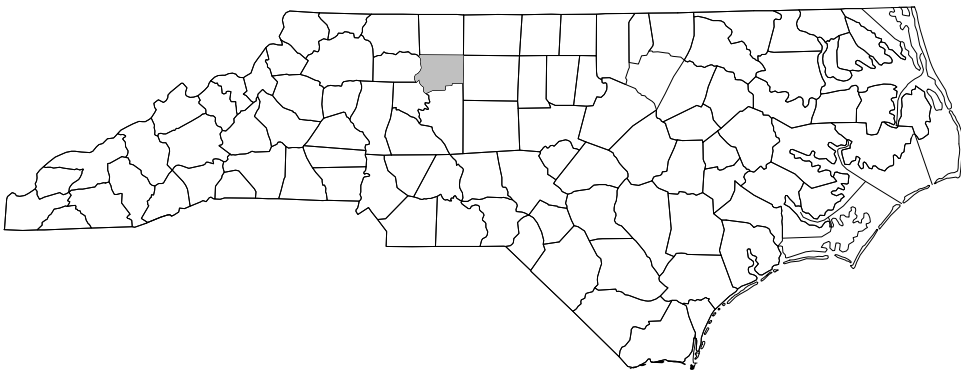


PROJECT: U-6005

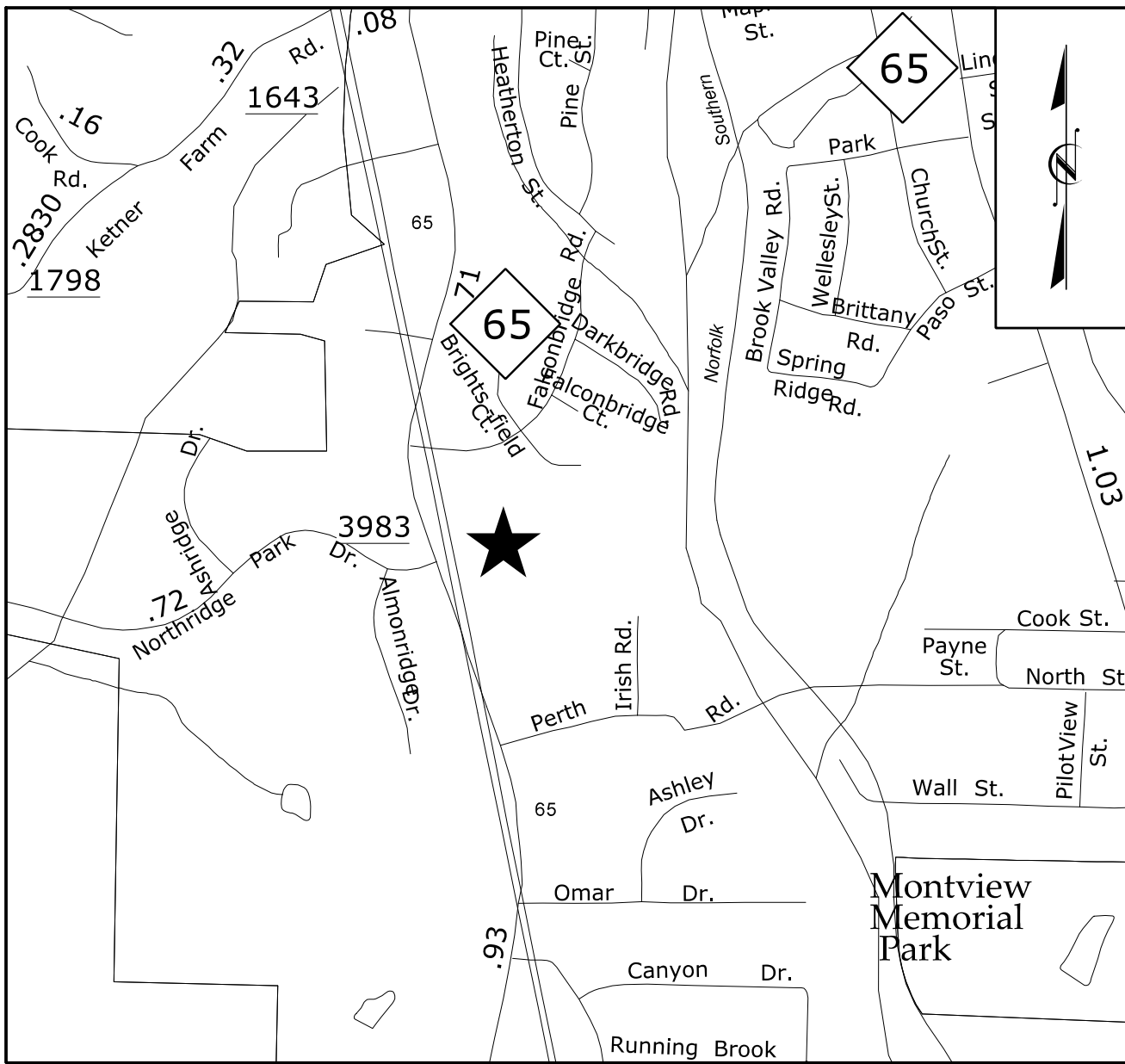
CONTRACT:

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

|             |           |
|-------------|-----------|
| Project No. | Sheet No. |
| U-6005      | Sig. 1.0  |



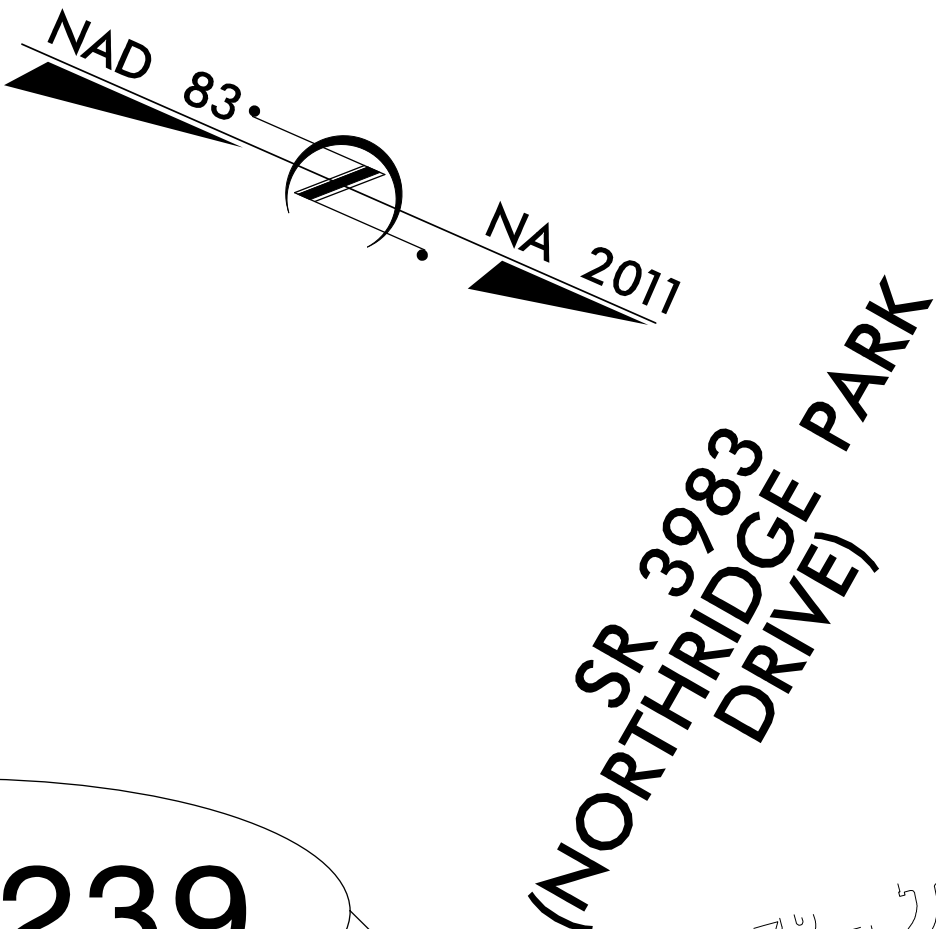
Vicinity Map



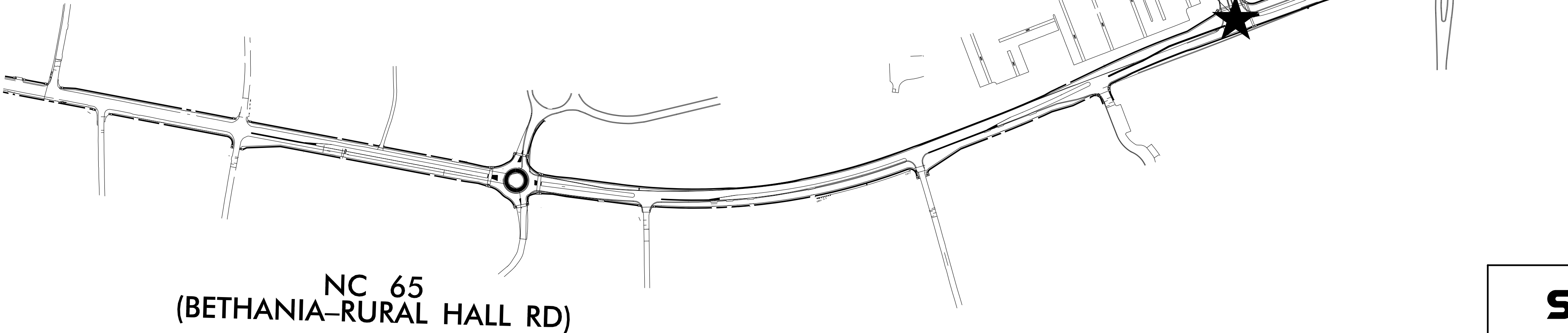
FORSYTH COUNTY

LOCATION: NC 65 (BETHANIA-RURAL HALL ROAD) AT  
SR 3983 (NORTHBRIDGE PARK DRIVE)

TYPE OF WORK: TRAFFIC SIGNALS



09 - 1239



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Charlotte, NC 28202  
(704) 372-1885  
NC License Number F-0991

Refer to "Roadway Standard Drawings  
NCDOT" dated January 2024 and  
"Standard Specifications for Roads  
and Structures" dated January 2024.

| Sheet #      | Reference #          | Index of Plans                                                      | Location/Description |
|--------------|----------------------|---------------------------------------------------------------------|----------------------|
| Sig. 1.0     | -----                | Title Sheet                                                         |                      |
| Sig. 2.0-2.3 | 09-1239              | NC 65 (Bethania-Rural Hall Road) at SR 3983 (Northridge Park Drive) |                      |
| Sig. M1-M9   | Metal Pole Standards | 2024 Standard Metal Pole Sheets                                     |                      |

TRANSPORTATION SYSTEMS  
MANAGEMENT & OPERATIONS UNIT

Contacts:

Robert J. Ziemba, P.E. – Central Region Signals Engineer  
Keith M. Mims, P.E. – State Signal Equipment Engineer

STV, INC.

Contacts:

Trent M. Moody, P.E. – Senior Associate Engineering Director  
Donald J. Darity, P.E. – Senior Traffic Signal Manager

DIVISION OF HIGHWAYS  
TRANSPORTATION MOBILITY AND SAFETY  
DIVISION

Transportation Systems Management & Operations Unit

TSMO UNIT

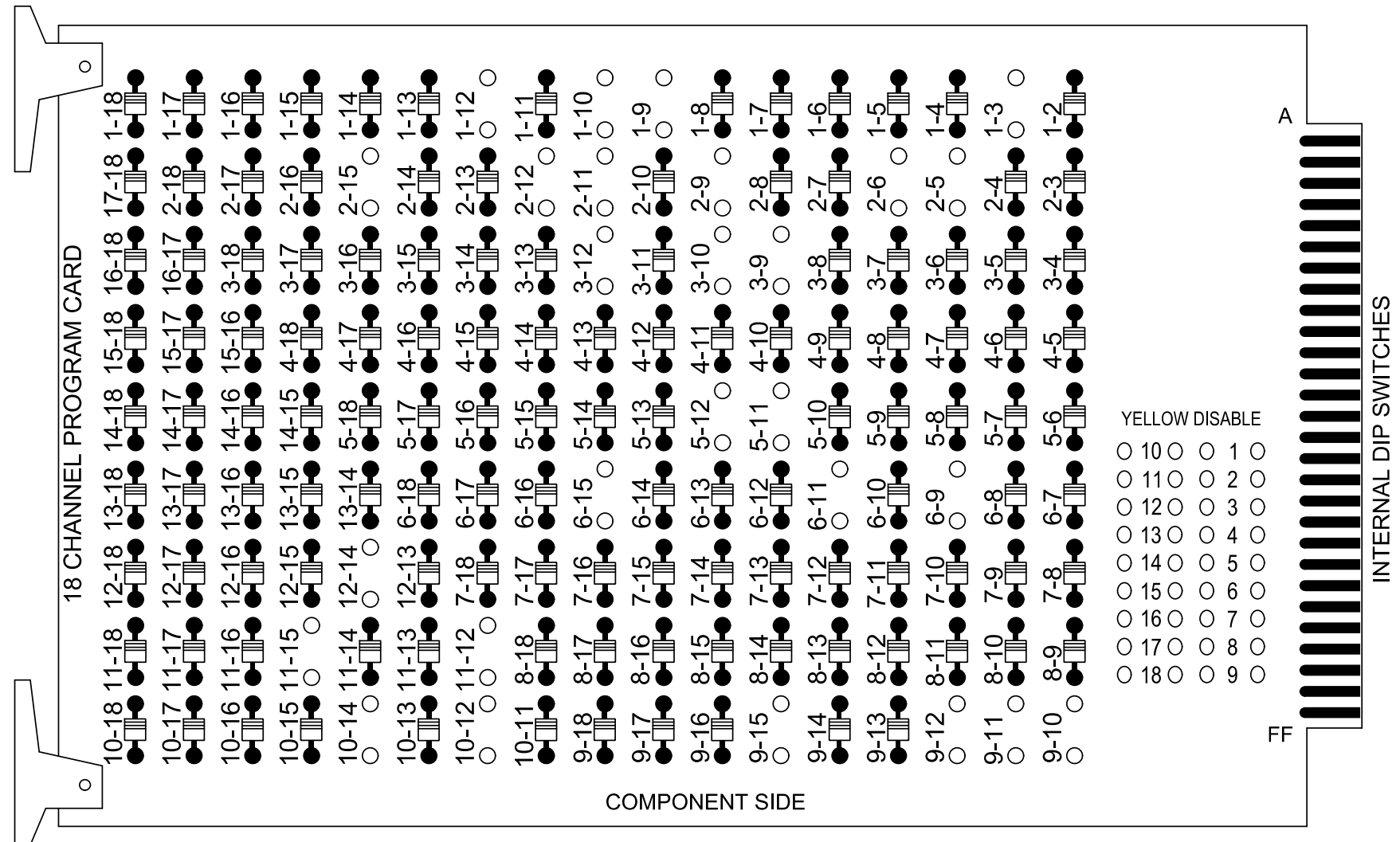
750 N. Greenfield Parkway, Garner, NC 27529



18 CHANNEL CONFLICT MONITOR  
PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS 1-3, 1-9, 1-10, 1-12, 2-5, 2-6, 2-9, 2-11, 2-12, 2-15, 3-9, 3-10, 3-12, 5-11, 5-12, 6-9, 6-11, 6-15, 9-10, 9-11, 9-12, 9-15, 10-12, 10-14, 11-12, 11-15, AND 12-14.



REMOVE JUMPERS AS SHOWN

NOTES:

- Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
- Ensure jumpers SEL2-SEL5 and SEL9 are present on the monitor board.
- Ensure that the Red Enable is active at all times during normal operation.
- Connect serial cable from conflict monitor to comm. port 1 of 2070 controller. Ensure conflict monitor communicates with 2070.

NOTES

- To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall verify that signal heads flash in accordance with the signal plan.
- Program controller to start up in phase 2 Green No Walk and phase 6 Green No Walk.
- If this signal will be managed by an ATMS software, enable controller and detector logging for all detectors used at this location.

EQUIPMENT INFORMATION

Controller.....2070LX  
Cabinet.....332 w/ Aux  
Software.....Q-Free MAXTIME  
Cabinet Mount.....Base  
Output File Positions.....18 With Aux. Output File  
Load Switches Used.....S1, S2, S4, S6, S7, S8, S9,  
AUX S1, AUX S2, AUX S4, AUX S5  
Phases Used.....2, 3, \*\*4, 4PED, 5, 6, 6PED  
Overlap "1".....\*  
Overlap "2".....\*  
Overlap "3".....\*  
Overlap "4".....\*  
Overlap "7".....\*  
\*See overlap programming detail on sheet 2  
\*\* Used for timing purposes only

| PROJECT REFERENCE NO. | SHEET NO. |
|-----------------------|-----------|
| U-6005                | Sig. 2.1  |

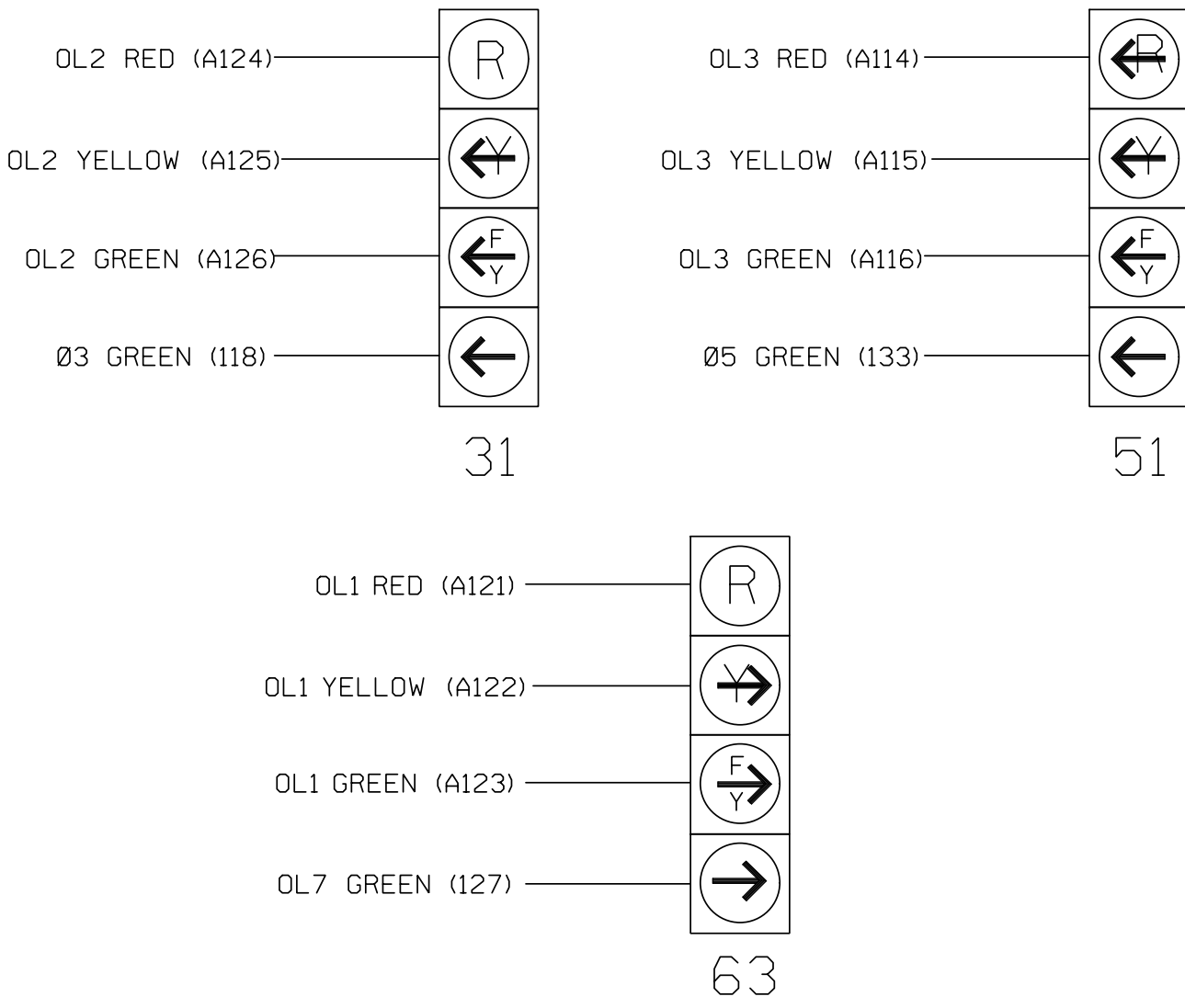
SIGNAL HEAD HOOK-UP CHART

| LOAD SWITCH NO.       | S1  | S2    | S3    | S4  | S5 | S6       | S7  | S8    | S9       | S10 | S11 | S12   | AUX S1 | AUX S2 | AUX S3 | AUX S4 | AUX S5 | AUX S6 |
|-----------------------|-----|-------|-------|-----|----|----------|-----|-------|----------|-----|-----|-------|--------|--------|--------|--------|--------|--------|
| CMU CHANNEL NO.       | 1   | 2     | 13    | 3   | 4  | 14       | 5   | 6     | 15       | 7   | 8   | 16    | 9      | 10     | 17     | 11     | 12     | 18     |
| PHASE                 | OL7 | 2     | 2 PED | 3   | 4  | 4 PED    | 5   | 6     | 6 PED    | 7   | 8   | 8 PED | OL1    | OL2    | SPARE  | OL3    | OL4    | SPARE  |
| SIGNAL HEAD NO.       | 63  | 21,22 | NU    | 31  | NC | P41, P42 | 51  | 61,62 | P61, P62 | NU  | NU  | NU    | 63     | 31     | NU     | 51     | 32     | NU     |
| RED                   |     | 128   |       |     |    |          |     | 134   |          |     |     |       | A121   | A124   |        |        | A101   |        |
| YELLOW                | *   | 129   |       | *   |    |          | *   | 135   |          |     |     |       |        |        |        |        |        |        |
| GREEN                 |     | 130   |       |     |    |          |     | 136   |          |     |     |       |        |        |        |        |        |        |
| RED ARROW             |     |       |       |     |    |          |     |       |          |     |     |       |        |        |        | A114   |        |        |
| YELLOW ARROW          |     |       |       |     |    |          |     |       |          |     |     |       | A122   | A125   |        | A115   | A102   |        |
| FLASHING YELLOW ARROW |     |       |       |     |    |          |     |       |          |     |     |       | A123   | A126   |        | A116   |        |        |
| GREEN ARROW           | 127 |       |       | 118 |    |          | 133 |       |          |     |     |       |        |        |        |        | A103   |        |
| Hand icon             |     |       |       |     |    | 104      |     |       | 119      |     |     |       |        |        |        |        |        |        |
| Ped icon              |     |       |       |     |    | 106      |     |       | 121      |     |     |       |        |        |        |        |        |        |

NU = Not Used  
NC = Not Connected  
\* Denotes install load resistor. See load resistor installation detail this sheet.  
\* See pictorial of head wiring in detail this sheet.

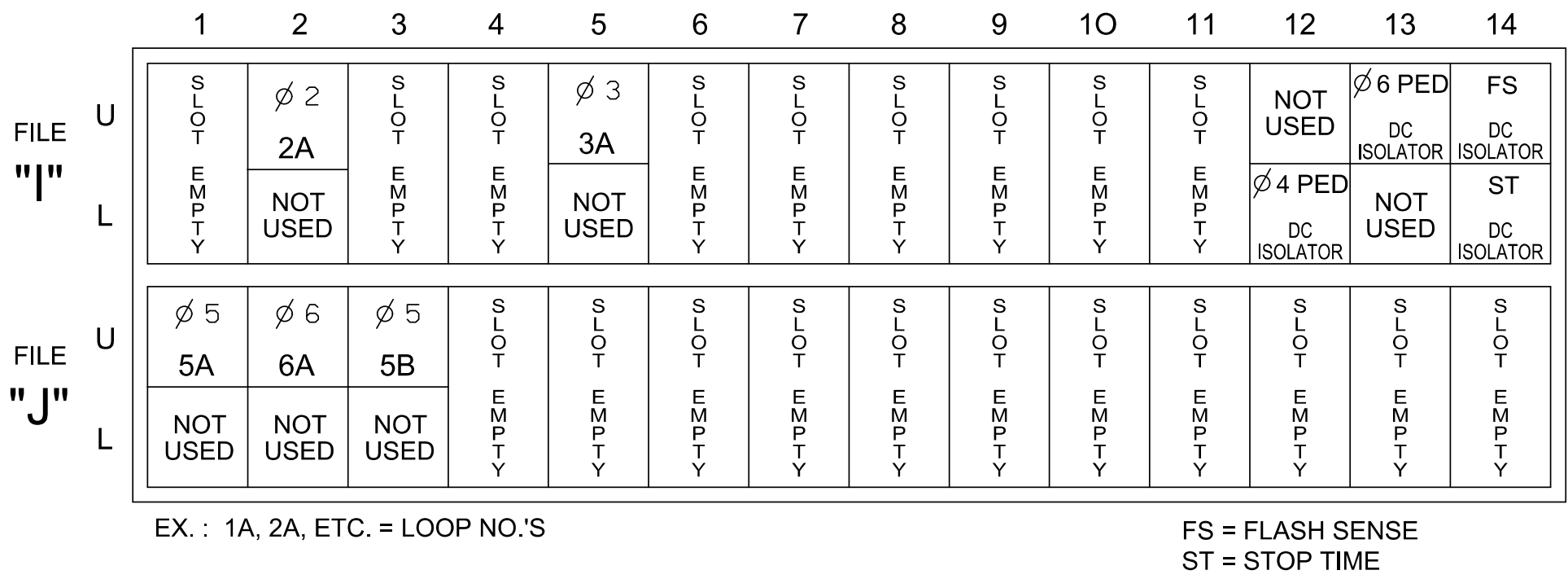
4 SECTION FYA SIGNAL WIRING DETAIL

(wire signal heads as shown)



INPUT FILE POSITION LAYOUT

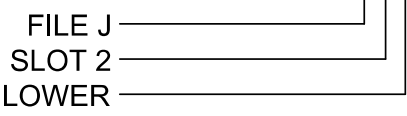
(front view)



INPUT FILE CONNECTION & PROGRAMMING CHART

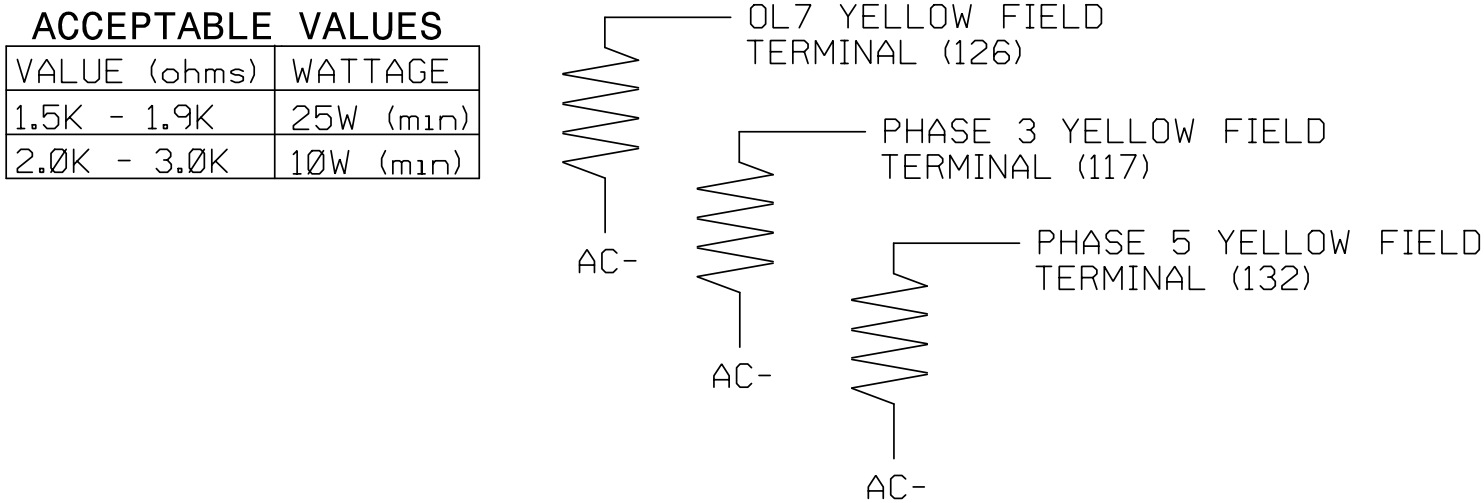
| LOOP NO.         | LOOP TERMINAL | INPUT FILE POS. | PIN NO. | INPUT POINT | DETECTOR NO. | CALL PHASE | DELAY TIME | EXTEND TIME | EXTEND | ADDED INITIAL | CALL | DELAY DURING GREEN |
|------------------|---------------|-----------------|---------|-------------|--------------|------------|------------|-------------|--------|---------------|------|--------------------|
| 2A               | TB2-5.6       | I2U             | 39      | 1           | 2            | 2          |            |             | X      | X             | X    |                    |
| 3A               | TB4-5.6       | I5U             | 58      | 20          | 7            | 3          |            |             | X      |               | X    |                    |
| 5A               | TB3-1.2       | J1U             | 55      | 17          | 15           | 5          | 15         |             | X      |               | X    |                    |
| 5B               | TB3-9,10      | J3U             | 64      | -           | 31           | 2          | 3          |             | X      |               | X    | X                  |
| 6A               | TB3-5.6       | J2U             | 40      | 2           | 16           | 6          |            |             | X      | X             | X    |                    |
| PED PUSH BUTTONS |               |                 |         |             |              |            |            |             |        |               |      |                    |
| P41,P42          | TB8-5.6       | I12L            | 69      | 35          | 4            | PED 4      |            |             |        |               |      |                    |
| P61,P62          | TB8-7.9       | I13U            | 68      | 34          | 6            | PED 6      |            |             |        |               |      |                    |

INPUT FILE POSITION LEGEND: J2L



LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)



COUNTDOWN PEDESTRIAN SIGNAL OPERATION

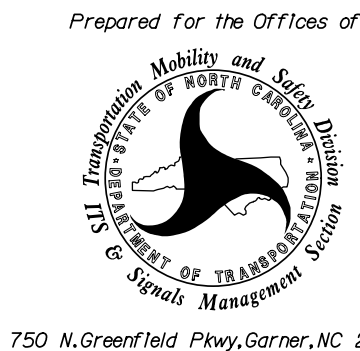
Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.



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Charlotte, NC 28202  
(704) 372-1885  
NC License Number F-0991

ELECTRICAL DETAIL SHEET 1 OF 2

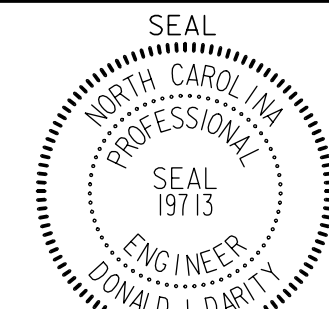
ELECTRICAL AND PROGRAMMING DETAILS FOR:



NC 65 (Bethania-Rural Hall Rd)  
at  
SR 3983 (Northridge Park Drive)

|                             |                          |            |
|-----------------------------|--------------------------|------------|
| Division 9                  | Forsyth County           | Rural Hall |
| PLAN DATE: Sept 2023        | REVIEWED BY: D.J. Darity |            |
| PREPARED BY: R.L. Aristondo | REVIEWED BY: H.M. Surti  |            |
| REVISIONS                   | INIT.                    | DATE       |
|                             |                          |            |
|                             |                          |            |
|                             |                          |            |

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



DocuSigned by:  
Donald J. Darity 9/27/2023  
DATE  
SIG. INVENTORY NO. 09-1239

OUTPUT CHANNEL CONFIGURATION

Front Panel  
Main Menu >Controller >More>Channels>Channels Config

Web Interface  
Home >Controller >Advanced IO>Channels>Channels Configuration

Channel Configuration

NOTE OL7  
ASSIGNED TO  
CHANNEL 1



| Channel | Control Type  | Control Source | Flash Yellow | Flash Red | Flash Alt | MMU Channel |
|---------|---------------|----------------|--------------|-----------|-----------|-------------|
| 1       | Overlap       | 7              | X            | -         | X         | 1           |
| 2       | Phase Vehicle | 2              | X            | -         | -         | 2           |
| 3       | Overlap       | 3              | -            | X         | X         | 3           |
| 4       | None          | 4              | -            | X         | -         | 4           |
| 5       | Phase Vehicle | 5              | X            | -         | -         | 5           |
| 6       | Phase Vehicle | 6              | X            | -         | X         | 6           |
| 7       | None          | 7              | -            | X         | -         | 7           |
| 8       | None          | 8              | -            | X         | X         | 8           |
| 9       | Overlap       | 1              | X            | -         | X         | 9           |
| 10      | Overlap       | 2              | -            | X         | X         | 10          |
| 11      | Overlap       | 3              | X            | -         | -         | 11          |
| 12      | Overlap       | 4              | -            | X         | -         | 12          |
| 13      | None          | 2              | -            | -         | -         | 13          |
| 14      | Phase Ped     | 4              | -            | -         | -         | 14          |
| 15      | Phase Ped     | 6              | -            | -         | -         | 15          |
| 16      | None          | 8              | -            | -         | -         | 16          |
| 17      | None          | 5              | -            | X         | X         | 17          |
| 18      | None          | 6              | -            | X         | -         | 18          |

MAXTIME OVERLAP PROGRAMMING DETAIL  
FOR DEFAULT PHASING

Front Panel  
Main Menu >Controller >Overlap >Overlap Parameters/Overlap Timings

Web Interface  
Home >Controller >Overlap Configuration >Overlaps

Overlap Plan 1

| Overlap           | 1               | 2               | 3               | 4       | 7      |
|-------------------|-----------------|-----------------|-----------------|---------|--------|
| Type              | FYA 4 - Section | FYA 4 - Section | FYA 4 - Section | Normal  | Normal |
| Included Phases   | 6               | 4               | 6               | 3, 4, 5 | 3      |
| Modifier Phases   | -               | 3               | 5               | -       | -      |
| Modifier Overlaps | 7               | -               | -               | -       | -      |
| Trail Green       | 0               | 0               | 0               | 0       | 0      |
| Trail Yellow      | 0.0             | 0.0             | 0.0             | 0.0     | 0.0    |
| Trail Red         | 0.0             | 0.0             | 0.0             | 0.0     | 0.0    |

FLASHER CIRCUIT MODIFICATION DETAIL

IN ORDER TO INSURE THAT SIGNALS FLASH CONCURRENTLY ON THE  
SAME APPROACH, MAKE THE FOLLOWING FLASHER CIRCUIT CHANGES:

- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-4 AND TERMINATE ON T2-2.
- ON REAR OF PDA - REMOVE WIRE FROM TERM. T2-5 AND TERMINATE ON T2-3.
- REMOVE FLASHER UNIT 2.

THE CHANGES LISTED ABOVE TIES ALL PHASES AND OVERLAPS TO FLASHER UNIT 1.

THIS ELECTRICAL DETAIL IS FOR  
THE SIGNAL DESIGN: 09-1239  
DESIGNED: Sept 2023  
SEALED: 9/27/2023  
REVISED: N/A

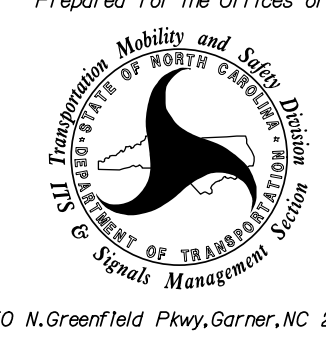
ELECTRICAL DETAIL SHEET 2 OF 2



**STV Engineers, Inc.**  
900 West Trade St., Suite 715  
Charlotte, NC 28202  
(704) 372-1885  
NC License Number F-0991

ELECTRICAL AND PROGRAMMING  
DETAILS FOR:

Prepared for the Offices of:



750 N.Greenfield Pkwy, Garner, NC 27529

NC 65 (Bethania-Rural Hall Rd)  
at  
SR 3983 (Northridge Park Drive)

Division 9      Forsyth County      Rural Hall

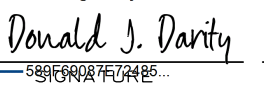
PLAN DATE: Sept 2023      REVIEWED BY: D.J. Darity

PREPARED BY: R.L. Aristondo      REVIEWED BY: H.M. Surti

| REVISIONS | INIT. | DATE |
|-----------|-------|------|
|           |       |      |
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|           |       |      |
|           |       |      |

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FINAL UNLESS ALL  
SIGNATURES COMPLETED



DocuSigned by:  
 9/27/2023  
DATE

SIG. INVENTORY NO. 09-1239

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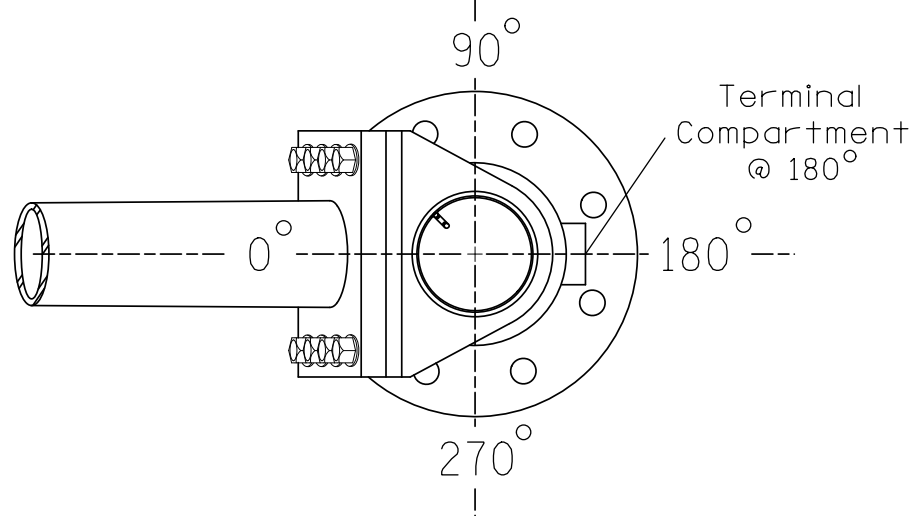
Elevation View @ 270°

[illegible]

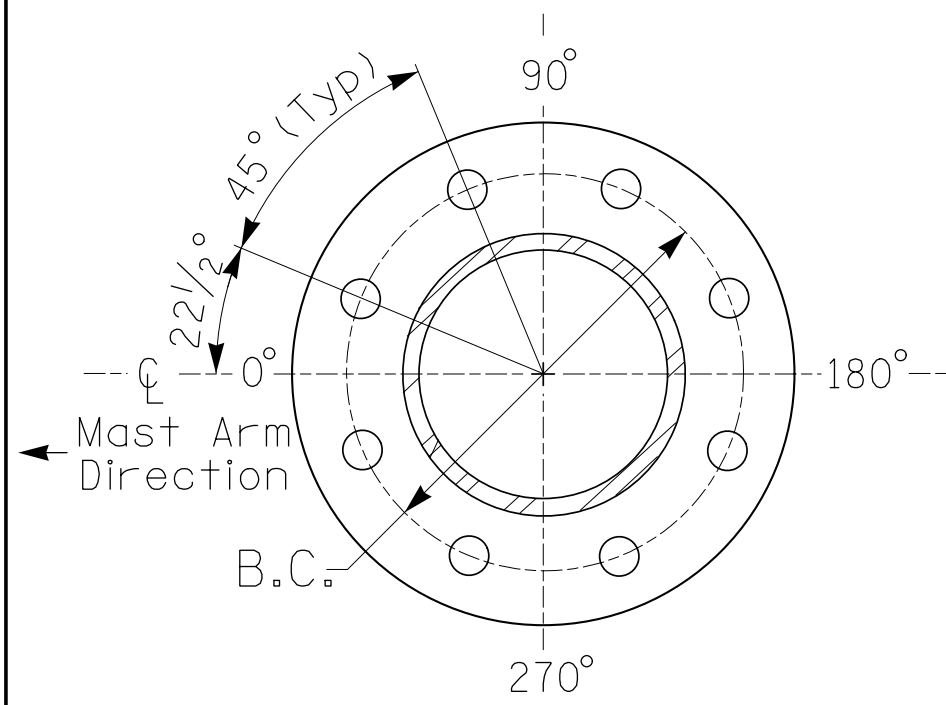
Elevation View @ 0°

The contractor is responsible for verifying that the mast arm attachment height (H1) will provide the "Design Height" clearance from the roadway before submitting final shop drawings for approval. Verify elevation data below which was obtained by field measurement or from available project survey data.

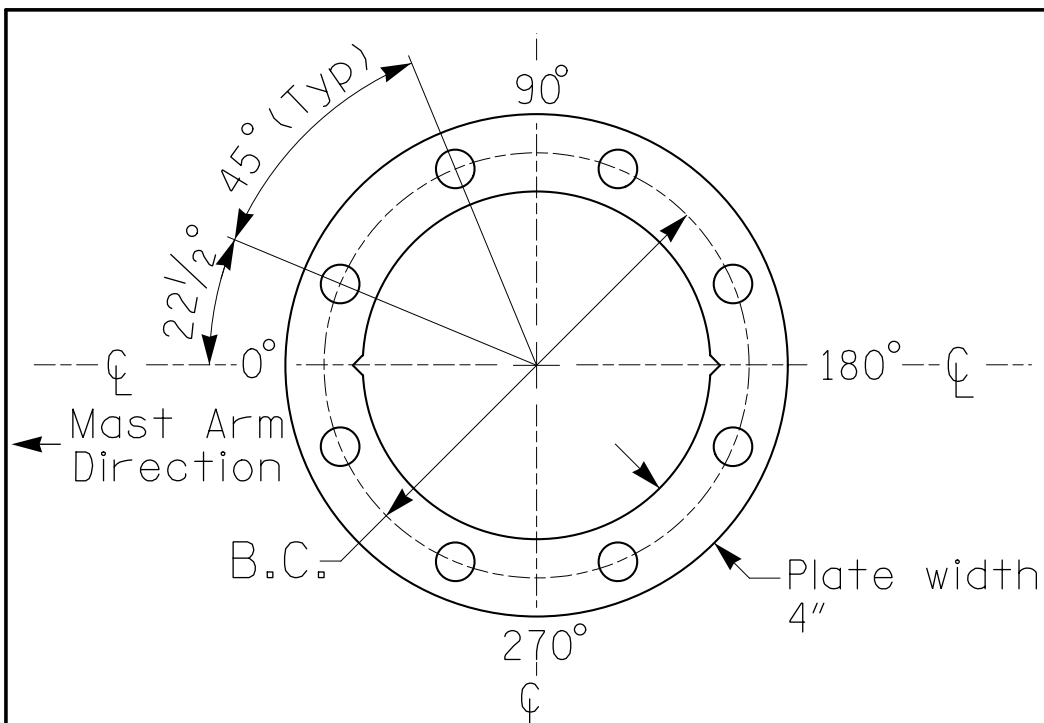
| Elevation Differences for:                                                                                                                       | Pole 1   | Pole 2   |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|
| Baseline reference point at<br>① Foundation @ ground level    | 0.0 ft.  | 0.0 ft.  |
| Elevation difference at<br>High point of roadway surface                                                                                         | -0.4 ft. | +0.2 ft. |
| Elevation difference at<br>Edge of travelway or face of curb  | -0.5 ft. | -0.5 ft. |



## POLE RADIAL ORIENTATION



See Note 6



|                       |           |
|-----------------------|-----------|
| PROJECT REFERENCE NO. | SHEET NO. |
| U-6005                | Sig. 2.3  |

| LOADING SYMBOL                                                                      | DESCRIPTION                                               | AREA      | SIZE                    | WEIGHT  |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------|-----------|-------------------------|---------|
|  | RIGID MOUNTED SIGNAL HEAD<br>12"-5 SECTION-WITH BACKPLATE | 16.3 S.F. | 42.0" W<br>X<br>56.0" L | 103 LBS |
|  | RIGID MOUNTED SIGNAL HEAD<br>12"-4 SECTION-WITH BACKPLATE | 11.5 S.F. | 25.5" W<br>X<br>66.0" L | 74 LBS  |
|  | RIGID MOUNTED SIGNAL HEAD<br>12"-3 SECTION-WITH BACKPLATE | 9.3 S.F.  | 25.5" W<br>X<br>52.5" L | 60 LBS  |
|  | PEDESTRIAN SIGNAL HEAD<br>WITH MOUNTING HARDWARE          | 2.2 S.F.  | 18.5" W<br>X<br>17.0" L | 21 LBS  |
|  | SIGN<br>RIGID MOUNTED                                     | 9.0 S.F.  | 36.0" W<br>X<br>36.0" L | 17 LBS  |
|  | STREET NAME SIGN<br>RIGID MOUNTED                         | 16.0 S.F. | 24.0" W<br>X<br>96.0" L | 36 LBS  |

## NOTES

## DESIGN REFERENCE MATERIAL

1. Design the traffic signal structure and foundation in accordance with:
  - The 6th Edition 2013 AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, including all of the latest interim revisions.
  - The 2024 NCDOT "Standard Specifications for Roads and Structures." The latest addenda to the specifications can be found in the traffic signal project special provisions.
  - The 2024 NCDOT Roadway Standard Drawings.
  - The traffic signal project plans and special provisions.
  - The NCDOT "Metal Pole Standards" located at the following NCDOT website:  
<https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx>

## DESIGN REQUIREMENTS

2. Design the traffic signal structure using the loading conditions shown in the elevation views. These are anticipated worst case "design loads" and may not represent the actual loads that will be applied at the time of the installation. The contractor should refer to the traffic signal plans for the actual loads that will be applied at the time of the installation.
  3. Design all signal supports using stress ratios that do not exceed 0.9.
  4. The camber design for the mast arm deflection should provide an appearance of a low pitched arch where the tip or the free end of the mast arm does not deflect below horizontal when fully loaded.
  5. A clamp-type bolted mast arm-to-pole connection may be used instead of the welded ring stiffened box connection shown as long as the connection meets all of the design requirements. This requires staggering the connections. Use elevation data for each arm to determine appropriate arm connection points.
  6. Design base plate with 8 anchor bolt holes. Provide 2 inch x 60 inch anchor bolts.
  7. The mast arm attachment height (H1) shown is based on the following design assumptions:
    - a. Mast arm slope and deflection are not considered in determining the arm attachment height as they are assumed to offset each other.
    - b. Signal heads are rigidly mounted and vertically centered on the mast arm.
    - c. The roadway clearance height for design is as shown in the elevation views.
    - d. The top of the pole base plate is 0.75 feet above the ground elevation.
    - e. Refer to the Elevation Data Chart for the elevation differences between the proposed foundation ground level and the high point of the roadway.
  8. The pole manufacturer will determine the total height (H2) of each pole using the greater of the following:
    - Mast arm attachment height (H1) plus 2 feet, or
    - H1 plus 1/2 of the total height of the mast arm attachment assembly plus 1 foot.
  9. If pole location adjustments are required, the contractor must gain approval from the Engineer as this may affect the mast arm lengths and arm attachment heights. The contractor may contact the Signal Design Section Senior Structural Engineer for assistance at (919) 814-5000.
  10. The contractor is responsible for verifying that the mast arm length shown will allow proper positioning of the signal heads over the roadway.
  11. The contractor is responsible for providing soil penetration testing data (SPT) to the pole manufacturer so site specific foundations can be designed.
- 

**STV Engineers, Inc.**

All metal poles, mast arms, and pedestal poles shall be black in color as specified in the project special provisions.

NCDOT Wind Zone 4 (90 mph)

NC 65 (Bethania-Rural Hall Rd)  
at  
SR 3983 (Northridge Park Drive)

Division 9                      Forsyth County                      Rural Hall

|                      |                          |
|----------------------|--------------------------|
| PLAN DATE: Sept 2023 | REVIEWED BY: D.J. Darity |
|----------------------|--------------------------|

|                             |                         |
|-----------------------------|-------------------------|
| PREPARED BY: R.L. Aristondo | REVIEWED BY: H.M. Surti |
|-----------------------------|-------------------------|

| REVISIONS | INIT. | DATE |
|-----------|-------|------|
|           |       |      |

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**stv**

**STV Engineers, Inc.**  
900 West Trade St., Suite 715  
Charlotte, NC 28202  
(704) 372-1885  
NC License Number F-0991

DOCUMENT NOT CONSIDERED  
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SIGNATURES COMPLETED

SEAL  
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PROFESSIONAL  
SEAL  
19713  
ENGINEER  
DONALD J. DARTY

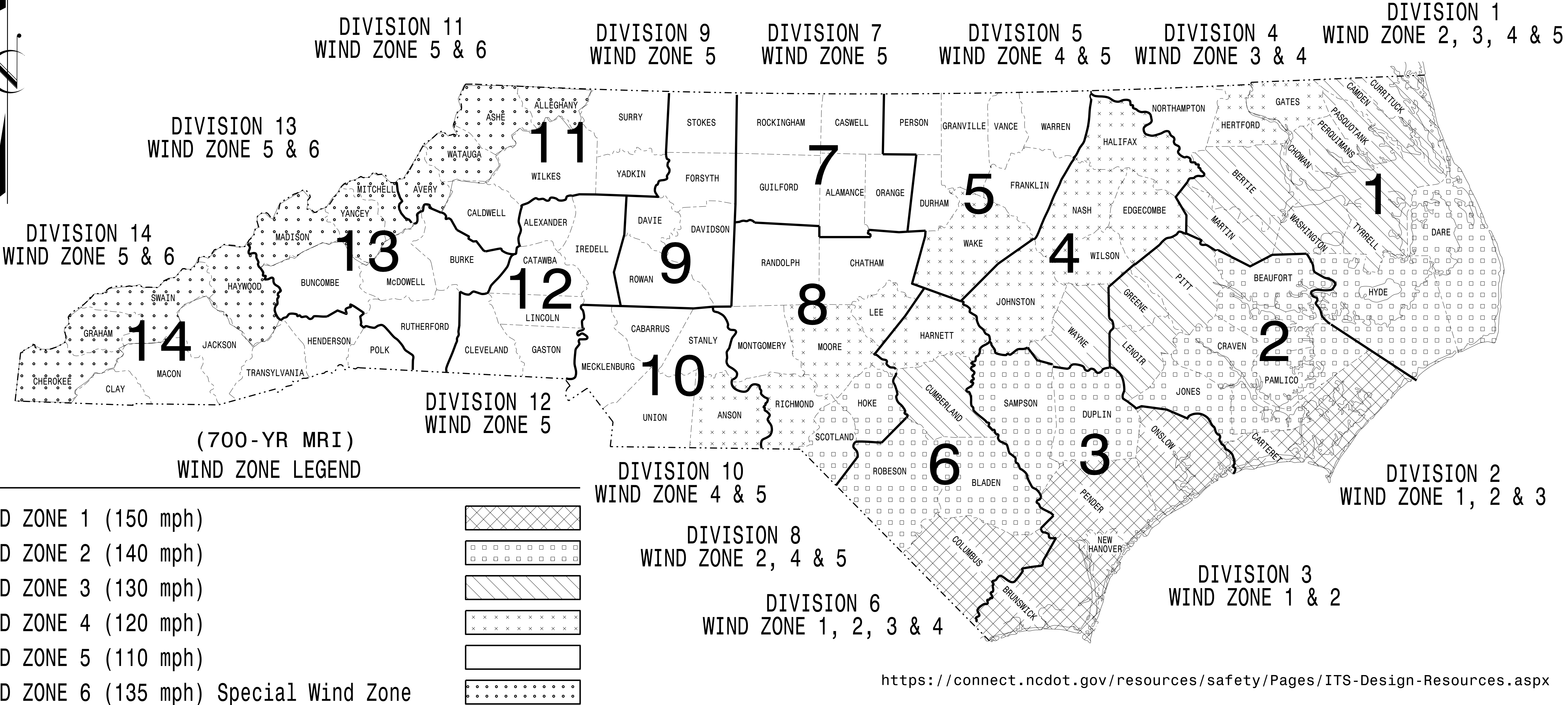
DocuSigned by:  
Donald J. Darity 9/27/202

SIG. INVENTORY NO. 09-1239

STATE OF NORTH CAROLINA

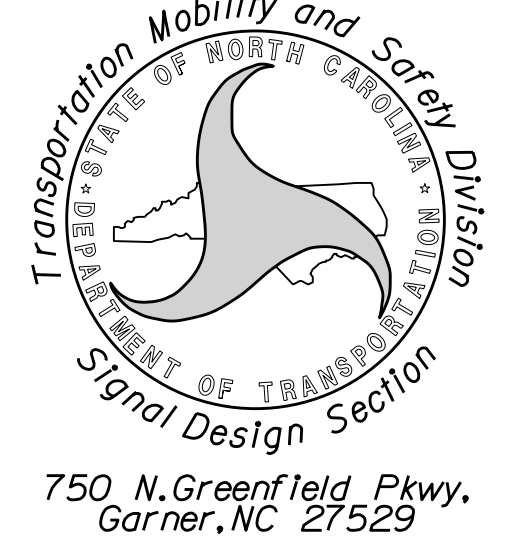
DIVISION OF HIGHWAYS

STANDARD DRAWINGS FOR ALL METAL POLES (LRFD)



<https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx>

Prepared In the Offices of:



Designed in conformance  
with the latest  
2020 Interim to the  
1st Edition 2015

**AASHTO**  
**LRFD**

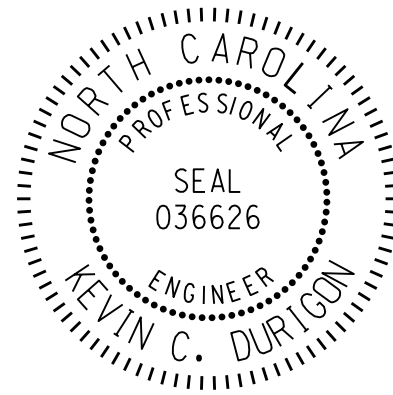
Standard Specifications for  
Highway Signs, Luminaires,  
and Traffic Signals

| DRAWING<br>NUMBER | INDEX OF PLANS<br>DESCRIPTION                       |
|-------------------|-----------------------------------------------------|
| Sig. M 1A         | Statewide Wind Zone Map (700-yr MRI)                |
| Sig. M 1B         | Statewide Wind Zone Map (10-yr MRI)                 |
| Sig. M 2          | Typical Fabrication Details-All Metal Poles         |
| Sig. M 3          | Typical Fabrication Details-Strain Poles            |
| Sig. M 4          | Typical Fabrication Details-Mast Arm Poles          |
| Sig. M 5          | Typical Fabrication Details-Mast Arm Connection     |
| Sig. M 6          | Typical Fabrication Details-Strain Pole Attachments |
| Sig. M 7          | Construction Details-Foundations                    |
| Sig. M 8          | Standard Strain Pole Foundation-All Soil Conditions |
| Sig. M 9          | Typical Fabrication Details-CCTV Camera Poles       |

MOBILITY AND SAFETY DIVISION -  
TRANSPORTATION SYSTEMS MANAGEMENT  
AND OPERATIONS UNIT

D.Y. ISHAK - STATE SIGNALS ENGINEER  
K. DURIGON, P.E. - ITS AND SIGNALS STRUCTURAL ENGINEER  
B. WALKER, P.E. - ITS AND SIGNALS STRUCTURAL ENGINEER

SEAL



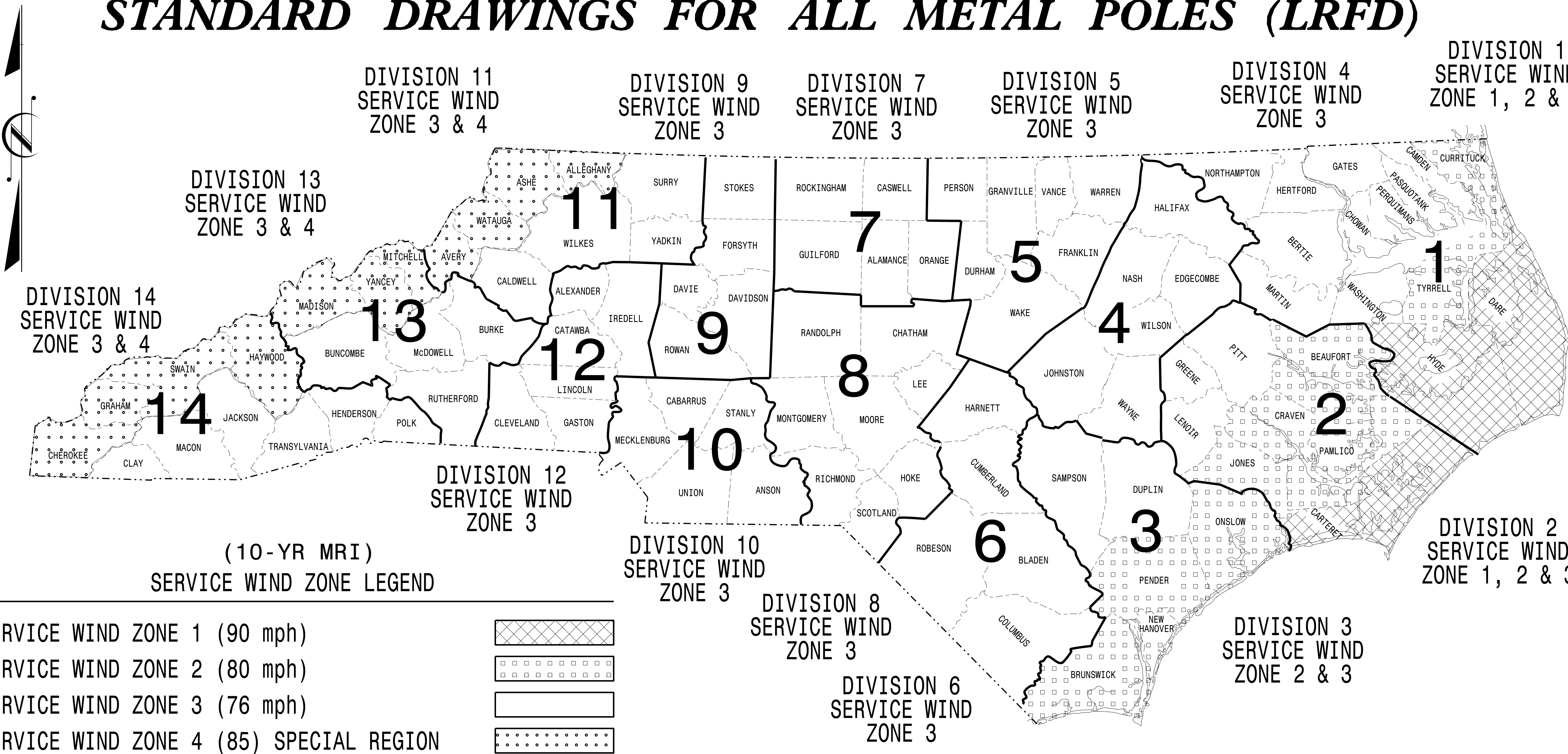
DocuSigned by:  
**Kevin Durigon**  
SIGNATURE  
4B23DC79B3764DA

09/21/2023  
DATE

STATE OF NORTH CAROLINA

DIVISION OF HIGHWAYS

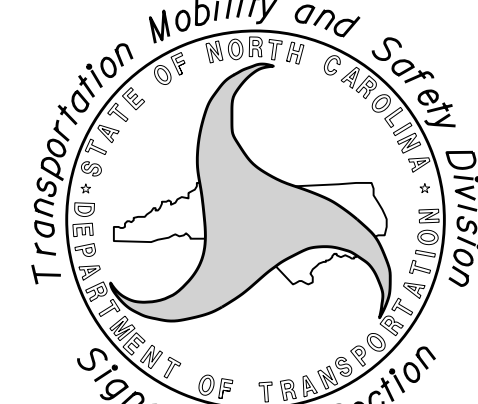
STANDARD DRAWINGS FOR ALL METAL POLES (LRFD)



<https://connect.ncdot.gov/resources/safety/Pages/ITS-Design-Resources.aspx>

NCDOT METAL POLE STANDARDS

Prepared In the Offices of:



750 N. Greenfield Pkwy.  
Garner, NC 27529

Designed in conformance  
with the latest  
2020 Interim to the  
1st Edition 2015

**AASHTO**  
**LRFD**

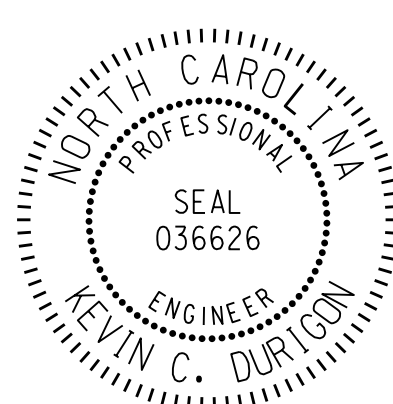
Standard Specifications for  
Highway Signs, Luminaires,  
and Traffic Signals

| DRAWING<br>NUMBER | INDEX OF PLANS<br>DESCRIPTION                       |
|-------------------|-----------------------------------------------------|
| Sig. M 1A         | Statewide Wind Zone Map (700-yr MRI)                |
| Sig. M 1B         | Statewide Wind Zone Map (10-yr MRI)                 |
| Sig. M 2          | Typical Fabrication Details-All Metal Poles         |
| Sig. M 3          | Typical Fabrication Details-Strain Poles            |
| Sig. M 4          | Typical Fabrication Details-Mast Arm Poles          |
| Sig. M 5          | Typical Fabrication Details-Mast Arm Connection     |
| Sig. M 6          | Typical Fabrication Details-Strain Pole Attachments |
| Sig. M 7          | Construction Details-Foundations                    |
| Sig. M 8          | Standard Strain Pole Foundation-All Soil Conditions |
| Sig. M 9          | Typical Fabrication Details-CCTV Camera Poles       |

**NCDOT CONTACTS:**  
**MOBILITY AND SAFETY DIVISION -**  
**TRANSPORTATION SYSTEMS MANAGEMENT**  
**AND OPERATIONS UNIT**

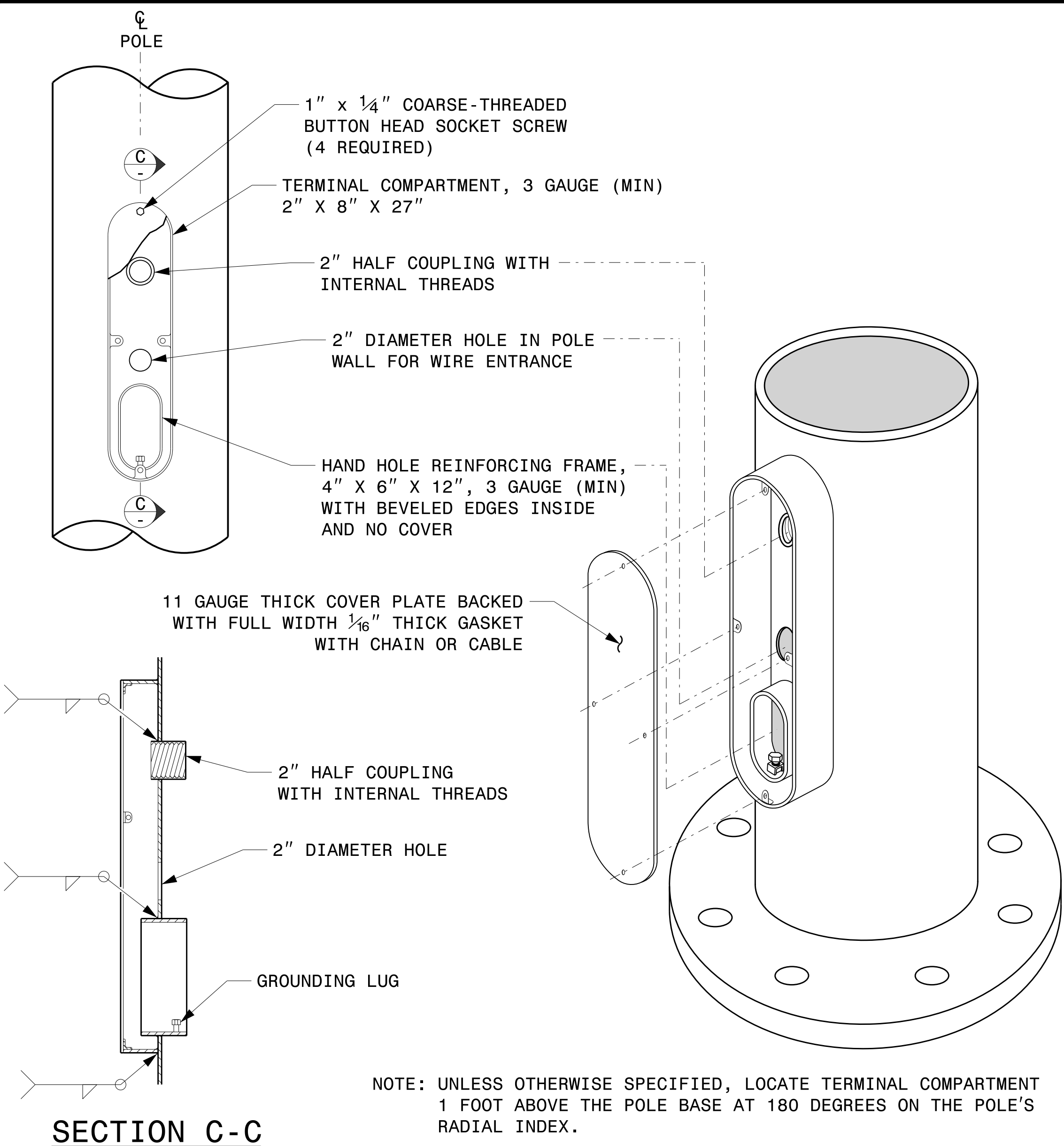
D.Y. ISHAK - STATE SIGNALS ENGINEER  
K. DURIGON, P.E. - ITS AND SIGNALS STRUCTURAL ENGINEER  
B. WALKER, P.E. - ITS AND SIGNALS STRUCTURAL ENGINEER

SEAL



DocuSigned by:  
Kevin Durigon  
SIGNATURE  
4B23DC79B3784DA

09/21/2023  
DATE



TERMINAL COMPARTMENT DETAIL

MFG \_\_\_\_\_ MFG. DATE: MM/YY

SHAFT D/T/L/Y \_\_\_\_\_

ARM-A D/T/L/Y \_\_\_\_\_

ARM-B D/T/L/Y \_\_\_\_\_

A.B. DIA./B.C./L/Y \_\_\_\_\_

NCDOT SIG. INV. NO. \_\_\_\_\_

NCDOT POLE NO. \_\_\_\_\_

SHAFT I.D. TAG  
(PROVIDE ON SHAFT OF STRAIN POLES  
AND MAST ARM POLE SHAFT)

MFG \_\_\_\_\_ MFG. DATE: MM/YY

SECTION D/T/L/Y \_\_\_\_\_

NCDOT SIG. INV. NO. \_\_\_\_\_

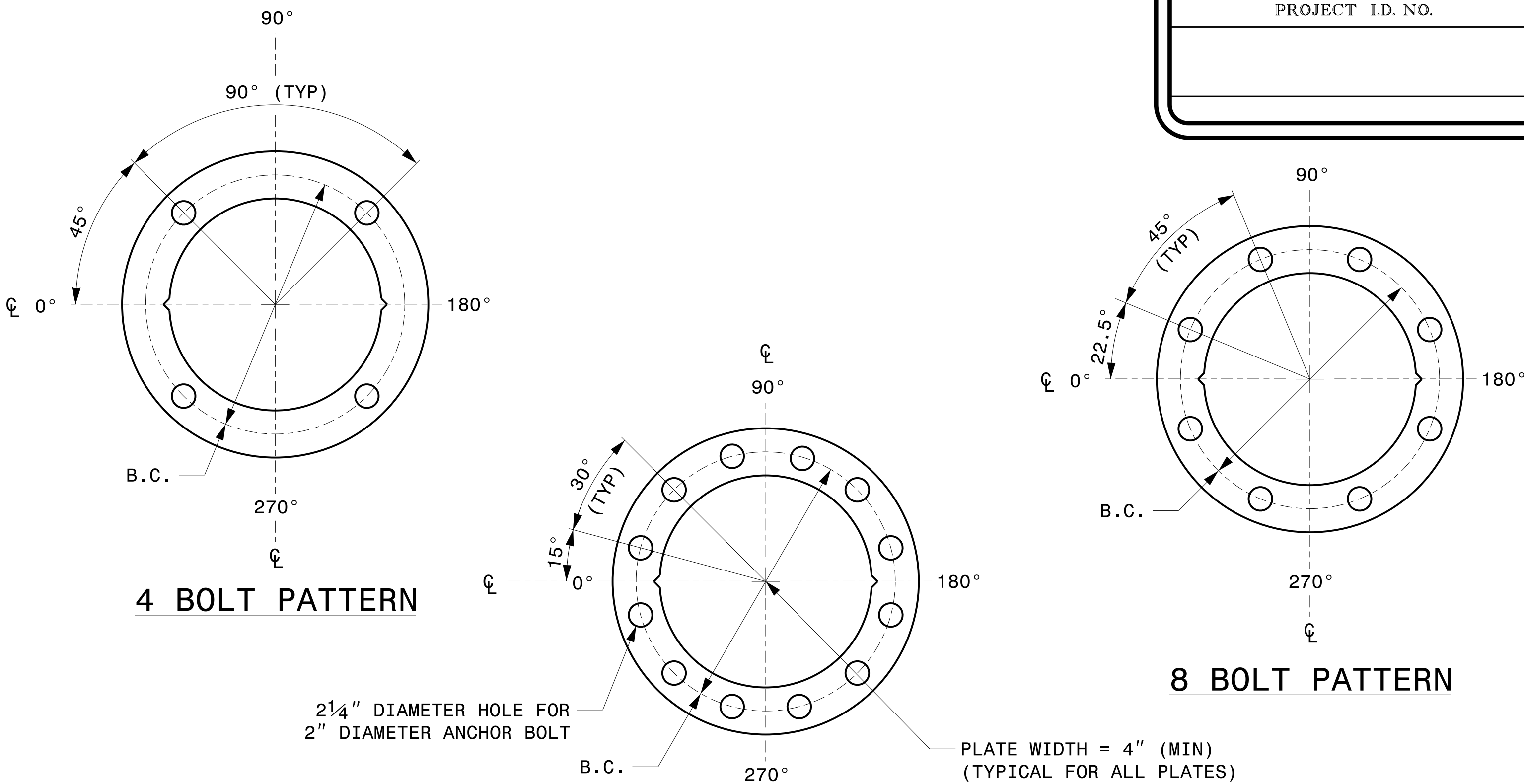
NCDOT POLE NO. \_\_\_\_\_

ARM I.D. TAG  
(PROVIDE ON EACH SECTION OF  
A MULTI-SECTION MAST ARM)

NOTES:

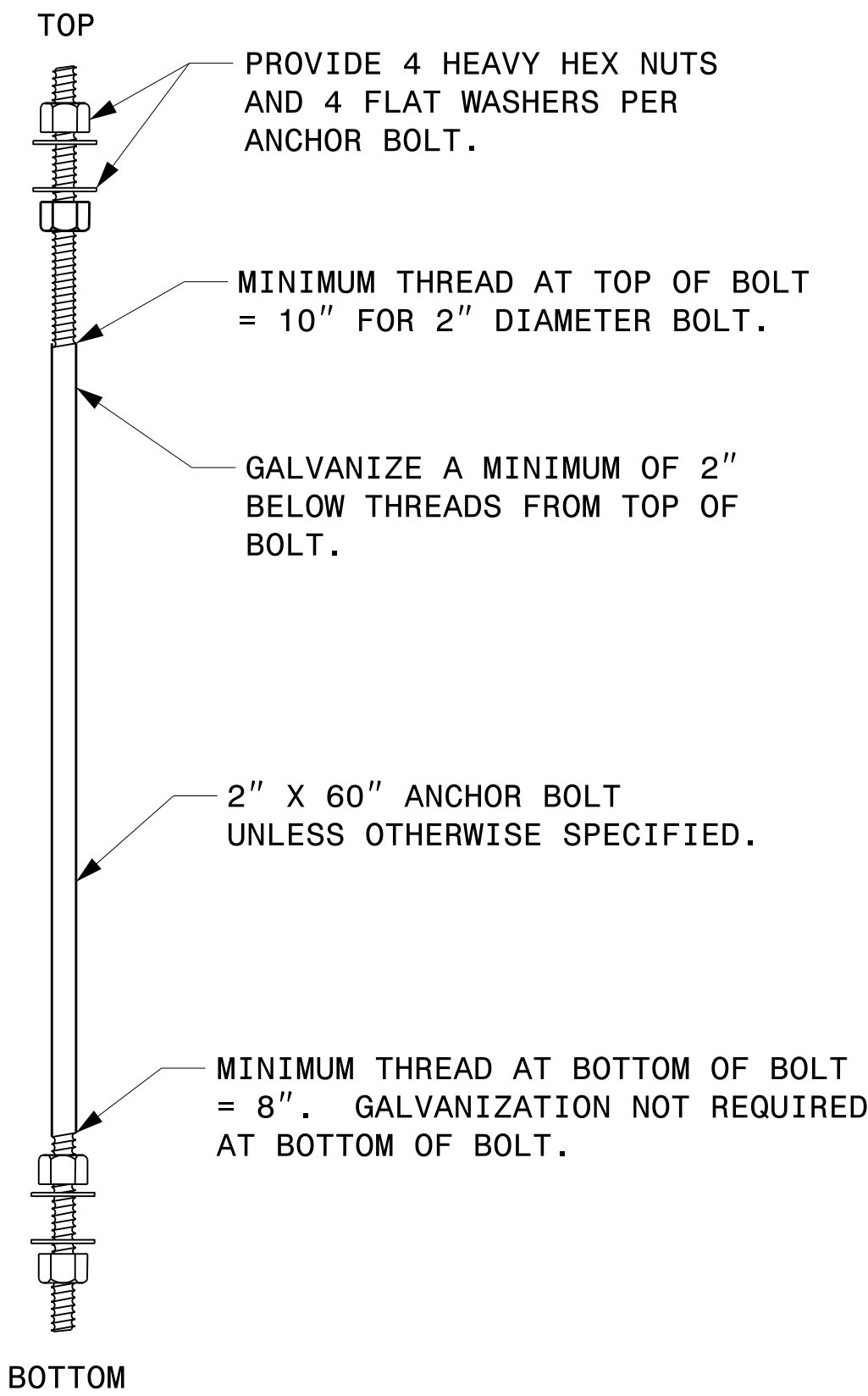
- D = DIAMETER, T = THICKNESS, L = LENGTH, Y = YIELD STRENGTH
- A.B. = ANCHOR BOLT
- B.C. = BOLT CIRCLE OF ANCHOR BOLTS
- IF STANDARD DESIGN, INCLUDE CASE NUMBER IN ADDITION TO POLE NUMBER ON "NCDOT POLE NO." LINE.
- SIGNAL INV. NUMBER AND POLE I.D. NUMBER.  
SEE DRAWING M3 AND M4 FOR MOUNTING POSITIONS OF I.D. TAGS.

IDENTIFICATION TAG DETAILS

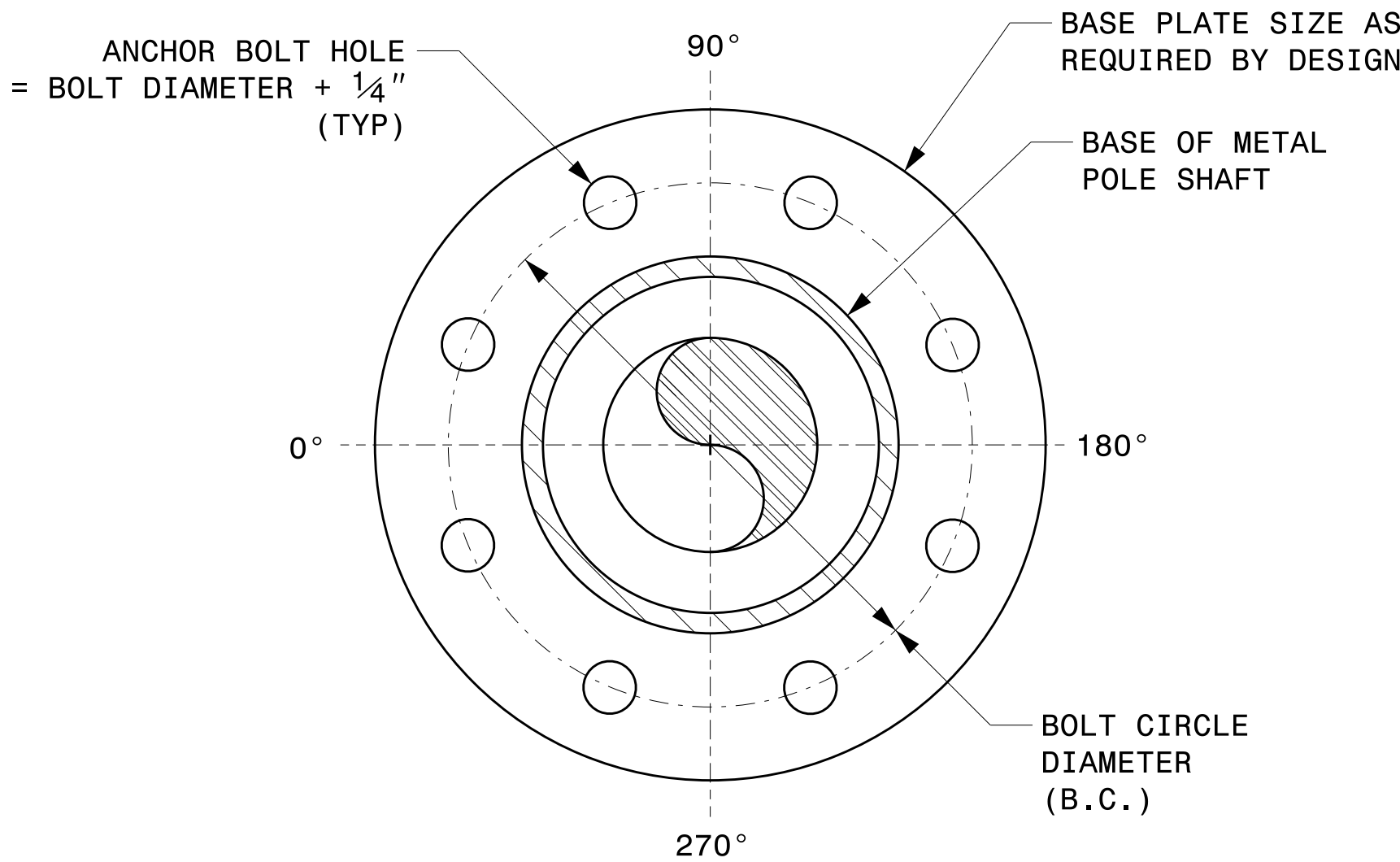


CONSTRUCT TEMPLATES AND PLATES FROM 1/4" (MIN) THICK STEEL. GALVANIZING IS NOT REQUIRED.

BASE PLATE TEMPLATE AND ANCHOR BOLT LOCK PLATE DETAILS



ANCHOR BOLT DETAIL



NOTE: BASE PLATE MAY BE CIRCULAR, OCTAGONAL, SQUARE OR RECTANGULAR IN SHAPE.

TYPICAL BASE PLATE DETAIL

Prepared In the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

Typical Fabrication Details  
For  
All Metal Poles

PLAN DATE: SEPTEMBER 2023 DESIGNED BY: C.F. ANDREWS  
PREPARED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR

REVISIONS  
INIT. DATE

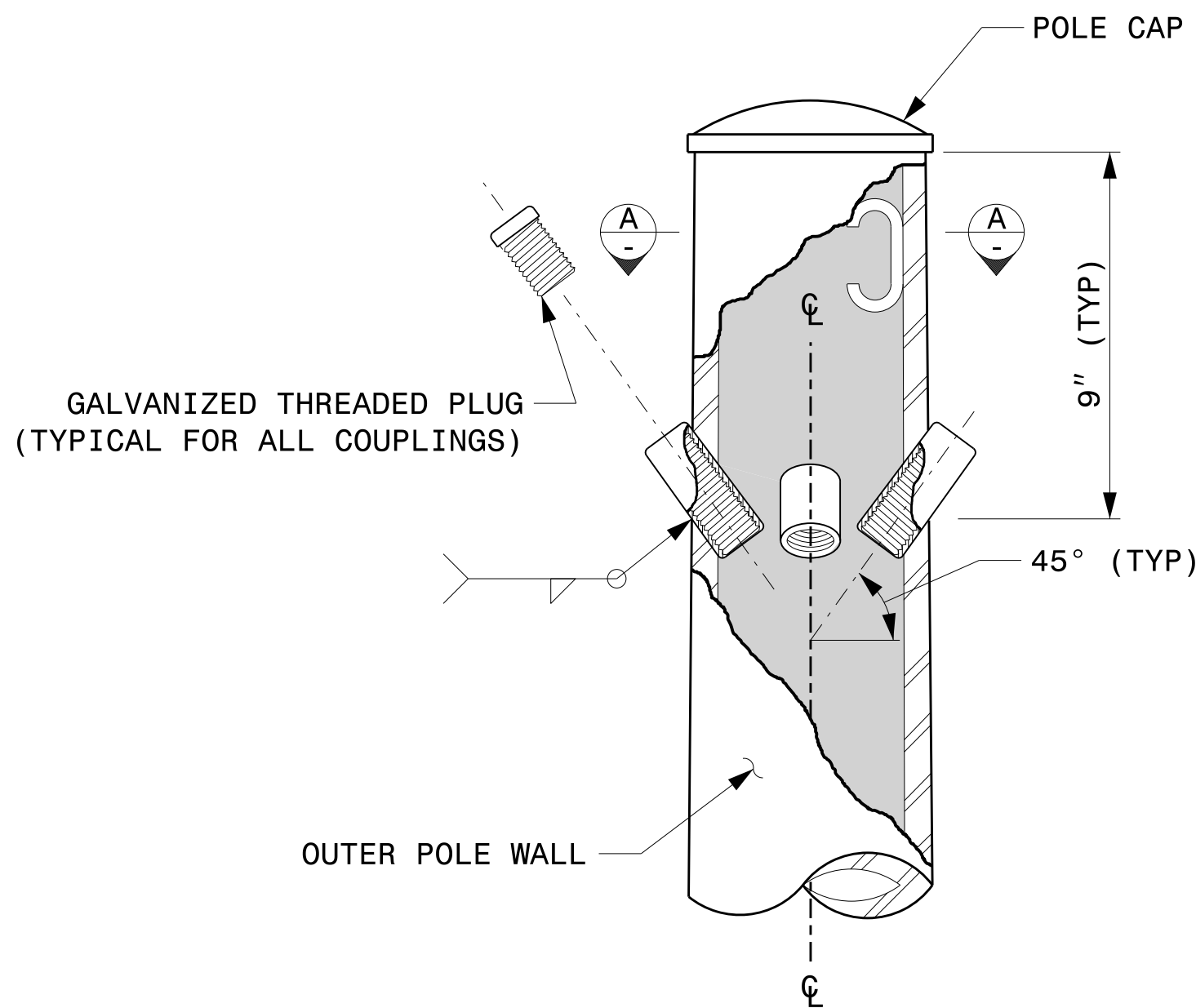
SEAL  
NORTH CAROLINA  
PROFESSIONAL ENGINEER  
SEAL  
036626  
KEYVIN C. DURIGON

DocuSigned by:  
Kevin Durigon  
4B23DC79B3784DA

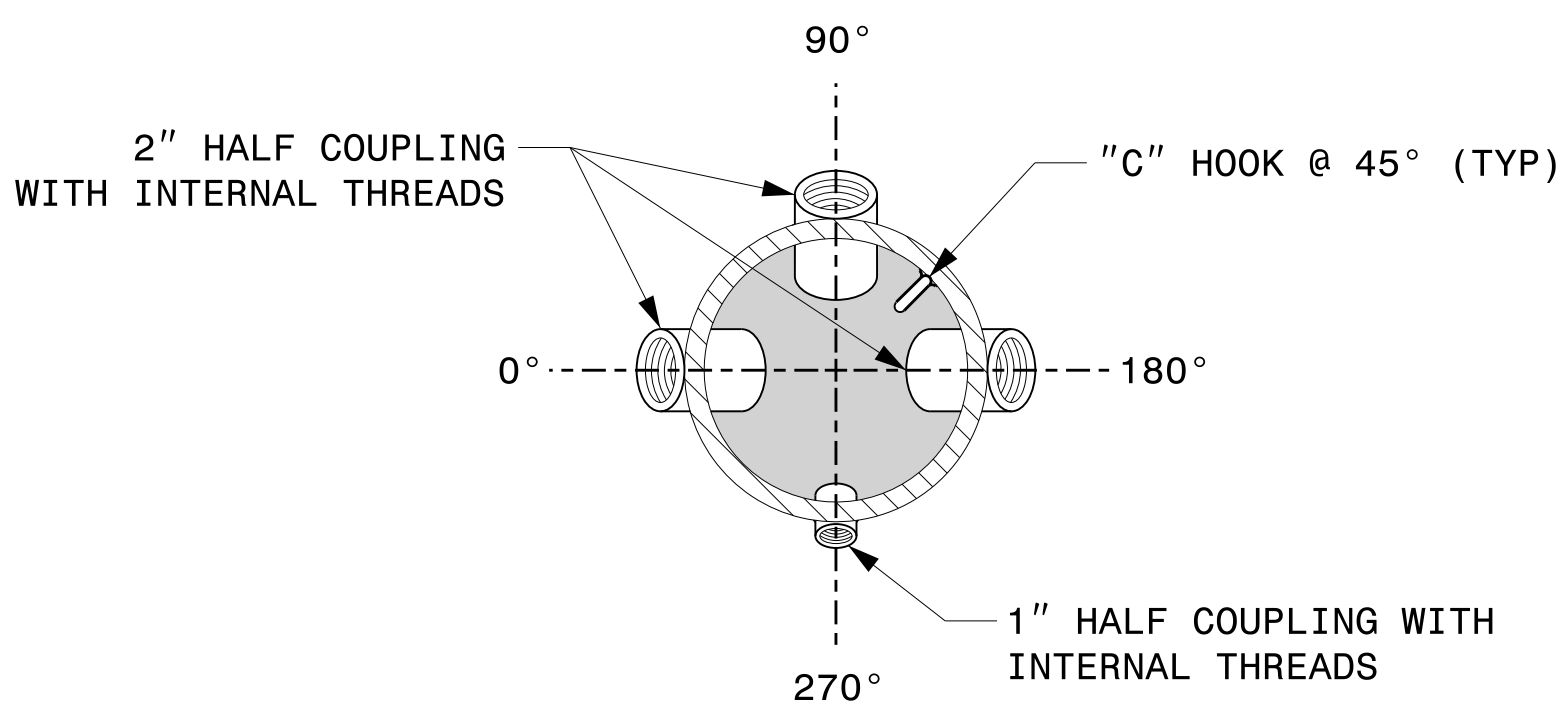
09/21/2023  
DATE

NOTE:

1. OPENING IN POLE BASE PLATE SHALL BE EQUAL TO POLE BASE INSIDE DIAMETER MINUS  $3\frac{1}{2}$ " BUT SHALL NOT BE LESS THAN  $8\frac{1}{2}$ ".

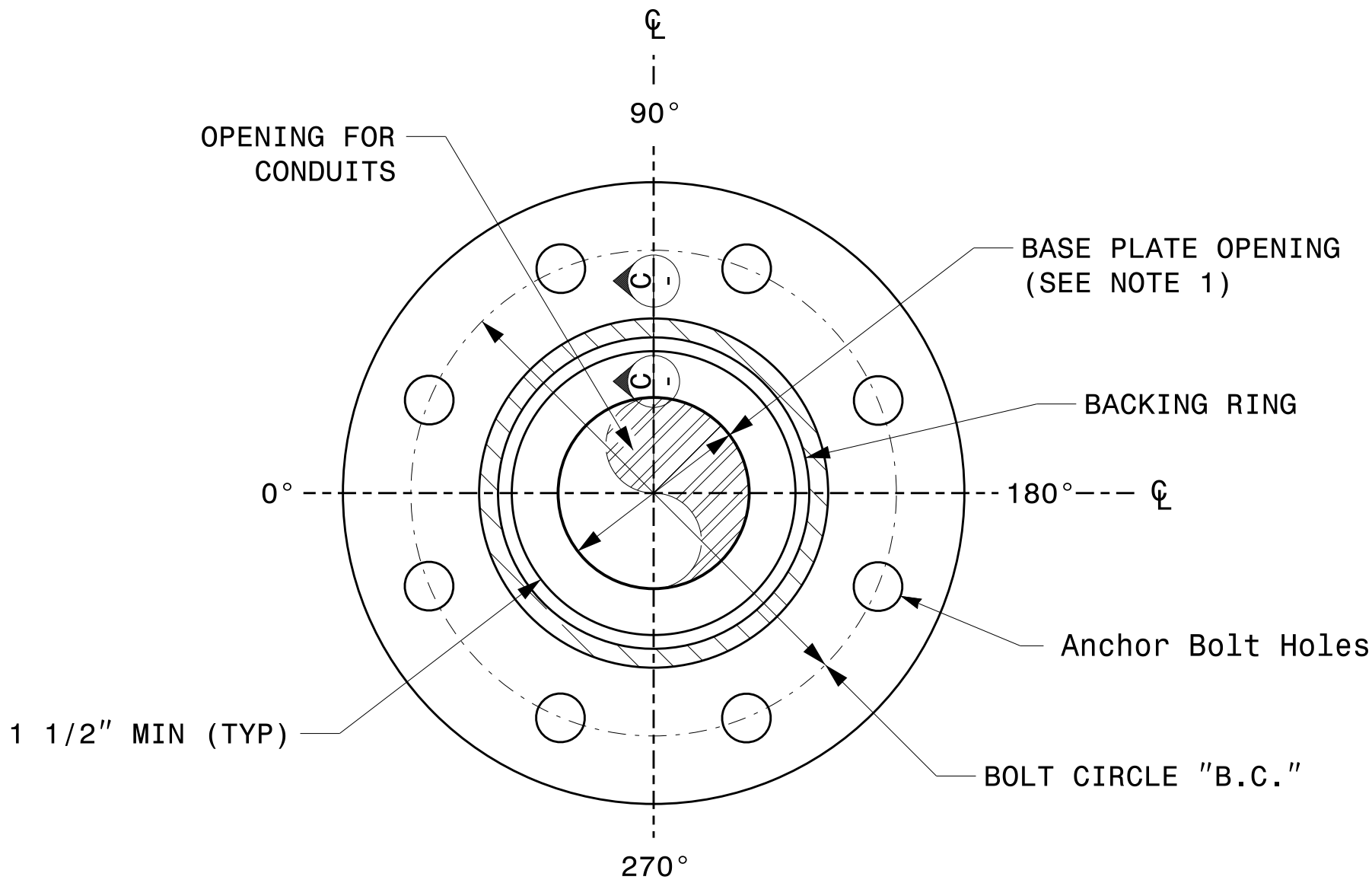


CABLE ENTRANCES AT TOP OF POLE



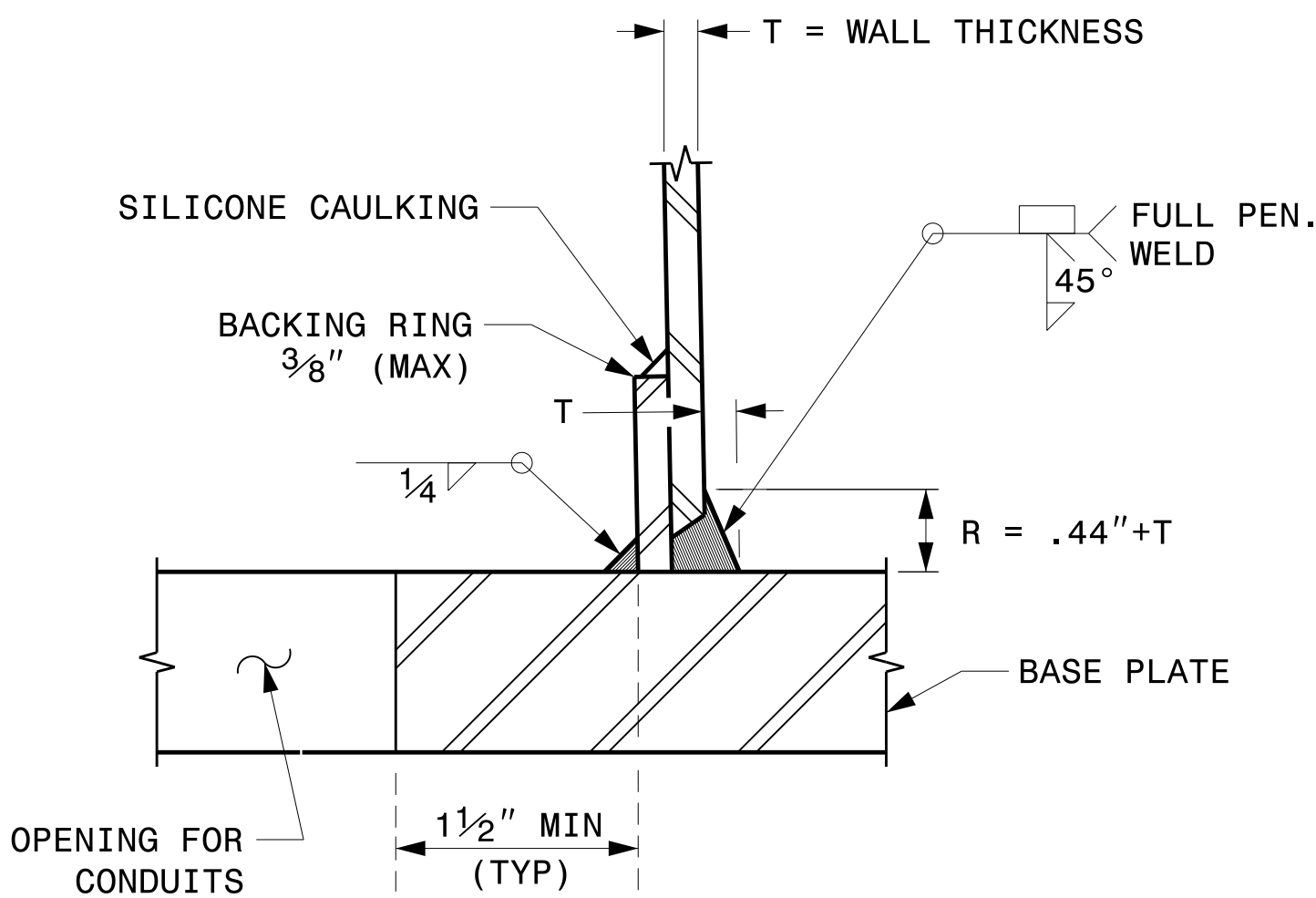
SECTION A-A

RADIAL ORIENTATION OF FACTORY INSTALLED ACCESSORIES AT TOP OF POLE



SECTION B-B

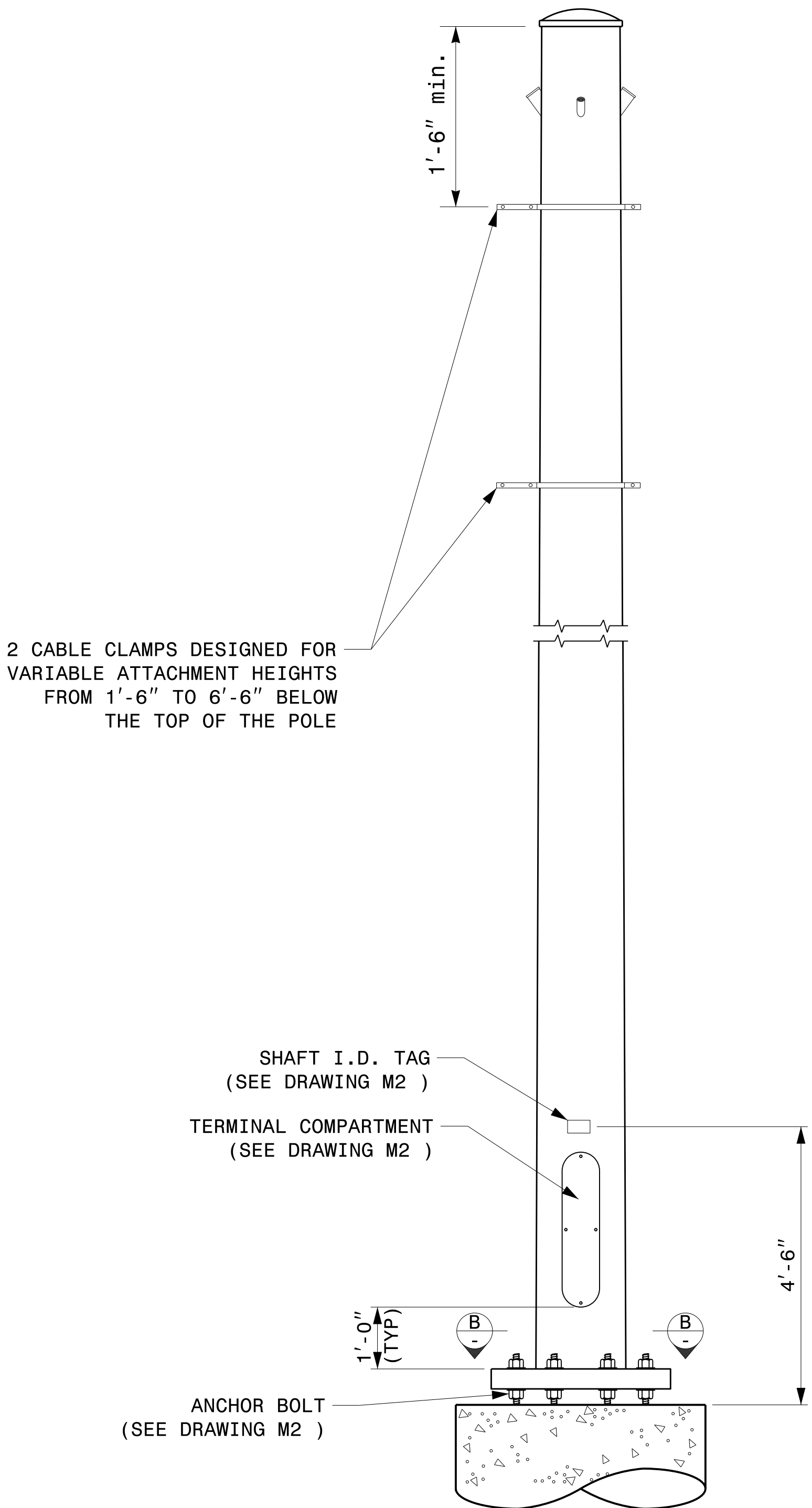
POLE BASE PLATE DETAILS  
(8 AND 12 BOLT PATTERN)



SECTION C-C

(POLE ATTACHMENT TO BASE PLATE)

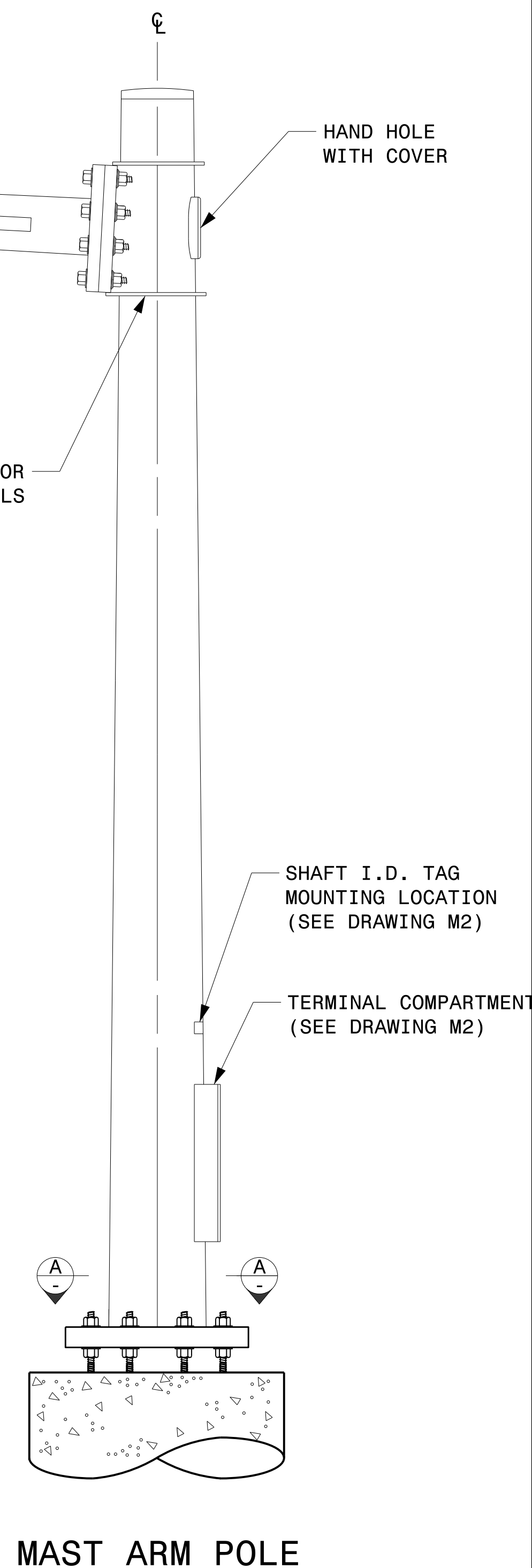
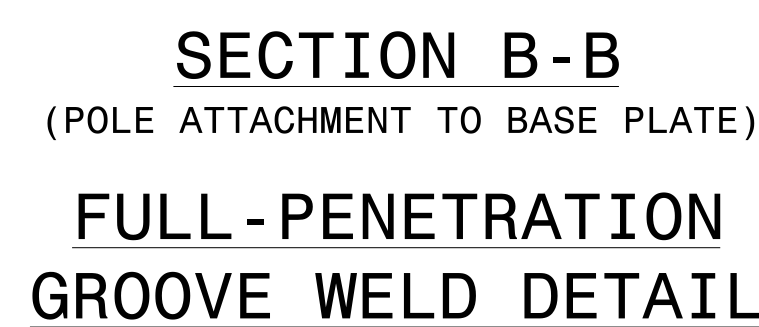
FULL-PENETRATION  
GROOVE WELD DETAIL



MONOTUBE STRAIN POLE

|  |                                                                                                                 |                                                       |  |
|--|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--|
|  | Typical Fabrication Details<br>For<br>Strain Poles                                                              |                                                       |  |
|  | PLAN DATE: SEPTEMBER 2023<br>DESIGNED BY: K.C. DURIGON<br>PREPARED BY: K.C. DURIGON<br>REVIEWED BY: D.C. SARKAR | DESIGNED BY: K.C. DURIGON<br>REVIEWED BY: D.C. SARKAR |  |

1. OPENING IN POLE BASE PLATE SHALL BE EQUAL TO POLE BASE INSIDE DIAMETER MINUS 3½" BUT SHALL NOT BE LESS THAN 8½".

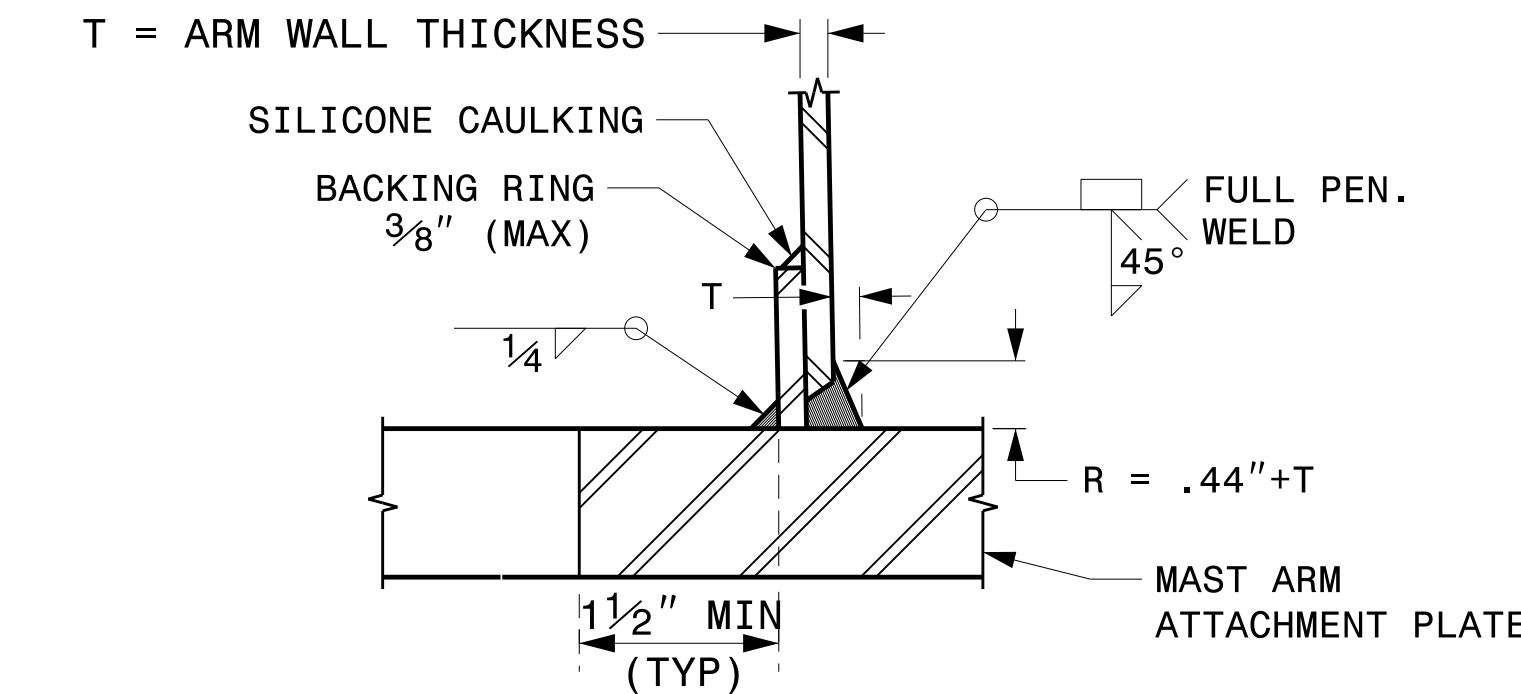


WELDED RING STIFFENED MAST ARM CONNECTION

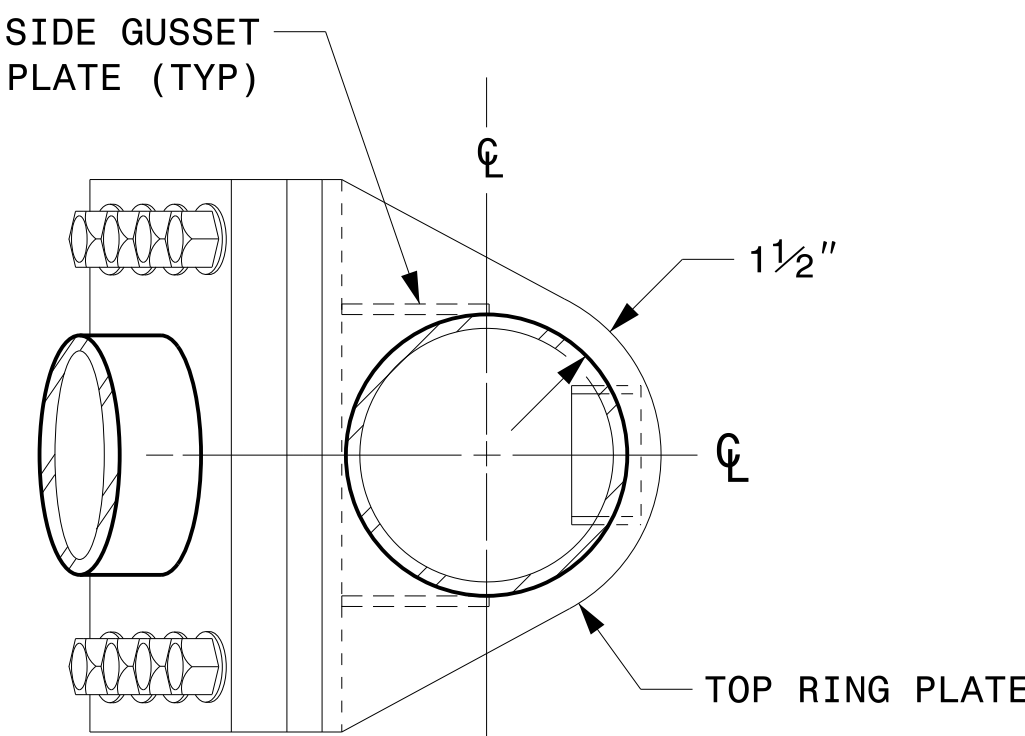
PROJECT I.D. NO.

SHEET NO.

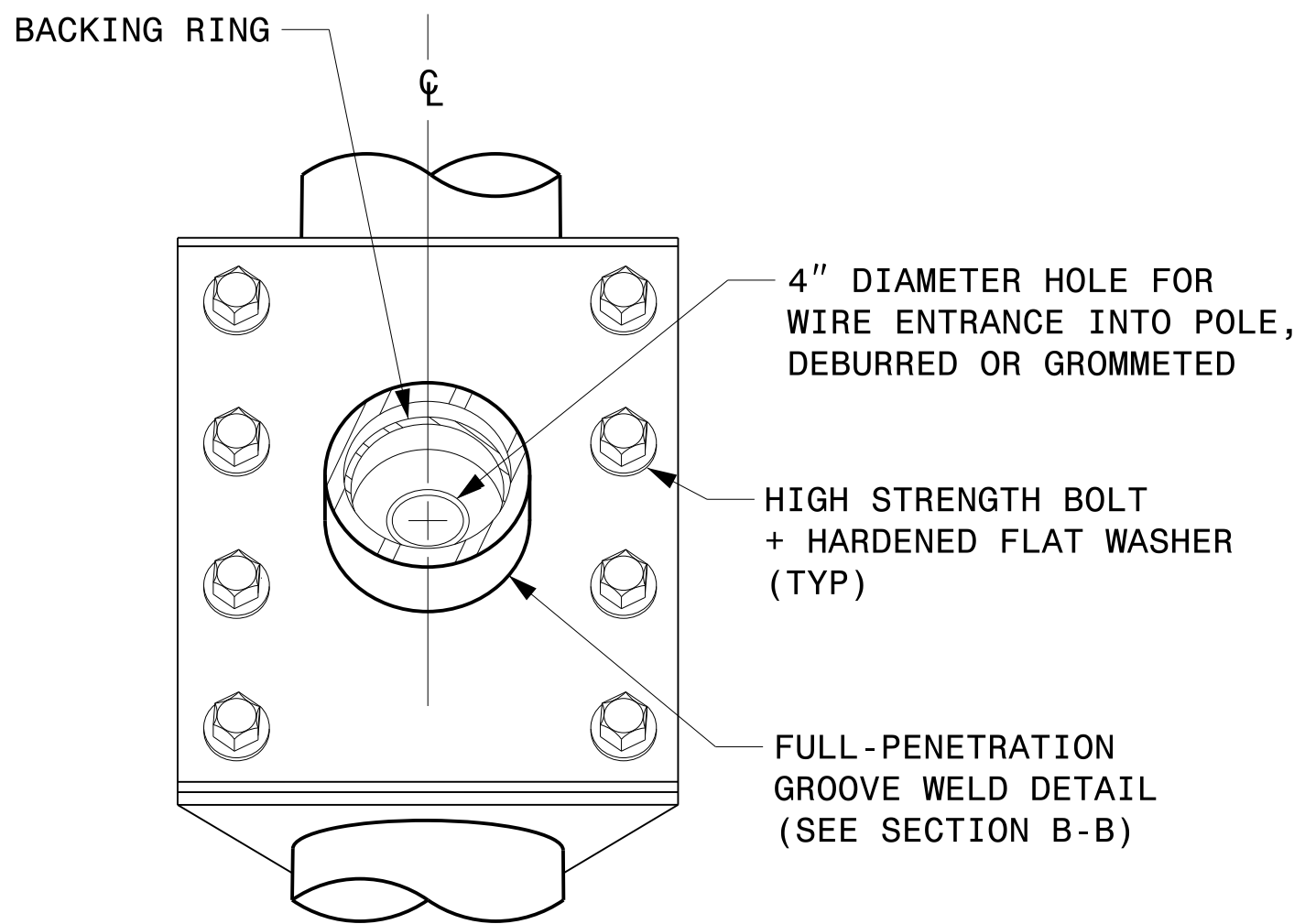
Sig.M5



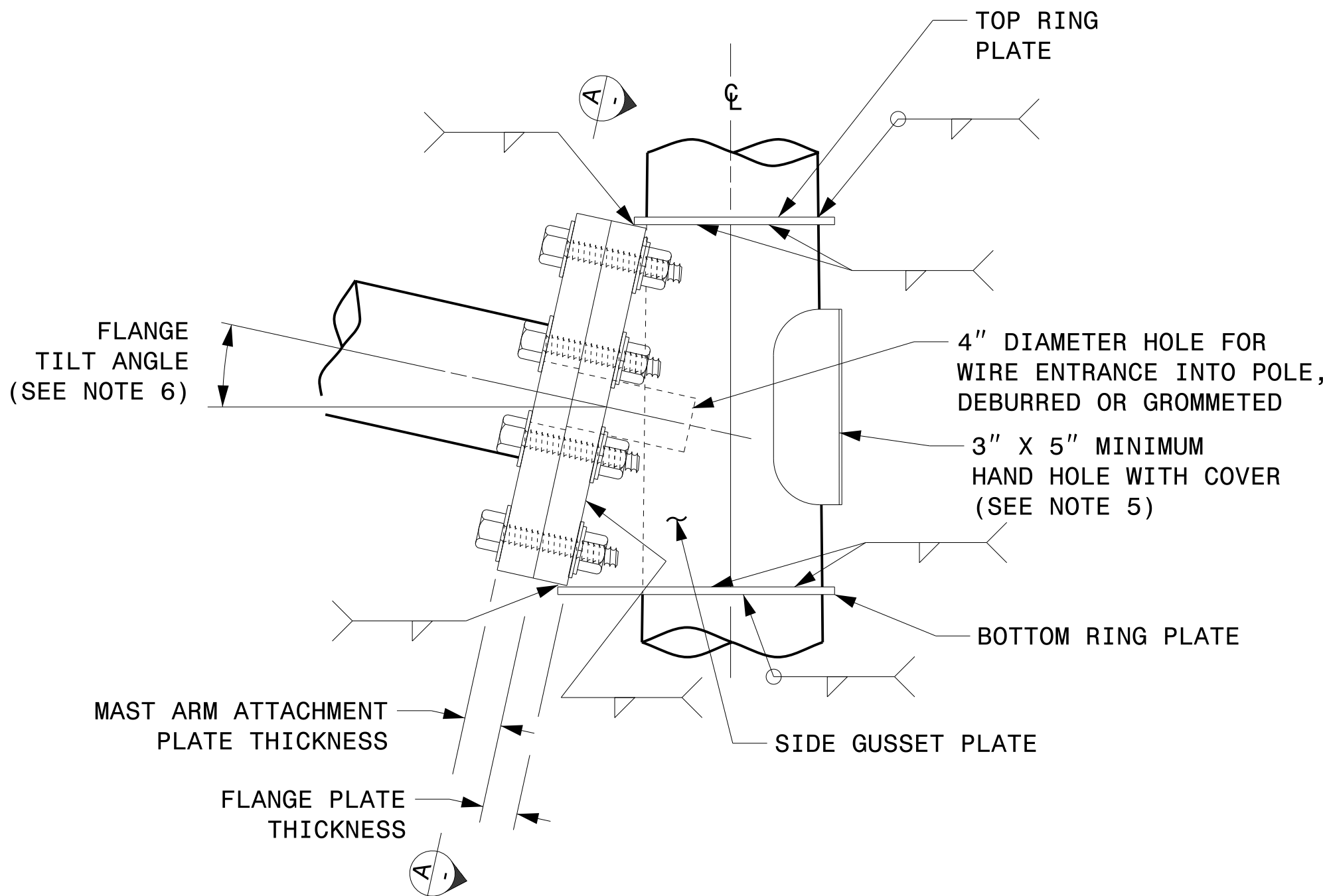
SECTION B-B  
FULL-PENETRATION GROOVE WELD DETAIL



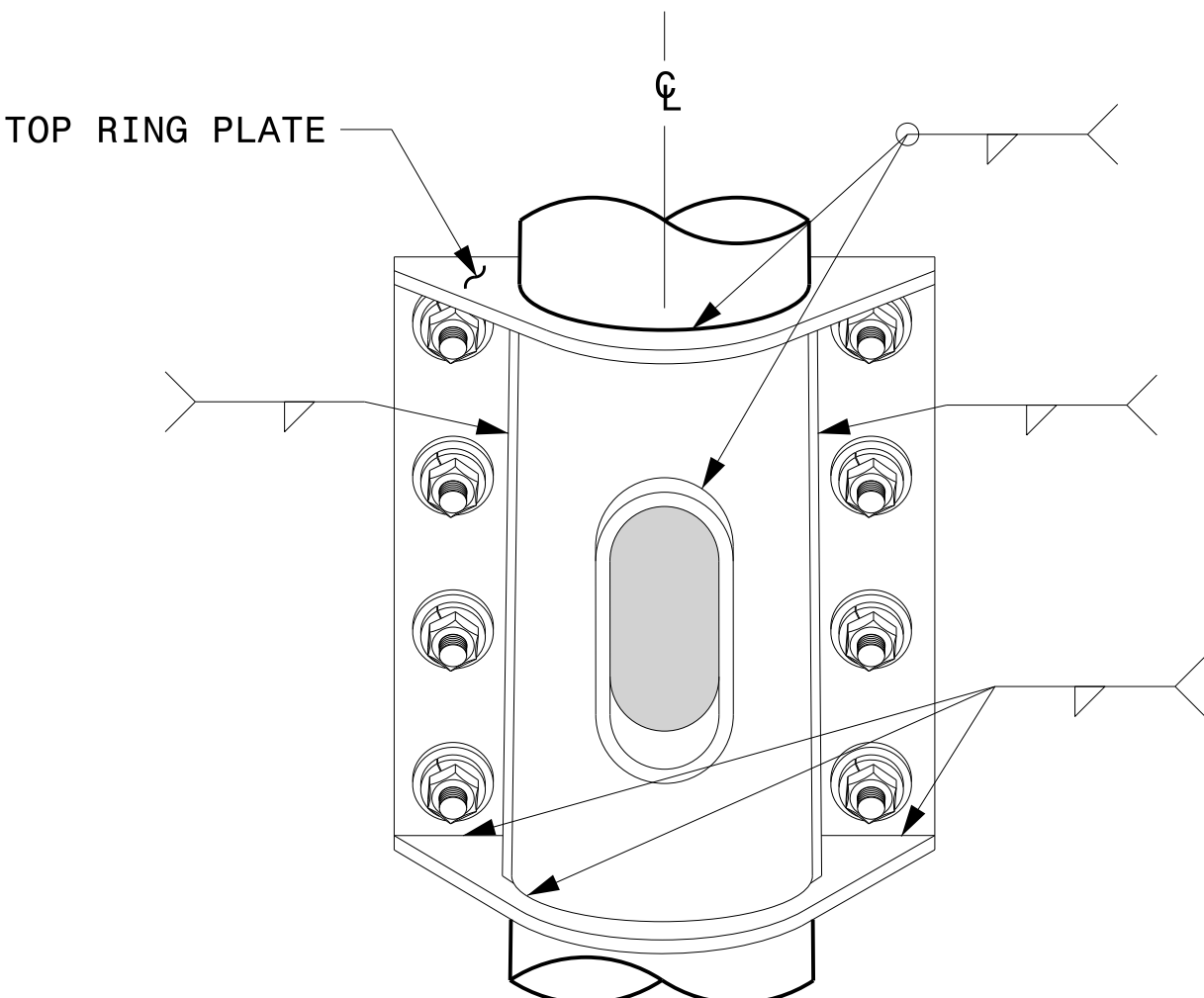
PLAN VIEW



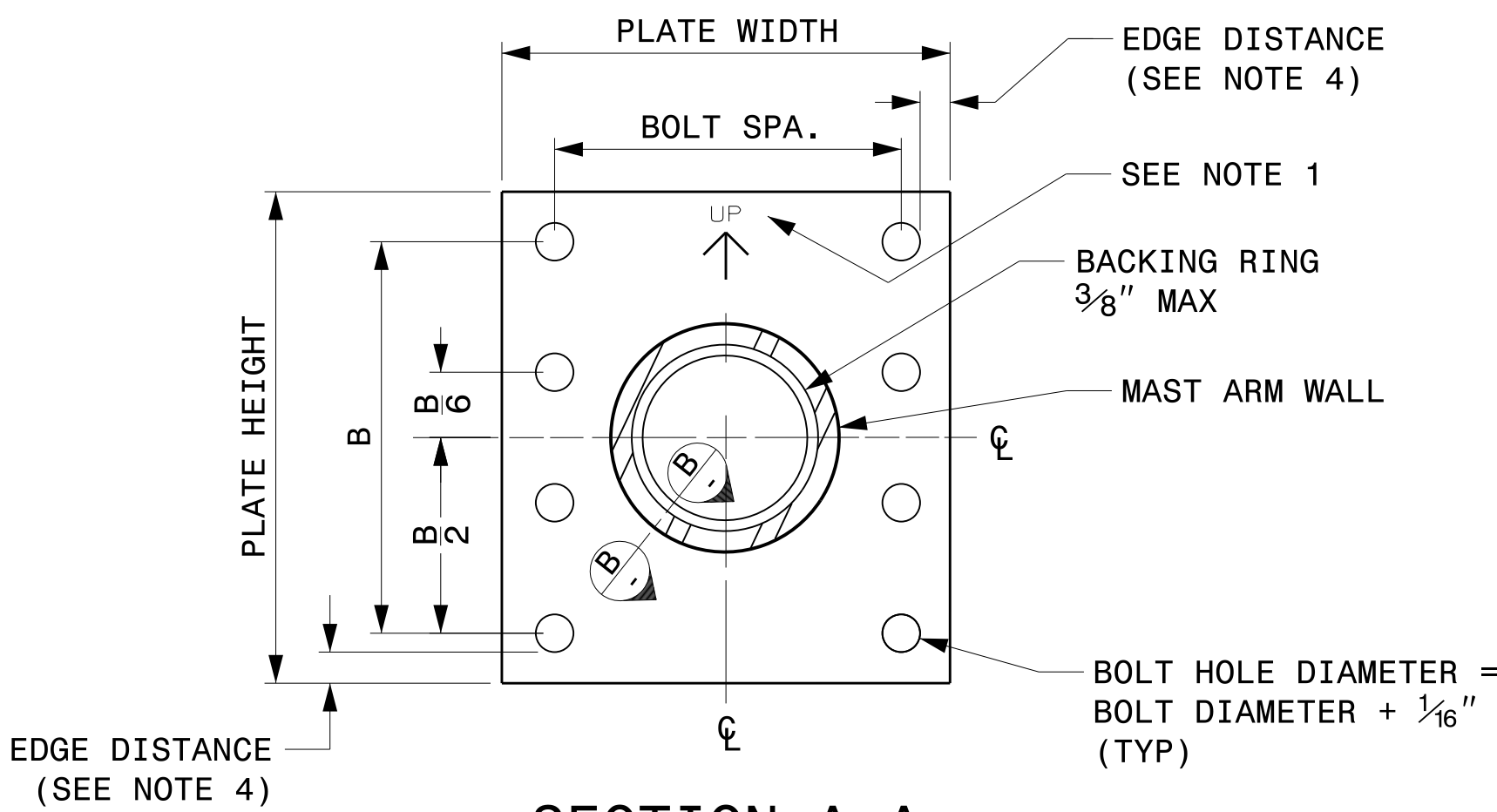
FRONT ELEVATION VIEW



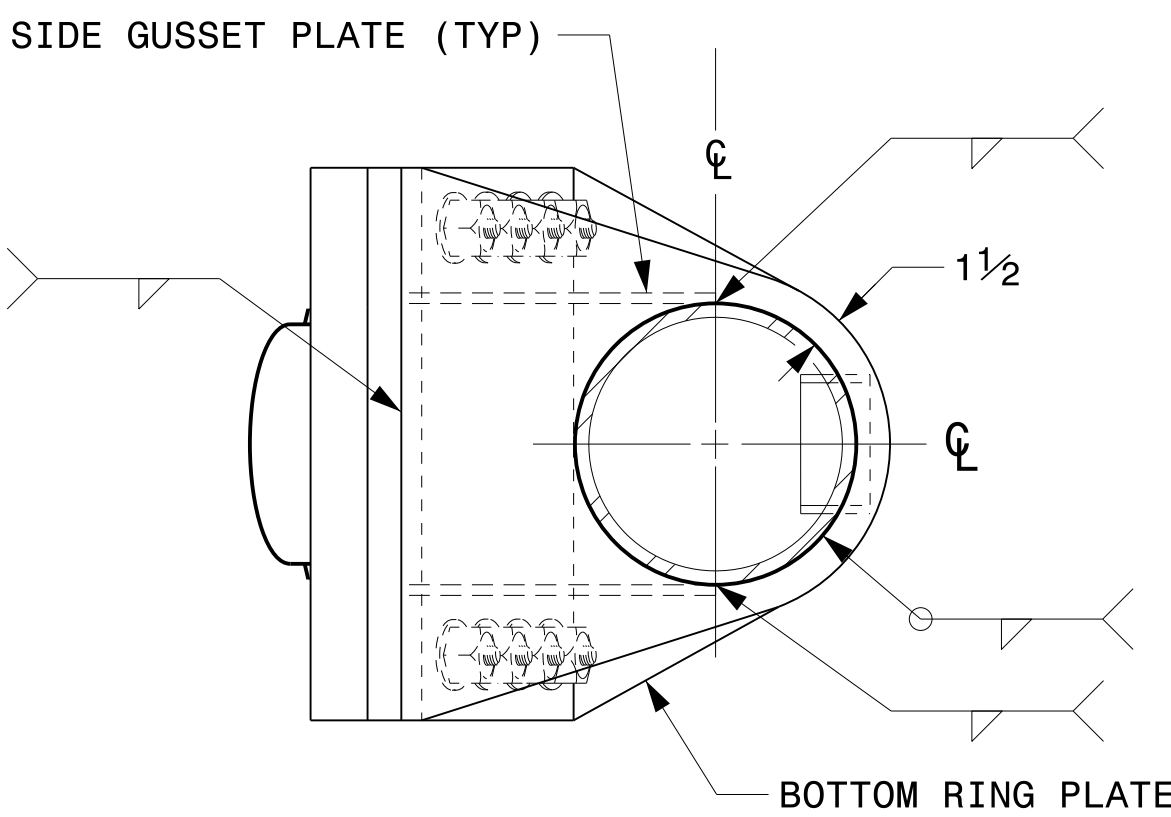
SIDE ELEVATION VIEW



BACK ELEVATION VIEW



SECTION A-A  
MAST ARM ATTACHMENT PLATE



BOTTOM VIEW

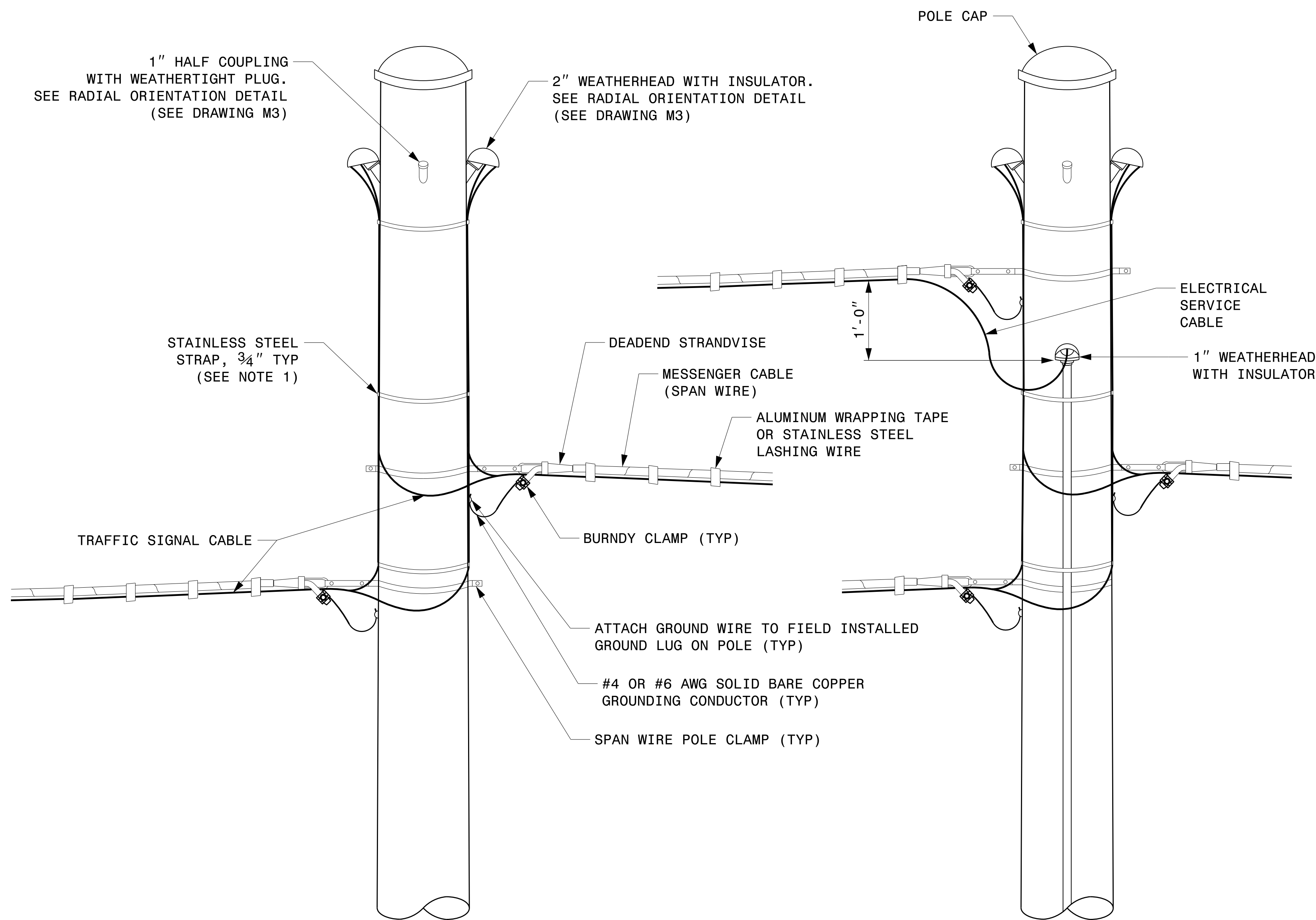
NOTES:

1. PROVIDE A PERMANENT MEANS OF IDENTIFICATION ABOVE THE MAST ARM TO INDICATE PROPER ATTACHMENT ORIENTATION OF THE MAST ARM.
2. DESIGNER WILL DETERMINE THE SIZE OF ALL STRUCTURAL COMPONENTS, PLATES, FASTENERS, AND WELDS SHOWN UNLESS THEY ARE ALREADY SPECIFIED.
3. FABRICATOR IS RESPONSIBLE FOR PROVIDING APPROPRIATE HOLES AT DRAINAGE POINTS TO DRAIN GALVANIZING MATERIALS.
4. FOR MINIMUM EDGE DISTANCE AND NOMINAL BOLT HOLE SIZE, FOLLOW THE LATEST AISC STEEL CONSTRUCTION MANUAL.
5. PROVIDE UPPER HANDHOLE AS NECESSARY WHEN SHAFT EXTENSIONS ARE REQUIRED FOR LUMINAIRE ARMS OR CAMERA. FOR POLES WITHOUT LUMINAIRES/CAMERA, WIRING CAN BE DONE THROUGH THE TOP OF POLE.
6. ALLOWABLE RANGE OF FLANGE TILT ANGLE WILL VARY FROM 0° TO AS REQUIRED.

|                           |                                                                   |                           |      |
|---------------------------|-------------------------------------------------------------------|---------------------------|------|
|                           | Typical Fabrication Details<br>For<br>Mast Arm Connection To Pole |                           |      |
|                           | PLAN DATE: SEPTEMBER 2023                                         | DESIGNED BY: C.F. ANDREWS |      |
| PREPARED BY: K.C. DURIGON | REVIEWED BY: D.C. SARKAR                                          | DocuSigned by:<br>        |      |
| SCALE: 0 = NA             | REVISIONS                                                         | INIT.                     | DATE |
| NONE                      |                                                                   |                           |      |

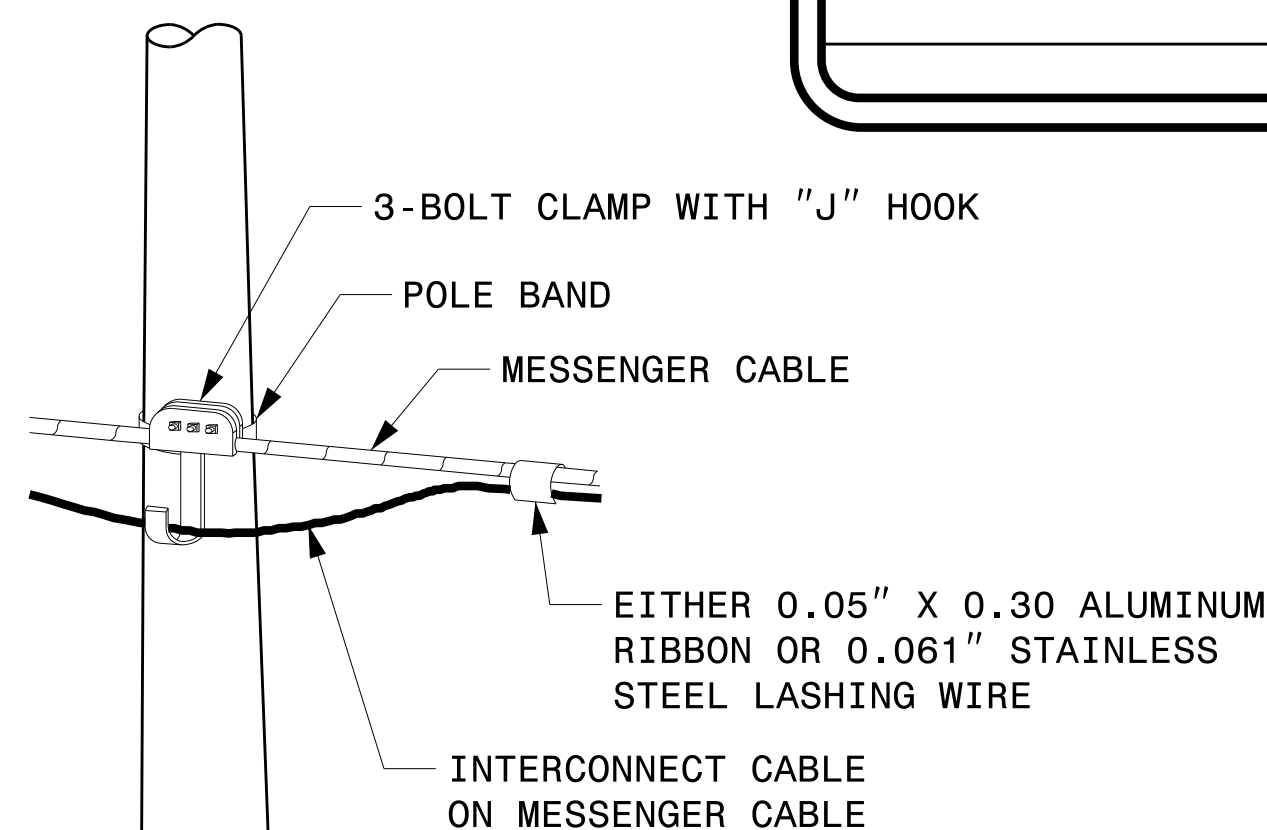
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09/21/2023

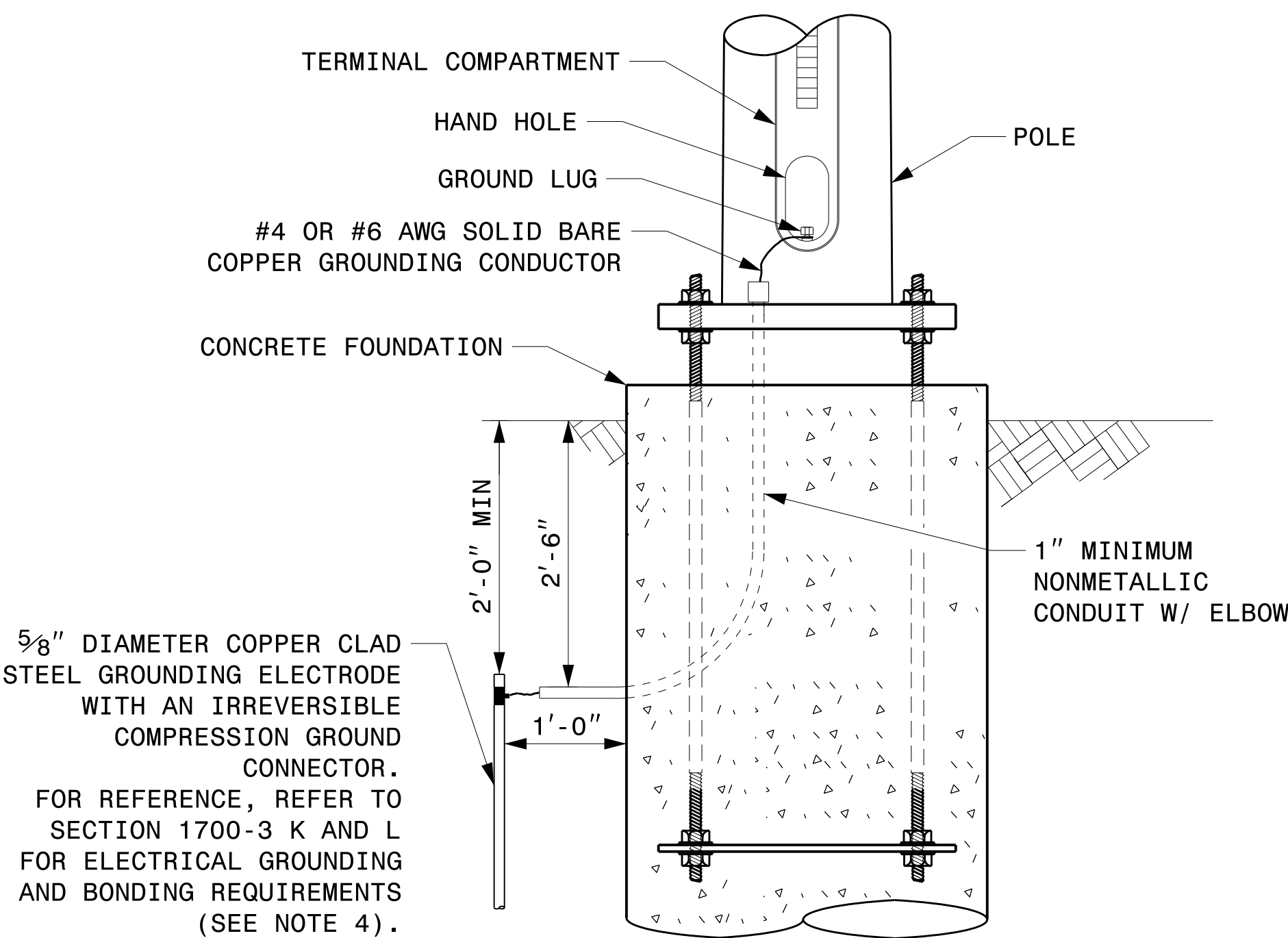


STRAIN POLE ATTACHMENTS

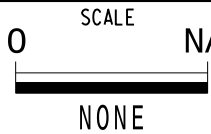
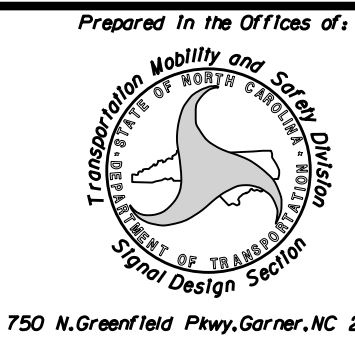
- NOTES:
- STRAP ALL SIGNAL CABLES TO THE SIDE OF THE POLE WITH 3/4" STAINLESS STEEL STRAPS WHEN THE DISTANCE BETWEEN SPAN WIRE ATTACHMENT CLAMP AND WEATHERHEADS EXCEEDS 3'-0".
  - PROVIDE MINIMUM TWO SPAN WIRE POLE CLAMPS PER POLE.
  - IT IS PROHIBITED TO ATTACH TWO SPAN WIRES AT ONE POLE CLAMP.
  - FOR GENERAL REQUIREMENTS, REFER TO NCDOT STANDARD SPECIFICATIONS FOR ROADWAY AND STRUCTURES, JANUARY 2024.



ATTACHMENT OF CABLE TO INTERMEDIATE METAL POLE



METAL POLE GROUNDING DETAIL FOR STRAIN POLE AND MAST ARM



Typical Fabrication Details For Strain Pole Attachments

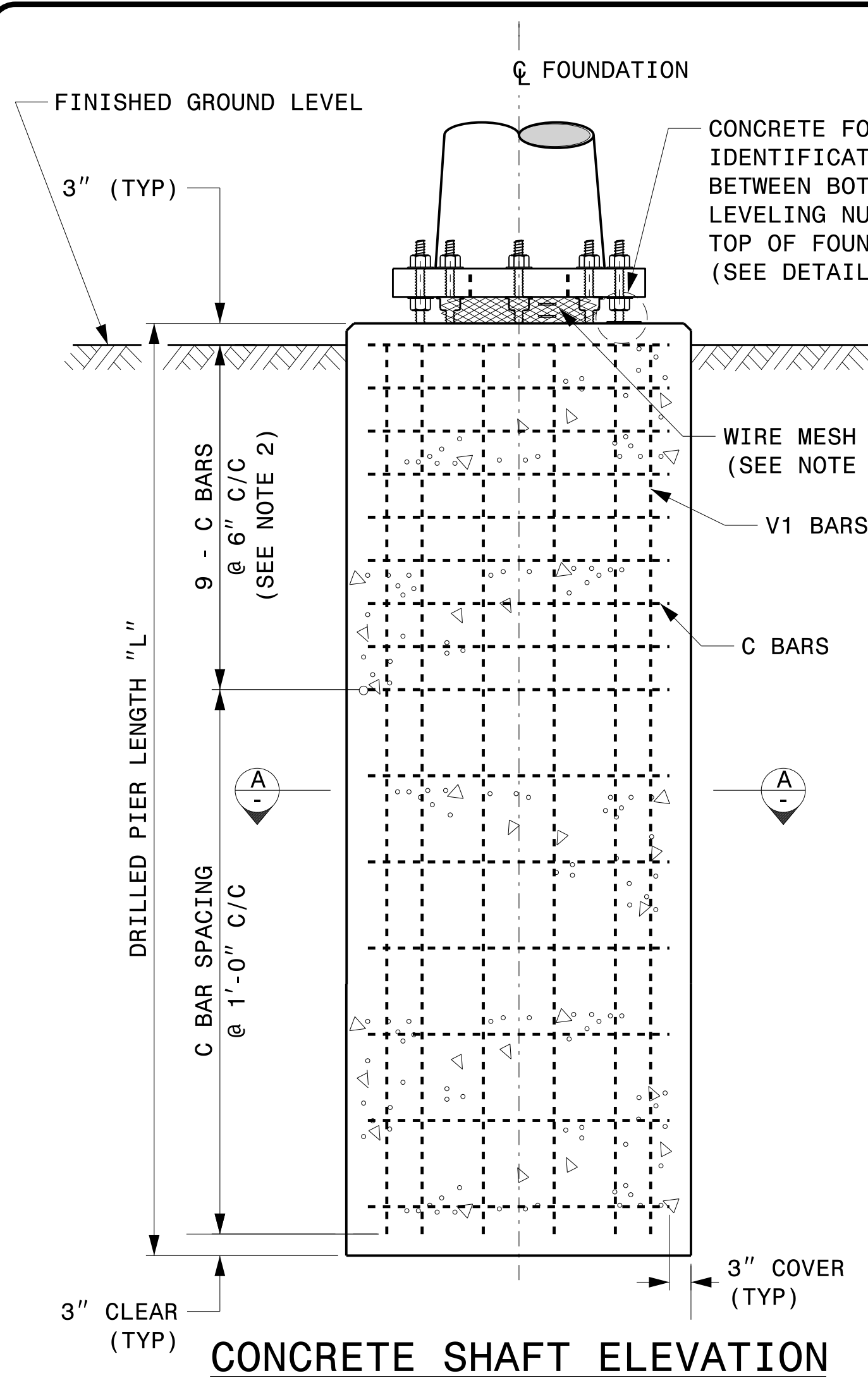
PLAN DATE: SEPTEMBER 2023 DESIGNED BY: C.F. ANDREWS  
PREPARED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR

| REVISIONS | INIT. | DATE |
|-----------|-------|------|
|           |       |      |
|           |       |      |
|           |       |      |

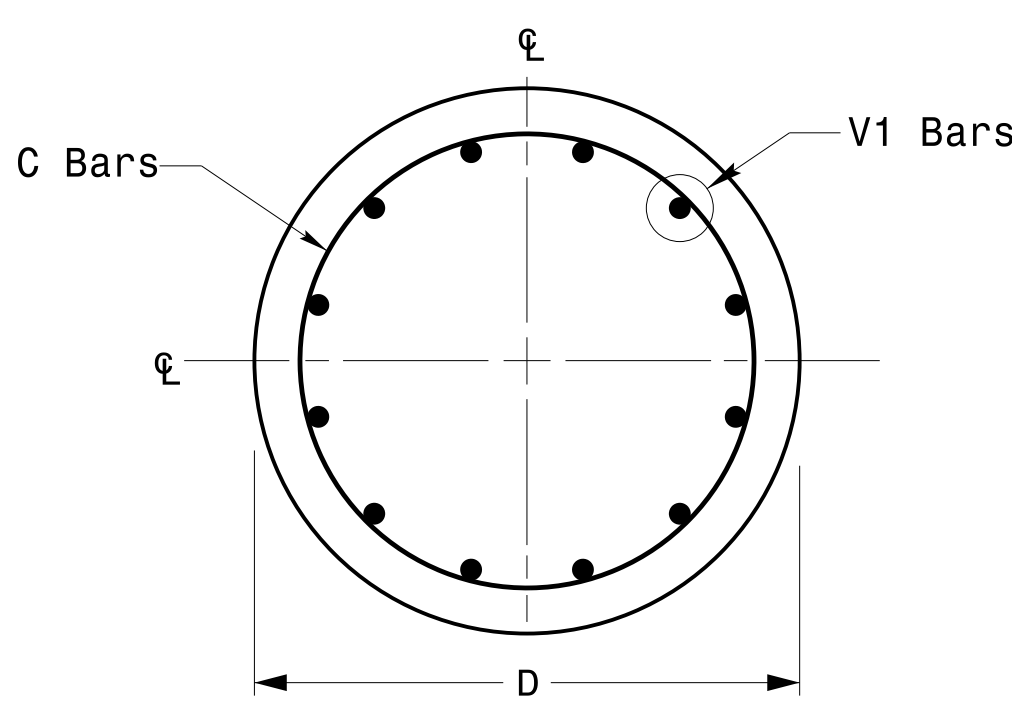
DocuSigned by:  
**Kevin Durigon**  
4B23DC79B3784DA...

SEAL  
NORTH CAROLINA  
PROFESSIONAL ENGINEER  
SEAL  
036626  
KEYVIN C. DURIGON

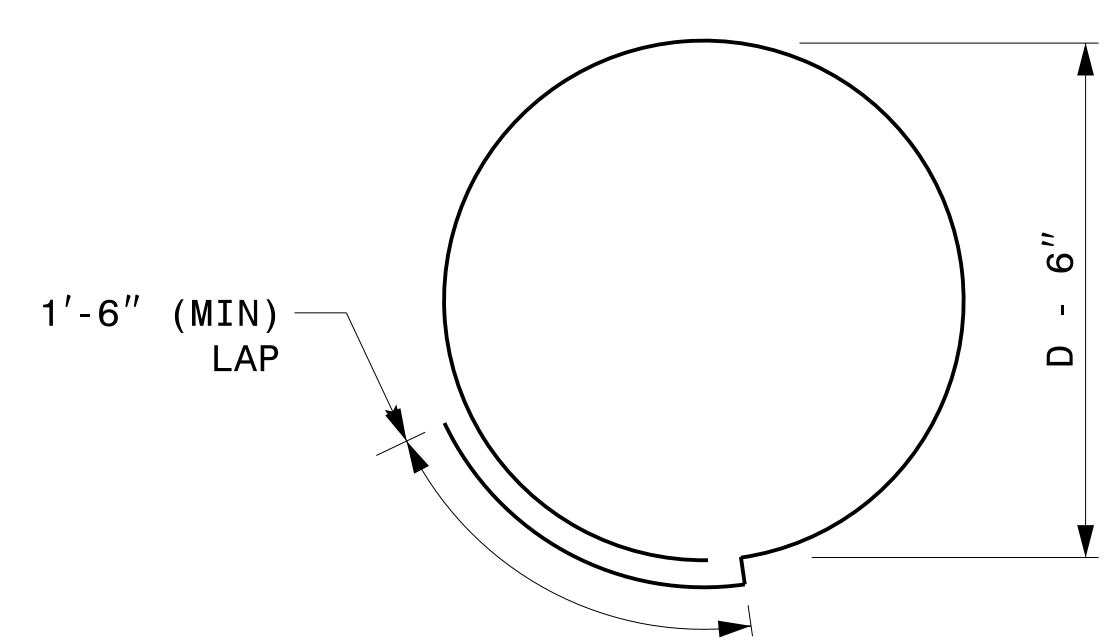
09/21/2023  
DATE



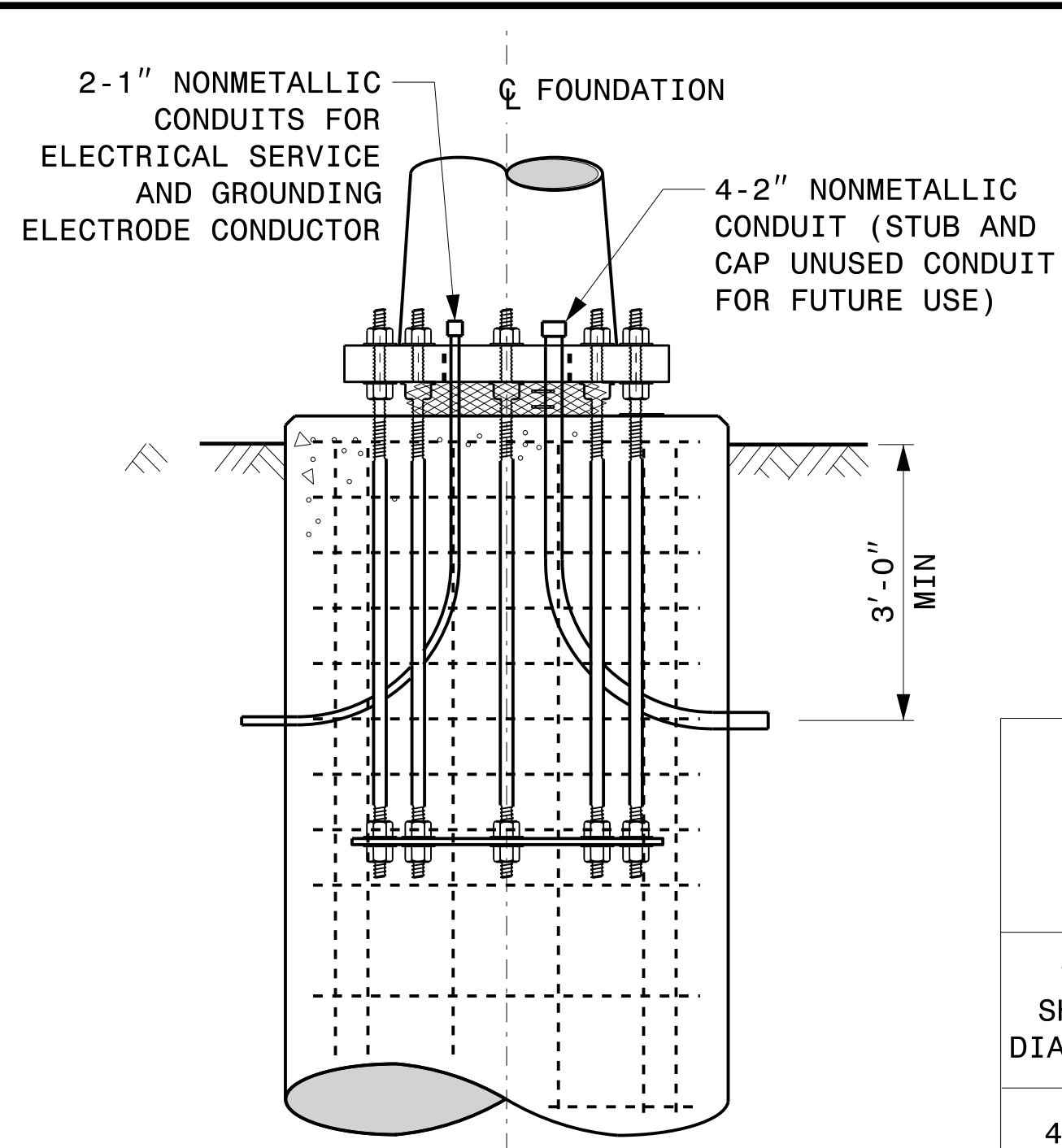
CONCRETE SHAFT ELEVATION



SECTION A-A



TYPICAL "C" BAR DETAIL



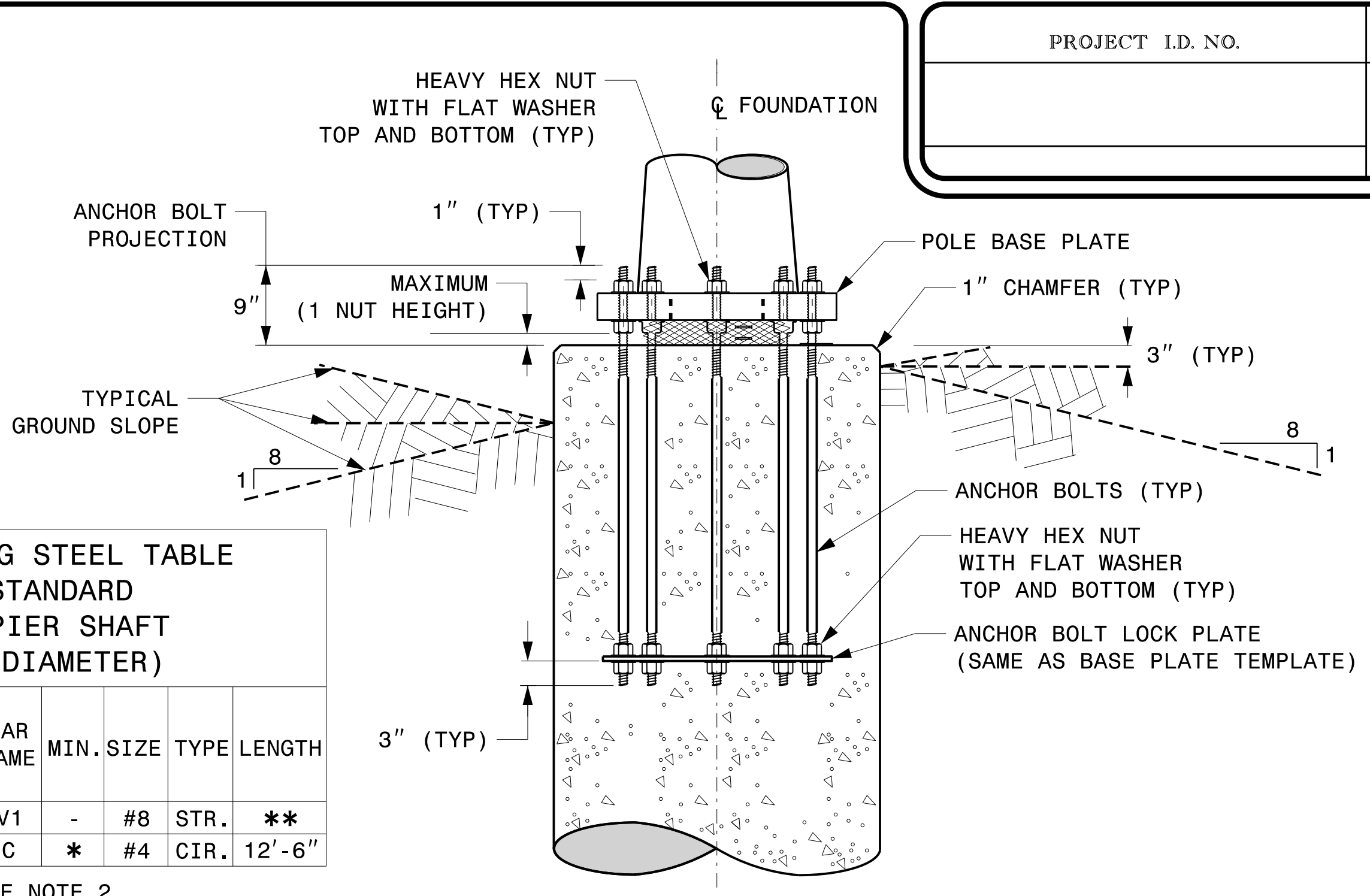
TYPICAL FOUNDATION CONDUIT DETAILS

GENERAL NOTES:

- IF ACTUAL SUBSURFACE CONDITIONS DIFFER SIGNIFICANTLY FROM BORING DATA, CONTACT THE ENGINEER BEFORE EXCAVATING OR PLACING CONCRETE.
- CIRCULAR TIE REINFORCING RINGS MAY BE VERTICALLY ADJUSTED BY +/-3" AT A DEPTH BETWEEN 2'-0" AND 3'-0" TO FACILITATE THE INSTALLATION OF ELECTRICAL CONDUIT ENTERING IN THE CAGE.
- FOR STANDARD FOUNDATIONS, SEE SHEET SIG. M8 FOR DETAILS. VERTICAL REINFORCING BARS (V1) MAY BE HORIZONTALLY ADJUSTED BY +/-3" TO FACILITATE THE INSTALLATION OF ELECTRICAL CONDUIT ENTERING INTO THE CAGE.
- PROVIDE 2" TO 5" FOUNDATION PROJECTION ABOVE GROUND LEVEL, DEPENDING ON THE GROUND SLOPE.
- UNLESS OTHERWISE SHOWN, FOUNDATION DESIGNS ARE BASED ON NON-SLOPING LEVEL GROUND SURFACES WITH SLOPE RATIOS OF 8:1 (H:V) OR FLATTER. IF ACTUAL GROUND LINE SLOPES ARE STEEPER, CONTACT THE ENGINEER BEFORE EXCAVATING OR PLACING CONCRETE.
- CONSTRUCT FOUNDATIONS IN ACCORDANCE WITH NCDOT STANDARD PROVISIONS SP09 R005- FOUNDATIONS AND ANCHOR ROD ASSEMBLIES FOR METAL POLES. ALL APPLICABLE 2024 NCDOT STANDARD SPECIFICATIONS ARE REFERENCED IN THIS PROVISION. REFER TO THE NCDOT RESOURCES/SPECIFICATIONS PAGE LOCATED ON THE CONNECT NCDOT WEBSITE.  
[https://connect.ncdot.gov/resources/Specifications and Special Provisions.aspx](https://connect.ncdot.gov/resources/Specifications%20and%20Special%20Provisions.aspx)
- USE AIR ENTRAINED AA CONCRETE MIX WITH A COMPRESSION STRENGTH OF f'c=4500 psi (MIN) AFTER 28 DAYS.
- USE ASTM A615 GRADE 60 DEFORMED BARS FOR ALL REINFORCING STEEL. MAINTAIN AT LEAST 3" COVER ON ALL REINFORCEMENT.
- LOCATE IDENTIFICATION TAG ON TOP OF THE FOUNDATION, DIRECTLY ABOVE THE CONDUIT'S ENTRY POINT.
- PROVIDE TWO LAYERS OF 4 MESH GALVANIZED WELDED 23 GAUGE (0.025) 6" WIDE AROUND PIPES UNDER THE BASE PLATE AND SECURE IT WITH TIES IF NECESSARY.
- PREFERRED LOCATION FOR THE I.D. TAG IS AS SHOWN IN DETAIL-A: DIRECTLY ABOVE THE CONDUIT ENTERING THE FOUNDATION.

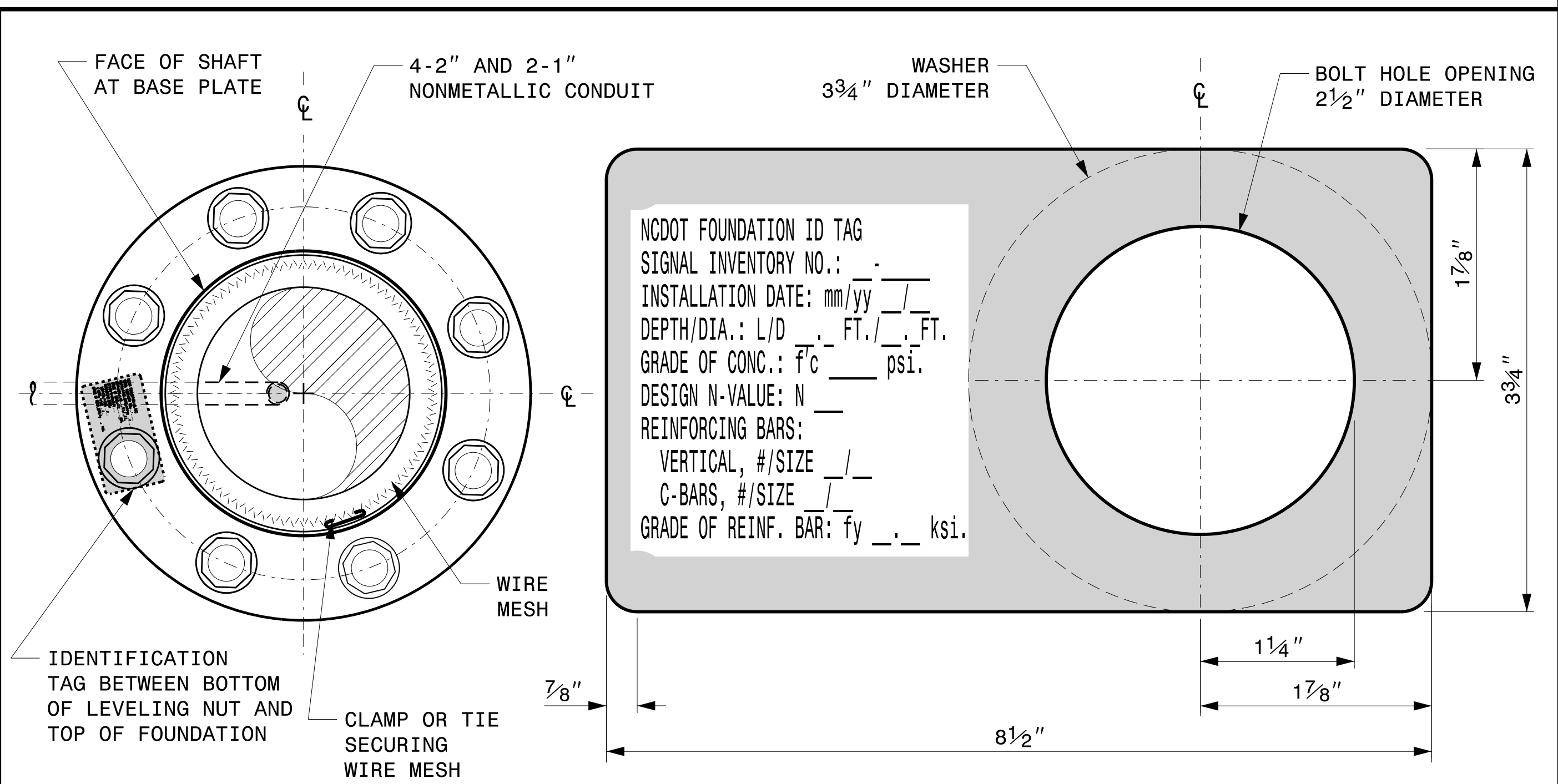
| REINFORCING STEEL TABLE<br>FOR STANDARD<br>DRILL PIER SHAFT<br>(4'-0" DIAMETER) |                           |          |           |      |        |        |
|---------------------------------------------------------------------------------|---------------------------|----------|-----------|------|--------|--------|
| "D" SHAFT DIAMETER                                                              | CONCRETE VOLUME (CU. YDS) | BAR NAME | MIN. SIZE | TYPE | LENGTH |        |
| 4'-0"                                                                           | .465 X L                  | V1       | -         | #8   | STR.   | **     |
|                                                                                 |                           | C        | *         | #4   | CIR.   | 12'-6" |

\* SEE NOTE 2  
\*\* SEE NOTE 3



TYPICAL FOUNDATION ANCHOR BOLT DETAILS

(REINFORCING CAGE NOT SHOWN FOR CLARITY)



CONCRETE FOUNDATION IDENTIFICATION TAG DETAILS

DETAIL-A

D = DIAMETER  
L = LENGTH / DEPTH  
mm = MONTH  
yy = YEAR

Prepared In the Offices of:

750 N.Greenfield Pkwy,Garner,NC 27529

SCALE  
0 NA  
NONE

Construction Details  
For  
Foundations

PLAN DATE: SEPTEMBER 2023 DESIGNED BY: K.C. DURIGON  
PREPARED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR

REVISIONS  
INIT. DATE

SEAL  
NORTH CAROLINA  
PROFESSIONAL ENGINEER  
SEAL 036626  
KEVIN C. DURIGON

DocuSigned by:  
Kevin Durigon  
4B23DC79B3784DA

09/23/2023  
DATE

SOIL CONDITION

| STANDARD STRAIN POLES |                   |                     |                            |             |                 | STANDARD FOUNDATIONS<br>48" Diameter Drilled Pier Length (L) – Feet |                    |                          |                   |                    |                      |                    | Reinforcement |                |              |               |
|-----------------------|-------------------|---------------------|----------------------------|-------------|-----------------|---------------------------------------------------------------------|--------------------|--------------------------|-------------------|--------------------|----------------------|--------------------|---------------|----------------|--------------|---------------|
| Case No.              | Pole Height (Ft.) | Base Plate BC (In.) | Reactions at the Pole Base |             |                 | Clay                                                                |                    |                          |                   | Sand               |                      |                    | Longitudinal  |                | Stirrups     |               |
|                       |                   |                     | Axial (kip)                | Shear (kip) | Moment (ft–kip) | Medium N–Value 4–8                                                  | Stiff N–Value 9–15 | Very Stiff N–Value 16–30 | Hard N–Value > 30 | Loose N–Value 4–10 | Medium N–Value 11–30 | Dense N–Value > 30 | Bar Size (#)  | Quantity (ea.) | Bar Size (#) | Spacing (in.) |
| S26L1                 | 26                | 22                  | 2                          | 9           | 210             | 19.5                                                                | 12.5               | 9                        | 6.5               | 15.5               | 14.5                 | 13                 | 8             | 12             | 4            | 12            |
| S26L2                 | 26                | 23                  | 2                          | 10          | 240             | 19.5                                                                | 12                 | 9                        | 6.5               | 15.5               | 14.5                 | 13                 | 8             | 12             | 4            | 12            |
| S26L3                 | 26                | 25                  | 2                          | 11          | 260             | 20.5                                                                | 12                 | 10                       | 8                 | 16                 | 15                   | 13                 | 8             | 12             | 4            | 12            |
| S30L1                 | 30                | 22                  | 2                          | 9           | 230             | 19                                                                  | 11                 | 9                        | 7                 | 15.5               | 14                   | 12.5               | 8             | 12             | 4            | 12            |
| S30L2                 | 30                | 23                  | 2                          | 10          | 270             | 20                                                                  | 12                 | 10                       | 8                 | 16                 | 14.5                 | 13                 | 8             | 12             | 4            | 12            |
| S30L3                 | 30                | 25                  | 2                          | 11          | 290             | 21                                                                  | 12                 | 10                       | 8                 | 17                 | 15                   | 13.5               | 8             | 12             | 4            | 12            |
| S30H1                 | 30                | 25                  | 3                          | 13          | 355             | 23                                                                  | 13                 | 11                       | 9                 | 18                 | 16.5                 | 14.5               | 8             | 12             | 4            | 12            |
| S30H2                 | 30                | 29                  | 3                          | 15          | 405             | 25                                                                  | 14                 | 11                       | 9                 | 19                 | 17.5                 | 15.5               | 8             | 14             | 4            | 12            |
| S30H3                 | 30                | 29                  | 3                          | 16          | 430             | 26                                                                  | 15                 | 12                       | 9                 | 20                 | 18                   | 16                 | 8             | 14             | 4            | 6             |
| S35L1                 | 35                | 22                  | 3                          | 8           | 260             | 19.5                                                                | 12                 | 10                       | 8                 | 15.5               | 14.5                 | 13                 | 8             | 12             | 4            | 12            |
| S35L2                 | 35                | 23                  | 3                          | 10          | 300             | 21                                                                  | 12                 | 10                       | 8                 | 16.5               | 15                   | 13.5               | 8             | 12             | 4            | 12            |
| S35L3                 | 35                | 25                  | 3                          | 10          | 320             | 21.5                                                                | 13                 | 10                       | 8                 | 17                 | 15.5                 | 14                 | 8             | 12             | 4            | 12            |
| S35H1                 | 35                | 25                  | 3                          | 12          | 390             | 23.5                                                                | 14                 | 11                       | 9                 | 18                 | 17                   | 15                 | 8             | 14             | 4            | 12            |
| S35H2                 | 35                | 29                  | 4                          | 14          | 460             | 26                                                                  | 15                 | 12                       | 9                 | 20                 | 18                   | 16                 | 8             | 14             | 4            | 6             |
| S35H3                 | 35                | 29                  | 4                          | 16          | 495             | 28.5                                                                | 15                 | 13.5                     | 10                | 21.5               | 19                   | 17                 | 8             | 14             | 4            | 6             |

48" DIAMETER FOUNDATION CONCRETE VOLUME (CUBIC YARDS) = (0.465) x DRILLED PIER LENGTH

GENERAL NOTES:

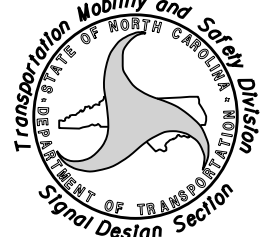
1. VALUES SHOWN IN THE "REACTIONS AT THE POLE BASE" COLUMN REPRESENT THE MINIMUM ACCEPTABLE CAPACITY ALLOWED FOR DESIGN USING A COMBINED FORCE RATIO (CFR) OF 1.00.
2. USE CHAIRS AND SPACERS TO MAINTAIN PROPER CLEARANCE.
3. FOR FOUNDATION, ALWAYS USE AIR-ENTRAINED CONCRETE MIX.

FOUNDATION SELECTION:

1. PERFORM A STANDARD PENETRATION TEST AT EACH PROPOSED FOUNDATION SITE TO DETERMINE "N" VALUE.
2. SELECT THE APPROPRIATE WIND ZONE FROM M1 DRAWING.
3. SELECT THE SOIL TYPE (CLAY OR SAND) THAT BEST DESCRIBES THE SOIL CHARACTERISTICS.
4. GET THE APPROPRIATE STANDARD POLE CASE NUMBER FROM THE PLANS OR FROM THE ENGINEER.
5. SELECT THE APPROPRIATE COLUMN UNDER "STANDARD FOUNDATIONS" BASED ON SOIL TYPE AND "N" VALUE. SELECT THE APPROPRIATE ROW BASED ON THE POLE LOAD CASE.
6. THE FOUNDATION DEPTH IS THE VALUE SHOWN IN THE "STANDARD FOUNDATIONS" CATEGORY WHERE THE COLUMN AND THE ROW INTERSECT.
7. USE CONSTRUCTION PROCEDURES AND DESIGN METHODS PRESCRIBED BY FHWA-NHI-10-016 MANUAL FOR DRILLED SHAFTS.

09-001-2023 19x48  
S:\1\SSM1415 Signal\Signal Design Section\Structures\Drawings\2024 Metal Pole Str Drawing for LRF0\2024 Sig.M8 Str. Strain Pole Found.-Saturated Soil Condition.dgn  
Kedur.fgm

Prepared In the Offices of:



750 N.Greenfield Pkwy,Garner,NC 27529

0

SCALE

NA

NONE

Standard Strain Pole Foundation for All Soil Conditions

PLAN DATE: SEPTEMBER 2023

DESIGNED BY: K.C. DURIGON

PREPARED BY: K.C. DURIGON

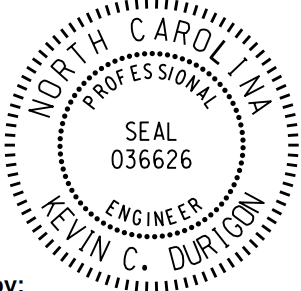
REVIEWED BY: D.C. SARKAR

REVISIONS

INIT.

DATE

SEAL



SEAL 036626

DocuSigned by:



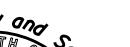
4B23DC79B3784DA

09/21/2023

DATE



CCTV CAMERA POLE  
(NOT TO SCALE)

- | <p>Prepared In The Offices of:</p> <div style="text-align: center;">  <p>TRANSPORTATION MOBILITY AND SAFETY DIVISION<br/>STATE OF NORTH CAROLINA<br/>SEAL OF TRANSPORTATION<br/>Sign Design Section</p> </div> <p>750 N. Greenfield Pkwy, Garner, NC 27529</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <h2 style="margin: 0;">Typical Fabrication Details<br/>For<br/>CCTV Poles</h2> | <p>SEAL</p> <div style="text-align: center;">  </div> |                           |                           |      |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; border-bottom: 1px solid black;">PLAN DATE: SEPTEMBER 2023</td> <td style="width: 33%; border-bottom: 1px solid black;">DESIGNED BY: K.C. DURIGON</td> <td style="width: 33%;"></td> </tr> <tr> <td style="border-bottom: 1px solid black;">PREPARED BY: K.C. DURIGON</td> <td style="border-bottom: 1px solid black;">REVIEWED BY: C.F. ANDREWS</td> <td></td> </tr> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                |                                                                                                                                            | PLAN DATE: SEPTEMBER 2023 | DESIGNED BY: K.C. DURIGON |      | PREPARED BY: K.C. DURIGON | REVIEWED BY: C.F. ANDREWS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PLAN DATE: SEPTEMBER 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DESIGNED BY: K.C. DURIGON                                                      |                                                                                                                                            |                           |                           |      |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PREPARED BY: K.C. DURIGON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | REVIEWED BY: C.F. ANDREWS                                                      |                                                                                                                                            |                           |                           |      |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%; text-align: center; border-bottom: 1px solid black;">REVISIONS</th> <th style="width: 10%; text-align: center; border-bottom: 1px solid black;">INIT.</th> <th style="width: 40%; text-align: center; border-bottom: 1px solid black;">DATE</th> </tr> <tr><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td></tr> <tr><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td></tr> <tr><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td></tr> <tr><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td></tr> <tr><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td></tr> <tr><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td></tr> <tr><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td></tr> <tr><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td></tr> <tr><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td><td style="border-bottom: 1px solid black;"> </td></tr> </table> |                                                                                |                                                                                                                                            | REVISIONS                 | INIT.                     | DATE |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| REVISIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | INIT.                                                                          | DATE                                                                                                                                       |                           |                           |      |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="width: 45%;"> <p>0 SCALE NA</p>  <p>NONE</p> </div> <div style="width: 50%; text-align: right;"> <p>DocuSigned by:</p> <div style="border-bottom: 1px solid black; display: inline-block; margin-bottom: 5px;">  </div> <p style="margin: 0;">SIGNATURE</p> <p style="margin: 0;">4R23DC79R3784DA</p> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                |                                                                                                                                            |                           |                           |      |                           |                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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