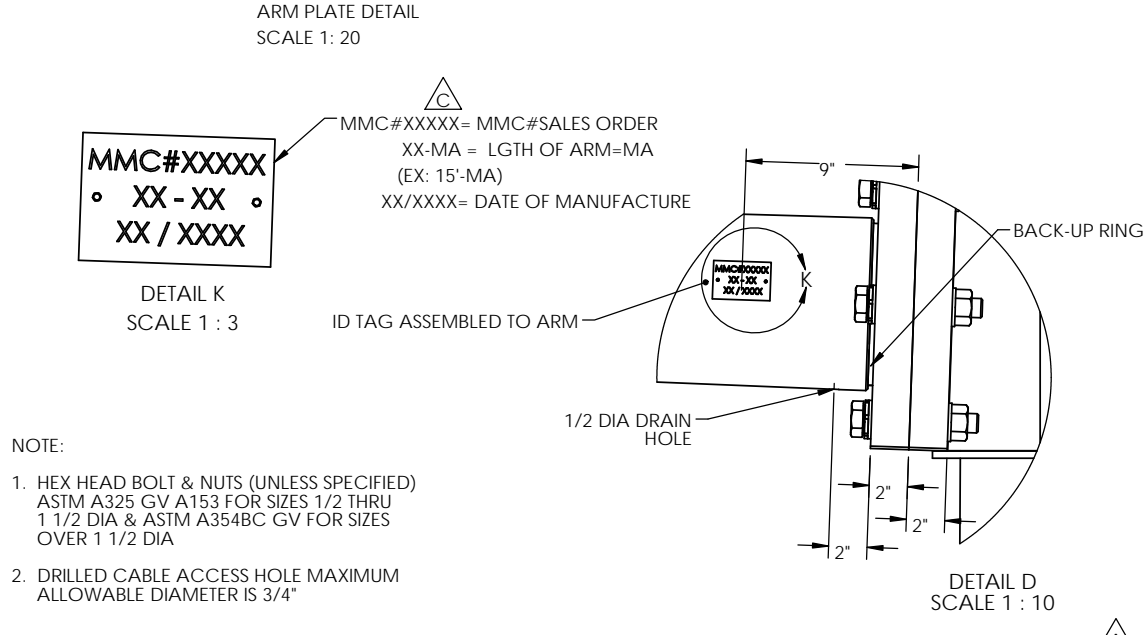
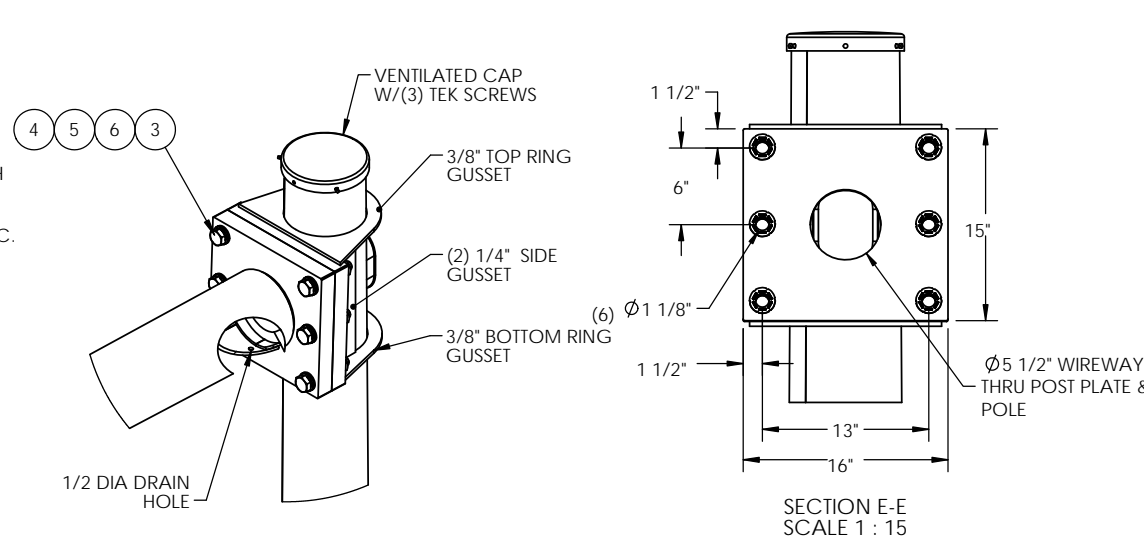
|                  |      |        |        |
|------------------|------|--------|--------|
| SALES ORDER NO.: | QTY: | STATE: | SHEET  |
|                  |      |        | 1 OF 1 |

DESCRIPTION:  
 2021 WI DOT TYPE 9 TRAFFIC SIGNAL  
 15'-30' MASTARM LENGTHS

|              |                      |
|--------------|----------------------|
| EST. WEIGHT: | DRAWING NO.:         |
| 1750.9 - LBS | 2021 type 9 wi dot a |

PROJECT NAME:  
 PROJECT LOCATION:

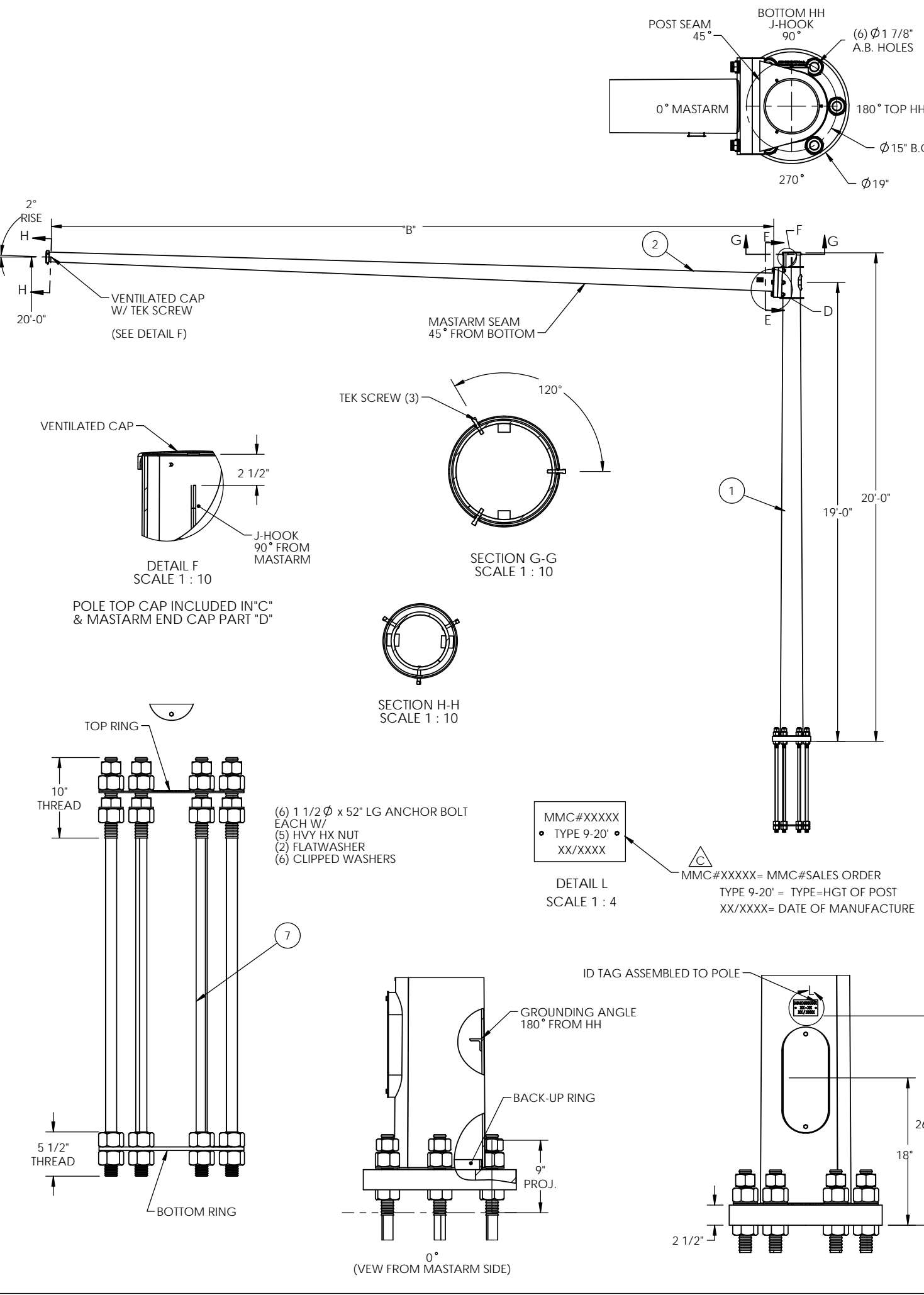
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|----------------|------------------|
| DWN BY: PAM F. | DATE: 12/11/2020 |
| CHK BY:        | DATE:            |



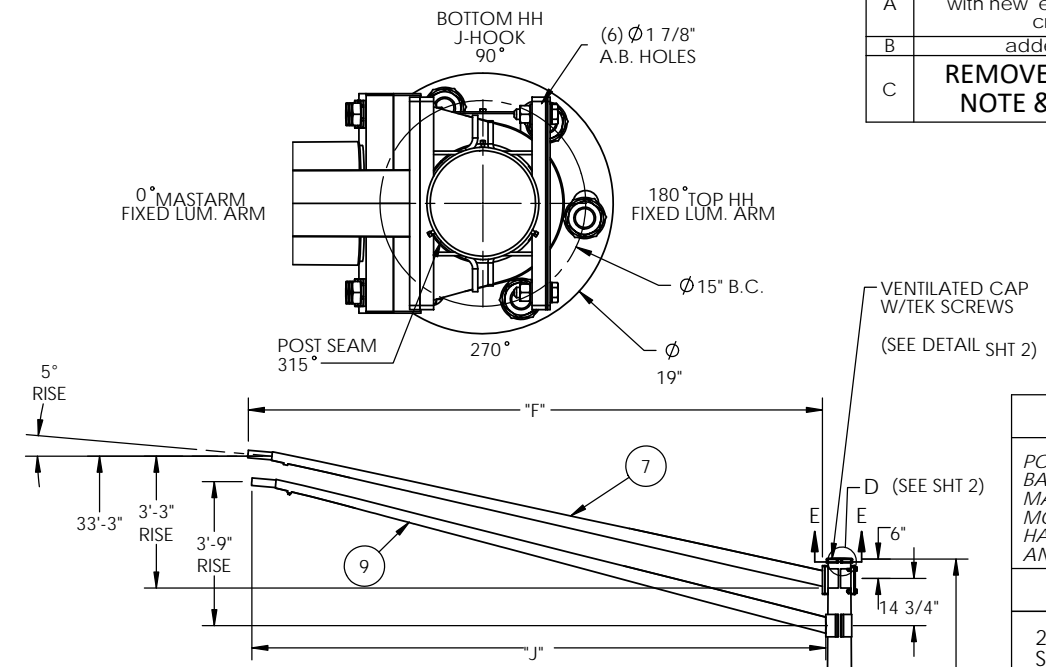
- NOTE:
- HEX HEAD BOLT & NUTS (UNLESS SPECIFIED) ASTM A325 GV A153 FOR SIZES 1/2 THRU 1 1/2 DIA & ASTM A354BC GV FOR SIZES OVER 1 1/2 DIA
  - DRILLED CABLE ACCESS HOLE MAXIMUM ALLOWABLE DIAMETER IS 3/4"

| QTY | "A" ASSY PART # | "B" LENGTH | DESCRIPTION                | MAST ARM SHAFT SIZE       | "C" PARTS LIST/BAG # | "D" ARM END CAP PART # |
|-----|-----------------|------------|----------------------------|---------------------------|----------------------|------------------------|
|     | 1006392         | 15'-0"     | ASSY ARM SIG RD 3/16 X 15' | 3/16 x 8.0 x 5.9 x 15'-0" | 7700006              | 9900204                |
|     | 1006391         | 20'-0"     | ASSY ARM SIG RD 3/16 X 20' | 3/16 x 8.0 x 5.2 x 20'-0" | 7700005              | 9900203                |
|     | 1006390         | 25'-0"     | ASSY ARM SIG RD 3/16 X 25' | 3/16 x 9.0 x 5.5 x 25'-0" | 7700004              | 9900203                |
|     | 1006387         | 30'-0"     | ASSY ARM SIG RD 1/4 X 30'  | 1/4 x 9.0 x 4.8 x 30'-0"  | 7700002              | 9900203                |

| ITEM NO. | PART NUMBER        | DESCRIPTION                                | QTY PER | ASSY               | FINISH   | SHIP LOOSE |
|----------|--------------------|--|---------|--------------------|----------|------------|
| 1        | 1006384            | SHIP POLE SIG RD 1/4X20'0/19'0             | 1       |                    | X        | X          |
|          | 7700001            | TYPE 9 POLE WIS DOT HARDWARE BAG           | 1       |                    | POLE CAP | X          |
|          | 1055940            | I.D. TAG - WI                              | 1       | X                  |          |            |
|          | SCRWY#2X3/16ZC     | U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC  | 2       | X                  |          |            |
| 2        | "A"                | SHIP ARM SIG RD 1/4X"B"                    | 1       |                    | X        | X          |
|          | "C"                | PARTS LIST WI/DOT (2016) TYPE 9/10 TRAFFIC | 1       |                    | POLE CAP | X          |
|          | 1055940            | I.D. TAG - WI                              | 1       | X                  |          |            |
|          | SCRWY#2X3/16ZC     | U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC  | 2       | X                  |          |            |
| 3        | BOLT1"-8X6"B       | BOLT HVYHXHD 1-8 X 6 A325GV                | 6       | SUPPLIED BY OTHERS |          |            |
| 4        | WASHFLAT1"GV       | WASHFLAT1"GV ASTM F436                     | 12      |                    |          |            |
| 5        | NUTHVYHX1"-8A563GV | NUT HVY HX 1"-8 A563 GV (DH)-RCP           | 6       |                    |          |            |
| 6        | WASHLOADIN1" GV    | WASHER DTI 1" ASTM F959 TYPE 325           | 6       |                    |          |            |
| 7        | 460B735-5          | ANCHOR BOLT CLUSTER (6 BOLT) WISCONSIN DOT | 1       |                    |          |            |



| REV. | DESCRIPTION   | DATE      | DRFT |
|------|---|-----------|------|
| A    | chgd name was 2017 is 2021 & updated chart with new end cap parts #, updated design criteria, remove 7700039. | 12/4/2020 | pfj  |
| B    | added id tags to arm and post   | 9/29/2021 | pfj  |
| C    | <b>REMOVED STAMPING BASEPLATE NOTE &amp; UPDATED ID TAG INFO</b>  | 9/15/2022 | PJF  |



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 BASE PLATE: ASTM A36  
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 MOUNTING PLATE: ASTM A36  
 HARDWARE FINISH: ASTM A153  
 ANCHOR BOLTS: ASTM F1554 GR 55 (FBO)

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 FINISH COAT: N/A  
 COLOR: N/A  
 FEDERAL OR RAL SPEC.:  
 WEIGHT W/GALV.:  
 WEIGHT W/GALV. & PAINT:  
 SURFACE AREA:  
 GAL. OF PAINT:



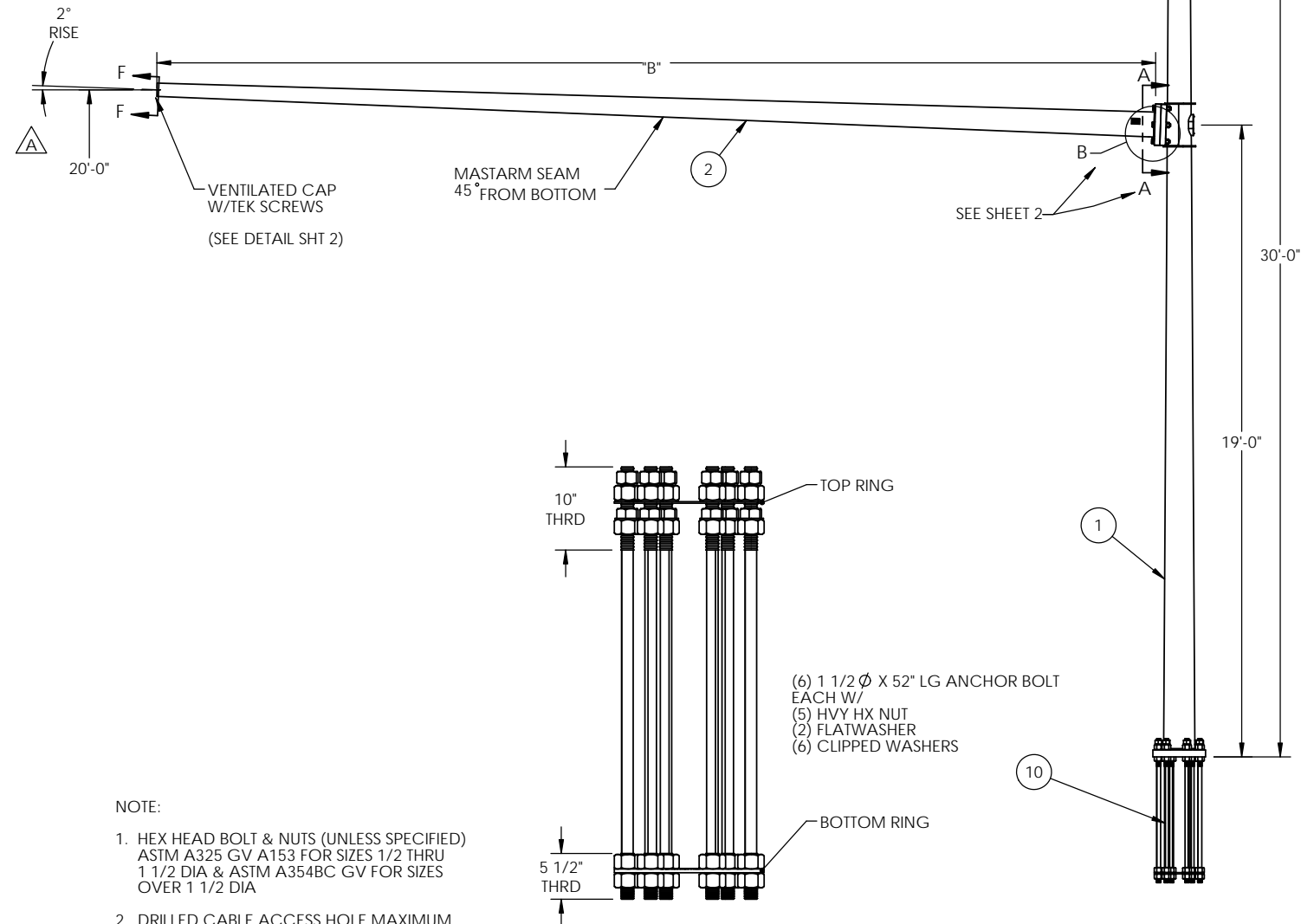
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|                  |      |        |        |
|------------------|------|--------|--------|
| SALES ORDER NO.: | QTY: | STATE: | SHEET  |
|                  |      | WI     | 1 OF 2 |

DESCRIPTION:  
 2021 WI DOT TYPE 10 TRAFFIC SIGNAL  
 15'-30' MASTARM LENGTHS

|                              |                                       |
|------------------------------|---------------------------------------|
| EST. WEIGHT:<br>2250.5 - LBS | DRAWING NO.:<br>2021 type 10 wi dot a |
|------------------------------|---------------------------------------|

PROJECT NAME:  
 PROJECT LOCATION:  
 DWN BY: PAMF DATE: 12/11/20  
 CHK BY: DATE:



- NOTE:
- HEX HEAD BOLT & NUTS (UNLESS SPECIFIED) ASTM A325 GV A153 FOR SIZES 1/2 THRU 1 1/2 DIA & ASTM A354BC GV FOR SIZES OVER 1 1/2 DIA
  - DRILLED CABLE ACCESS HOLE MAXIMUM ALLOWABLE DIAMETER IS 3/4"

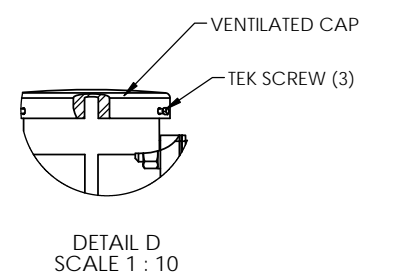
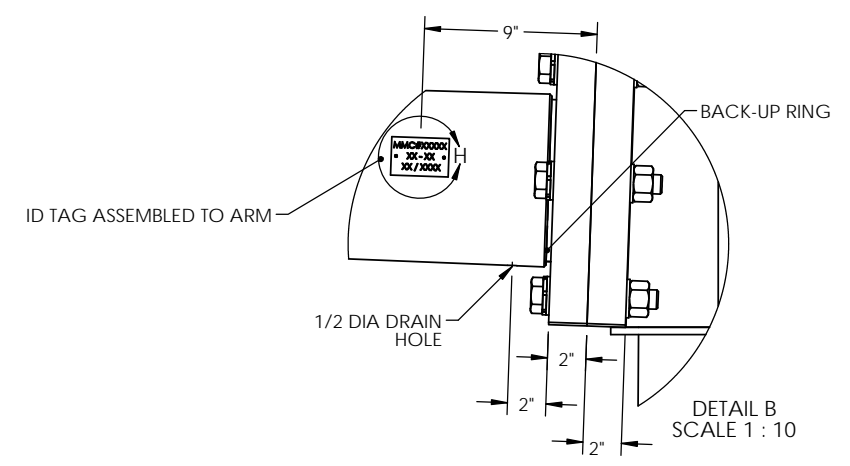
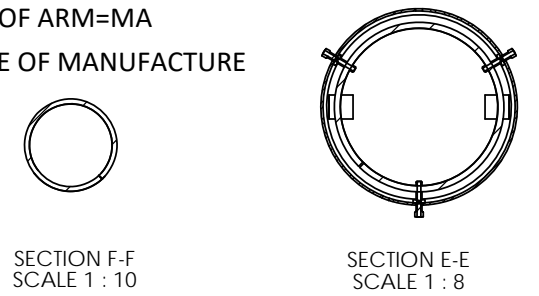
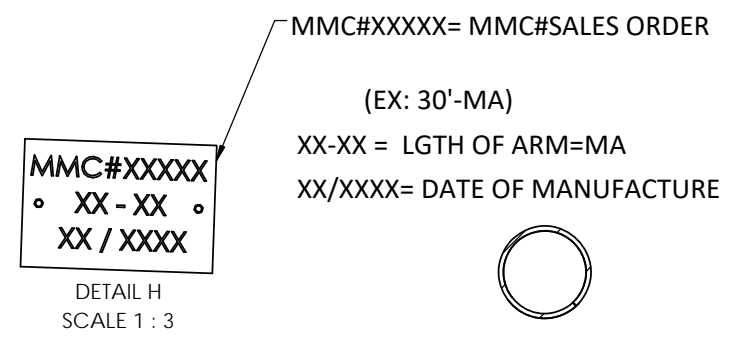
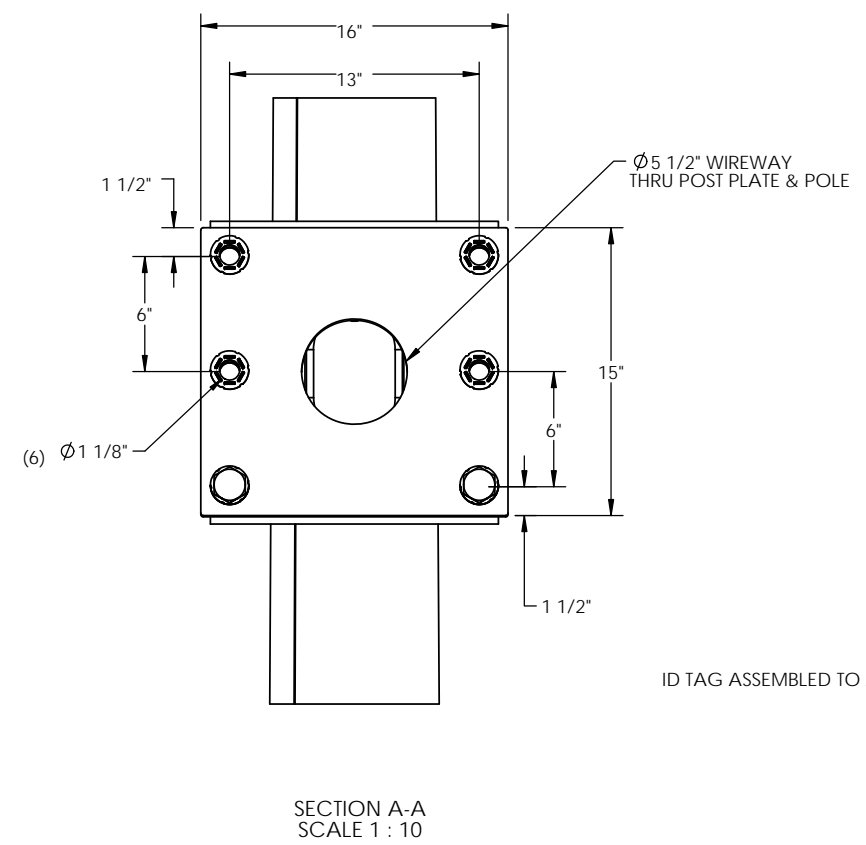
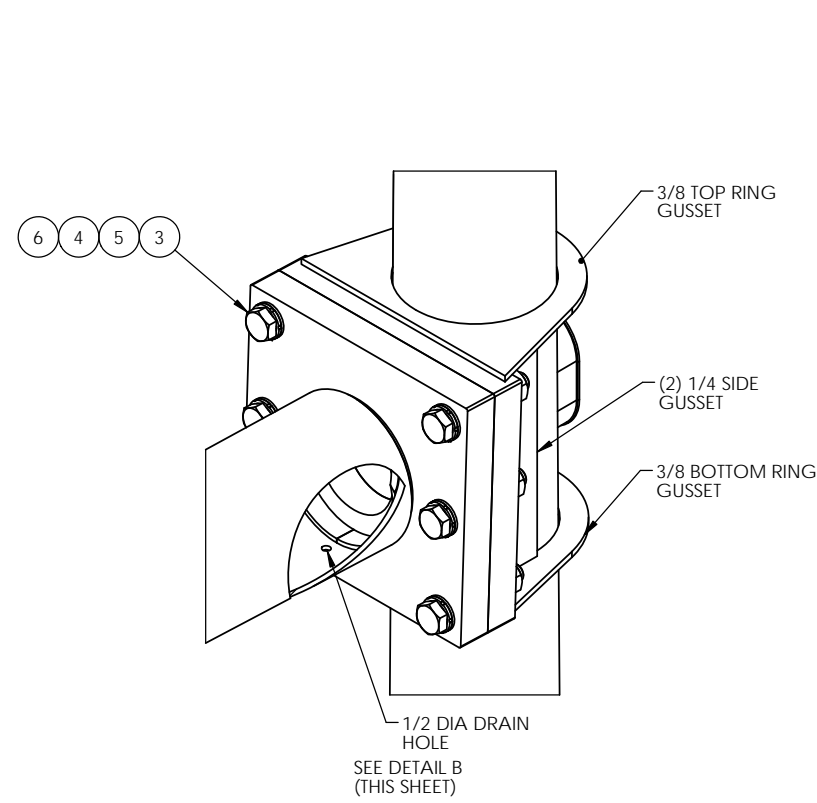
| FIXED LUMINAIRE ARM |                |            |
|---------------------|----------------|------------|
| "G" QTY             | "E" ARM PART # | "F" LENGTH |
|                     | 1015935        | 6'         |
|                     | 1015934        | 8'         |
|                     | 1015933        | 10'        |
|                     | 1015932        | 12'        |
|                     | 1015929        | 15'        |

| CLAMP ON LUMINAIRE ARM |                 |            |
|------------------------|-----------------|------------|
| "K" QTY                | "H" ARM PART #  | "J" LENGTH |
|                        | 730A1652-6-775  | 6'         |
|                        | 730A1652-8-775  | 8'         |
|                        | 730A1652-10-775 | 10'        |
|                        | 730A1652-12-775 | 12'        |
|                        | 730A1652-15-775 | 15'        |

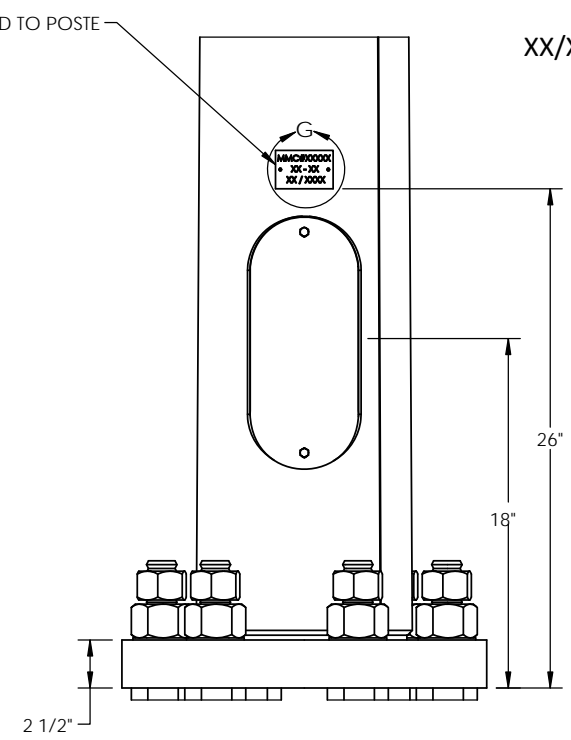
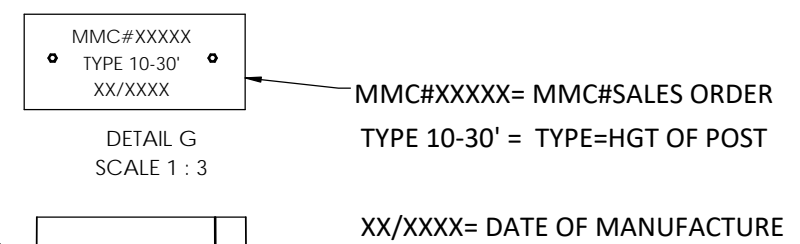
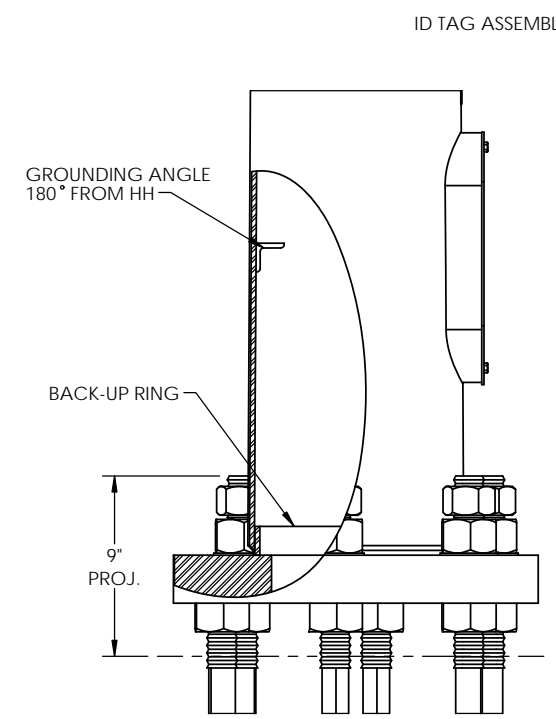
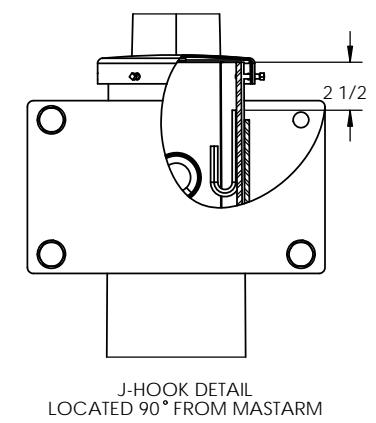
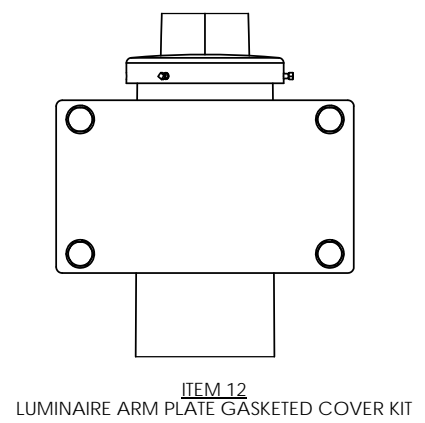
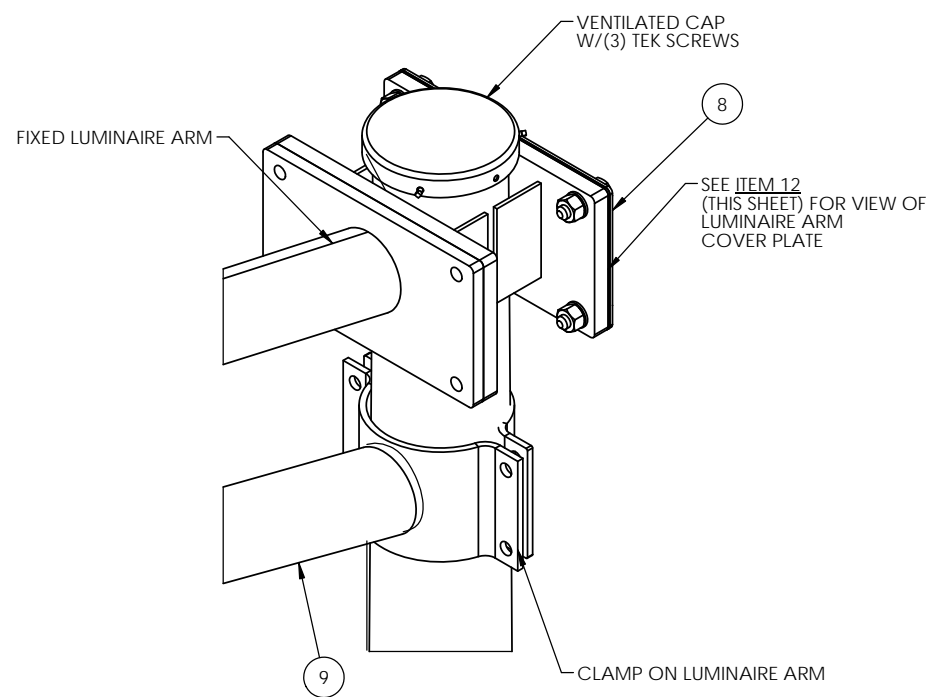
| LUM. ARM COVER PLATE |  |
|----------------------|--|
| "L" QTY              |  |
|                      |  |

| QTY | "A" ASSY PART # | "B" LENGTH | DESCRIPTION                | MAST ARM SHAFT SIZE       | "C" PARTS LIST/BAG # | "D" END CAP PART # |
|-----|-----------------|------------|----------------------------|---------------------------|----------------------|--------------------|
|     | 1006392         | 15'-0"     | ASSY ARM SIG RD 3/16 X 15' | 3/16 x 8.0 x 5.9 x 15'-0" | 7700006              | 9900204            |
|     | 1006391         | 20'-0"     | ASSY ARM SIG RD 3/16 X 20' | 3/16 x 8.0 x 5.2 x 20'-0" | 7700005              | 9900203            |
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| ITEM NO. | PART NUMBER        | DESCRIPTION   | QTY PER | ASSY | FINISH   | SHIP LOOSE |
|----------|--------------------|---|---------|------|----------|------------|
| 1        | 1016133            | SHIP POLE SIG RD 1/4X30'0/19'0                          | 1       |      | X        | X          |
|          | 7700007            | PARTS LIST WI/DOT (2016) TYPE 10 TRAFFIC SIGNAL 1006396 | 1       |      | POLE CAP | X          |
|          | 1055940            | I.D. TAG - WI   | 1       | X    |          |            |
|          | SCRWY#2X3/16ZC     | U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC               | 2       | X    |          |            |
| 2        | "A"                | SHIP ARM SIG RD 1/4 "B"                                 | 1       |      | X        | X          |
|          | "C"                | PARTS LIST WI/DOT (2016) TYPE 9/10 TRAFFIC              | 1       |      | POLE CAP | X          |
|          | 1055940            | I.D. TAG - WI   | 1       | X    |          |            |
|          | SCRWY#2X3/16ZC     | U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC               | 2       | X    |          |            |
| 3        | BOLT B1"-8X6"B     | BOLT HVYHXHD 1-8 X 6 A325GV                             | 6       |      |          |            |
| 4        | NUTHVYHX1"-8A563GV | NUT HVY HX 1"-8 A563 GV (DH)-RCP                        | 6       |      |          |            |
| 5        | WASHFLAT1"GV       | WASHFLAT1"GV ASTM F436                                  | 12      |      |          |            |
| 6        | WASHLOADIN1" GV    | WASHER DTI 1" ASTM F959 TYPE 325                        | 6       |      |          |            |
| 7        | "E"                | WLDMT ARM LUM RD 11GAXF"                                | "G"     |      | X        | X          |
| 8        | 1015928            | GASKETED COVER FOR 4 BOLT LUM ARM                       | "L"     |      | X        | X          |
| 9        | "H"                | WLDMT ARM LUM CLAMP RD 11GA X "J"                       | "K"     |      | X        | X          |
| 10       | 460B735-5          | ANCHOR BOLT CLUSTER (6 BOLT) WISCONSIN DOT              | 1       |      |          | X          |

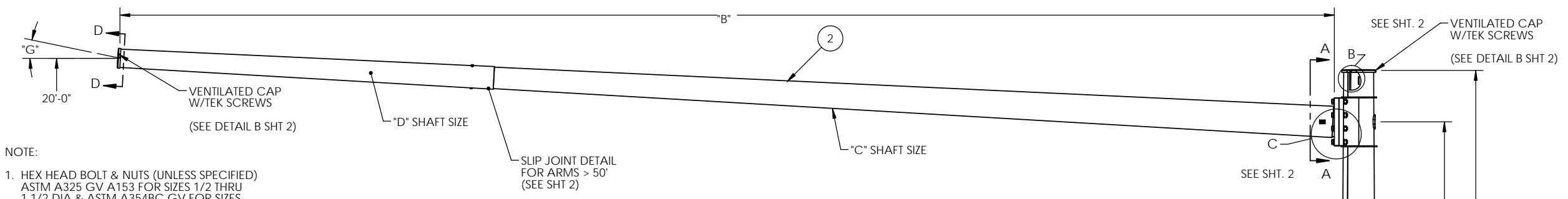
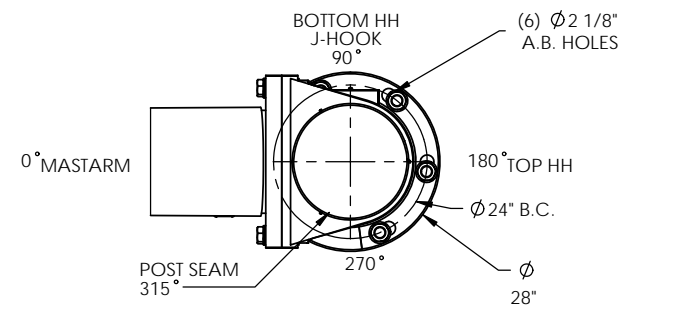


(POLE TOP CAP (INCLUDED IN ITEM #2) & (MASTARM END CAP PART 'D'))



|  |      |                                      |        |
|--|------|--------------------------------------|--------|
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| SALES ORDER NO.:   | QTY: | STATE:                               | SHEET  |
|  |      | WI                                   | 2 OF 2 |
| DESCRIPTION:<br>2021 WI DOT TYPE 10 TRAFFIC SIGNAL<br>15'-30' MASTARM LENGTHS  |      |                                      |        |
| EST. WEIGHT:<br>2250.5 - LBS   |      | DRAWING NO:<br>2021 type 10 wi dot a |        |
| PROJECT NAME:  |      |                                      |        |
| PROJECT LOCATION:  |      |                                      |        |
| DWN BY: PAMF   |      | DATE: 12/11/20                       |        |
| CHK BY:  |      | DATE:                                |        |

| REVISIONS |  |           |      |
|-----------|--|-----------|------|
| REV.      | DESCRIPTION  | DATE      | DRFT |
| A         | chgd name was 2017 is 2021 & updated chart with new end cap parts #, updated design criteria | 12/6/2020 | pjf  |
| B         | added id tags to the arm and post  | 9/29/2021 | pjf  |
| C         | REMOVED STAMPING BASEPLATE NOTE & UPDATED ID TAG INFO  | 9/15/2022 | pjf  |



- NOTE:
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  - DRILLED CABLE ACCESS HOLE MAXIMUM ALLOWABLE DIAMETER IS 3/4"

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 FINISH COAT: N/A  
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|------------------|------|--------|--------|
| SALES ORDER NO.: | QTY: | STATE: | SHEET  |
|                  |      |        | 1 OF 2 |

DESCRIPTION:  
 2021 WI DOT TYPE 12 TRAFFIC SIGNAL  
 35'-55' MASTARM LENGTHS

|                              |                                       |
|------------------------------|---------------------------------------|
| EST. WEIGHT:<br>6170.7 - LBS | DRAWING NO.:<br>2021 type 12 wi dot a |
|------------------------------|---------------------------------------|

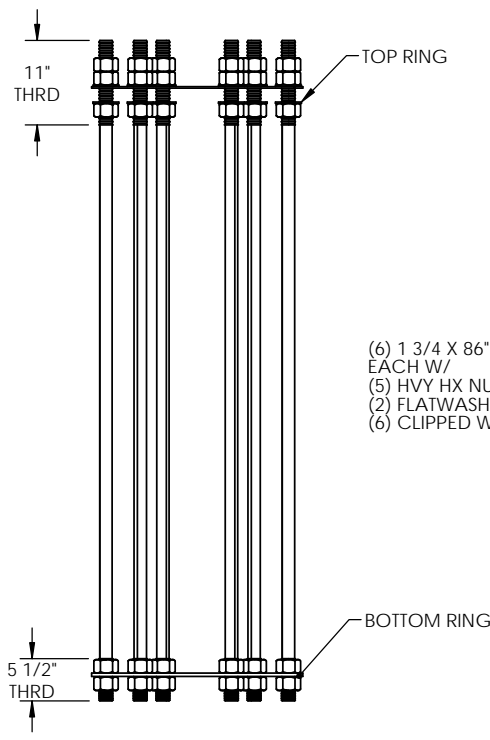
PROJECT NAME:

PROJECT LOCATION:

|                |                  |
|----------------|------------------|
| DWN BY: PAM F. | DATE: 12/11/2020 |
| CHK BY:        | DATE:            |

| QTY | "A" ASSY PART # | "B" LENGTH | DESCRIPTION                     | "C" MAST ARM SHAFT SIZE     | "D" MASTARM SHAFT SIZE        | "E" PARTS LIST/BAG | "F" ARM END CAP # | "G" ARM RISE |
|-----|-----------------|------------|---------------------------------|-----------------------------|-------------------------------|--------------------|-------------------|--------------|
|     | 1006856         | 35'        | ASSY ARM SIG RD 1/4 X 35'       | 1/4 x 16.0 x 11.1 x 35'-0"  | -                             | 7700014            | 9900208           | 2.5°         |
|     | 1006855         | 40'        | ASSY ARM SIG RD 1/4 X 40'       | 1/4 x 17.0 x 11.4 x 40'-0"  | -                             | 7700013            | 9900208           | 2.5°         |
|     | 1006854         | 45'        | ASSY ARM SIG RD 5/16 X 45'      | 5/16 x 17.0 x 10.7 x 45'-0" | -                             | 7700012            | 9900208           | 2.5°         |
|     | 1006853         | 50'        | ASSY ARM SIG RD 3/8,3/16 X 50'  | 3/8 x 17.0 x 11.4 x 40'-0"  | 3/16 x 12.31 x 10.63 x 12'-0" | 7700011            | 9900208           | 3°           |
|     | 1006850         | 55'        | ASSY ARM SIG RD 7/16,3/16 X 55' | 7/16 x 17.0 x 11.4 x 40'-0" | 3/16 x 12.31x 9.93 x 17'-0"   | 7700010            | 9900207           | 3°           |

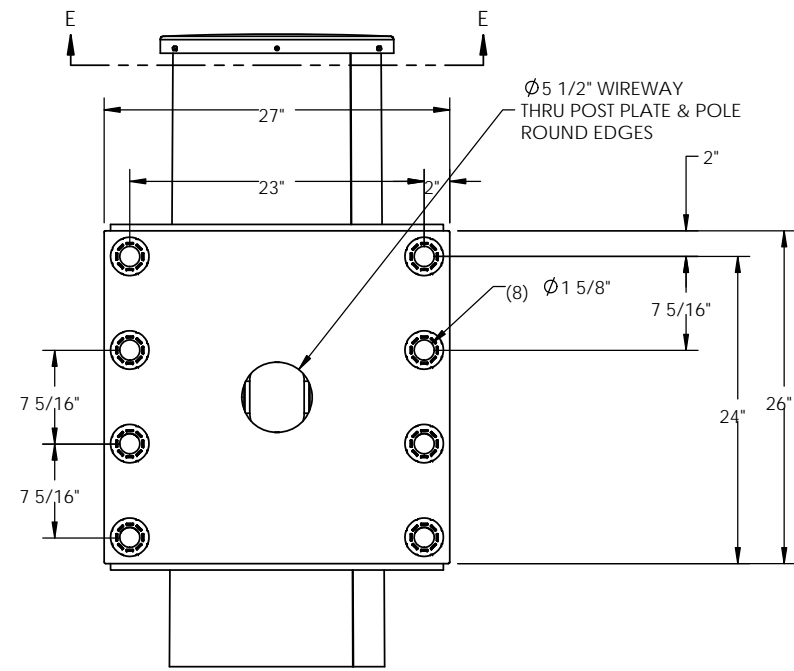
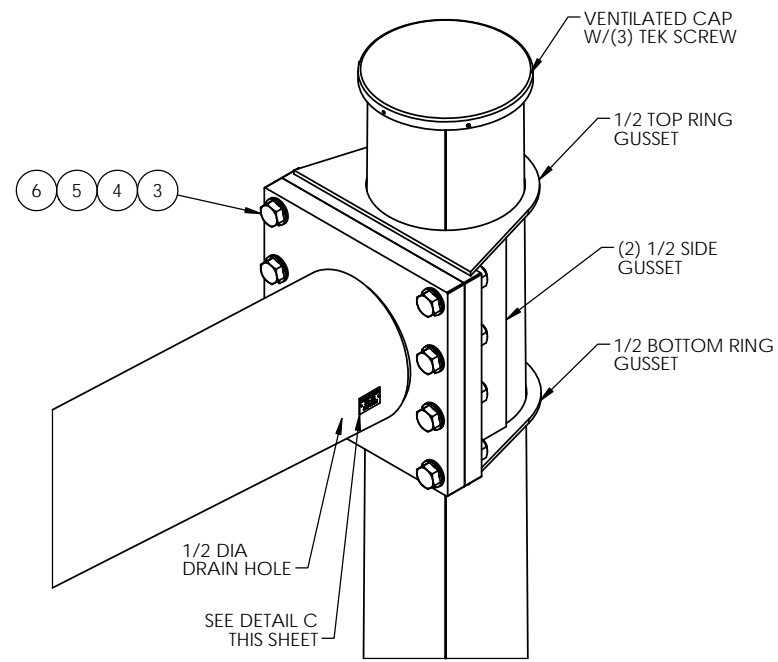
\* - ITEMS AS REQUIRED - NOT ALL TRAFFIC MASTARM HARDWARE BAGS WILL HAVE THESE ITEMS



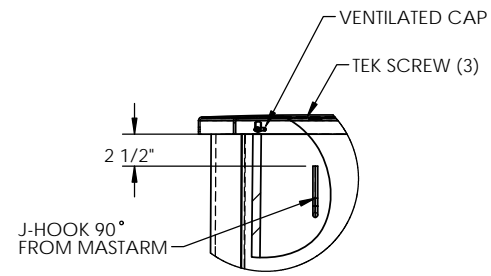
- (6) 1 3/4 X 86" LG ANCHOR BOLTS EACH W/
- (5) HVY HX NUT
- (2) FLATWASHER
- (6) CLIPPED WASHERS

| ITEM NO. | PART NUMBER             | DESCRIPTION  | QTY PER | ASSY | FINISH   | SHIP LOOSE |
|----------|-------------------------|--|---------|------|----------|------------|
| 1        | 1016134                 | SHIP POLE SIG RD 3/8X21'0/19'0                         | 1       |      | X        | X          |
|          | 7700009                 | PARTS LIST W/DOT (2016) TYPE 12 TRAFFIC SIGNAL 1006847 | 1       |      | POLE CAP | X          |
|          | 1055940                 | I.D. TAG - WI  | 1       | X    |          |            |
|          | SCRWY#2X3/16ZC          | U-DRIVE SCR W 3/16(DRIVE IN TYPE)F1941M ZC             | 2       | X    |          |            |
| 2        | "A"                     | SHIP ARM SIG RD S1 "B"                                 | 1       |      | X        | X          |
|          | "E"                     | PARTS LIST W/DOT (2016) TYPE 12/13 TRAFFIC             | 1       |      | POLE CAP | X          |
|          | 1055940                 | I.D. TAG - WI  | 1       | X    |          |            |
|          | SCRWY#2X3/16ZC          | U-DRIVE SCR W 3/16(DRIVE IN TYPE)F1941M ZC             | 2       | X    |          |            |
| 3        | BOLT B1-1/2-6X7-1/2"B   | BOLT HVYHXHD 1-1-2-6 X 7-1-2 A325GV                    | 8       |      |          |            |
| 4        | WASHFLAT1-1/2GV         | WASHER FLAT 1-1/2 SAE ASTM F436 GV                     | 16      |      |          |            |
| 5        | NUTHVYHX1-1/2-6A563DHGV | NUT HVY HX 1-1-2-6NC ASTM A563 DH GV                   | 8       |      |          |            |
| 6        | WASHLOADIN1-1/2-001-GV  | WASHER DTI 1-1/2" ASTM F959 TYPE 325                   | 8       |      |          |            |
| 7        | 460B735-6               | ANCHOR BOLT CLUSTER (6 BOLT) WISCONSIN DOT             | 1       |      |          | X          |

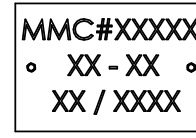
SUPPLIED BY OTHERS



SECTION A-A  
SCALE 1 : 15

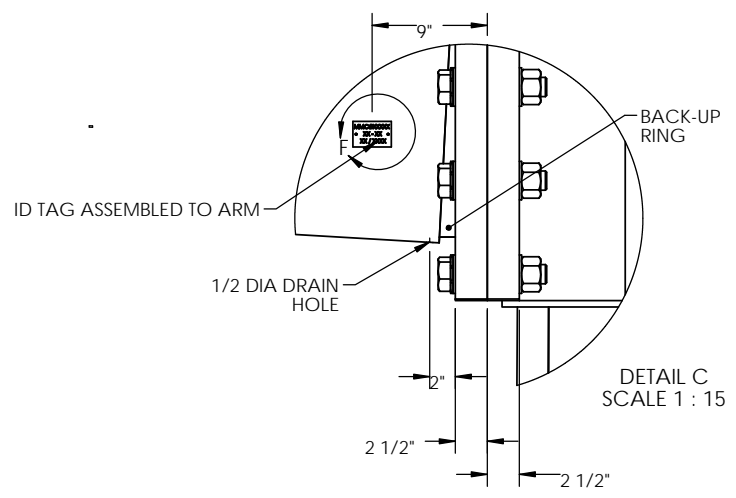


DETAIL B  
SCALE 1 : 15  
(POLE TOP CAP (INCLUDED IN ITEM #2)  
& MASTARM END CAP PART "F")

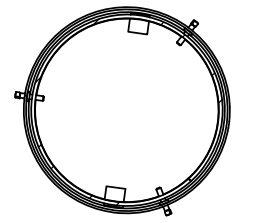


DETAIL F  
SCALE 1 : 3

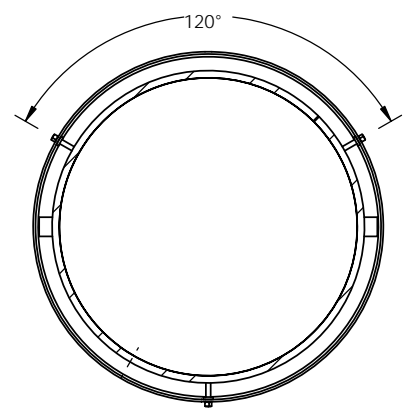
MMC#XXXXX= MMC#SALES ORDER  
(EX: 50'-MA)  
XX-XX = LGTH OF ARM=MA  
XX/XXXX= DATE OF MANUFACTURE



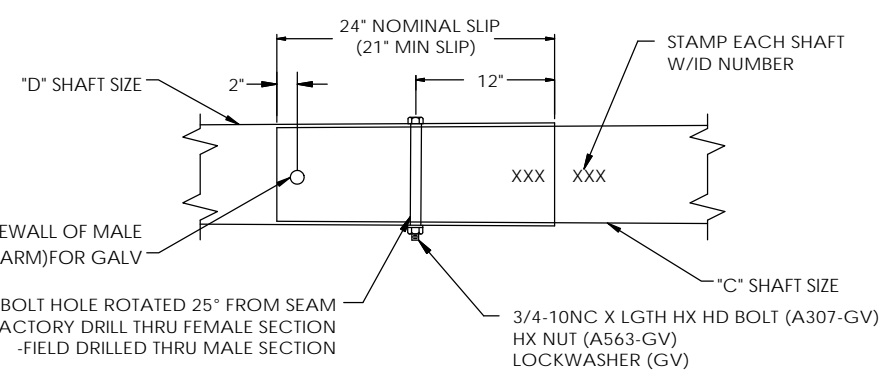
DETAIL C  
SCALE 1 : 15



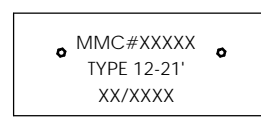
SECTION D-D  
SCALE 1 : 10



SECTION E-E  
SCALE 1 : 10

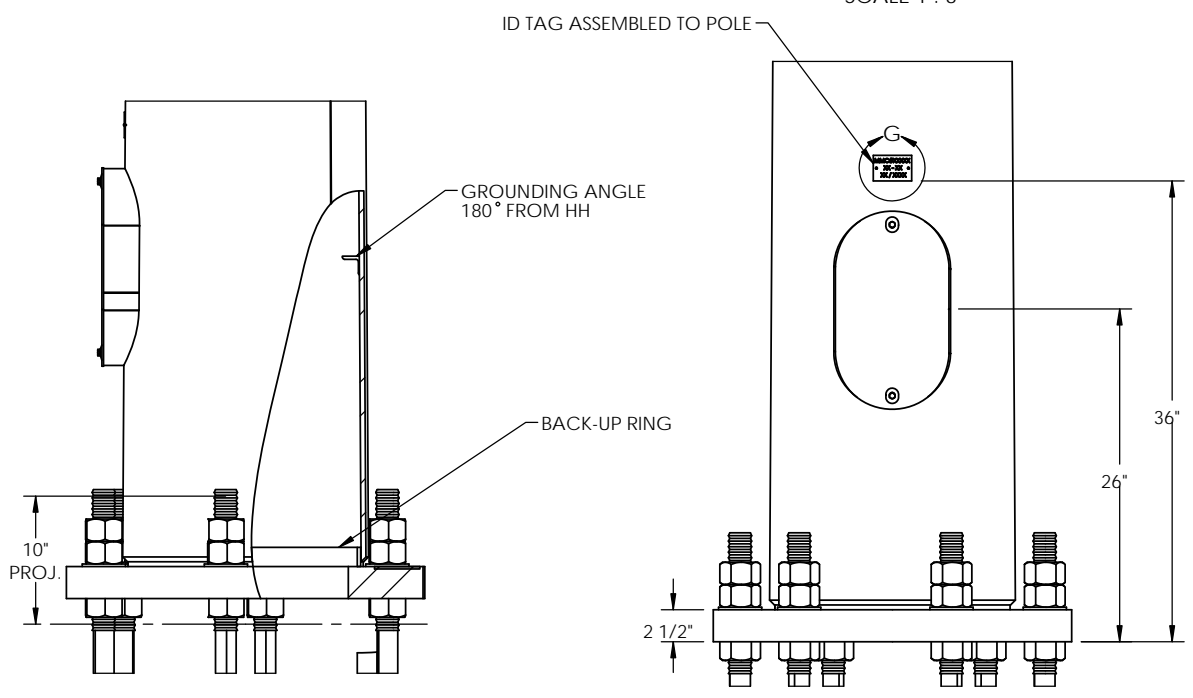


SLIP JOINT DETAIL FOR MASTARMS 50' AND GREATER



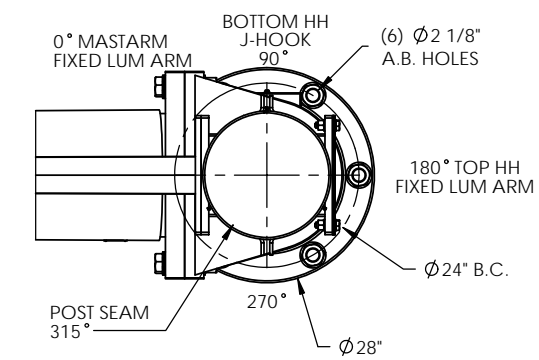
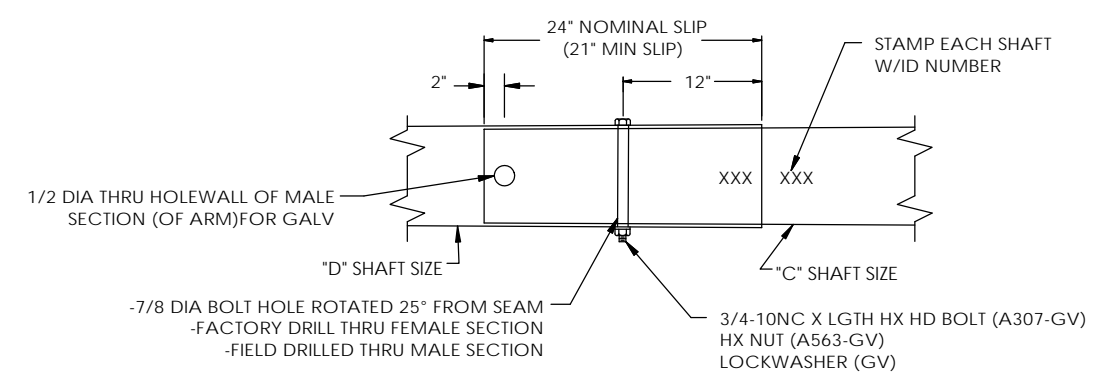
DETAIL G  
SCALE 1 : 3

MMC#XXXXX= MMC#SALES ORDER  
TYPE 12-21' = TYPE=HGT OF POST  
XX/XXXX= DATE OF MANUFACTURE



|  |      |                                      |                 |
|--|------|--------------------------------------|-----------------|
|  |      | 622 6TH ST. SO.<br>WINSTED, MN 55395 |                 |
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| SALES ORDER NO.:   | QTY: | STATE:                               | SHEET<br>2 OF 2 |
| DESCRIPTION:<br>2021 WI DOT TYPE 12 TRAFFIC SIGNAL<br>35'-55' MASTARM LENGTHS  |      |                                      |                 |
| EST. WEIGHT:<br>6170.7 - LBS   |      | DRAWING NO:<br>2021 type 12 wi dot a |                 |
| PROJECT NAME:  |      |                                      |                 |
| PROJECT LOCATION:  |      |                                      |                 |
| DWN BY: PAM F.   |      | DATE: 12/11/2020                     |                 |
| CHK BY:  |      | DATE:                                |                 |

| REVISIONS |   |           |      |
|-----------|---|-----------|------|
| REV.      | DESCRIPTION   | DATE      | DRFT |
| A         | chgd name was 2017 is 2021 & updated chart with new end cap parts #, updated design criteria, remove 7700039. | 12/6/2020 | pjf  |
| B         | added id tags to arm and post   | 9/29/2021 | pjf  |
| C         | REMOVED STAMPING BASEPLATE NOTE & UPDATED ID TAG INFO   | 9/16/2022 | pjf  |



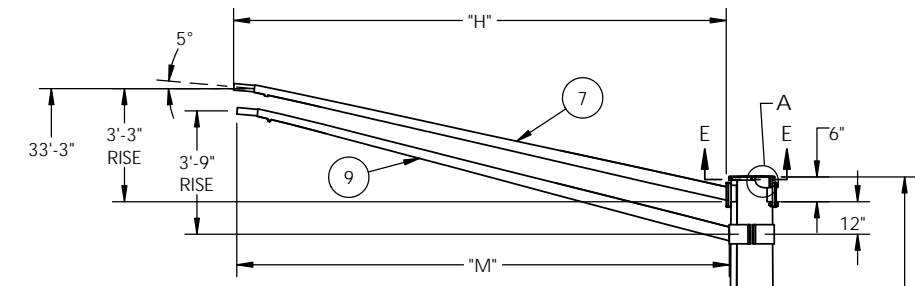
| CLAMP ON LUMINAIRE ARM |                  |            |
|------------------------|------------------|------------|
| "L" QTY                | "K" ARM PART #   | "M" LENGTH |
|                        | 730A1652-6-1562  | 6'         |
|                        | 730A1652-8-1562  | 8'         |
|                        | 730A1652-10-1562 | 10'        |
|                        | 730A1652-12-1562 | 12'        |
|                        | 730A1652-15-1562 | 15'        |

| FIXED LUMINAIRE ARM |                |            |
|---------------------|----------------|------------|
| "J" QTY             | "G" ARM PART # | "H" LENGTH |
|                     | 1015935        | 6'         |
|                     | 1015934        | 8'         |
|                     | 1015933        | 10'        |
|                     | 1015932        | 12'        |
|                     | 1015929        | 15'        |

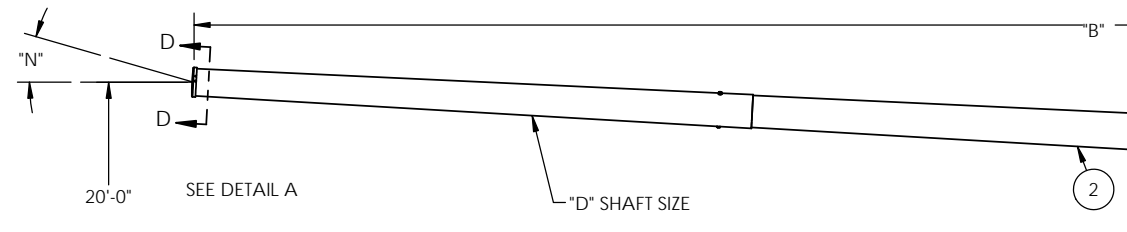
| LUM. ARM COVER PLATE |  |
|----------------------|--|
| "P" QTY              |  |
|                      |  |

**SLIP JOINT DETAIL FOR MASTARMS 50' AND GREATER**

| QTY | "A" ASSY PART # | "B" LENGTH | DESCRIPTION                     | "C" MAST ARM SHAFT SIZE     | "D" MASTARM SHAFT SIZE        | "E" PARTS LIST/BAG | "F" ARM END CAP | "N" ARM RISE |
|-----|-----------------|------------|---------------------------------|-----------------------------|-------------------------------|--------------------|-----------------|--------------|
|     | 1006856         | 35'        | ASSY ARM SIG RD 1/4 X 35'       | 1/4 x 16.0 x 11.1 x 35'-0"  | -                             | 7700014            | 9900208         | 2.5°         |
|     | 1006855         | 40'        | ASSY ARM SIG RD 1/4 X 40'       | 1/4 x 17.0 x 11.4 x 40'-0"  | -                             | 7700013            | 9900208         | 2.5°         |
|     | 1006854         | 45'        | ASSY ARM SIG RD 5/16 X 45'      | 5/16 x 17.0 x 10.7 x 45'-0" | -                             | 7700012            | 9900208         | 2.5°         |
|     | 1006853         | 50'        | ASSY ARM SIG RD 3/8,3/16 X 50'  | 3/8 x 17.0 x 11.4 x 40'-0"  | 3/16 x 12.31 x 10.63 x 12'-0" | 7700011            | 9900208         | 3°           |
|     | 1006850         | 55'        | ASSY ARM SIG RD 7/16,3/16 X 55' | 7/16 x 17.0 x 11.4 x 40'-0" | 3/16 x 12.31x 9.93 x 17'-0"   | 7700010            | 9900207         | 3°           |

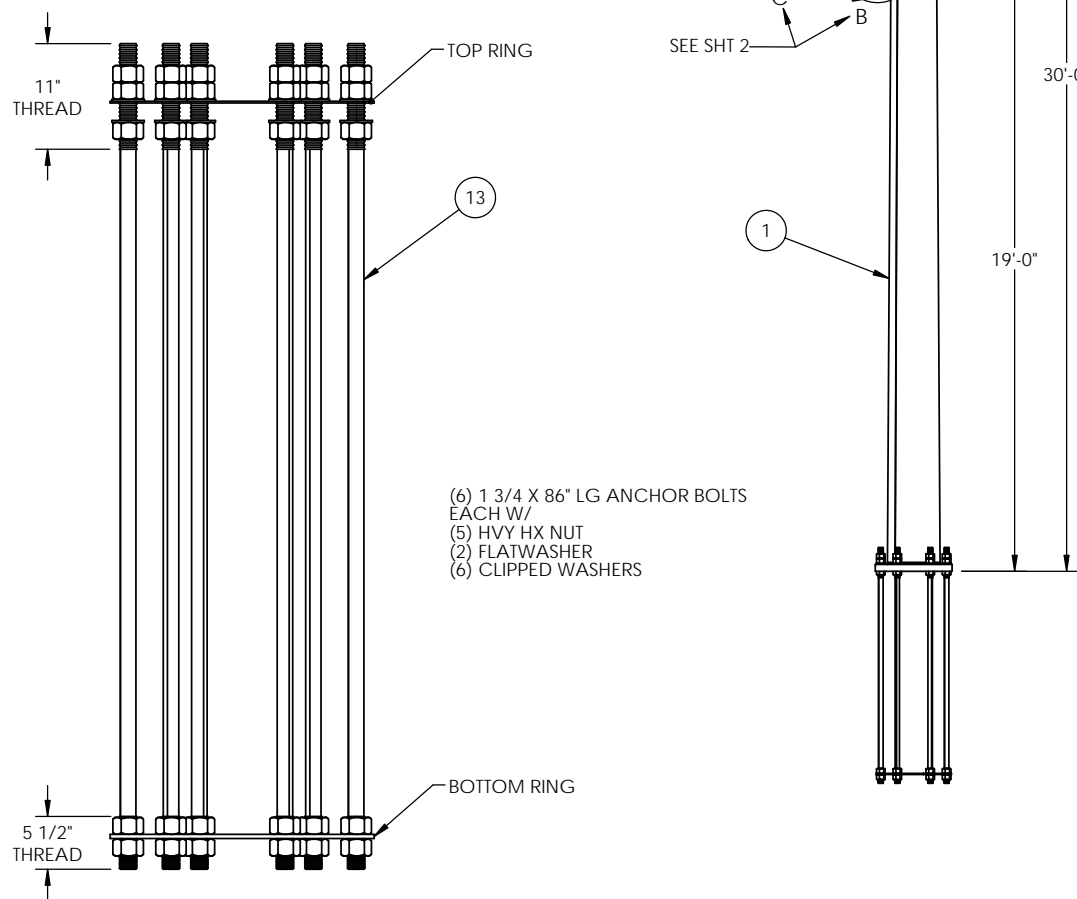


\* - ITEMS AS REQUIRED - NOT ALL TRAFFIC MASTARM HARDWARE BAGS WILL HAVE THESE ITEMS



| ITEM NO. | PART NUMBER            | DESCRIPTION  | QTY PER | ASSY               | FINISH | SHIP LOOSE |
|----------|------------------------|--|---------|--------------------|--------|------------|
| 1        | 1016135                | SHIP POLE SIG RD 3/8X30'0/19'0                         | 1       |                    | X      | X          |
|          | 7700015                | PARTS LIST W/DOT (2016) TYPE 13 TRAFFIC SIGNAL 1006857 | 1       |                    | X      | X          |
|          | 1055940                | I.D. TAG - WI  | 1       | X                  |        |            |
|          | SCRWY#2X3/16ZC         | U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC              | 2       | X                  |        |            |
| 2        | "A"                    | SHIP ARM SIG RD S1 "B"                                 | 1       |                    | X      | X          |
|          | "E"                    | PARTS LIST W/DOT (2016) TYPE 12/13 TRAFFIC             | 1       |                    | X      | X          |
|          | 1055940                | I.D. TAG - WI  | 1       | X                  |        |            |
|          | SCRWY#2X3/16ZC         | U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC              | 2       | X                  |        |            |
| 3        | BOLT B1-1/2-6X7"B      | BOLT HVYHXHD 1-1-2-6 X 7 A325GV                        | 8       | SUPPLIED BY OTHERS |        |            |
| 4        | WASHFLAT1-1/2GV        | WASHER FLAT 1-1/2 SAE ASTM F436 GV                     | 16      |                    |        |            |
| 5        | NUTHVYHX1-1/2-6A194GV  | NUT HVY HX 1-1-2-6NC ASTM A194 GV(2H)                  | 8       |                    |        |            |
| 6        | WASHLOADIN1-1/2-001-GV | WASHER DTI 1-1/2" ASTM F959 TYPE 325                   | 8       |                    |        |            |
| 7        | "G"                    | WLDMT ARM LUM RD 11GAX "H"                             | "J"     |                    | X      | X          |
| 8        | 1015928                | GASKETED COVER FOR 4 BOLT LUM ARM                      | "P"     |                    | X      | X          |
| 9        | "K"                    | WLDMT ARM LUM CLAMP RD 11GAX "M"                       | "L"     | X                  | X      |            |
| 10       | 460B735-6              | ANCHOR BOLT CLUSTER (6 BOLT) WISCONSIN DOT             | 1       |                    |        | X          |

- NOTE:
- HEX HEAD BOLT & NUTS (UNLESS SPECIFIED) ASTM A325 GV A153 FOR SIZES 1/2 THRU 1 1/2 DIA & ASTM A354BC GV FOR SIZES OVER 1 1/2 DIA
  - DRILLED CABLE ACCESS HOLE MAXIMUM ALLOWABLE DIAMETER IS 3/4"



| MATERIAL SPECIFICATIONS |                        |
|-------------------------|------------------------|
| POST:                   | ASTM A572 GR 50        |
| BASE PLATE:             | ASTM A36               |
| MAST ARM:               | ASTM A572 GR 50        |
| MOUNTING PLATE:         | ASTM A36               |
| HARDWARE FINISH:        | ASTM A153              |
| ANCHOR BOLTS:           | ASTM F1554 GR 55 (FBO) |

| DESIGN CRITERIA  |  |
|--|--|
| 2015 AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS LRFDLTS-1, FATIGUE CATEGORY II, AND PER WISDOT STANDARD S.D.D 9 E 8-9A, 9K. |  |

| WELD SPECIFICATION  |  |
|---|--|
| THE POST AND MAST ARM TO BE ROUND TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE AND 60% FOR REMAINDER. GAS METAL ARC WELDING PROCESS WITH 60% PENETRATION MAY BE USED FOR REMAINDER OF WELDED FABRICATION.  |  |
| WELD TESTING: 100% OF ALL WELDS VISUAL TESTED (VT), 100% OF ALL COMPLETE JOINT PENETRATION (CJP) WELDS ULTRASONIC TESTED (UT) BASED ON THE THINNEST MATING MATERIAL: (PER AASHTO 2013 5.15.5-WELD INSP) THICKNESS.<br>< 6MM (0.25 IN) MT<br>≥ 6MM (0.25 IN) UT<br>A RANDOM 30% OF ALL FILLET WELDS AND PARTIAL JOINT PENETRATION (PJP) LONGITUDINAL SEAM WELDS MAGNETIC PARTICLE TESTED (MT). |  |

| FINISH SPECIFICATION    |                            |
|-------------------------|----------------------------|
| GALV. OR PRIME COAT:    | HOT DIP GALV PER ASTM A123 |
| FINISH COAT:            | N/A                        |
| COLOR:                  | N/A                        |
| FEDERAL OR RAL SPEC.:   |                            |
| WEIGHT W/GALV.:         |                            |
| WEIGHT W/GALV. & PAINT: |                            |
| SURFACE AREA:           |                            |
| GAL. OF PAINT:          |                            |



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|                  |      |        |        |
|------------------|------|--------|--------|
| SALES ORDER NO.: | QTY: | STATE: | SHEET  |
|                  |      | WI     | 1 OF 2 |

DESCRIPTION:  
2021 WI DOT TYPE 13 TRAFFIC SIGNAL  
35'-55' MASTARM LENGTHS

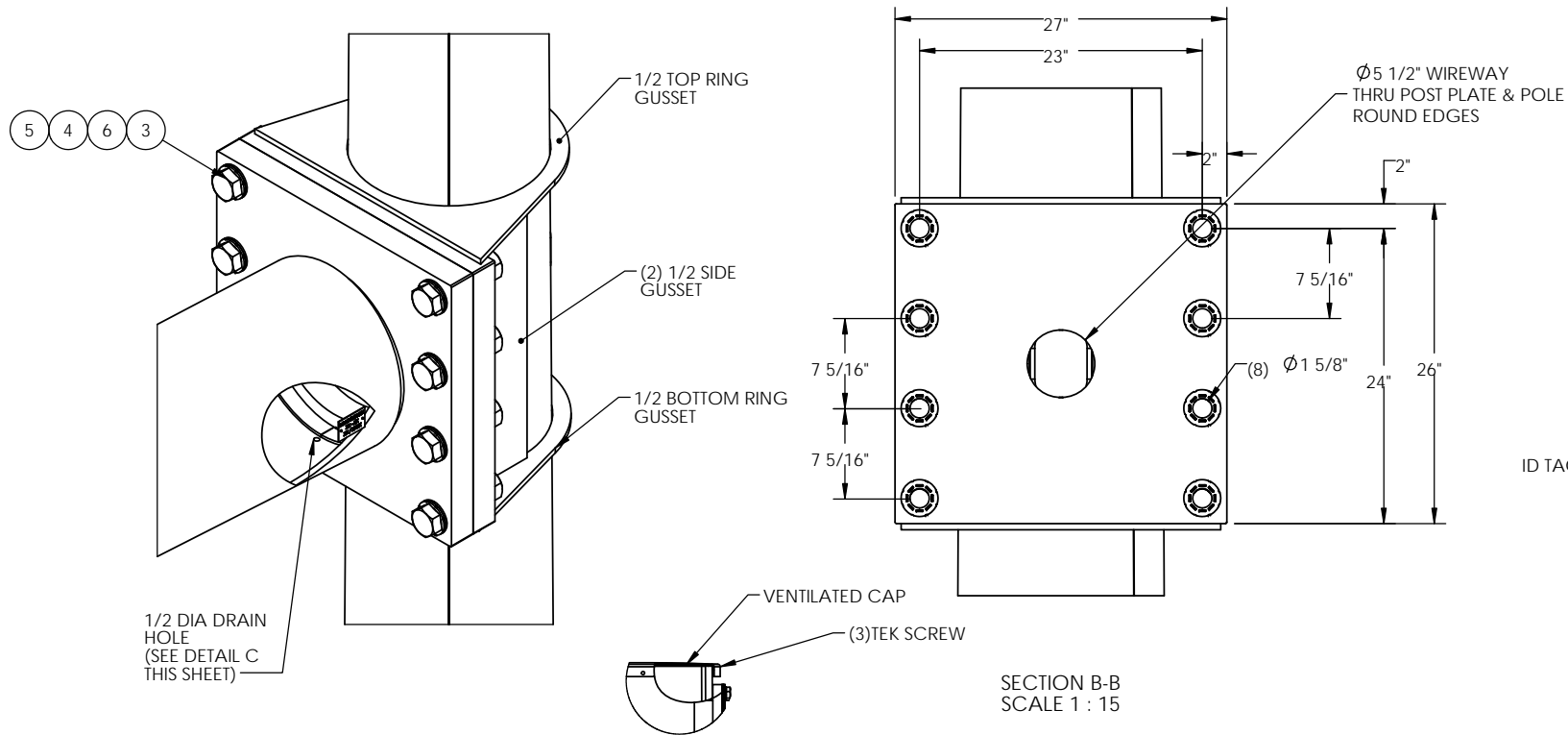
EST. WEIGHT: DRAWING NO:  
2021 type 13 wi dot a

PROJECT NAME:

PROJECT LOCATION:

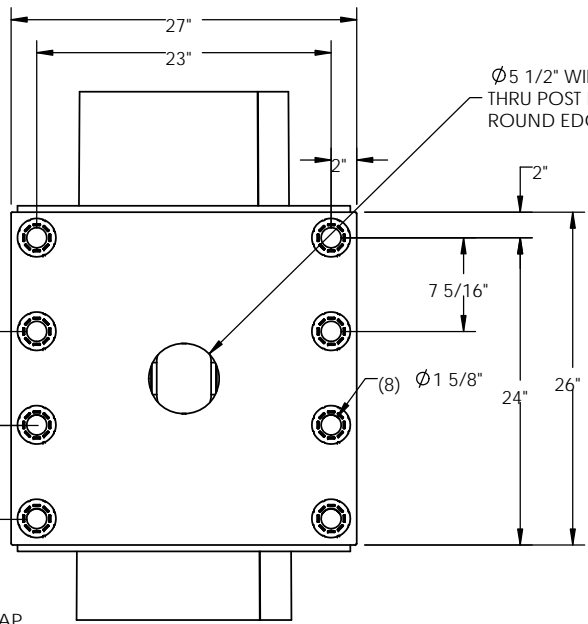
DWN BY: PAM F. DATE: 12/11/2020

CHK BY: DATE:

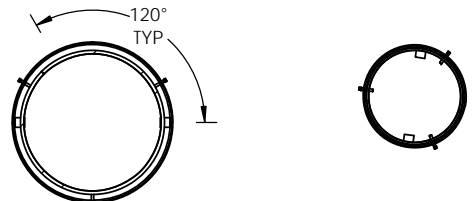


DETAIL A  
SCALE 1 : 20

(POLE TOP CAP (INLCUDED IN ITEM #2) & (MASTARM END CAP PART "F")



SECTION B-B  
SCALE 1 : 15



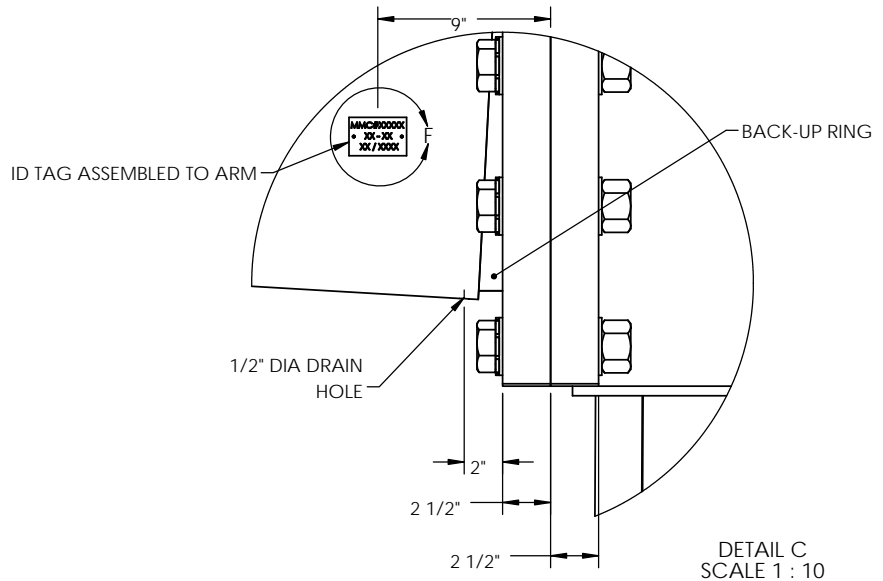
SECTION D-D  
SCALE 1 : 20

SECTION E-E  
SCALE 1 : 20

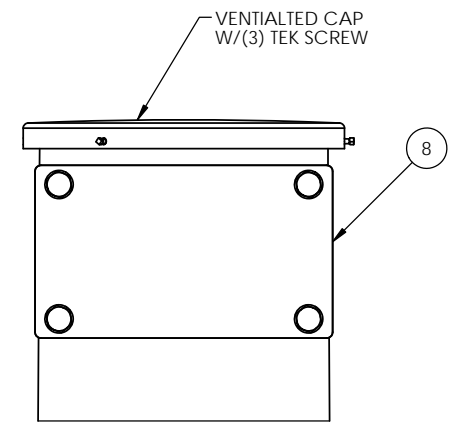
MMC#XXXXX  
 • XX - XX •  
 XX / XXXX

MMC#XXXXX= MMC#SALES ORDER  
 (EX: 55'-MA)  
 XX-XX = LGTH OF ARM=MA  
 XX/XXXX= DATE OF MANUFACTURE

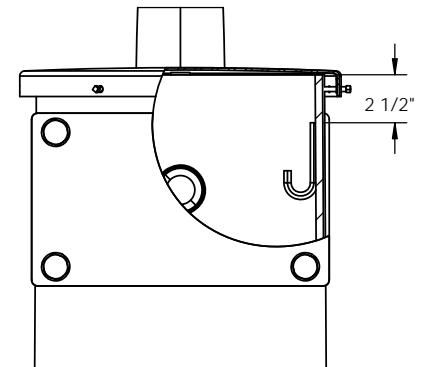
DETAIL F  
SCALE 1 : 3



DETAIL C  
SCALE 1 : 10



ITEM 12  
LUMINAIRE ARM PLATE GASKETED COVER KIT

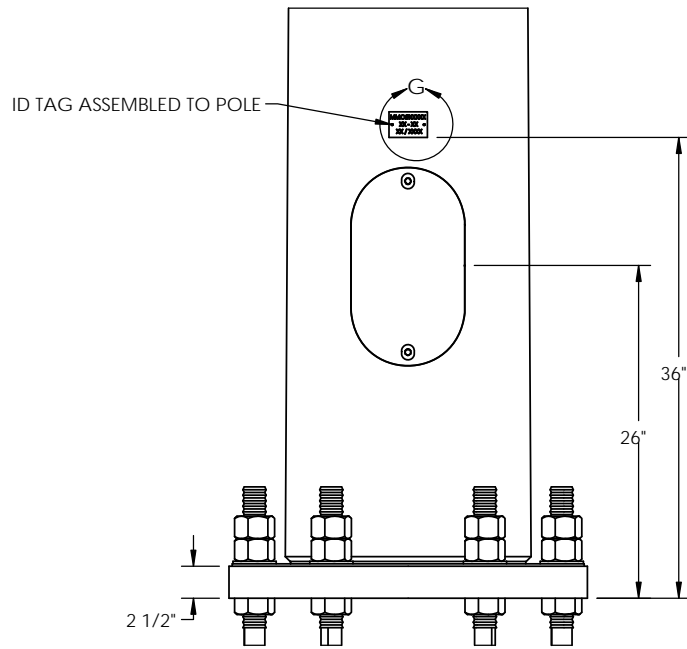
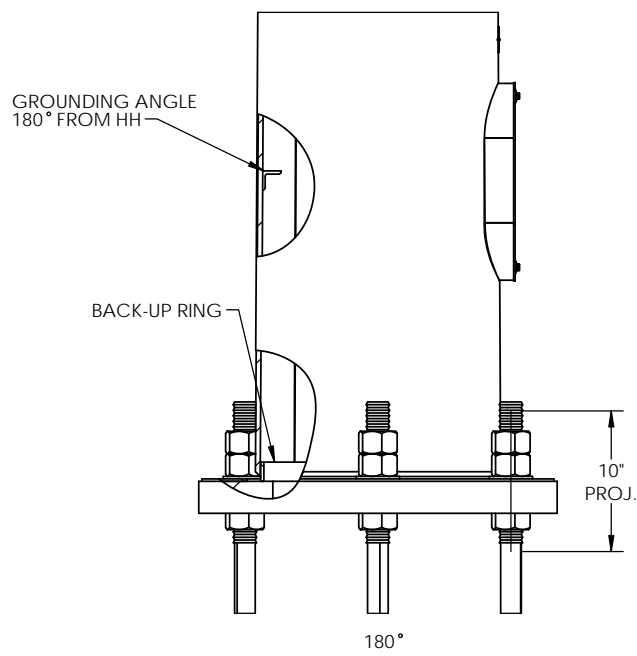
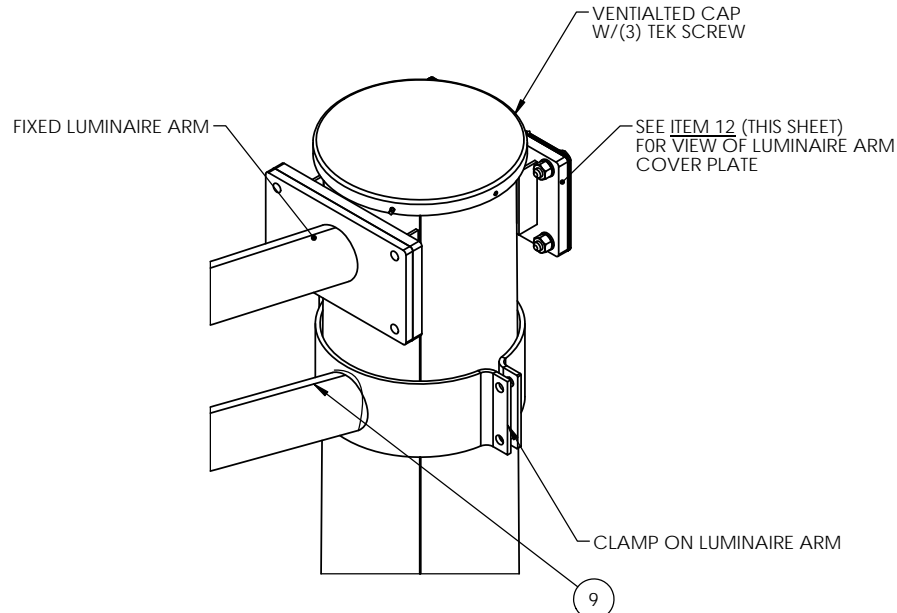


J-HOOK DETAIL  
90° FROM MASTARM

MMC#XXXXX  
 • TYPE 13 - 30' •  
 XX/XXXX

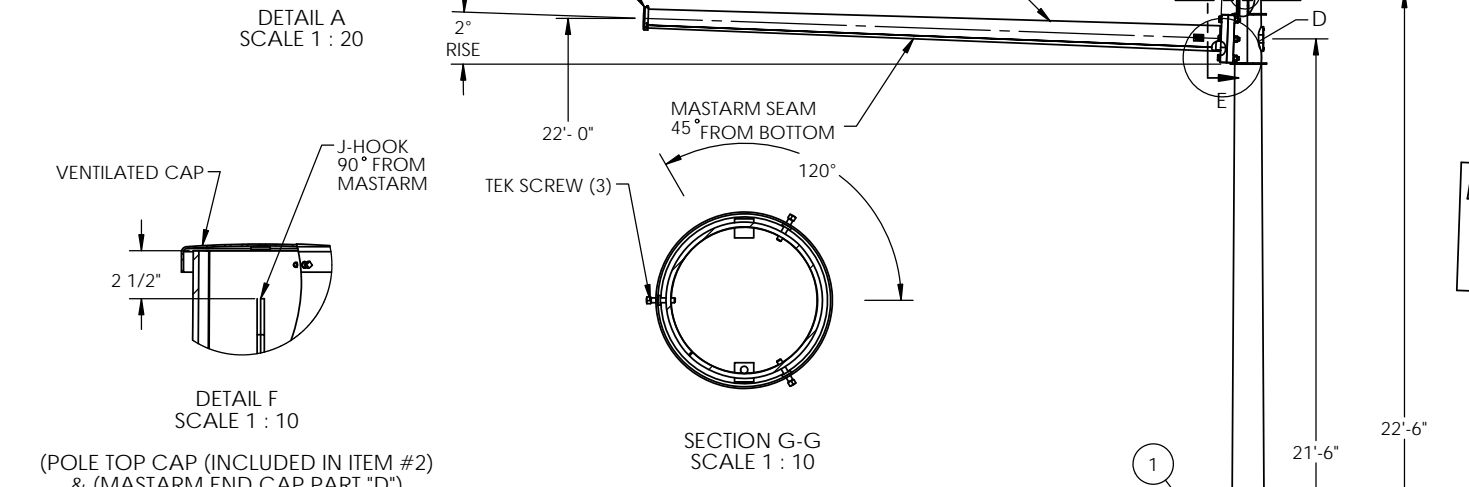
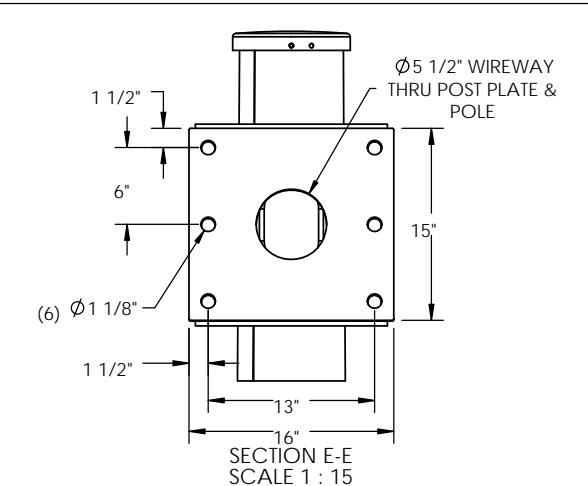
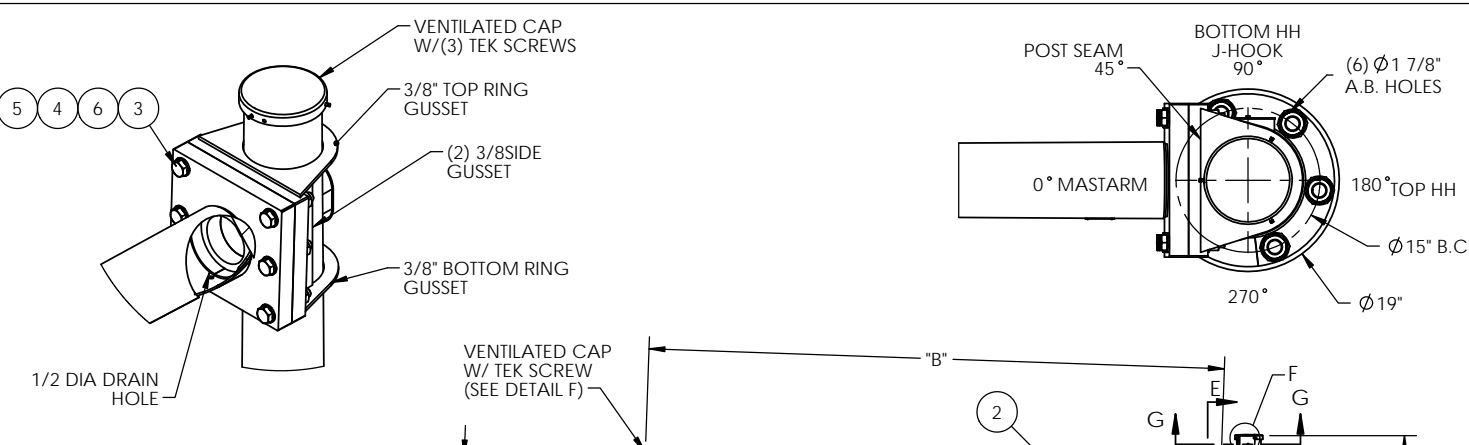
MMC#XXXXX= MMC#SALES ORDER  
 TYPE 13-30' = TYPE=HGT OF POST  
 XX/XXXX= DATE OF MANUFACTURE

DETAIL G  
SCALE 1 : 3



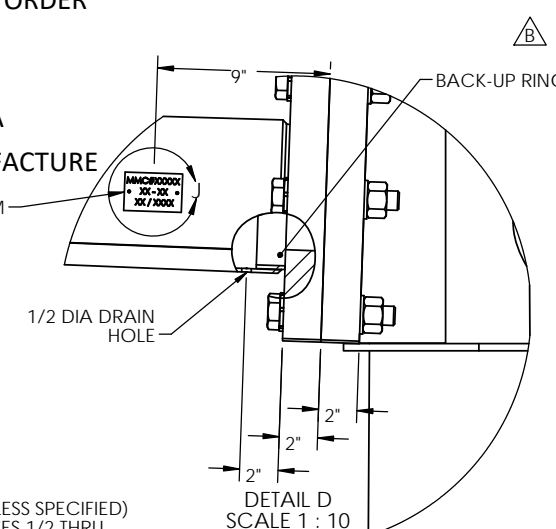
|  |      |                                      |        |
|--|------|--------------------------------------|--------|
|  |      |                                      |        |
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| SALES ORDER NO.:   | QTY: | STATE:                               | SHEET  |
|  |      | WI                                   | 2 OF 2 |
| DESCRIPTION:<br>2021 WI DOT TYPE 13 TRAFFIC SIGNAL<br>35'-55' MASTARM LENGTHS  |      |                                      |        |
| EST. WEIGHT:<br>7027.3 - LBS   |      | DRAWING NO:<br>2021 type 13 wi dot a |        |
| PROJECT NAME:  |      |                                      |        |
| PROJECT LOCATION:  |      |                                      |        |
| DWN BY: PAM F.   |      | DATE: 12/11/2020                     |        |
| CHK BY:  |      | DATE:                                |        |

| REVISIONS |  |           |      |
|-----------|--|-----------|------|
| REV.      | DESCRIPTION  | DATE      | DRFT |
| A         | chgd name was 2017 is 2021 & updated chart with new end cap parts #, updated design criteria | 12/7/2020 | pfj  |
| B         | ADDED ID TAG TO ARM AND POST   | 9/29/2021 | PJF  |
| C         | REMOVED STAMPING BASEPLATE NOTE & UPDATED ID TAG INFO  | 9/19/2022 | pfj  |



MMC#XXXXX  
• XX-XX •  
XX/XXXX

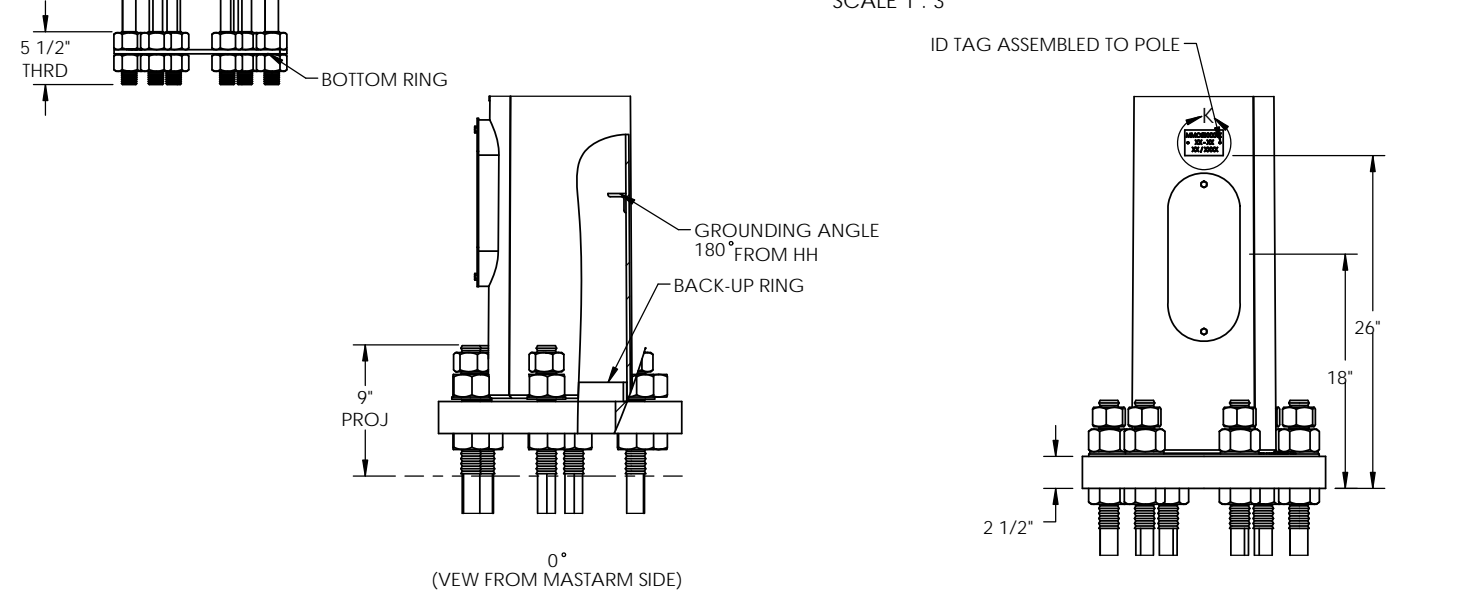
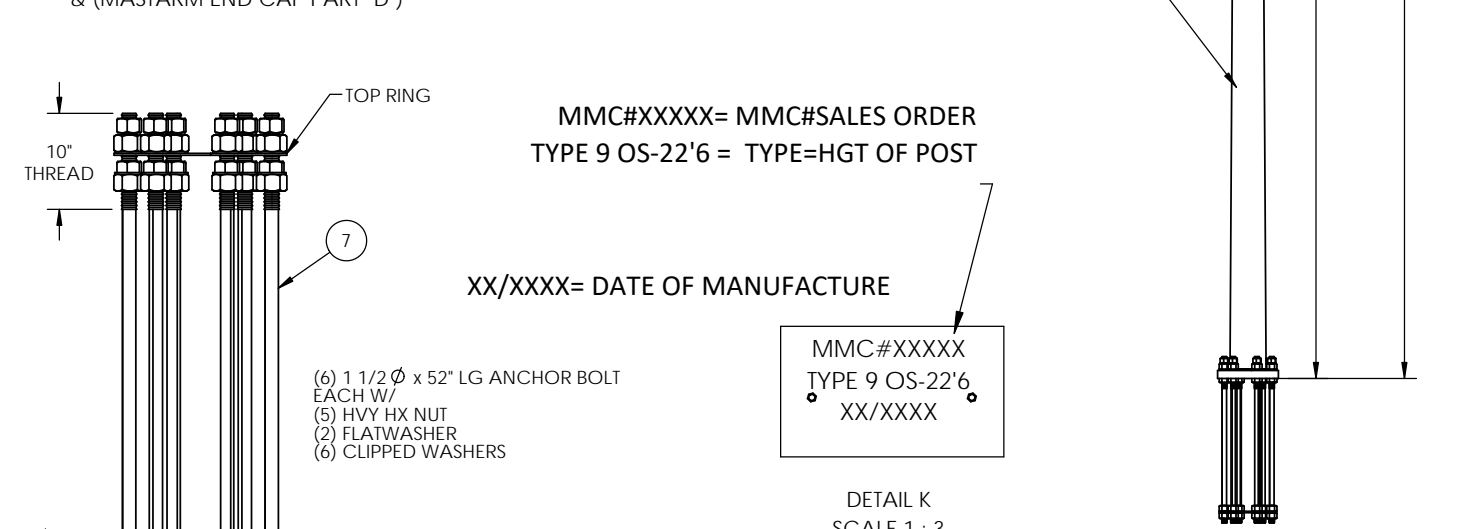
MMC#XXXXX= MMC#SALES ORDER  
(EX: 15'-MA)  
XX-XX = LGTH OF ARM=MA  
XX/XXXX= DATE OF MANUFACTURE



DETAIL J SCALE 1:3

- NOTE:
- HEX HEAD BOLT & NUTS (UNLESS SPECIFIED) ASTM A325 GV A153 FOR SIZES 1/2 THRU 1 1/2 DIA & ASTM A354BC GV FOR SIZES OVER 1 1/2 DIA
  - DRILLED CABLE ACCESS HOLE MAXIMUM ALLOWABLE DIAMETER IS 3/4"

| QTY | "A" ASSY PART # | "B" LENGTH | DESCRIPTION                | MAST ARM SHAFT SIZE       | "C" PARTS LIST/BAG # | "D" ARM END CAP PART # |
|-----|-----------------|------------|----------------------------|---------------------------|----------------------|------------------------|
|     | 1006392         | 15'-0"     | ASSY ARM SIG RD 3/16 X 15' | 3/16 x 8.0 x 5.9 x 15'-0" | 7700006              | 9900204                |
|     | 1006391         | 20'-0"     | ASSY ARM SIG RD 3/16 X 20' | 3/16 x 8.0 x 5.2 x 20'-0" | 7700005              | 9900203                |
|     | 1006390         | 25'-0"     | ASSY ARM SIG RD 3/16 X 25' | 3/16 x 9.0 x 5.5 x 25'-0" | 7700004              | 9900203                |
|     | 1006387         | 30'-0"     | ASSY ARM SIG RD 1/4 X 30'  | 1/4 x 9.0 x 4.8 x 30'-0"  | 7700002              | 9900203                |



MATERIAL SPECIFICATIONS

POST: ASTM A572 GR 50  
BASE PLATE: ASTM A709 GR 36  
MAST ARM: ASTM A572 GR 50  
MOUNTING PLATE: ASTM A706 GR 36  
HARDWARE FINISH: ASTM A153  
ANCHOR BOLTS: ASTM F1554 GR 55 (FBO)

DESIGN CRITERIA

2015 AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS LRFDLTS-1, FATIGUE CATEGORY III, AND PER WISDOT STANDARD S.D.D 9 E 8-9A, 9K.

WELD SPECIFICATION

THE POST AND MAST ARM TO BE ROUND TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE AND 60% FOR REMAINDER. GAS METAL ARC WELDING PROCESS WITH 60% PENETRATION MAY BE USED FOR REMAINDER OF WELDED FABRICATION.

WELD TESTING: 100% OF ALL WELDS VISUAL TESTED (VT), 100% OF ALL COMPLETE JOINT PENETRATION (CJP) WELDS ULTRASONIC TESTED (UT) BASED ON THE THINNEST MATING MATERIAL: (PER AASHTO 2013 5.15.5-WELD INSP) THICKNESS.  
 < 6MM (0.25 IN) MT  
 ≥ 6MM (0.25 IN) UT  
 A RANDOM 30% OF ALL FILLET WELDS AND PARTIAL JOINT PENETRATION (PJP) LONGITUDINAL SEAM WELDS MAGNETIC PARTICLE TESTED (MT).

FINISH SPECIFICATION

GALV. OR PRIME COAT: HOT DIP GALV PER ASTM A123  
FINISH COAT: N/A  
COLOR: N/A  
FEDERAL OR RAL SPEC.:  
WEIGHT W/GALV.:  
WEIGHT W/GALV.&PAINT:  
SURFACE AREA:  
GAL. OF PAINT:



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|                  |      |        |        |
|------------------|------|--------|--------|
| SALES ORDER NO.: | QTY: | STATE: | SHEET  |
|                  |      |        | 1 OF 1 |

DESCRIPTION:  
2021 WI DOT TYPE 9-OS TRAFFIC SIGNAL  
15'-30' MASTARM LENGTHS

EST. WEIGHT: N/A  
DRAWING NO: 2021 type 9-OS wi dot a

PROJECT NAME:

PROJECT LOCATION:

DWN BY: PAM F. DATE: 12/11/2020  
CHK BY: DATE:

| ITEM NO. | PART NUMBER        | DESCRIPTION   | QTY PER | ASSY | FINISH   | SHIP LOOSE |
|----------|--------------------|---|---------|------|----------|------------|
| 1        | 1016136            | SHIP POLE SIG RD 1/4X22'6"/21'6"                          | 1       |      | X        | X          |
|          | 7700048            | PARTS LIST WI/DOT (2017) TYPE 9 OS TRAFFIC SIGNAL 1016136 | 1       |      | POLE CAP | X          |
|          | 1055940            | I.D. TAG - WI   | 1       | X    |          |            |
|          | SCRWY#2X3/16ZC     | U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC                 | 2       | X    |          |            |
| 2        | "A"                | SHIP ARM SIG RD 3/16X "B"                                 | 1       |      | X        | X          |
|          | "C"                | PARTS LIST WI/DOT (2016) TYPE 9/10 TRAFFIC                | 1       |      | POLE CAP | X          |
|          | 1055940            | I.D. TAG - WI   | 1       | X    |          |            |
|          | SCRWY#2X3/16ZC     | U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC                 | 2       | X    |          |            |
| 3        | BOLT B1"-8X6"B     | BOLT HVYHXHD 1-8 X 6 A325GV                               | 6       |      |          |            |
| 4        | NUTHVYHX1"-8A563GV | NUT HVY HX 1"-8 A563 GV (DH)-RCP                          | 6       |      |          |            |
| 5        | WASHFLAT1"GV       | WASHFLAT1"GV ASTM F436                                    | 12      |      |          |            |
| 6        | WASHLOADIN1" GV    | WASHER DTI 1" ASTM F959 TYPE 325                          | 6       |      |          |            |
| 7        | 460B735-5          | ANCHOR BOLT CLUSTER (6 BOLT) WISCONSIN DOT                | 1       |      |          | X          |

SUPPLIED BY OTHERS

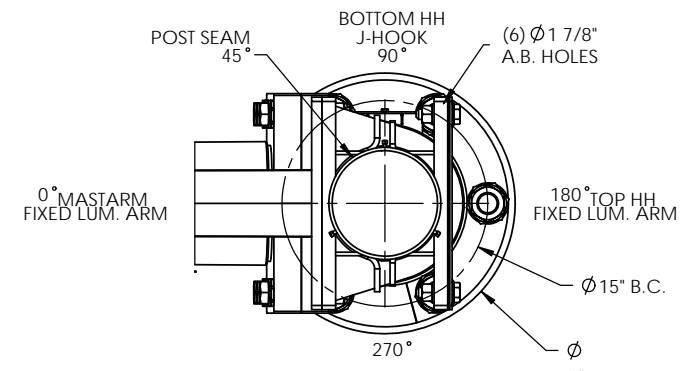


| REVISIONS |   |           |      |
|-----------|---|-----------|------|
| REV.      | DESCRIPTION   | DATE      | DRFT |
| A         | chgd name was 2017 is 2021 & updated chart with new end cap parts #, updated design criteria, remove 7700039. | 12/7/2020 | pjf  |
| B         | ADDED ID TAG TO ARM & AND POST  | 9/29/2021 | PJF  |
| C         | REMOVED STAMPING BASEPLATE NOTE & UPDATED ID TAG INFO   | 9/19/2022 | PJF  |

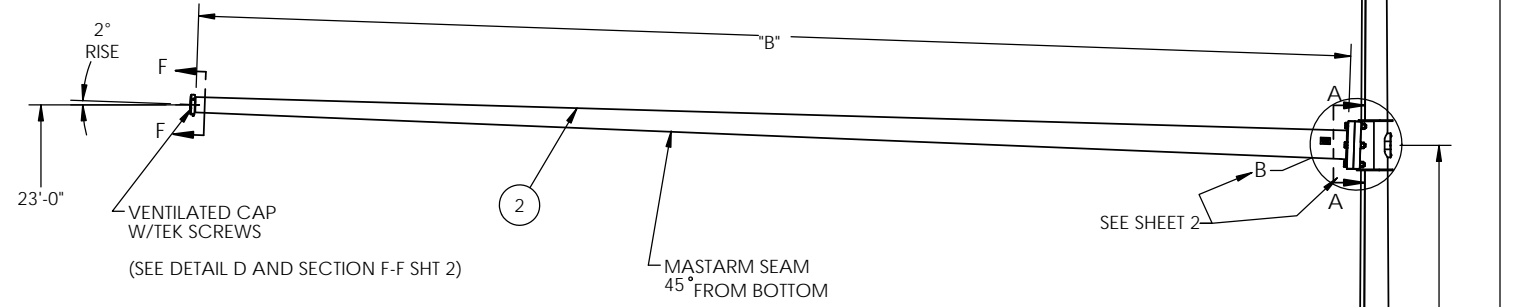
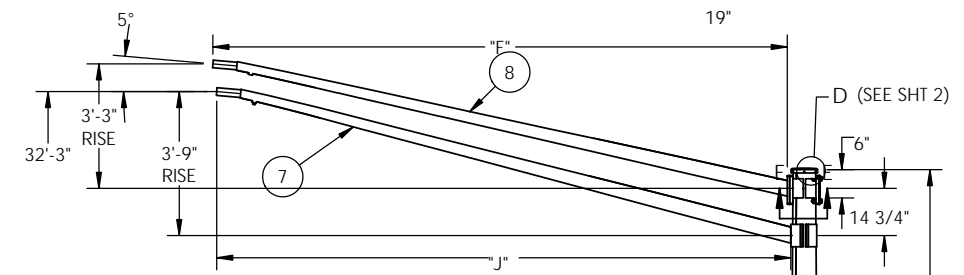
| FIXED LUMINAIRE ARM |                |            |
|---------------------|----------------|------------|
| "G" QTY             | "E" ARM PART # | "F" LENGTH |
|                     | 1015935        | 6'         |
|                     | 1015934        | 8'         |
|                     | 1015933        | 10'        |
|                     | 1015932        | 12'        |
|                     | 1015929        | 15'        |

| CLAMP ON LUMINAIRE ARM |                 |            |
|------------------------|-----------------|------------|
| "K" QTY                | "H" ARM PART #  | "J" LENGTH |
|                        | 730A1652-6-775  | 6'         |
|                        | 730A1652-8-775  | 8'         |
|                        | 730A1652-10-775 | 10'        |
|                        | 730A1652-12-775 | 12'        |
|                        | 730A1652-15-775 | 15'        |

| LUM. ARM COVER PLATE |  |
|----------------------|--|
| "L" QTY              |  |
|                      |  |



| QTY | "A" ASSY PART # | "B" LENGTH | DESCRIPTION                | MAST ARM SHAFT SIZE       | "C" PARTS LIST/BAG # | "D" END CAP PART # |
|-----|-----------------|------------|----------------------------|---------------------------|----------------------|--------------------|
|     | 1006392         | 15'-0"     | ASSY ARM SIG RD 3/16 X 15' | 3/16 x 8.0 x 5.9 x 15'-0" | 7700006              | 9900204            |
|     | 1006391         | 20'-0"     | ASSY ARM SIG RD 3/16 X 20' | 3/16 x 8.0 x 5.2 x 20'-0" | 7700005              | 9900203            |
|     | 1006390         | 25'-0"     | ASSY ARM SIG RD 3/16 X 25' | 3/16 x 9.0 x 5.5 x 25'-0" | 7700004              | 9900203            |
|     | 1006387         | 30'-0"     | ASSY ARM SIG RD 1/4 X 30'  | 1/4 x 9.0 x 4.8 x 30'-0"  | 7700002              | 9900203            |



| MATERIAL SPECIFICATIONS |                        |
|-------------------------|------------------------|
| POST:                   | ASTM A572 GR 50        |
| BASE PLATE:             | ASTM A709 GR36         |
| MAST ARM:               | ASTM A572 GR 50        |
| MOUNTING PLATE:         | ASTM A709 GR 36        |
| HARDWARE FINISH:        | ASTM A153              |
| ANCHOR BOLTS:           | ASTM F1554 GR 55 (FBO) |

| DESIGN CRITERIA   |  |
|---|--|
| 2015 AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS LRFDLTS-1, FATIGUE CATEGORY III, AND PER WISDOT STANDARD S.D.D 9 E 8-9A, 9K. |  |

| WELD SPECIFICATION  |  |
|---|--|
| THE POST AND MAST ARM TO BE ROUND TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE AND 60% FOR REMAINDER. GAS METAL ARC WELDING PROCESS WITH 60% PENETRATION MAY BE USED FOR REMAINDER OF WELDED FABRICATION.  |  |
| WELD TESTING: 100% OF ALL WELDS VISUAL TESTED (VT), 100% OF ALL COMPLETE JOINT PENETRATION (CJP) WELDS ULTRASONIC TESTED (UT) BASED ON THE THINNEST MATING MATERIAL: (PER AASHTO 2013 5.15.5-WELD INSP) THICKNESS.<br>< 6MM (0.25 IN) MT<br>≥ 6MM (0.25 IN) UT<br>A RANDOM 30% OF ALL FILLET WELDS AND PARTIAL JOINT PENETRATION (PJP) LONGITUDINAL SEAM WELDS MAGNETIC PARTICLE TESTED (MT). |  |

| FINISH SPECIFICATION    |                            |
|-------------------------|----------------------------|
| GALV. OR PRIME COAT:    | HOT DIP GALV PER ASTM A123 |
| FINISH COAT:            | N/A                        |
| COLOR:                  | N/A                        |
| FEDERAL OR RAL SPEC.:   |                            |
| WEIGHT W/GALV.:         |                            |
| WEIGHT W/GALV. & PAINT: |                            |
| SURFACE AREA:           |                            |
| GAL. OF PAINT:          |                            |



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|                  |      |        |        |
|------------------|------|--------|--------|
| SALES ORDER NO.: | QTY: | STATE: | SHEET  |
|                  |      |        | 1 OF 2 |

DESCRIPTION:  
2021 WI DOT TYPE 10-OS TRAFFIC SIGNAL  
15'-30' MASTARM LENGTHS

|              |                          |
|--------------|--------------------------|
| EST. WEIGHT: | DRAWING NO.:             |
| N/A          | 2021 type 10-OS wi dot a |

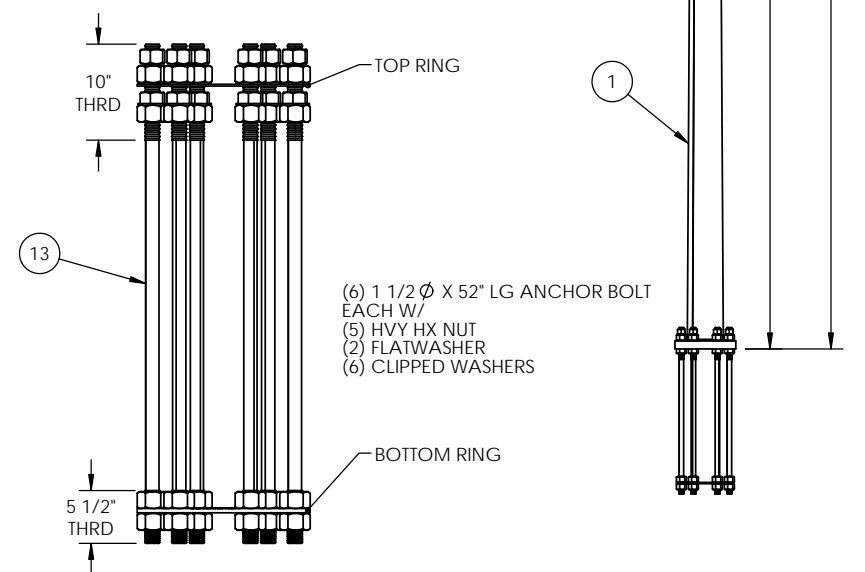
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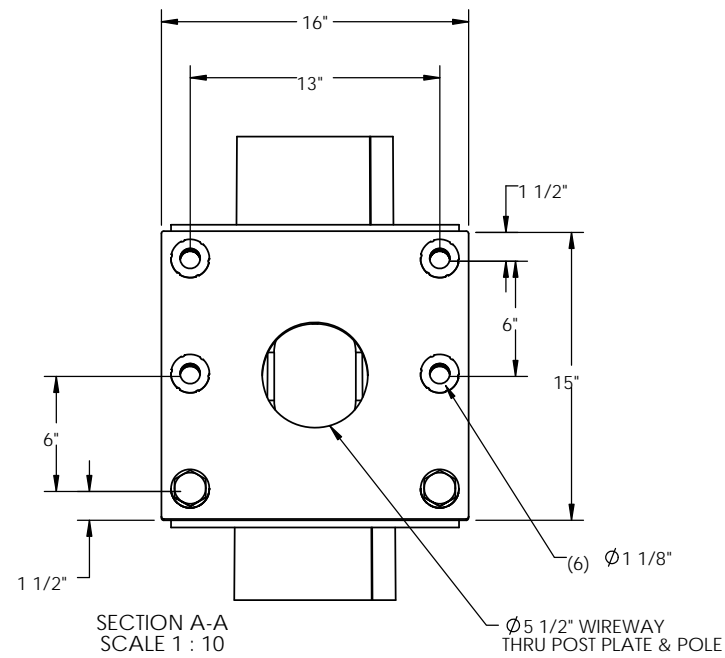
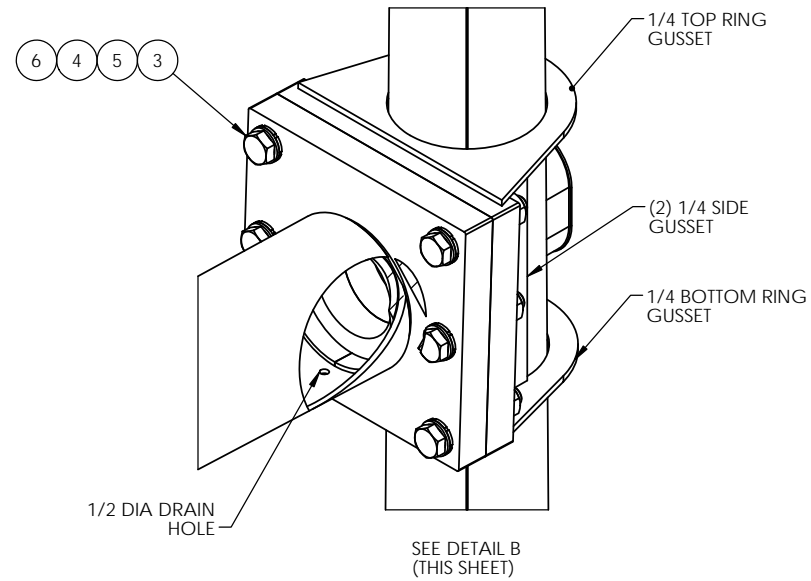
PROJECT LOCATION:

|                |                  |
|----------------|------------------|
| DWN BY: PAM F. | DATE: 12/11/2020 |
| CHK BY:        | DATE:            |

| ITEM NO. | PART NUMBER        | DESCRIPTION                                     | QTY PER | ASSY | FINISH   | SHIP LOOSE |
|----------|--------------------|---|---------|------|----------|------------|
| 1        | 1016137            | SHIP POLE SIG RD 1/4X30'0/21'6                  | 1       |      | X        | X          |
|          | 7700007            | PARTS LIST WI/DOT (2016) TYPE 10 TRAFFIC SIGNAL | 1       |      | POLE CAP | X          |
|          | 1055940            | I.D. TAG - WI                                   | 1       | X    |          |            |
|          | SCRWY#2X3/16ZC     | U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC       | 2       | X    |          |            |
| 2        | "A"                | SHIP ARM SIG RD 1/4X "B"                        | 1       |      | X        | X          |
|          | "C"                | PARTS LIST WI/DOT (2016) TYPE 9/10 TRAFFIC      | 1       |      | POLE CAP | X          |
|          | 1055940            | I.D. TAG - WI                                   | 1       | X    |          |            |
|          | SCRWY#2X3/16ZC     | U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC       | 2       | X    |          |            |
| 3        | BOLT B1"-8X6"B     | BOLT HVYHXHD 1-8 X 6 A325GV                     | 6       |      |          |            |
| 4        | NUTHVYHX1"-8A563GV | NUT HVY HX 1"-8 A563 GV (DH)-RCP                | 6       |      |          |            |
| 5        | WASHFLAT1"GV       | WASHFLAT1"GV ASTM F436                          | 12      |      |          |            |
| 6        | WASHLOADIN1" GV    | WASHER DTI 1" ASTM F959 TYPE 325                | 6       |      |          |            |
| 7        | "H"                | WLDMT ARM LUM CLAMP RD 11GAX "J"                | "K"     |      | X        | X          |
| 8        | "E"                | WLDMT ARM LUM RD 11GAX "F"                      | "G"     |      | X        | X          |
| 9        | 1015928            | GASKETED COVER FOR 4 BOLT LUM ARM               | "L"     |      | X        | X          |
| 10       | 460B735-5          | ANCHOR BOLT CLUSTER (6 BOLT) WISCONSIN DOT      | 1       |      |          | X          |

- NOTE:
- HEX HEAD BOLT & NUTS (UNLESS SPECIFIED) ASTM A325 GV A153 FOR SIZES 1/2 THRU 1 1/2 DIA & ASTM A354BC GV FOR SIZES OVER 1 1/2 DIA
  - DRILLED CABLE ACCESS HOLE MAXIMUM ALLOWABLE DIAMETER IS 3/4"



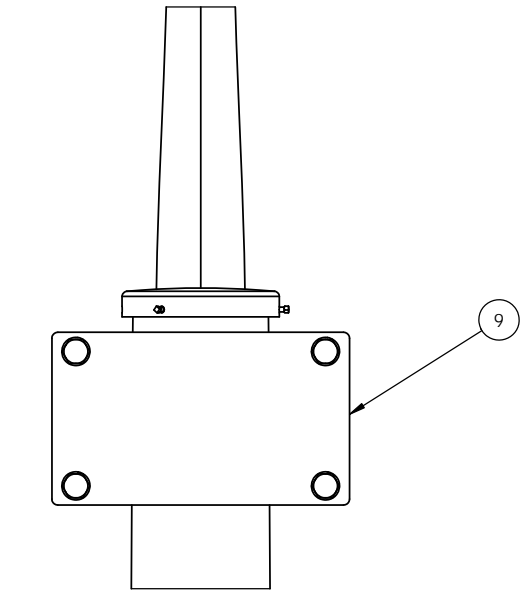
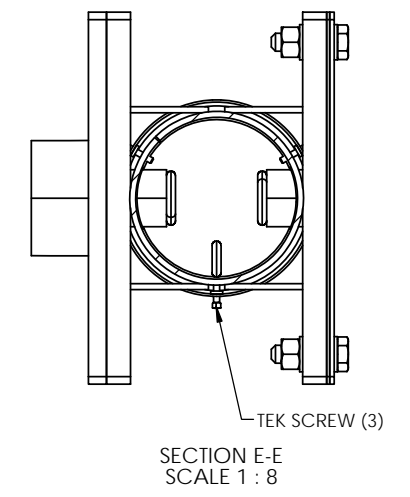
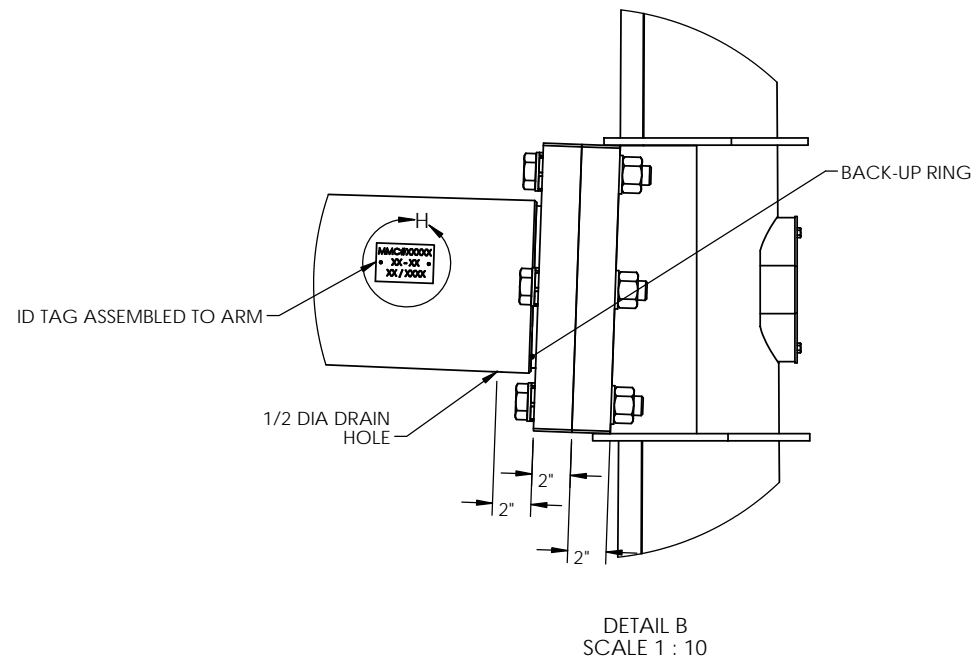
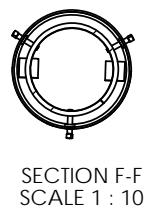


MMC#XXXXX  
• XX - XX •  
XX / XXXX

MMC#XXXXX = MMC#SALES ORDER  
LGTH OF ARM=MA  
(EX: 25'-MA)

XX-XX =  
XX/XXXX = DATE OF MANUFACTURE

DETAIL H  
SCALE 1 : 3

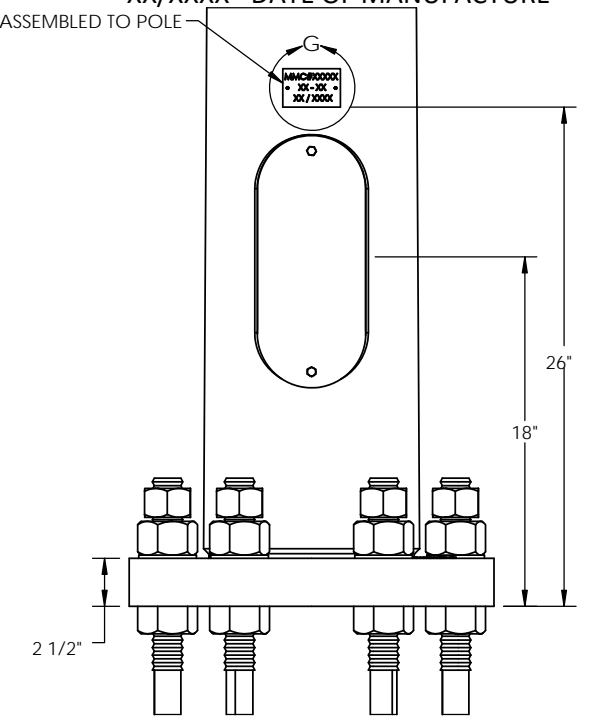
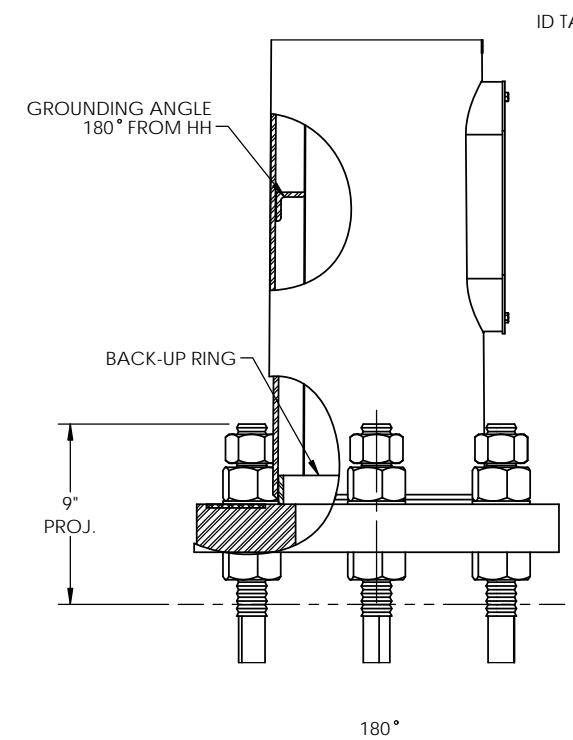
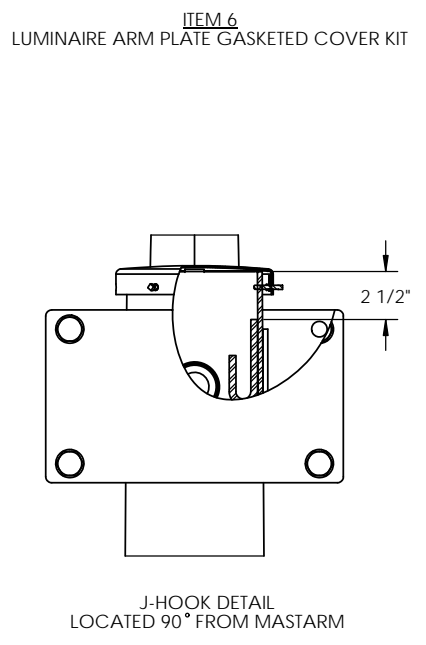
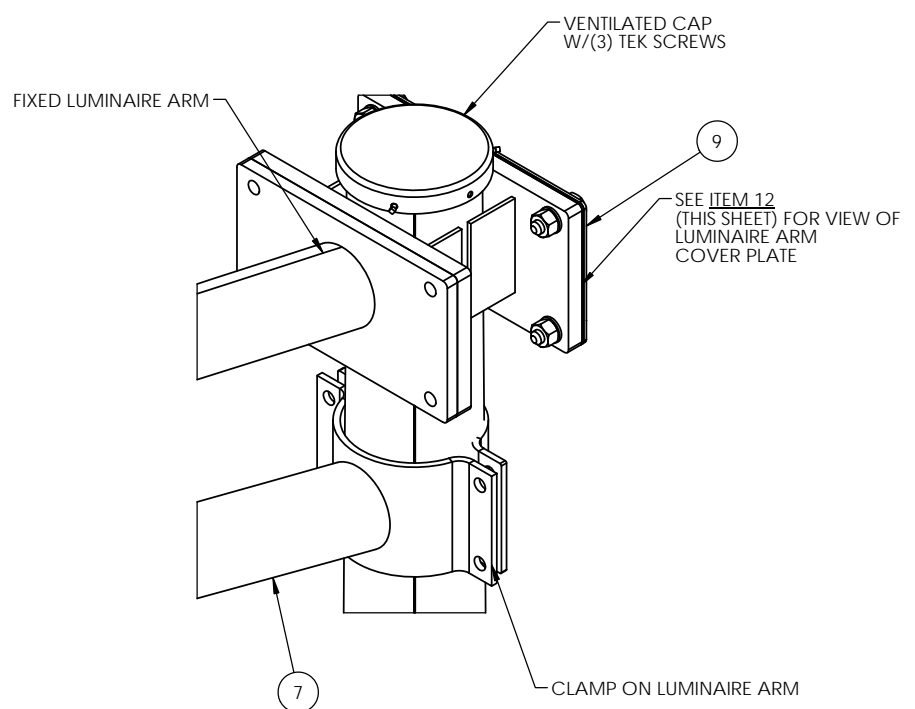
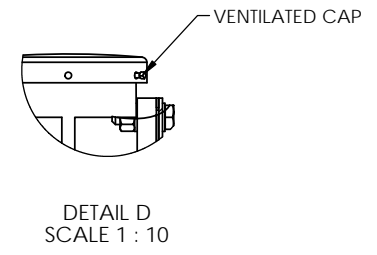


MMC#XXXXX  
• TYPE 10 OS-30' •  
XX/XXXX

MMC#XXXXX = MMC#SALES ORDER  
= TYPE=HGT OF POST

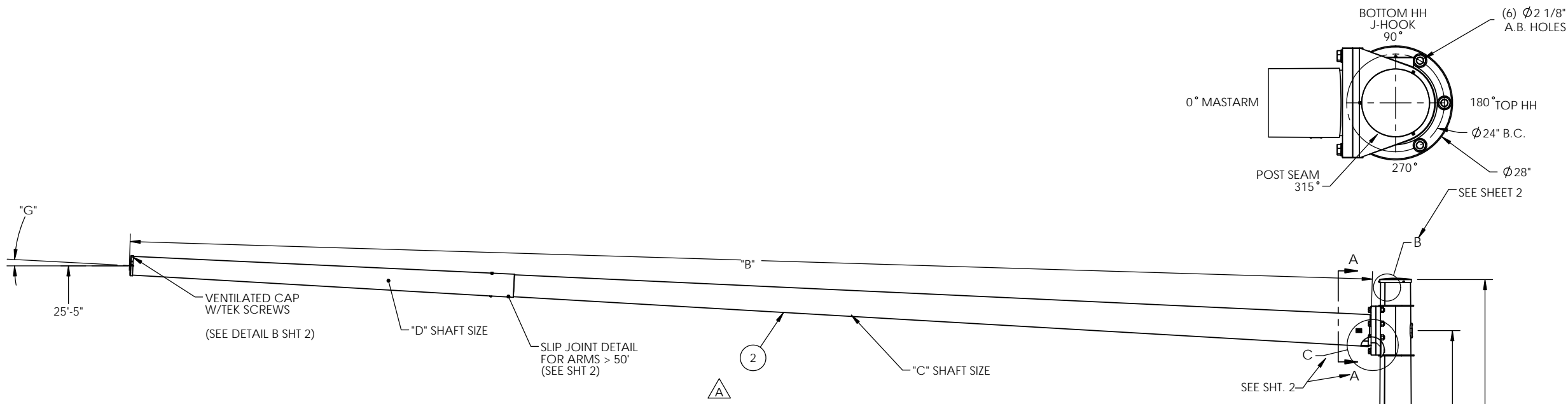
TYPE 10 OS-30'  
XX/XXXX = DATE OF MANUFACTURE

DETAIL G  
SCALE 1 : 3



|  |      |   |                 |
|--|------|---|-----------------|
| <b>MILLERBERND</b>   |      | 622 6TH ST. SO.<br>WINSTED, MN 55395    |                 |
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| SALES ORDER NO.:   | QTY: | STATE:                                  | SHEET<br>2 OF 2 |
| DESCRIPTION:<br>2021 WI DOT TYPE 10-OS TRAFFIC SIGNAL<br>15'-30' MASTARM LENGTHS   |      |   |                 |
| EST. WEIGHT:<br>N/A  |      | DRAWING NO:<br>2021 type 10-OS wi dot a |                 |
| PROJECT NAME:  |      |   |                 |
| PROJECT LOCATION:  |      |   |                 |
| DWN BY: PAM F.   |      | DATE: 12/11/2020                        |                 |
| CHK BY:  |      | DATE:                                   |                 |

| REVISIONS |  |            |      |
|-----------|--|------------|------|
| REV.      | DESCRIPTION  | DATE       | DRFT |
| A         | chgd name was 2017 is 2021 & updated chart with new end cap parts #, updated design criteria | 12/11/2020 | PJF  |
| B         | ADDED IID TAG TO ARM AND POST  | 9/29/2021  | PJF  |
| C         | REMOVED STAMPING BASEPLATE NOTE & UPDATED ID TAG INFO  | 9/19/2022  | PJF  |



| MATERIAL SPECIFICATIONS |                        |
|-------------------------|------------------------|
| POST:                   | ASTM A572 GR 50        |
| BASE PLATE:             | ASTM A709 GR 36        |
| MAST ARM:               | ASTM A572 GR 50        |
| MOUNTING PLATE:         | ASTM A36               |
| HARDWARE FINISH:        | ASTM A153              |
| ANCHOR BOLTS:           | ASTM F1554 GR 55 (FBO) |

| DESIGN CRITERIA  |  |
|--|--|
| 2015 AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS LRFDLTS-1, FATIGUE CATEGORY II, AND PER WISDOT STANDARD S.D.D 9 E 8-9A, 9K. |  |

| WELD SPECIFICATION  |  |
|---|--|
| THE POST AND MAST ARM TO BE ROUND TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE AND 60% FOR REMAINDER. GAS METAL ARC WELDING PROCESS WITH 60% PENETRATION MAY BE USED FOR REMAINDER OF WELDED FABRICATION.  |  |
| WELD TESTING: 100% OF ALL WELDS VISUAL TESTED (VT), 100% OF ALL COMPLETE JOINT PENETRATION (CJP) WELDS ULTRASONIC TESTED (UT) BASED ON THE THINNEST MATING MATERIAL: (PER AASHTO 2013 5.15.5-WELD INSP) THICKNESS.<br>< 6MM (0.25 IN) MT<br>≥ 6MM (0.25 IN) UT<br>A RANDOM 30% OF ALL FILLET WELDS AND PARTIAL JOINT PENETRATION (PJP) LONGITUDINAL SEAM WELDS MAGNETIC PARTICLE TESTED (MT). |  |

| FINISH SPECIFICATION    |                            |
|-------------------------|----------------------------|
| GALV. OR PRIME COAT:    | HOT DIP GALV PER ASTM A123 |
| FINISH COAT:            | N/A                        |
| COLOR:                  | N/A                        |
| FEDERAL OR RAL SPEC.:   |                            |
| WEIGHT W/GALV.:         |                            |
| WEIGHT W/GALV. & PAINT: |                            |
| SURFACE AREA:           |                            |
| GAL. OF PAINT:          |                            |



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|                  |      |        |        |
|------------------|------|--------|--------|
| SALES ORDER NO.: | QTY: | STATE: | SHEET  |
|                  |      |        | 1 OF 2 |

DESCRIPTION:  
2021 WI DOT TYPE 12-OS TRAFFIC SIGNAL  
35'-55' MASTARM LENGTHS

|              |                          |
|--------------|--------------------------|
| EST. WEIGHT: | DRAWING NO.:             |
| N/A          | 2021 type 12-OS wi dot a |

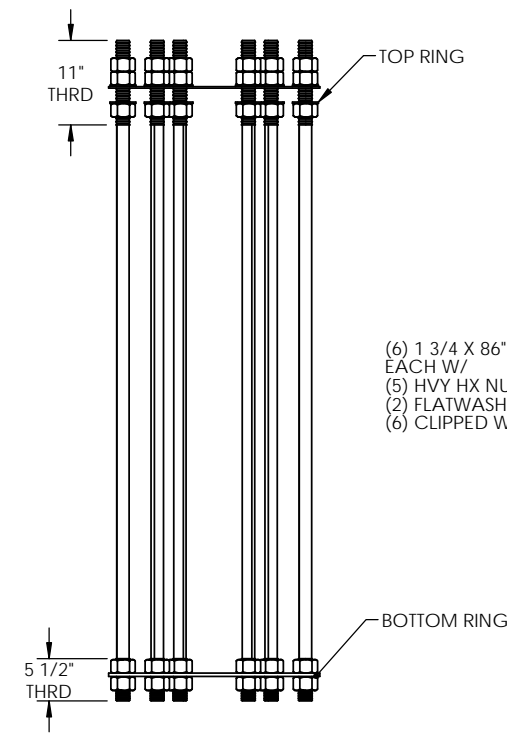
PROJECT NAME:

PROJECT LOCATION:

|                |                  |
|----------------|------------------|
| DWN BY: PAM F. | DATE: 12/11/2020 |
| CHK BY:        | DATE:            |

- NOTE:
- HEX HEAD BOLT & NUTS (UNLESS SPECIFIED) ASTM A325 GV A153 FOR SIZES 1/2 THRU 1 1/2 DIA & ASTM A354BC GV FOR SIZES OVER 1 1/2 DIA
  - DRILLED CABLE ACCESS HOLE MAXIMUM ALLOWABLE DIAMETER IS 3/4"

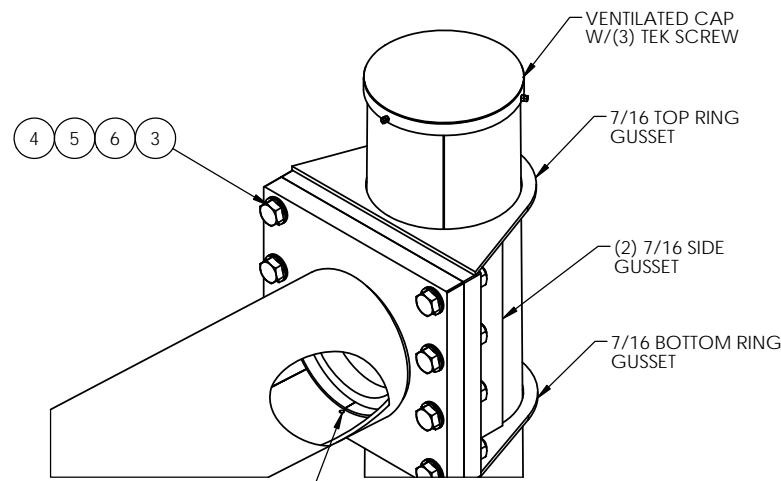
\* - ITEMS AS REQUIRED - NOT ALL TRAFFIC MASTARM HARDWARE BAGS WILL HAVE THESE ITEMS



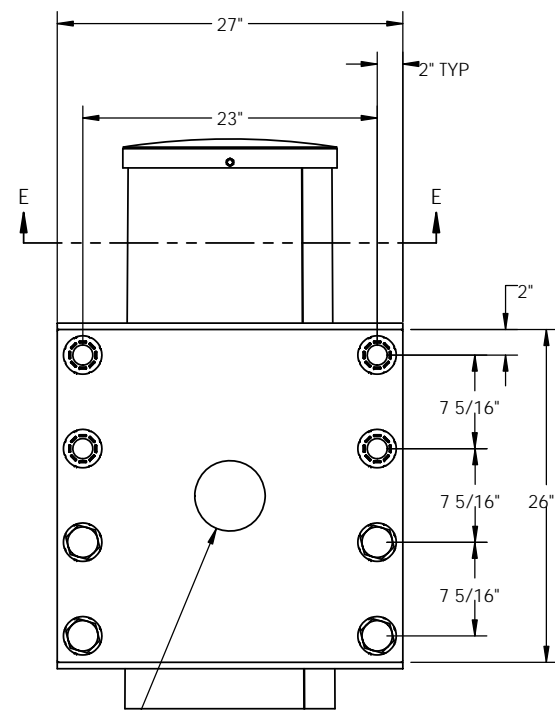
- (6) 1 3/4 X 86" LG ANCHOR BOLTS EACH W/
- (5) HVY HX NUT
- (2) FLATWASHER
- (6) CLIPPED WASHERS

| QTY | "A" ASSY PART # | "B" LENGTH | DESCRPTION                      | "C" MAST ARM SHAFT SIZE     | "D" MASTARM SHAFT SIZE        | "E" PARTS LIST/BAG | "F" ARM END CAP # | "G" ARM RISE |
|-----|-----------------|------------|---------------------------------|-----------------------------|-------------------------------|--------------------|-------------------|--------------|
|     | 1006856         | 35'        | ASSY ARM SIG RD 1/4 X 35'       | 1/4 x 16.0 x 11.1 x 35'-0"  | -                             | 7700014            | 9900208           | 2.5°         |
|     | 1005855         | 40'        | ASSY ARM SIG RD 1/4 X 40'       | 1/4 x 17.0 x 11.4 x 40'-0"  | -                             | 7700013            | 9900208           | 2.5°         |
|     | 1006854         | 45'        | ASSY ARM SIG RD 5/16 X 45'      | 5/16 x 17.0 x 10.7 x 45'-0" | -                             | 7700012            | 9900208           | 2.5°         |
|     | 1006853         | 50'        | ASSY ARM SIG RD 3/8/3/16 X 50'  | 3/8 x 17.0 x 11.4 x 40'-0"  | 3/16 x 12.31 x 10.63 x 12'-0" | 7700011            | 9900208           | 3°           |
|     | 1006850         | 55'        | ASSY ARM SIG RD 7/16/3/16 X 55' | 7/16 x 17.0 x 11.4 x 40'-0" | 3/16 x 12.31x 9.93 x 17'-0"   | 7700010            | 9900207           | 3°           |

| ITEM NO. | PART NUMBER             | DESCRIPTION  | QTY PER | ASSY               | FINISH   | SHIP LOOSE |
|----------|-------------------------|--|---------|--------------------|----------|------------|
| 1        | 1016138                 | SHIP POLE SIG RD 3/8X23'6/21'6                             | 1       |                    | X        | X          |
|          | 7700047                 | PARTS LIST WI/DOT (2017) TYPE 12 OS TRAFFIC SIGNAL 1016138 | 1       |                    | POLE CAP | X          |
|          | 1055940                 | I.D. TAG - WI  | 1       | X                  |          |            |
|          | SCRWY#2X3/16ZC          | U-DRIVE SCR W/DRIVE IN TYPE)F1941M ZC                      | 2       | X                  |          |            |
| 2        | "A"                     | SHIP ARM SIG RD S1-7/16,S2-3/16X "B"                       | 1       |                    |          | X          |
|          | "E"                     | PARTS LIST WI/DOT (2016) TYPE 12/13 TRAFFIC ARM            | 1       |                    | POLE CAP | X          |
|          | 1055940                 | I.D. TAG - WI  | 1       | X                  |          |            |
|          | SCRWY#2X3/16ZC          | U-DRIVE SCR W/DRIVE IN TYPE)F1941M ZC                      | 2       | X                  |          |            |
| 3        | BOLT1-1/2-6X7-1/2"B     | BOLT HVYHXHD 1-1-2-6 X 7-1-2 A325GV                        | 8       | SUPPLIED BY OTHERS |          |            |
| 4        | NUTHVYHX1-1/2-6A563DHGV | NUT HVY HX 1-1-2-6NC ASTM A563 DH GV                       | 8       |                    |          |            |
| 5        | WASHFLAT1-1/2GV         | WASHER FLAT 1-1/2 SAE ASTM F436 GV                         | 16      |                    |          |            |
| 6        | WASHLOADIN1-1/2-001-GV  | WASHER DTI 1-1/2" ASTM F959 TYPE 325                       | 8       |                    |          |            |
| 7        | 460B735-6               | ANCHOR BOLT CLUSTER (6 BOLT) WISCONSIN DOT                 | 1       |                    |          |            |



SEE DETAIL C THIS SHEET 1/2 DIA DRAIN HOLE

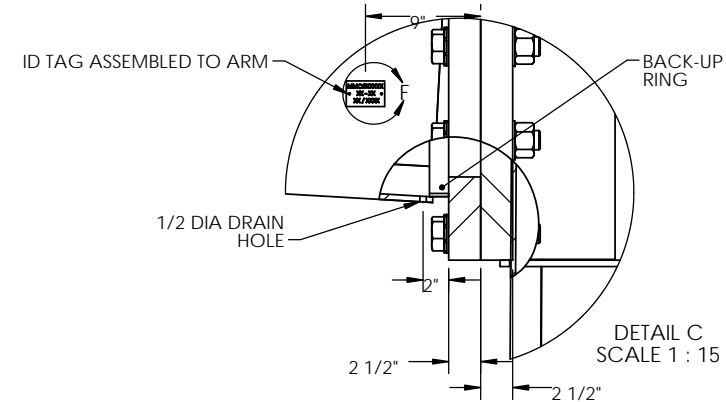


SECTION A-A SCALE 1 : 15  
Ø 5 1/2" WIREWAY THRU PLATE & POST ROUND EDGES

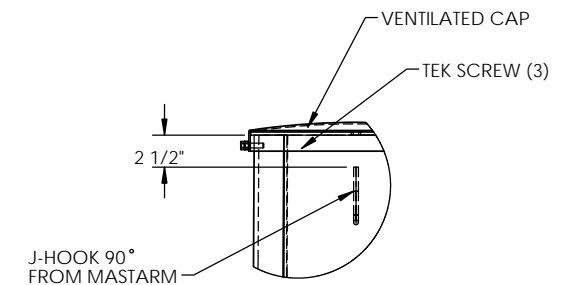
MMC#XXXXX  
• XX-XX •  
XX / XXXX

DETAIL F SCALE 1 : 3

MMC#XXXXX= MMC#SALES ORDER LGTH OF ARM=MA  
(EX: 50'-MA)  
XX-XX =  
XX/XXXX= DATE OF MANUFACTURE

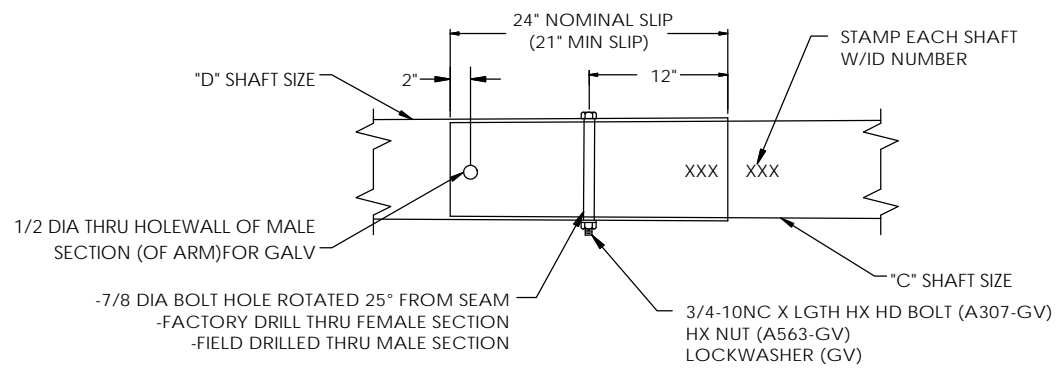
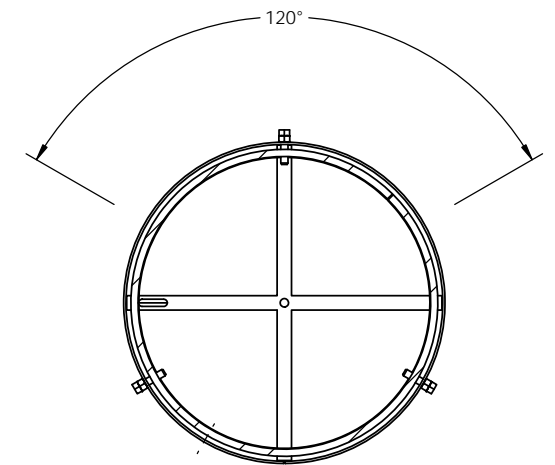


DETAIL C SCALE 1 : 15



DETAIL B SCALE 1 : 15

(POLE TOP CAP (INCLUDED IN ITEM #2) & MASTARM END CAP PART "F")

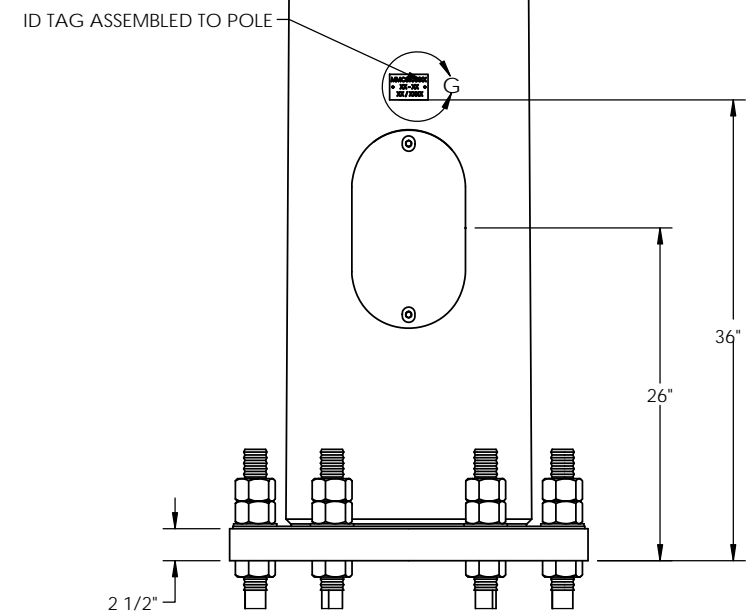
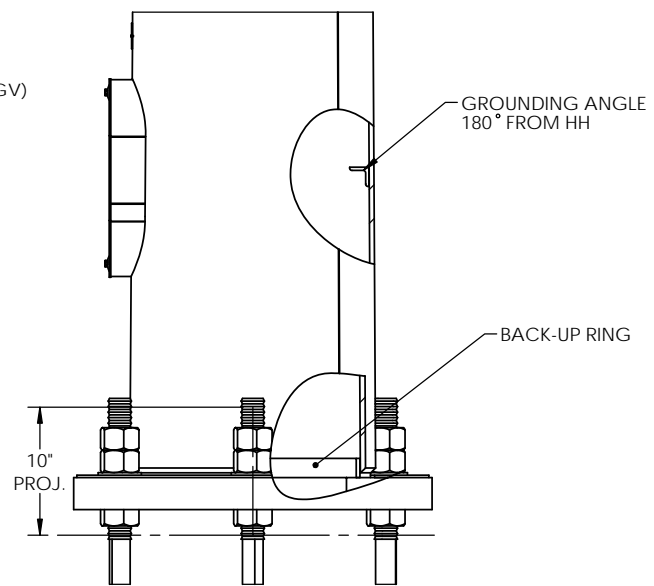


SLIP JOINT DETAIL FOR MASTARMS 50' AND GREATER

MMC#XXXXX  
TYPE 12 OS-23'6"  
• XX/XXXX •

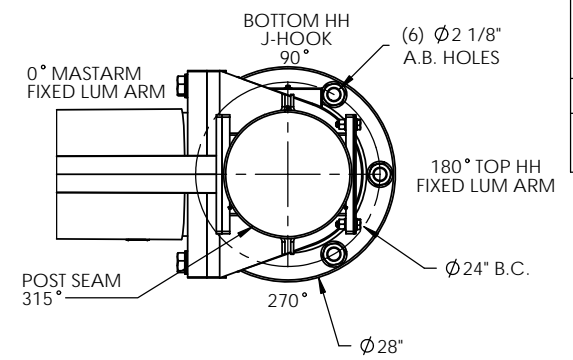
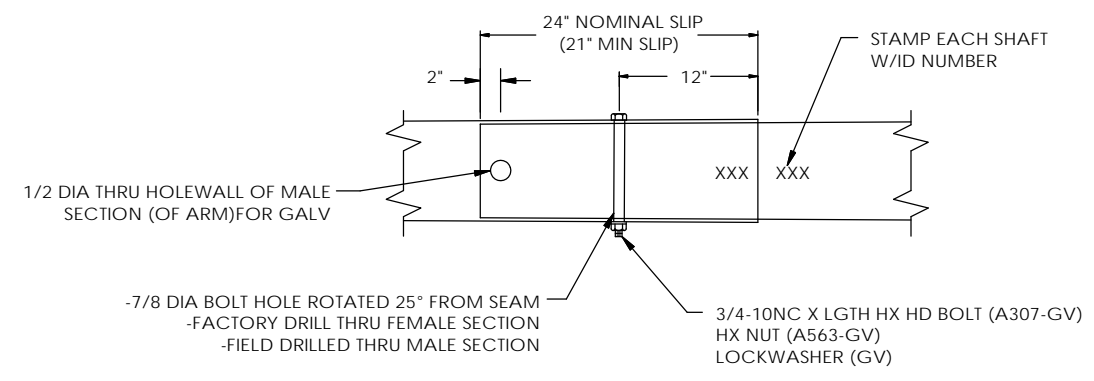
DETAIL G SCALE 1 : 4

MMC#XXXXX= MMC#SALES ORDER TYPE 12 OS-23'6" = TYPE-HGT OF POST  
XX/XXXX= DATE OF MANUFACTURE



|  |      |   |                 |
|--|------|---|-----------------|
| <b>MILLERBERND</b>   |      | 622 6TH ST. SO.<br>WINSTED, MN 55395    |                 |
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| SALES ORDER NO.:   | QTY: | STATE:                                  | SHEET<br>2 OF 2 |
| DESCRIPTION:<br>2021 WI DOT TYPE 12-OS TRAFFIC SIGNAL<br>35'-55' MASTARM LENGTHS   |      |   |                 |
| EST. WEIGHT:<br>N/A  |      | DRAWING NO:<br>2021 type 12-OS wi dot a |                 |
| PROJECT NAME:  |      |   |                 |
| PROJECT LOCATION:  |      |   |                 |
| DWN BY: PAM F.   |      | DATE: 12/11/2020                        |                 |
| CHK BY:  |      | DATE:                                   |                 |

| REVISIONS |   |            |      |
|-----------|---|------------|------|
| REV.      | DESCRIPTION   | DATE       | DRFT |
| A         | chgd name was 2017 is 2021 & updated chart with new end cap parts #, updated design criteria, remove 7700039. | 12/11/2020 | PJF  |
| B         | ADDED ID TAG TO ARM & POST  | 9/29/2021  | PJF  |
| C         | REMOVED STAMPING BASEPLATE NOTE & UPDATED ID TAG INFO   | 9/19/2022  | pjf  |



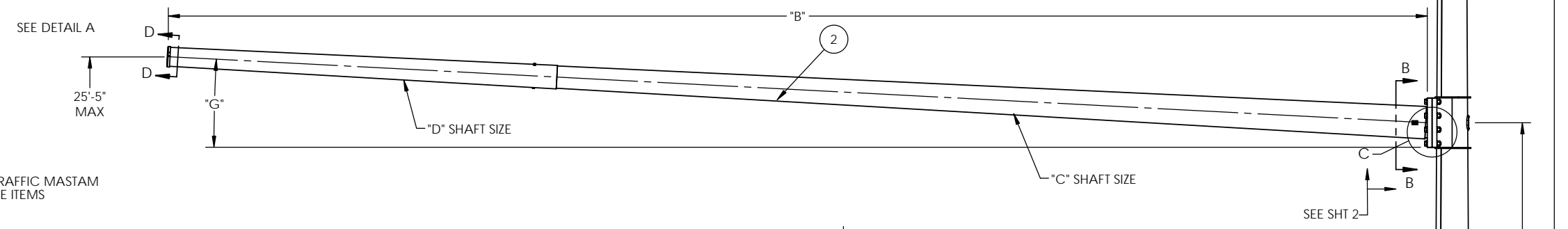
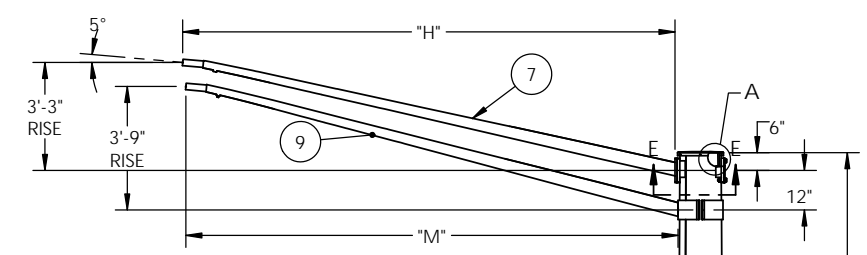
| CLAMP ON LUMINAIRE ARM |                  |            |
|------------------------|------------------|------------|
| "L" QTY                | "K" ARM PART #   | "M" LENGTH |
|                        | 730A1652-6-1562  | 6'         |
|                        | 730A1652-8-1562  | 8'         |
|                        | 730A1652-10-1562 | 10'        |
|                        | 730A1652-12-1562 | 12'        |
|                        | 730A1652-15-1562 | 15'        |

| FIXED LUMINAIRE ARM |                |            |
|---------------------|----------------|------------|
| "J" QTY             | "G" ARM PART # | "H" LENGTH |
|                     | 1015935        | 6'         |
|                     | 1015934        | 8'         |
|                     | 1015933        | 10'        |
|                     | 1015932        | 12'        |
|                     | 1015929        | 15'        |

| LUM. ARM COVER PLATE |  |
|----------------------|--|
| "P" QTY              |  |
|                      |  |

**SLIP JOINT DETAIL FOR MASTARMS 50' AND GREATER**

| QTY | "A" ASSY PART # | "B" LENGTH | DESCRIPTION                     | "D" MASTARM SHAFT SIZE        | "C" MAST ARM SHAFT SIZE     | "E" PARTS LIST/BAG | "F" ARM END CAP | "G" ARM RISE |
|-----|-----------------|------------|---------------------------------|-------------------------------|-----------------------------|--------------------|-----------------|--------------|
|     | 1006856         | 35'        | ASSY ARM SIG RD 1/4 X 35'       | -                             | 1/4 x 16.0 x 11.1 x 35'-0"  | 7700014            | 9900208         | 2.5°         |
|     | 1006855         | 40'        | ASSY ARM SIG RD 1/4 X 40'       | -                             | 1/4 x 17.0 x 11.4 x 40'-0"  | 7700013            | 9900208         | 2.5°         |
|     | 1006854         | 45'        | ASSY ARM SIG RD 5/16 X 45'      | -                             | 5/16 x 17.0 x 10.7 x 45'-0" | 7700012            | 9900208         | 2.5°         |
|     | 1006853         | 50'        | ASSY ARM SIG RD 3/8/3/16 X 50'  | 3/16 x 12.31 x 10.63 x 12'-0" | 3/8 x 17.0 x 11.4 x 40'-0"  | 7700011            | 9900208         | 3°           |
|     | 1006850         | 55'        | ASSY ARM SIG RD 7/16/3/16 X 55' | 3/16 x 12.31 x 9.93 x 17'-0"  | 7/16 x 17.0 x 11.4 x 40'-0" | 7700010            | 9900207         | 3°           |



\* - ITEMS AS REQUIRED - NOT ALL TRAFFIC MASTAM HARDWARE BAGS WILL HAVE THESE ITEMS

| MATERIAL SPECIFICATIONS |                        |
|-------------------------|------------------------|
| POST:                   | ASTM A572 GR 50        |
| BASE PLATE:             | ASTM A709 GR 36        |
| MAST ARM:               | ASTM A572 GR 50        |
| MOUNTING PLATE:         | ASTM A36               |
| HARDWARE FINISH:        | ASTM A153              |
| ANCHOR BOLTS:           | ASTM F1554 GR 55 (FBO) |

| DESIGN CRITERIA  |  |
|--|--|
| 2015 AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS LRFDLTS-1, FATIGUE CATEGORY II, AND PER WISDOT STANDARD S.D.D 9 E 8-9A, 9K. |  |

| WELD SPECIFICATION  |  |
|---|--|
| THE POST AND MAST ARM TO BE ROUND TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE AND 60% FOR REMAINDER. GAS METAL ARC WELDING PROCESS WITH 60% PENETRATION MAY BE USED FOR REMAINDER OF WELDED FABRICATION.  |  |
| WELD TESTING: 100% OF ALL WELDS VISUAL TESTED (VT), 100% OF ALL COMPLETE JOINT PENETRATION (CJP) WELDS ULTRASONIC TESTED (UT) BASED ON THE THINNEST MATING MATERIAL: (PER AASHTO 2013 5.15.5-WELD INSP) THICKNESS.<br>< 6MM (0.25 IN) MT<br>≥ 6MM (0.25 IN) UT<br>A RANDOM 30% OF ALL FILLET WELDS AND PARTIAL JOINT PENETRATION (PJP) LONGITUDINAL SEAM WELDS MAGNETIC PARTICLE TESTED (MT). |  |

| FINISH SPECIFICATION    |                            |
|-------------------------|----------------------------|
| GALV. OR PRIME COAT:    | HOT DIP GALV PER ASTM A123 |
| FINISH COAT:            | N/A                        |
| COLOR:                  | N/A                        |
| FEDERAL OR RAL SPEC.:   |                            |
| WEIGHT W/GALV.:         |                            |
| WEIGHT W/GALV. & PAINT: |                            |
| SURFACE AREA:           |                            |
| GAL. OF PAINT:          |                            |



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|                  |      |        |        |
|------------------|------|--------|--------|
| SALES ORDER NO.: | QTY: | STATE: | SHEET  |
|                  |      |        | 1 OF 2 |

DESCRIPTION:  
2021 WI DOT TYPE 13-OS TRAFFIC SIGNAL  
35'-55' MASTARM LENGTHS

EST. WEIGHT: DRAWING NO:  
2021 type 13-OS wi dot a

PROJECT NAME:

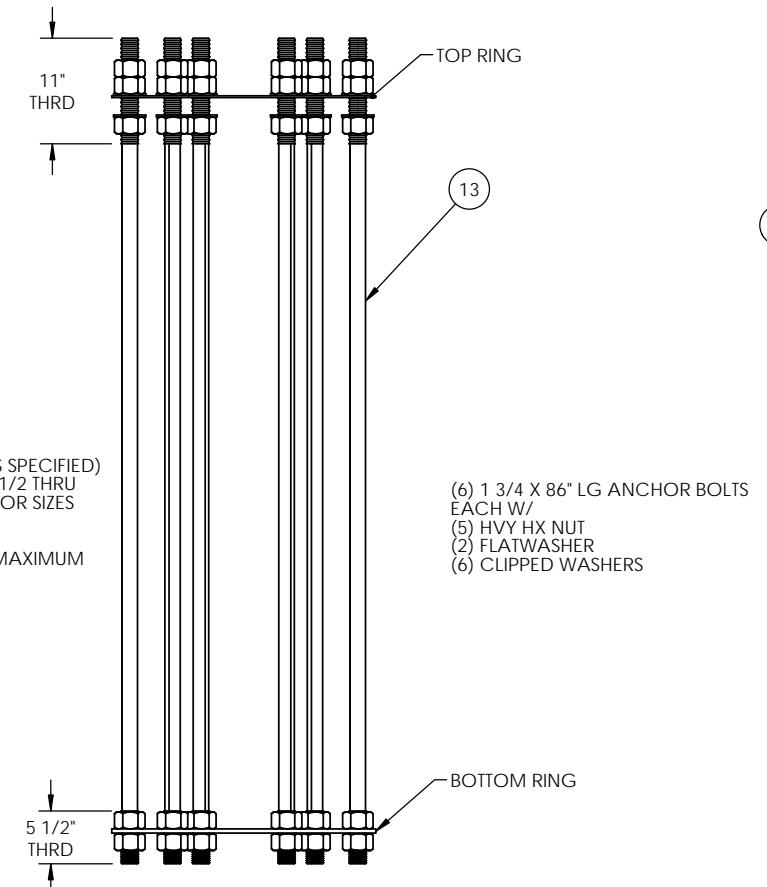
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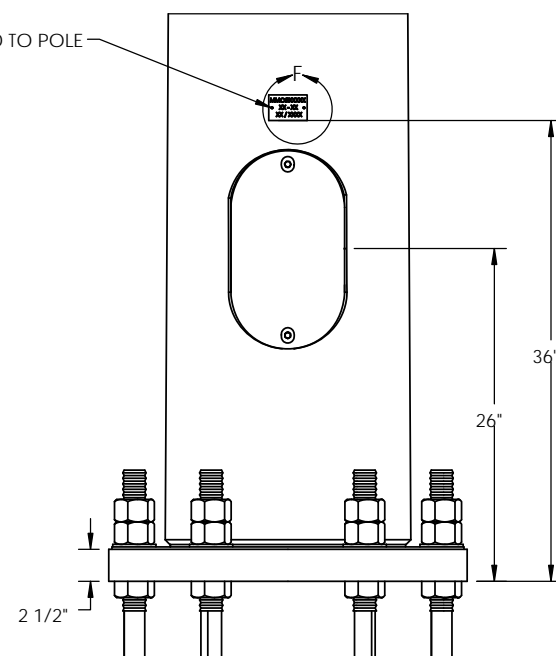
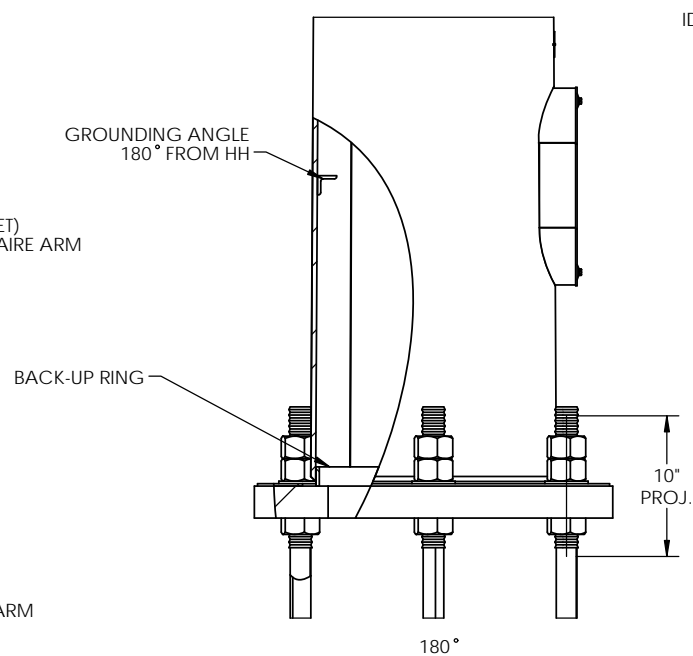
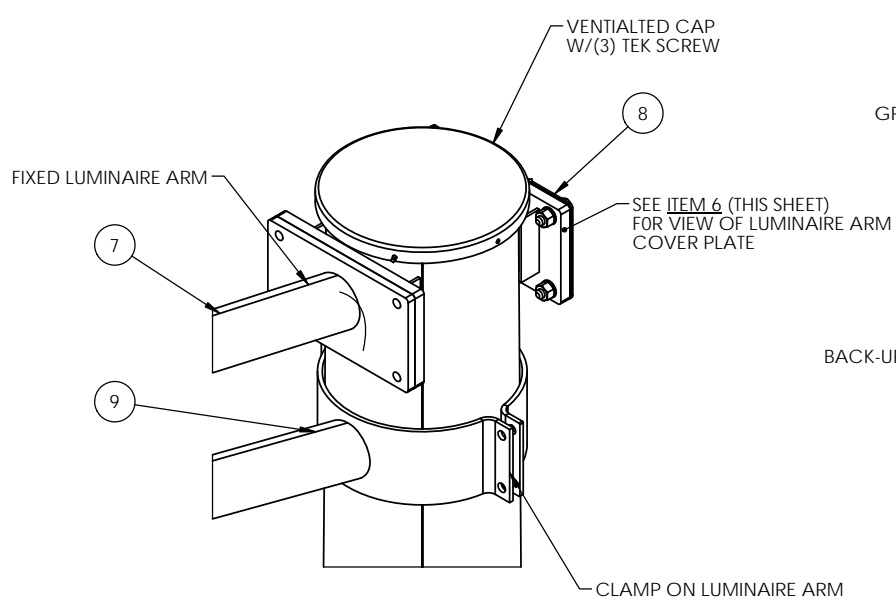
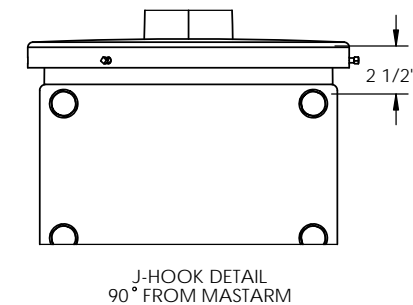
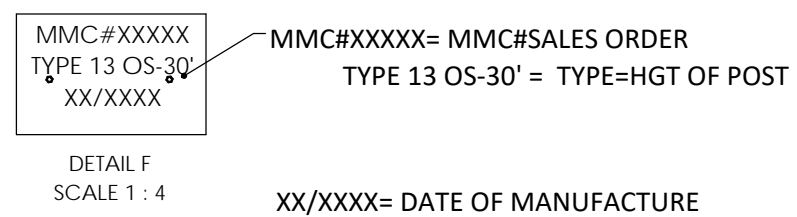
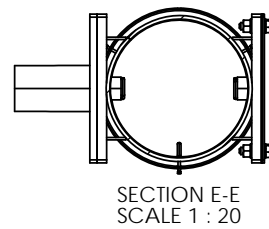
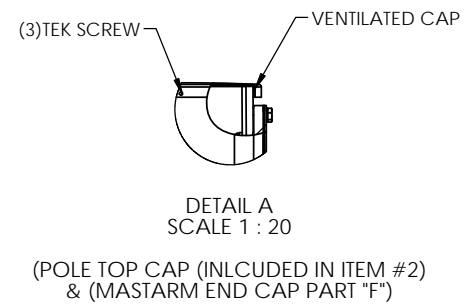
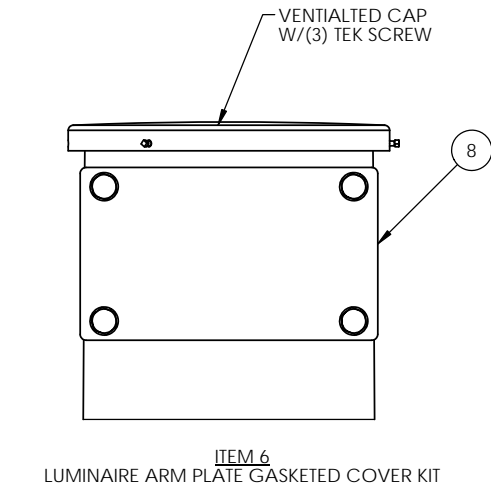
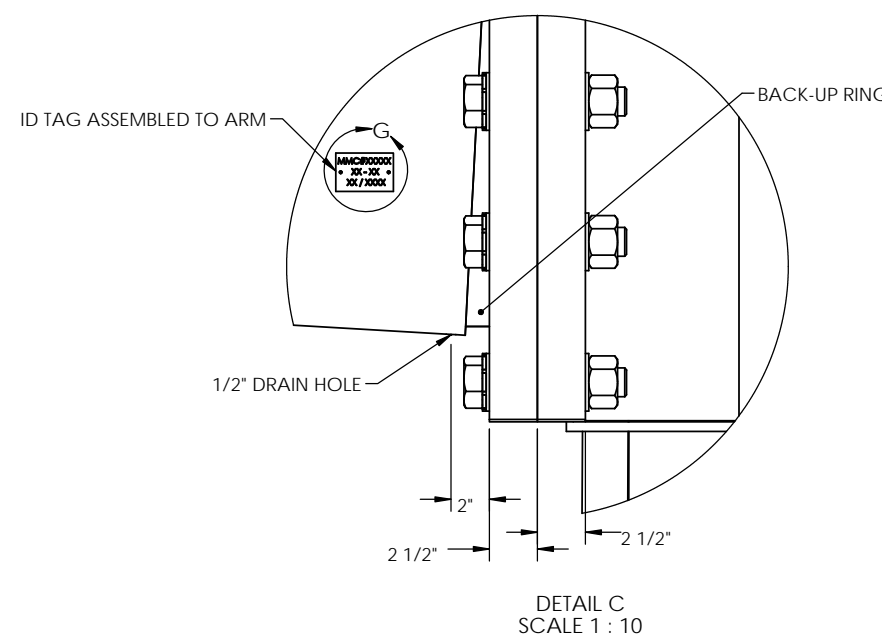
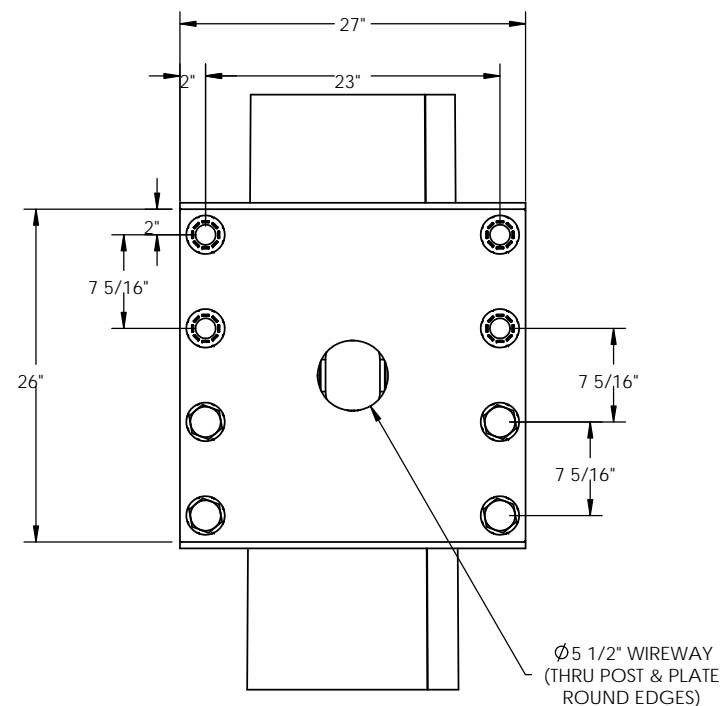
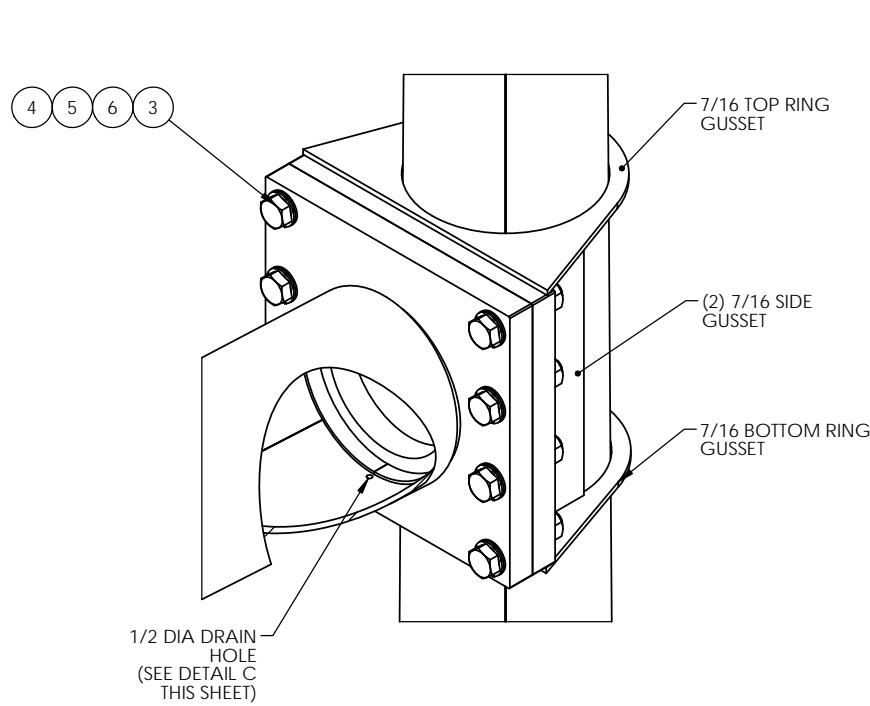
DWN BY: PAM F. DATE: 12/11/2020

CHK BY: DATE:

| ITEM NO. | PART NUMBER            | DESCRIPTION   | QTY PER | ASSY               | FINISH   | SHIP LOOSE |
|----------|------------------------|---|---------|--------------------|----------|------------|
| 1        | 1016139                | SHIP POLE SIG RD 3/8X30'0/21'6                          | 1       |                    | X        | X          |
|          | 7700015                | PARTS LIST WI/DOT (2016) TYPE 13 TRAFFIC SIGNAL 1006857 | 1       |                    | POE CAP  | X          |
|          | 1055940                | I.D. TAG - WI   | 1       | X                  |          |            |
|          | SCRWY#2X3/16ZC         | U-DRIVE SCR W 3/16(DRIVE IN TYPE)F1941M ZC              | 2       | X                  |          |            |
| 2        | "A"                    | SHIP ARM SIG RD S1-7/16,S2-3/16X"B"                     | 1       |                    | X        | X          |
|          | "E"                    | PARTS LIST WI/DOT (2016) TYPE 12/13 TRAFFIC ARM         | 1       |                    | POLE CAP | X          |
|          | 1055940                | I.D. TAG - WI   | 1       | X                  |          |            |
|          | SCRWY#2X3/16ZC         | U-DRIVE SCR W 3/16(DRIVE IN TYPE)F1941M ZC              | 2       | X                  |          |            |
| 3        | BOLT B1-1/2-6X7-1/2"B  | BOLT HVYHXD 1-1-2-6 X 7-1-2 A325GV                      | 8       | SUPPLIED BY OTHERS |          |            |
| 4        | NUTHVYHX1-1/2-6A194GV  | NUT HVY HX 1-1-2-6NC ASTM A194 GV(2H)                   | 8       |                    |          |            |
| 5        | WASHFLAT1-1/2GV        | WASHER FLAT 1-1/2 SAE ASTM F436 GV                      | 16      |                    |          |            |
| 6        | WASHLOADIN1-1/2-001-GV | WASHER DTI 1-1/2" ASTM F959 TYPE 325                    | 8       |                    |          |            |
| 7        | "G"                    | WLDMT ARM LUM RD 11GAX"H"                               | "J"     |                    | X        | X          |
| 8        | 1015928                | GASKETED COVER FOR 4 BOLT LUM ARM                       | "P"     |                    | X        | X          |
| 9        | "K"                    | WLDMT ARM LUM CLAMP RD 11GA X M"                        | "L"     |                    | X        | X          |
| 10       | 460B735-6              | ANCHOR BOLT CLUSTER (6 BOLT) WISCONSIN DOT              | 1       |                    |          | X          |

- NOTE:
- HEX HEAD BOLT & NUTS (UNLESS SPECIFIED) ASTM A325 GV A153 FOR SIZES 1/2 THRU 1 1/2 DIA & ASTM A354BC GV FOR SIZES OVER 1 1/2 DIA
  - DRILLED CABLE ACCESS HOLE MAXIMUM ALLOWABLE DIAMETER IS 3/4"





|  |      |   |                 |
|--|------|---|-----------------|
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| SALES ORDER NO.:   | QTY: | STATE:                                  | SHEET<br>2 OF 2 |
| DESCRIPTION:<br>2021 WI DOT TYPE 13-OS TRAFFIC SIGNAL<br>35'-55' MASTARM LENGTHS   |      |   |                 |
| EST. WEIGHT:<br>7026.5 - LBS   |      | DRAWING NO:<br>2021 type 13-OS wi dot a |                 |
| PROJECT NAME:  |      |   |                 |
| PROJECT LOCATION:  |      |   |                 |
| DWN BY: PAM F.   |      | DATE: 12/11/2020                        |                 |
| CHK BY:  |      | DATE:                                   |                 |

| REVISIONS |  |           |      |
|-----------|--|-----------|------|
| REV.      | DESCRIPTION  | DATE      | DRFT |
| A         | UPDATED PER CUSTOMER MARK-UPS  | 2/7/2019  |      |
| B         | UPDATED HOLE SIZES FOR MASTARMS FROM 1 3/16 DIA TO 1 1/8" DIA AND ADDED VIBRATION DAMPNER  | 2/18/2019 | JA   |
| C         | chgd name was 2017 is 2021 & updated chart with new end cap part#, updated design criteria | 12/6/2020 | PJF  |
| D         | ADDED ID TAG TO ARM & POST   | 9/29/2021 | PJF  |
| E         | REMOVED STAMPING BASEPLATE NOTE & UPDATED ID TAG INFO                                      | 9/16/2022 | PJF  |

**MATERIAL SPECIFICATIONS**

POST: ASTM A 572 GR 55  
 BASE PLATE: ASTM A36  
 MAST ARM: ASTM A 572 GR 55  
 MOUNTING PLATE: ASTM A36  
 HARDWARE FINISH: ASTM A153  
 ANCHOR BOLTS: ASTM F1554 GR 55 (FBO)

**DESIGN CRITERIA**

2015 AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS LRFDLTS-1, FATIGUE CATEGORY II, AND PER WISDOT STANDARD S.D.D 9 E 8-9A, 9K.

**WELD SPECIFICATION**

THE POST AND MAST ARM TO BE ROUND TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE AND 60% FOR REMAINDER. GAS METAL ARC WELDING PROCESS WITH 60% PENETRATION MAY BE USED FOR REMAINDER OF WELDED FABRICATION.

WELD TESTING: 100% OF ALL WELDS VISUAL TESTED (VT), 100% OF ALL COMPLETE JOINT PENETRATION (CJP) WELDS ULTRASONIC TESTED (UT) BASED ON THE THINNEST MATING MATERIAL: (PER AASHTO 2013 5.15.5-WELD INSP) THICKNESS.  
 < 6MM (0.25 IN) MT  
 ≥ 6MM (0.25 IN) UT  
 A RANDOM 30% OF ALL FILLET WELDS AND PARTIAL JOINT PENETRATION (PJP) LONGITUDINAL SEAM WELDS MAGNETIC PARTICLE TESTED (MT).

**FINISH SPECIFICATION**

GALV. OR PRIME COAT: HOT DIP GALV PER ASTM A123  
 FINISH COAT: N/A  
 COLOR: N/A  
 FEDERAL OR RAL SPEC.:  
 WEIGHT W/GALV.:  
 WEIGHT W/GALV.&PAINT:  
 SURFACE AREA:  
 GAL. OF PAINT:

**MILLERBERND** 622 6TH ST. SO. WINSTED, MN 55395

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SALES ORDER NO.: QTY: STATE: SHEET 1 OF 1

DESCRIPTION: 2021 WI DOT TYPE 9 SPECIAL TRAFFIC SIGNAL 35', 40' & 45' MASTARM LENGTHS

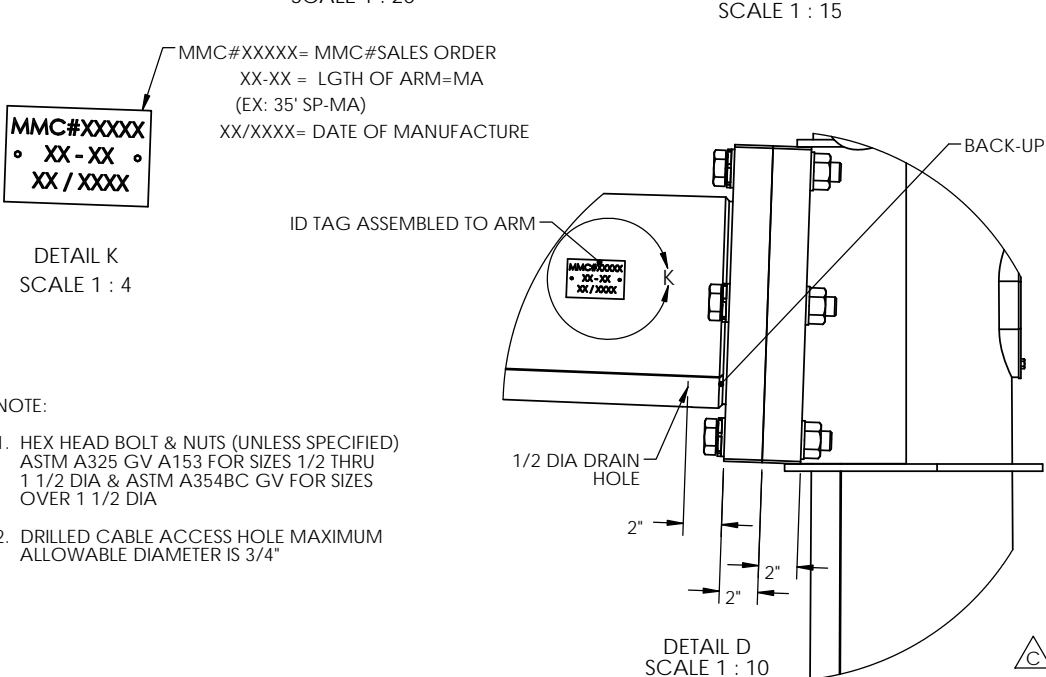
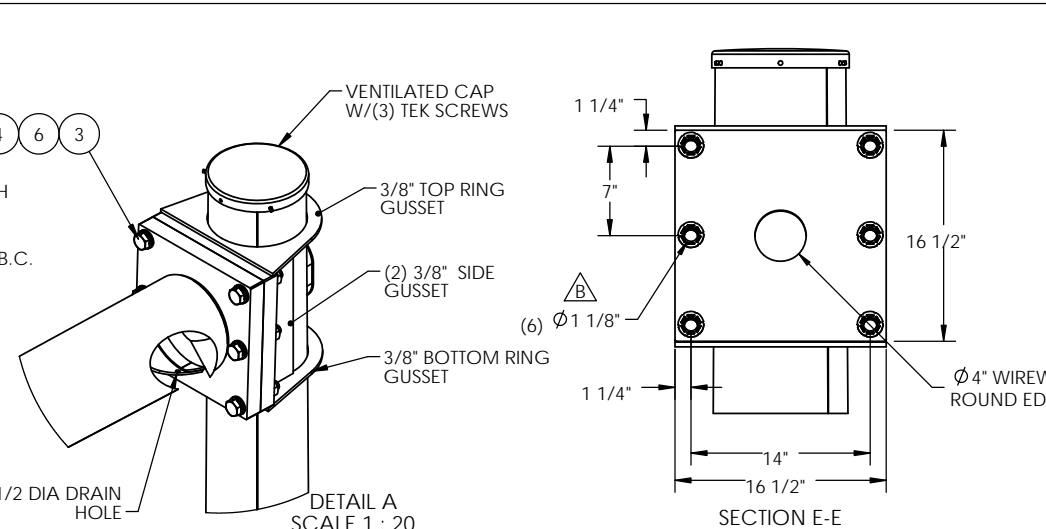
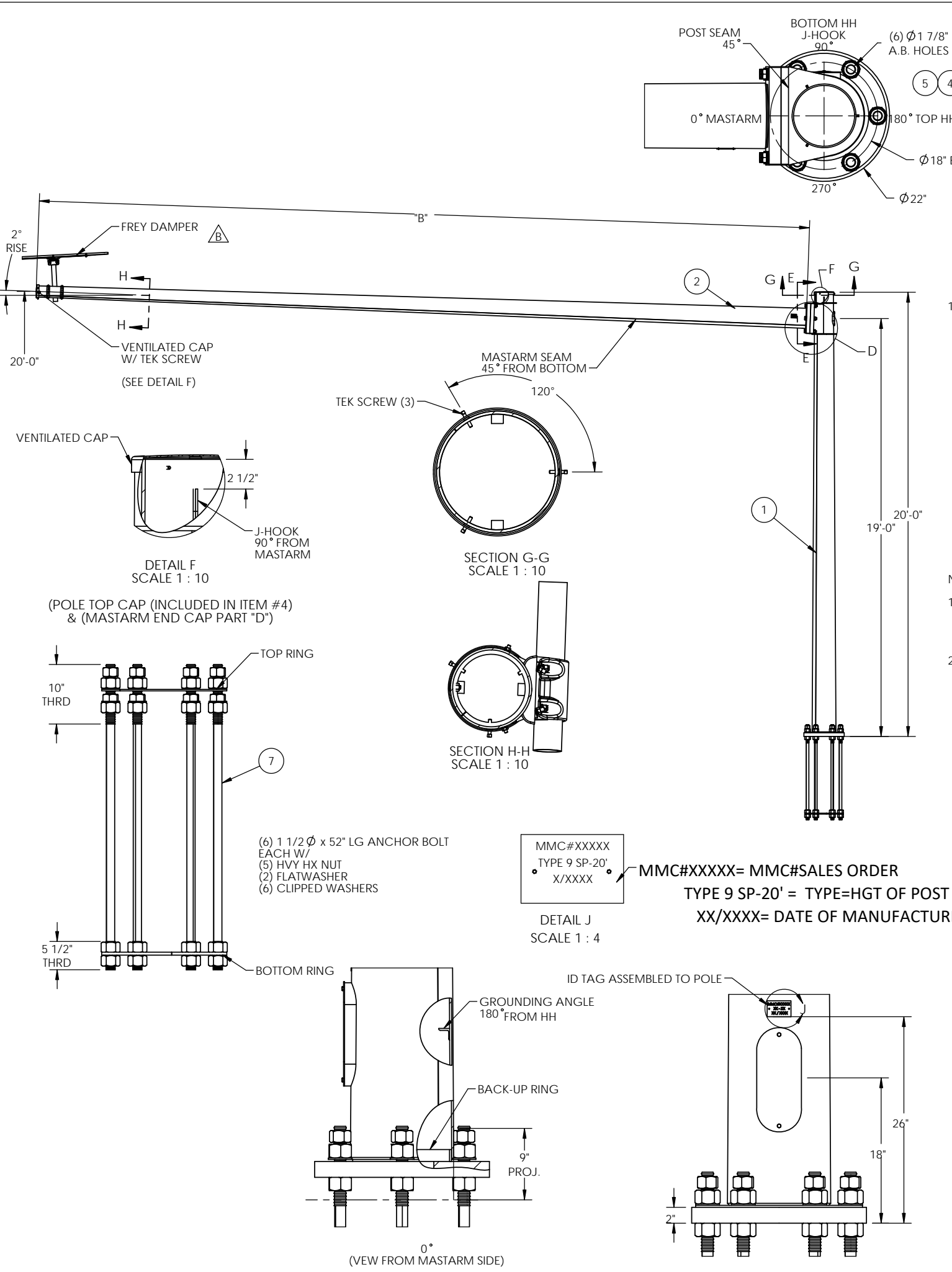
EST. WEIGHT: 2021.8 - LBS DRAWING NO: 2021 type 9 special wi dot a

PROJECT NAME:

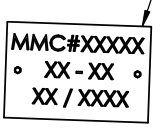
PROJECT LOCATION:

DWN BY: PAM F. DATE: 12/11/2020

CHK BY: DATE:



MMC#XXXXX = MMC#SALES ORDER  
 XX-XX = LGTH OF ARM=MA (EX: 35' SP-MA)  
 XX/XXXX = DATE OF MANUFACTURE



DETAIL K SCALE 1:4

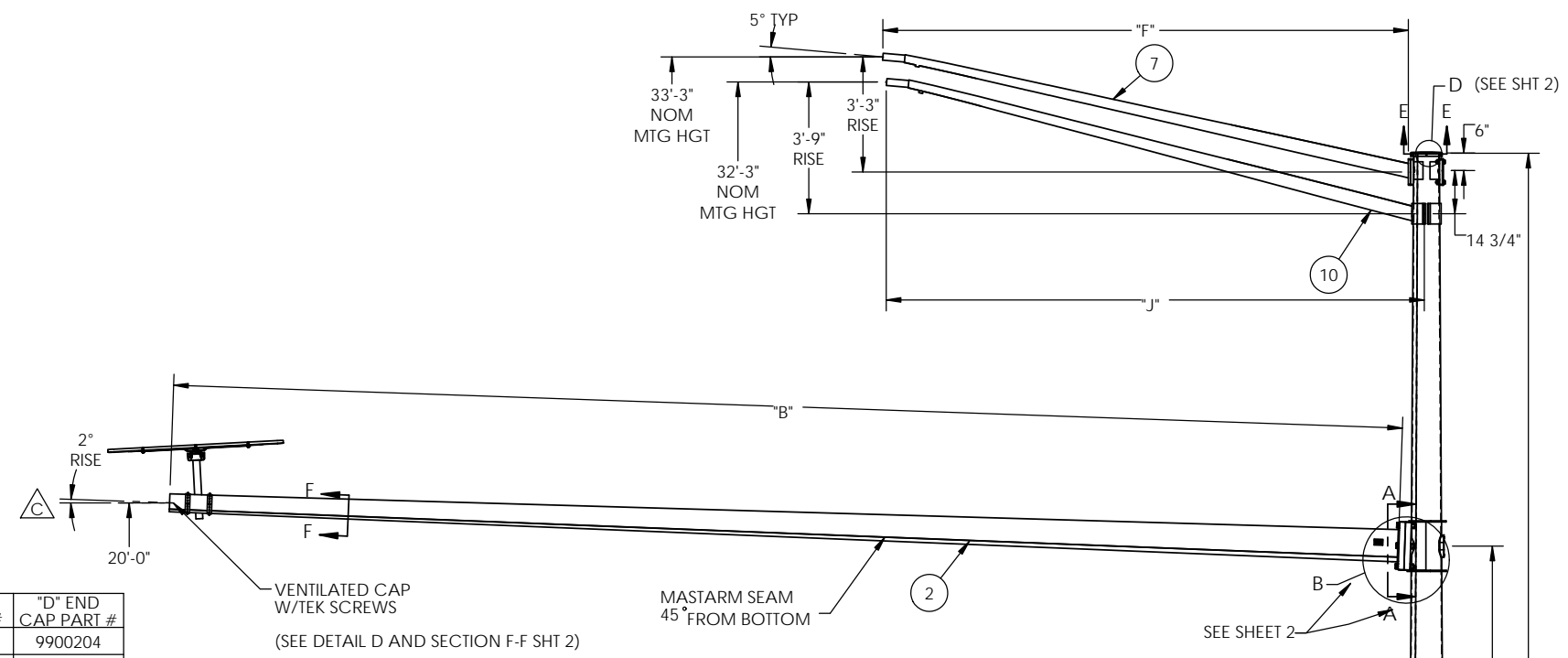
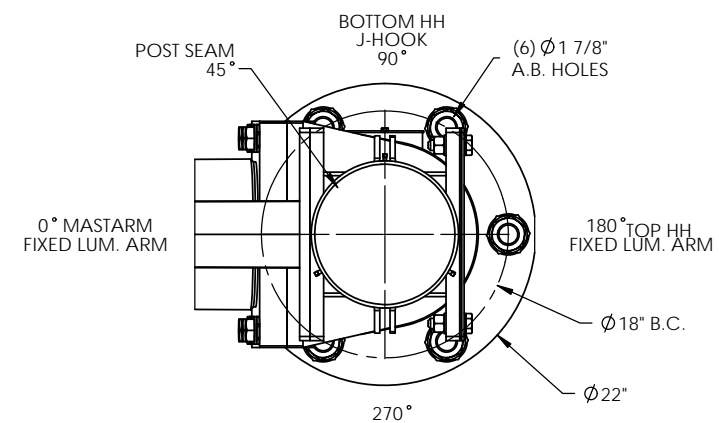
- NOTE:
- HEX HEAD BOLT & NUTS (UNLESS SPECIFIED) ASTM A325 GV A153 FOR SIZES 1/2 THRU 1 1/2 DIA & ASTM A354BC GV FOR SIZES OVER 1 1/2 DIA
  - DRILLED CABLE ACCESS HOLE MAXIMUM ALLOWABLE DIAMETER IS 3/4"

| QTY | "A" ASSY PART # | "B" LENGTH | DESCRIPTION                 | MAST ARM SHAFT SIZE  | "C" PARTS LIST/BAG # | "D" ARM END CAP PART # |
|-----|-----------------|------------|-----------------------------|----------------------|----------------------|------------------------|
|     | 1035262         | 35'0       | ASSY ARM SIG RD 3/16 X 35'0 | 3/16x11.0x6.1x35'-0" | 7700063              | 9900204                |
|     | 1035264         | 40'0       | ASSY ARM SIG RD 3/16 X 40'0 | 3/16x11.0x5.4x40'-0" | 7700064              | 9900203                |
|     | 1035266         | 45'0       | ASSY ARM SIG RD 3/16 X 45'0 | 3/16x11.0x4.7x45'-0" | 7700065              | 9900202                |

| ITEM NO. | PART NUMBER           | DESCRIPTION                                | QTY PER | ASSY | FINISH   | SHIP LOOSE |
|----------|-----------------------|--|---------|------|----------|------------|
| 1        | 1035260               | SHIP POLE SIG RD 1/4X20'0/19'0             | 1       |      | X        | X          |
|          | 7700062               | TYPE 9 SPECIAL POLE WIS DOT HARDWARE BAG   | 1       |      | POLE CAP | X          |
|          | 1055940               | I.D. TAG - WI                              | 1       | X    |          |            |
|          | SCRWY#2X3/16ZC        | U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC  | 2       | X    |          |            |
| 2        | "A"                   | SHIP ARM SIG RD 3/16X"B"                   | 1       |      | X        | X          |
|          | "C"                   | PARTS LIST WI/DOT (2017) TYPE 9/10 SPECIAL | 1       |      | POLE CAP | X          |
|          | FREY-63DM1CPF48ALDF40 | FREY VIBRATION DAMPENER                    | 1       |      |          | X          |
|          | 500A1921              | ALUMINUM TOP PLATE FOR DAMPENER ASSY       | 1       |      |          | X          |
|          | 1055940               | I.D. TAG - WI                              | 1       | X    |          |            |
|          | SCRWY#2X3/16ZC        | U-DRIVE SCRW 3/16(DRIVE IN TYPE)F1941M ZC  | 2       | X    |          |            |
| 3        | BOLT B1"-8X6"B        | BOLT HVYHXHD 1-8 X 6 A325GV                | 6       |      |          |            |
| 4        | NUTHVYHX1"-8A563GV    | NUT HVY HX 1"-8 A563 GV (DH)-RCP           | 6       |      |          |            |
| 5        | WASHFLAT1"GV          | WASHFLAT1"GV ASTM F436                     | 12      |      |          |            |
| 6        | WASHLOADIN1"GV        | WASHER DTI 1" ASTM F959 TYPE 325           | 6       |      |          |            |
| 7        | 460B735-11            | ANCHOR BOLT CLUSTER (6 BOLT) WISCONSIN DOT | 1       |      |          | X          |

SUPPLIED BY OTHERS

| REVISIONS |   |           |      |
|-----------|---|-----------|------|
| REV.      | DESCRIPTION   | DATE      | DRFT |
| A         | UPDATED PER CUSTOMER MARK-UPS   | 2/7/2019  | JA   |
| C         | chgd name was 2017 is 2021 & updated chart with new end cap parts #, updated design criteria, remove 7700039. | 12/6/2020 | PJF  |
| D         | ADDED ID TAG TO ARM & POST  | 9/29/2021 | PJF  |
| E         | REMOVED STAMPING BASEPLATE NOTE & UPDATED ID TAG INFO   | 9/16/2022 | PJF  |
| F         | ADDED CLAMP ON LUM  | 4/5/2023  |      |



**MATERIAL SPECIFICATIONS**

POST: ASTM A572 GR 55  
 BASE PLATE: ASTM A36  
 MAST ARM: ASTM A572 GR 55  
 MOUNTING PLATE: ASTM A36  
 HARDWARE FINISH: ASTM A153  
 ANCHOR BOLTS: ASTM F1554 GR 55 (FBO)

**DESIGN CRITERIA**

2015 AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS LRFDLTS-1, FATIGUE CATEGORY II, AND PER WISDOT STANDARD S.D.D 9 E 8-9A, 9K.

**WELD SPECIFICATION**

THE POST AND MAST ARM TO BE ROUND TAPERED TUBE FABRICATION WITH ONE SUBMERGED ARC LONGITUDINAL SEAM WELD WITH 100% PENETRATION 6" FROM BASE PLATE AND 60% FOR REMAINDER. GAS METAL ARC WELDING PROCESS WITH 60% PENETRATION MAY BE USED FOR REMAINDER OF WELDED FABRICATION.

WELD TESTING: 100% OF ALL WELDS VISUAL TESTED (VT), 100% OF ALL COMPLETE JOINT PENETRATION (CJP) WELDS ULTRASONIC TESTED (UT) BASED ON THE THINNEST MATING MATERIAL: (PER AASHTO 2013 5.15.5-WELD INSP) THICKNESS.  
 < 6MM (0.25 IN) MT  
 ≥ 6MM (0.25 IN) UT  
 A RANDOM 30% OF ALL FILLET WELDS AND PARTIAL JOINT PENETRATION (PJP) LONGITUDINAL SEAM WELDS MAGNETIC PARTICLE TESTED (MT).

**FINISH SPECIFICATION**

GALV. OR PRIME COAT: HOT DIP GALV PER ASTM A123  
 FINISH COAT: N/A  
 COLOR: N/A  
 FEDERAL OR RAL SPEC.:  
 WEIGHT W/GALV.:  
 WEIGHT W/GALV. & PAINT:  
 SURFACE AREA:  
 GAL. OF PAINT:



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|                  |      |        |        |
|------------------|------|--------|--------|
| SALES ORDER NO.: | QTY: | STATE: | SHEET  |
|                  |      | WI     | 1 OF 2 |

DESCRIPTION:  
 2021 WI DOT TYPE 10 SPECIAL TRAFFIC SIGNAL  
 35', 40' & 45' MASTARM LENGTHS

|                              |  |
|------------------------------|--|
| EST. WEIGHT:<br>2569.1 - LBS | DRAWING NO:<br>2021 type 10 special wi dot a |
|------------------------------|--|

PROJECT NAME:  
 PROJECT LOCATION:  
 DWN BY: PAM F. DATE: 12/11/2020  
 CHK BY: DATE:

| CLAMP ON LUMINAIRE ARM |                 |            |
|------------------------|-----------------|------------|
| "K" QTY                | "H" ARM PART #  | "J" LENGTH |
|                        | 730A1652-15-925 | 15'        |

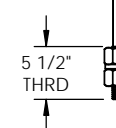
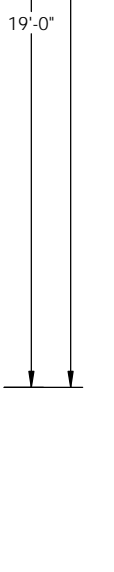
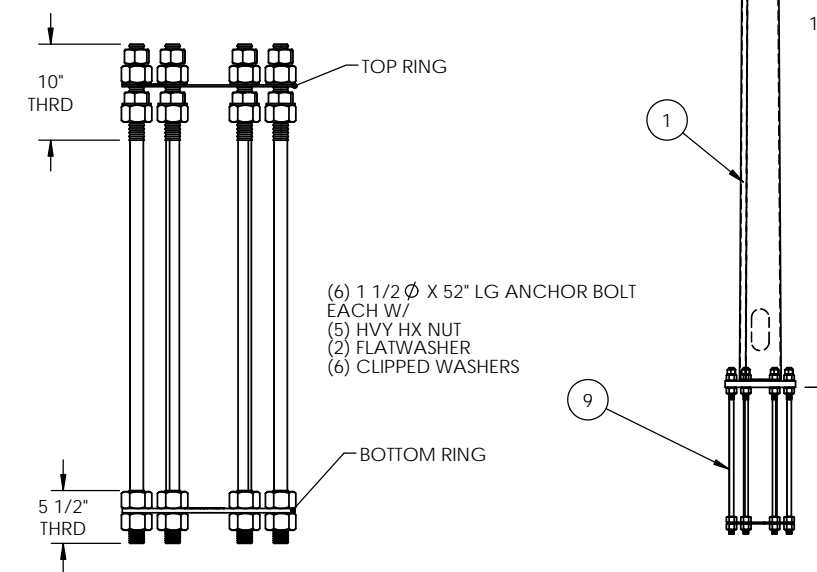
| FIXED LUMINAIRE ARM |                |            |
|---------------------|----------------|------------|
| "G" QTY             | "E" ARM PART # | "F" LENGTH |
|                     | 1015935        | 6'         |
|                     | 1015934        | 8'         |
|                     | 1015933        | 10'        |
|                     | 1015932        | 12'        |
|                     | 1015929        | 15'        |

| LUM. ARM COVER PLATE |  |
|----------------------|--|
| "L" QTY              |  |
|                      |  |

| QTY | "A" ASSY PART # | "B" LENGTH | DESCRIPTION                | MAST ARM SHAFT SIZE | "C" PARTS LIST/BAG # | "D" END CAP PART # |
|-----|-----------------|------------|----------------------------|---------------------|----------------------|--------------------|
|     | 1035262         | 35'0"      | ASSY ARM SIG RD 3/16 X 35' | 3/16X11.0X6.1X35'0" | 7700063              | 9900204            |
|     | 1035264         | 40'0"      | ASSY ARM SIG RD 3/16 X 40' | 3/16X11.0X5.4X40'0" | 7700064              | 9900203            |
|     | 1035266         | 45'0"      | ASSY ARM SIG RD 3/16 X 45' | 3/16X11.0X4.7X45'0" | 7700065              | 9900202            |

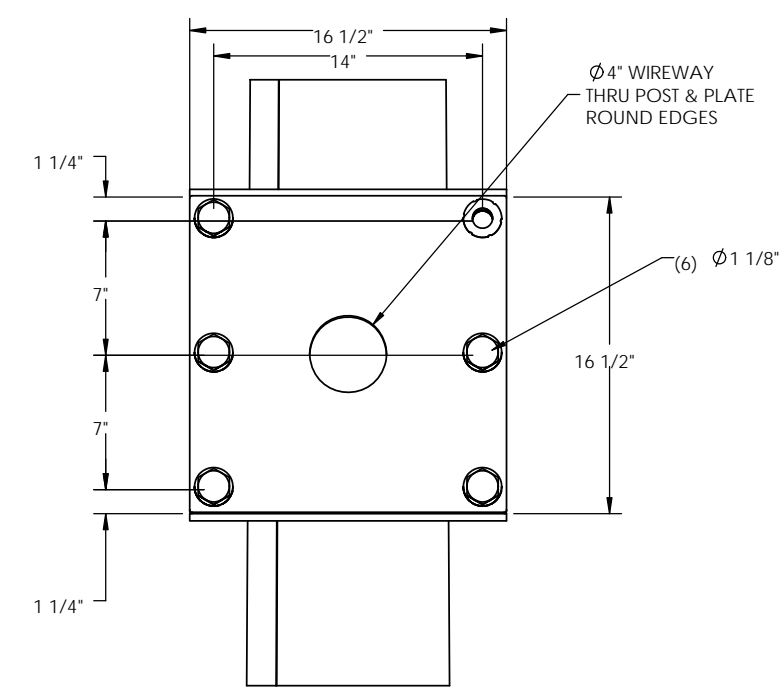
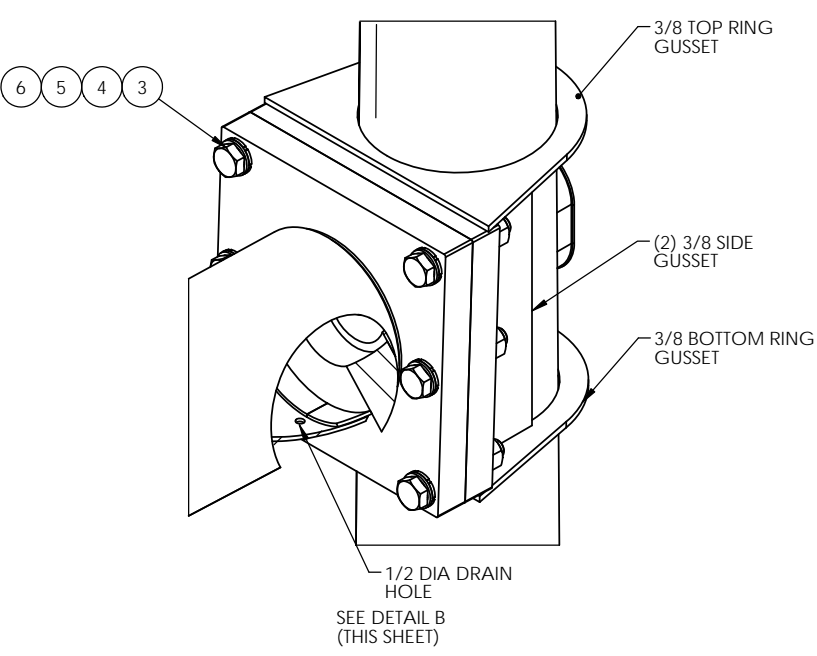
| ITEM NO. | PART NUMBER           | DESCRIPTION   | QTY PER | ASSY | FINISH   | SHIP LOOSE |
|----------|-----------------------|---|---------|------|----------|------------|
| 1        | 1035268               | SHIP POLE SIG RD 1/4X30'0/19'0"                                 | 1       |      | X        | X          |
|          | 7700066               | PARTS LIST WI/DOT (2017) TYPE 10 SPECIAL TRAFFIC SIGNAL 1035268 | 1       |      | POLE CAP | X          |
|          | 1055940               | I.D. TAG - WI   | 1       | X    |          |            |
|          | SCRWY#2X3/16ZC        | U-DRIVE SCR W/3/16(DRIVE IN TYPE)F1941M ZC                      | 2       | X    |          |            |
| 2        | "A"                   | SHIP ARM SIG RD 3/16X35'0"                                      | 1       |      | X        | X          |
|          | "C"                   | PARTS LIST WI/DOT (2017) TYPE 9/10 SPECIAL                      | 1       |      | POLE CAP | X          |
|          | FREY-63DM1CPF48ALDF40 | FREY VIBRATION DAMPENER   | 1       |      |          | X          |
|          | 500A1921              | ALUMINUM TOP PLATE FOR DAMPENER ASSY                            | 1       |      |          | X          |
|          | 1055940               | I.D. TAG - WI   | 1       | X    |          |            |
|          | SCRWY#2X3/16ZC        | U-DRIVE SCR W/3/16(DRIVE IN TYPE)F1941M ZC                      | 2       | X    |          |            |
| 3        | BOLT B1"-8X6"B        | BOLT HVYHXHD 1-8 X 6 A325GV                                     | 6       |      |          |            |
| 4        | WASHFLAT1"GV          | WASHFLAT1"GV ASTM F436  | 12      |      |          |            |
| 5        | NUTHVYHX1"-8A563GV    | NUT HVY HX 1"-8 A563 GV (DH)-RCP                                | 6       |      |          |            |
| 6        | WASHLOADIN1" GV       | WASHER DTI 1" ASTM F959 TYPE 325                                | 6       |      |          |            |
| 7        | "E"                   | WLDMT ARM LUM RD 11GAX"F"                                       | 1       |      | X        | X          |
| 8        | 1015928               | GASKETED COVER FOR 4 BOLT LUM ARM                               | 1       |      | X        | X          |
| 9        | 460B735-11            | ANCHOR BOLT CLUSTER (6 BOLT) WISCONSIN DOT                      | 1       |      |          | X          |
| 10       | "H"                   | WLDMT CLAMP ARM LUM RD 11GAX15'0"                               | 1       |      |          |            |

- NOTE:
- HEX HEAD BOLT & NUTS (UNLESS SPECIFIED) ASTM A325 GV A153 FOR SIZES 1/2 THRU 1 1/2 DIA & ASTM A354BC GV FOR SIZES OVER 1 1/2 DIA
  - DRILLED CABLE ACCESS HOLE MAXIMUM ALLOWABLE DIAMETER IS 3/4"



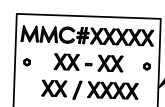
- (6) 1 1/2" Ø X 52" LG ANCHOR BOLT EACH W/
- (5) HVY HX NUT
- (2) FLATWASHER
- (6) CLIPPED WASHERS



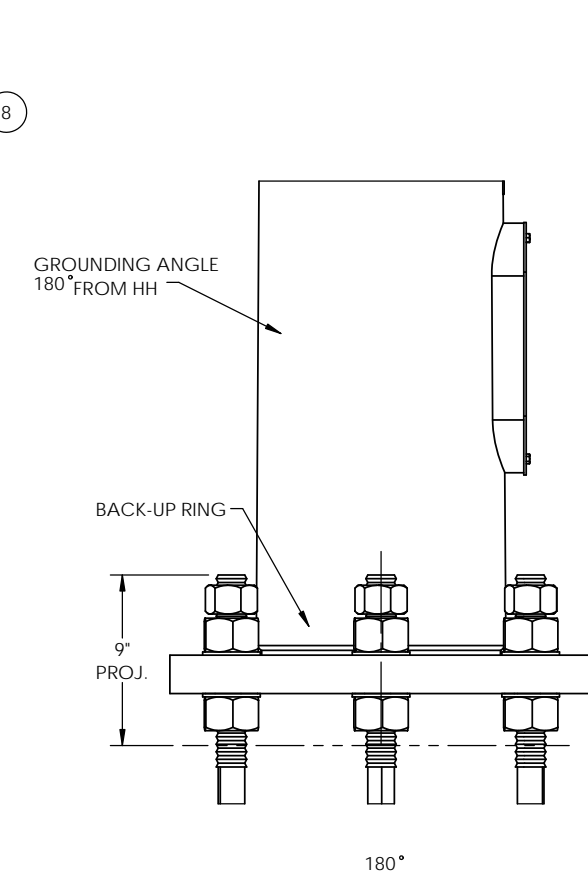
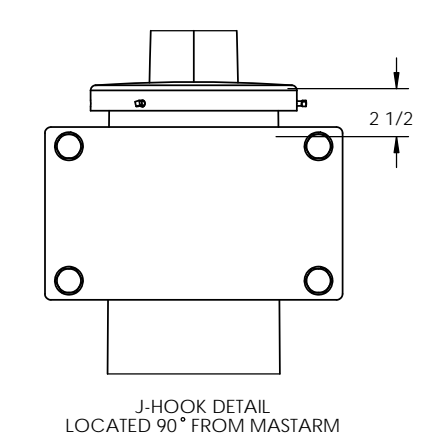
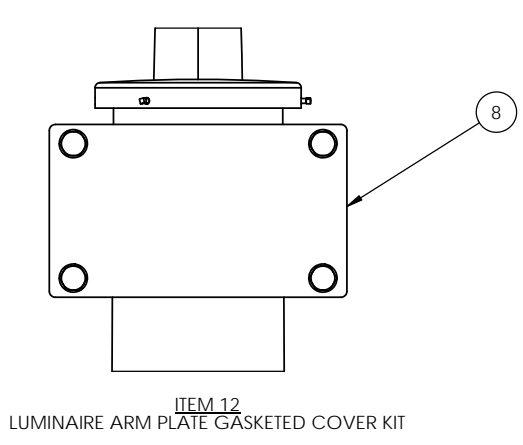
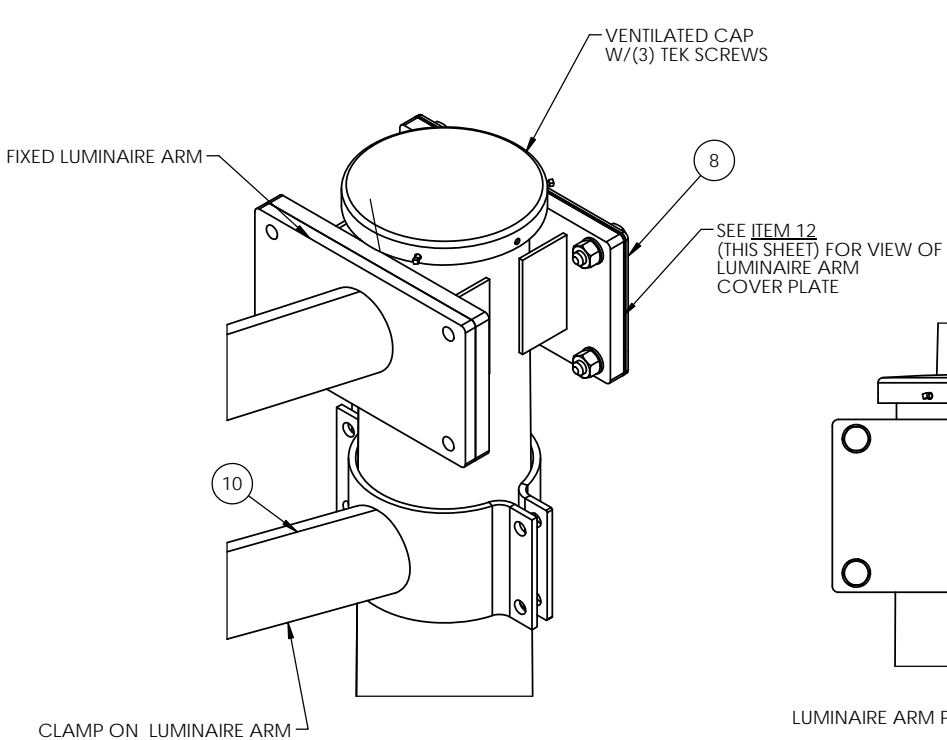
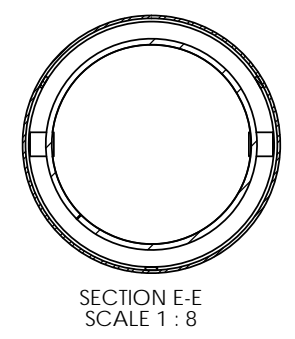
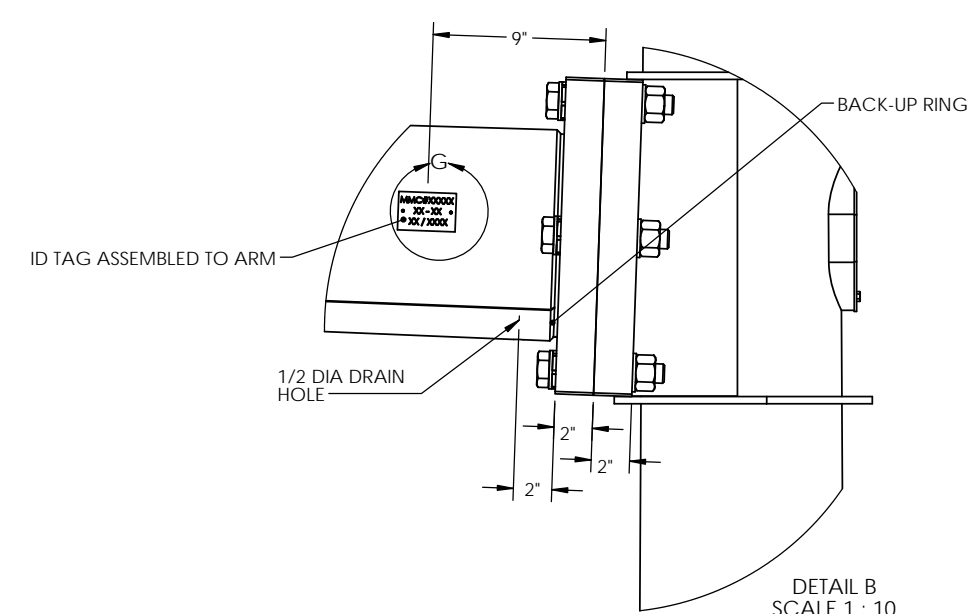
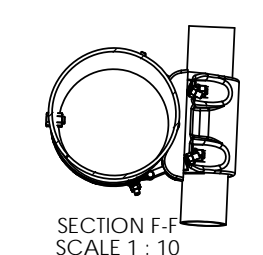


SECTION A-A  
 SCALE 1 : 10

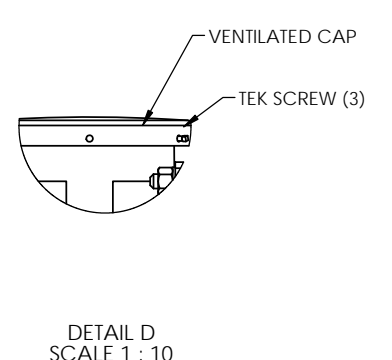
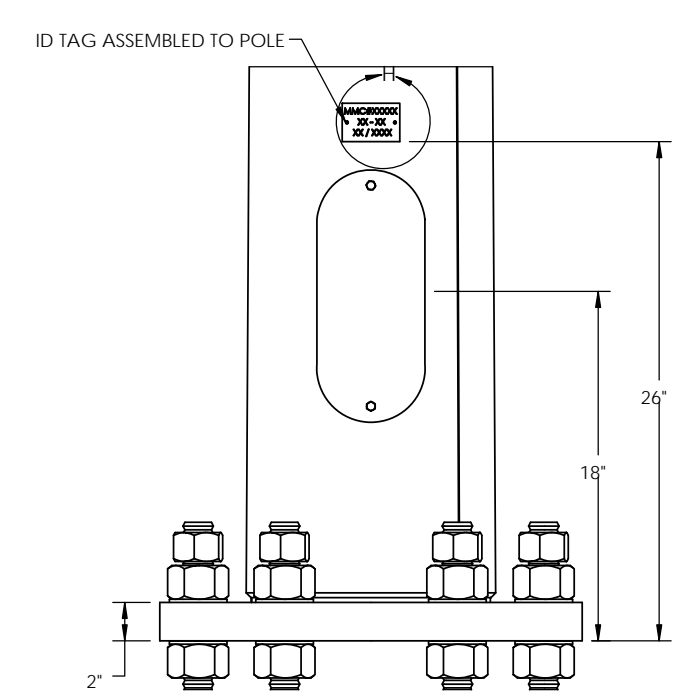
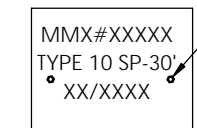
MMC#XXXXX = MMC#SALES ORDER  
 LGTH OF ARM=MA  
 (EX: 40' SP-MA)  
 XX-XX =  
 XX/XXXX= DATE OF MANUFACTURE



DETAIL H  
 SCALE 1 : 4



MMX#XXXXX = MMC#SALES ORDER  
 = TYPE=HGT OF POST  
 XX/XXXX= DATE OF MANUFACTURE  
 TYPE 10 SP-30'



(POLE TOP CAP (INCLUDED IN ITEM #2) & (MASTARM END CAP PART "D"))

|  |      |  |        |
|--|------|--|--------|
| <b>MILLERBERND</b>   |      | 622 6TH ST. SO.<br>WINSTED, MN 55395         |        |
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| SALES ORDER NO.:   | QTY: | STATE:                                       | SHEET  |
|  |      | WI   | 2 OF 2 |
| DESCRIPTION:<br>2021 WI DOT TYPE 10 SPECIAL TRAFFIC SIGNAL<br>35', 40' & 45' MASTARM LENGTHS   |      |  |        |
| EST. WEIGHT:<br>2569.1 - LBS   |      | DRAWING NO:<br>2021 type 10 special wi dot a |        |
| PROJECT NAME:  |      |  |        |
| PROJECT LOCATION:  |      |  |        |
| DWN BY: PAM F.   |      | DATE: 12/11/2020                             |        |
| CHK BY:  |      | DATE:  |        |