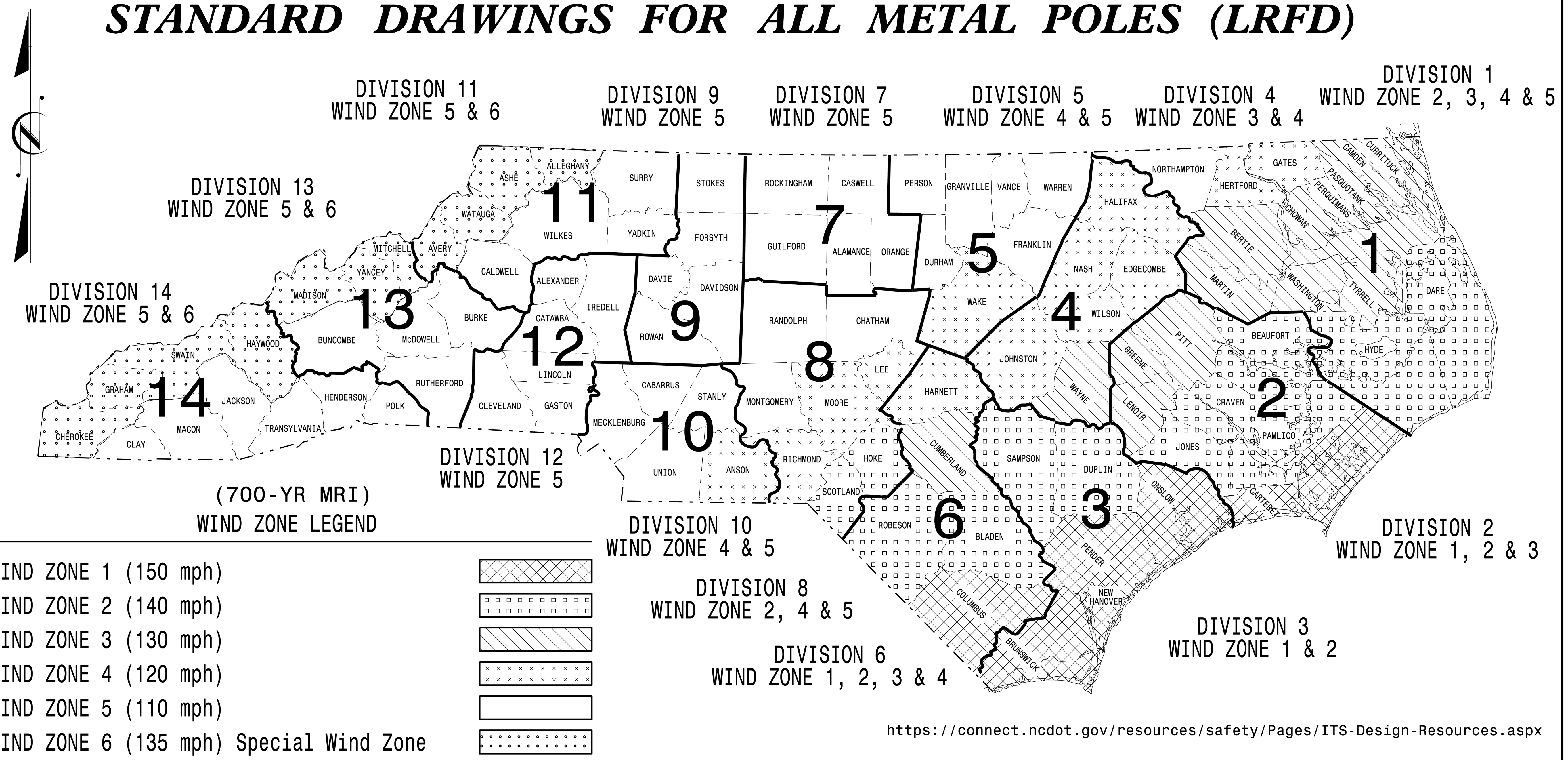


STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PROJECT I.D. NO. R-2577A	SHEET NO. Sig.M1A
-----------------------------	----------------------

STANDARD DRAWINGS FOR ALL METAL POLES (LRFD)



21-SEP-2023 08:20 S:\ITS\ASU\ITS_Signals\Structures\Drawings\2024_Sig_M1A_Standard All Metal Pole (700-yr MRI).dgn

Prepared in the Offices of:

Transportation Mobility and Safety Division
DEPARTMENT OF TRANSPORTATION
Signal Design Section

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 NUMBER	INDEX OF PLANS 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

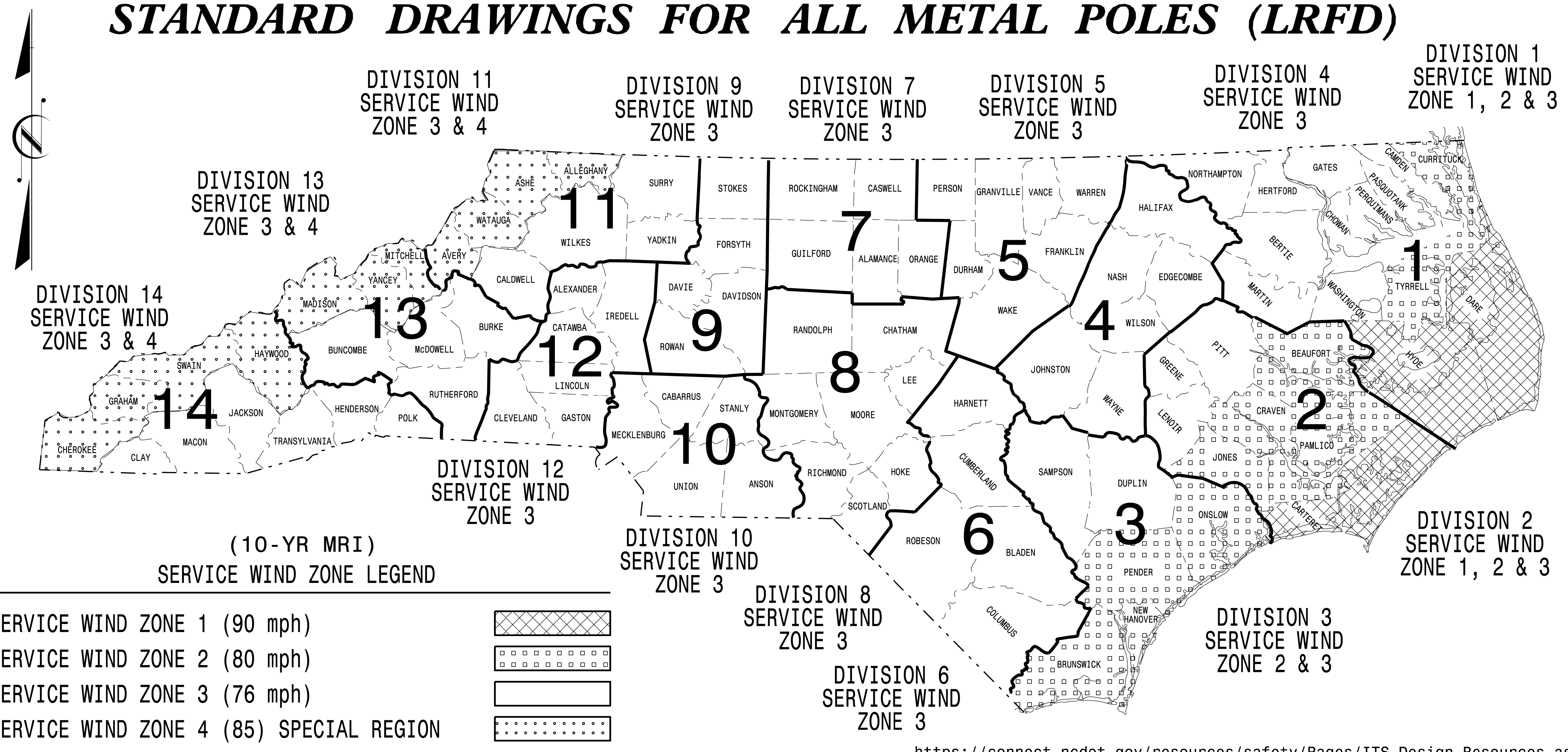
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DATE
09/21/2023

NCDOT METAL POLE STANDARDS

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

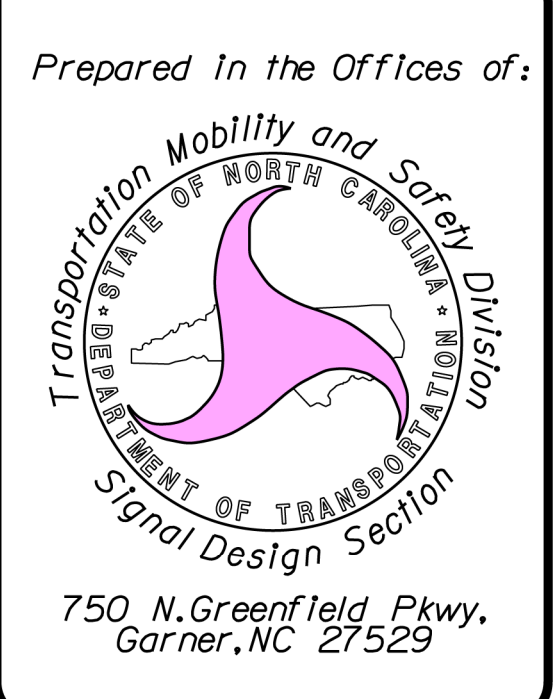
PROJECT I.D. NO. R-2577A	SHEET NO. Sig.M1B
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STANDARD DRAWINGS FOR ALL METAL POLES (LRFD)



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

21-SEP-2023 08:22 S:\IT\S&M\ITS_Signals\Sections\Structures\Drawings\2024_Metal_Pole_Standards\11_Metal_Pole_Standards_A11_MIB_Standards_A11_MIB_Standards_A11_MIB_Standards_A11_MIB_Standards.dgn



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 NUMBER	INDEX OF PLANS DESCRIPTION
Sig. M 1A	Statewide Wind Zone Map (700-yr MRI)
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Sig. M 2	Typical Fabrication Details-All Metal Poles
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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

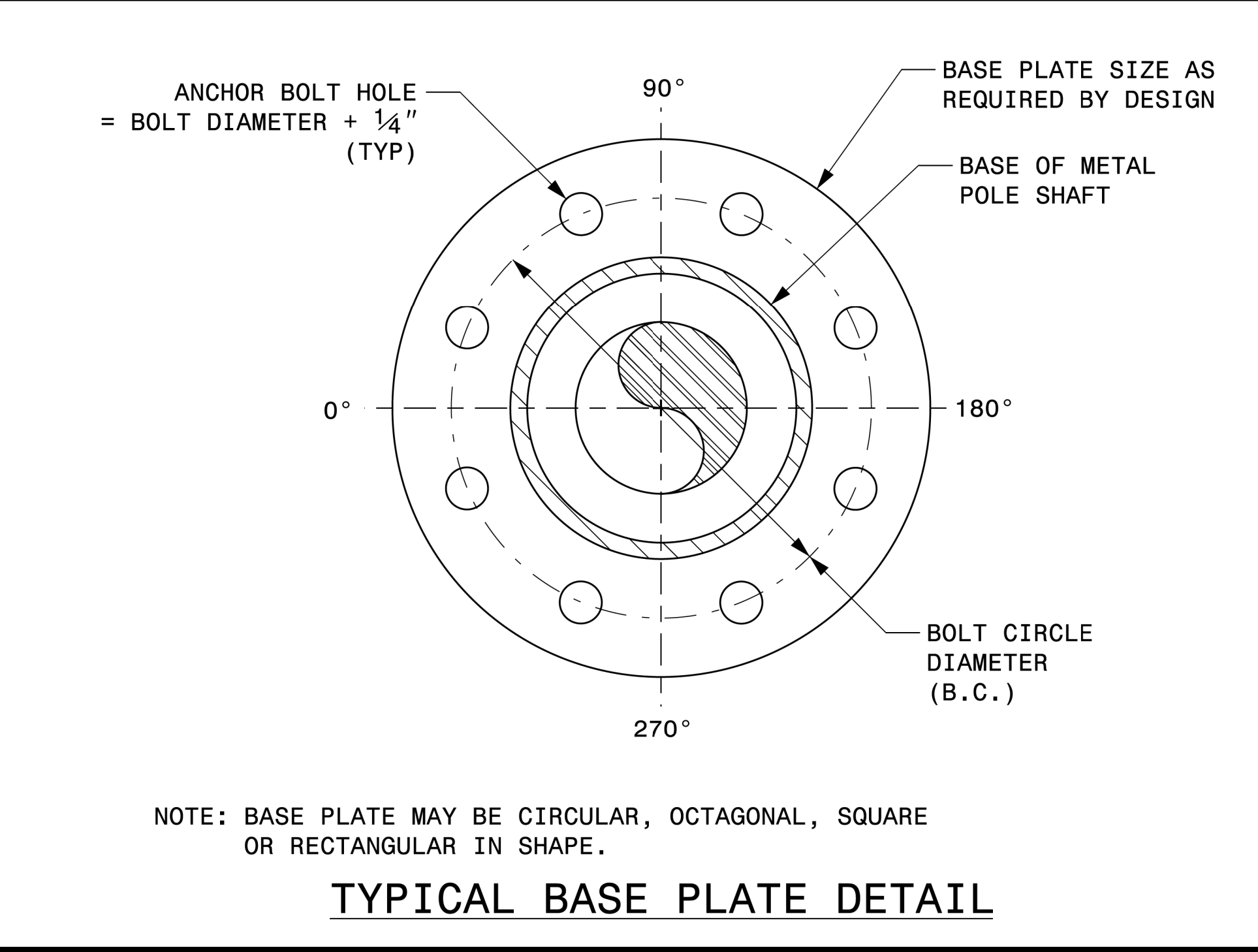
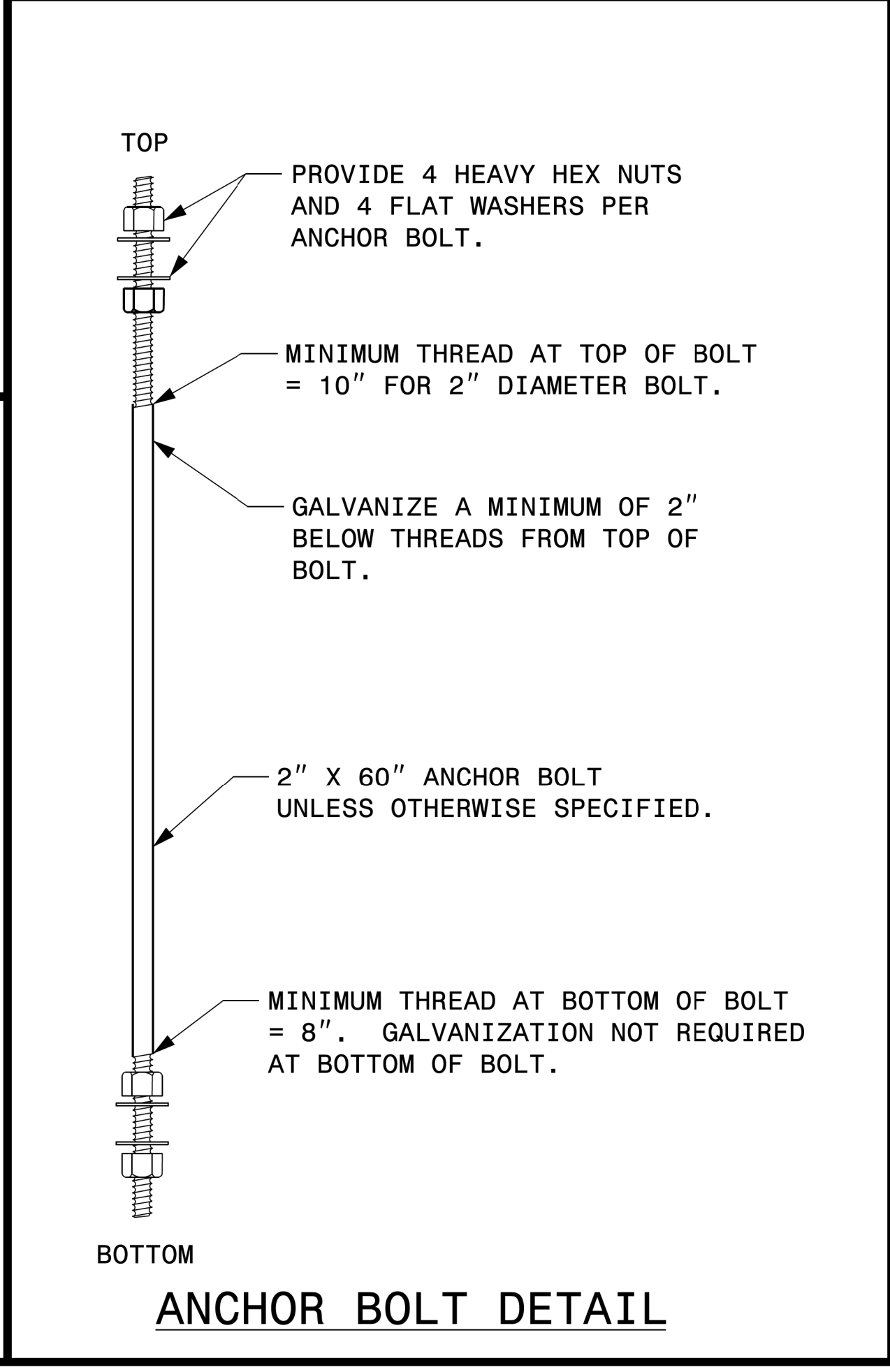
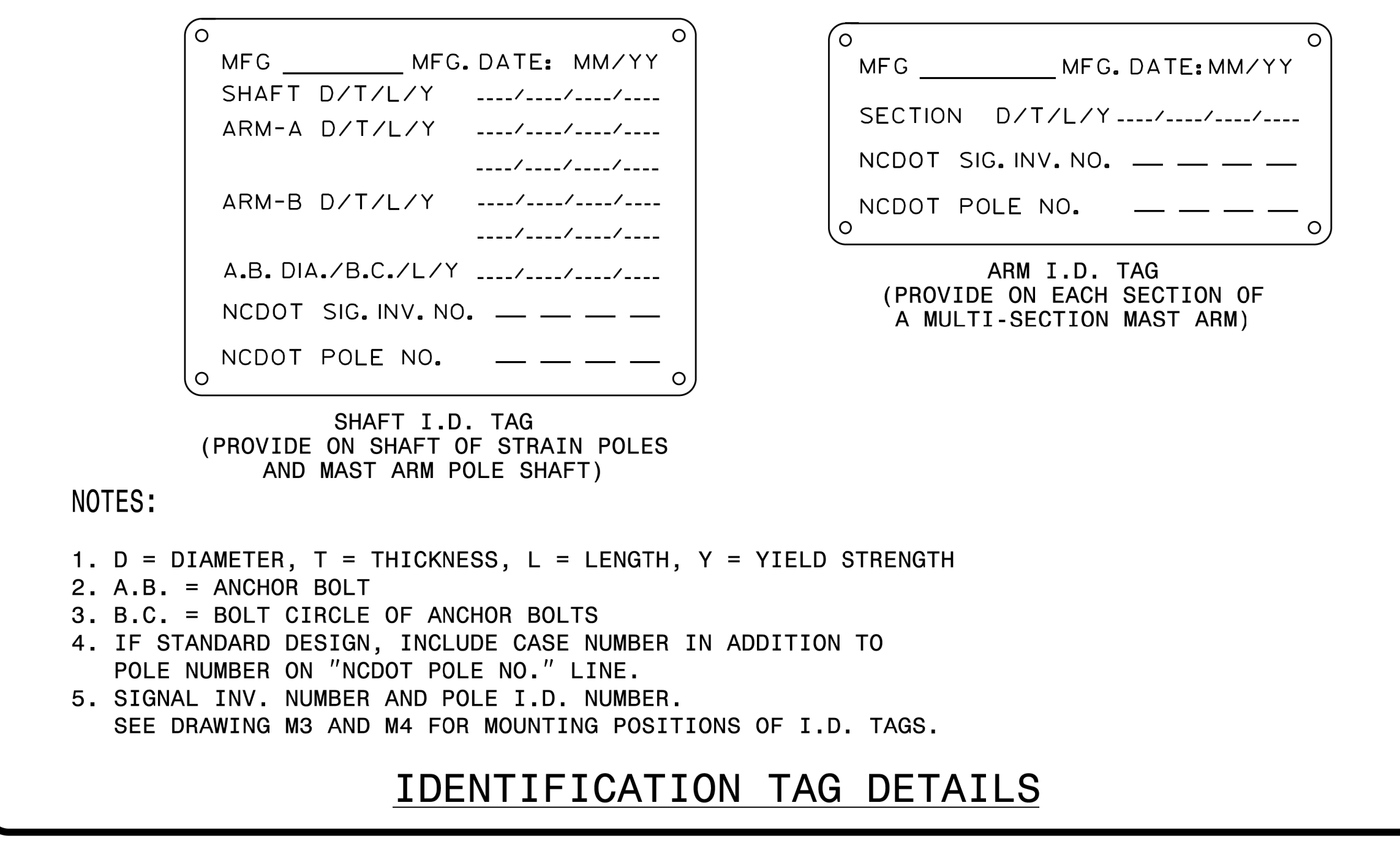
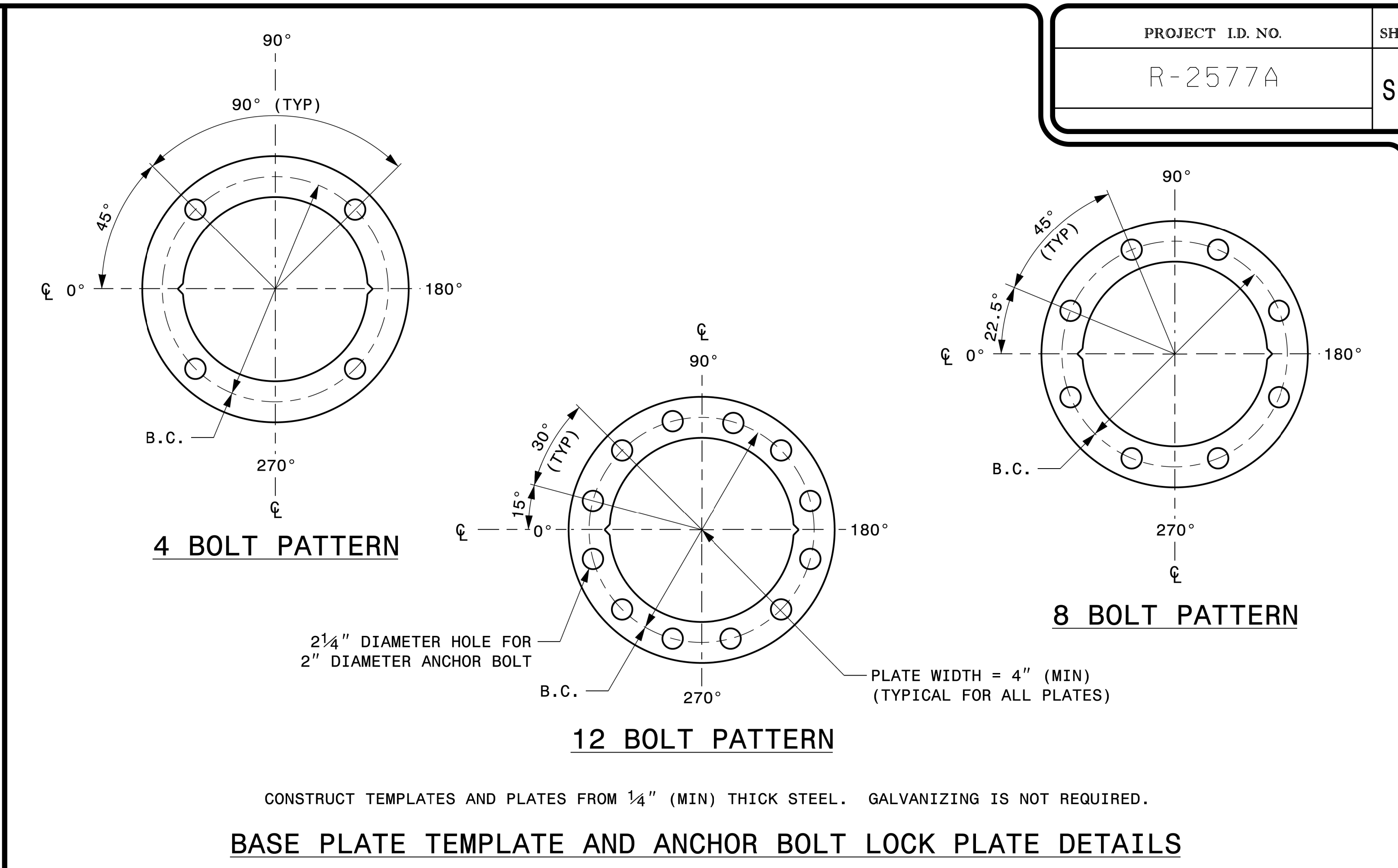
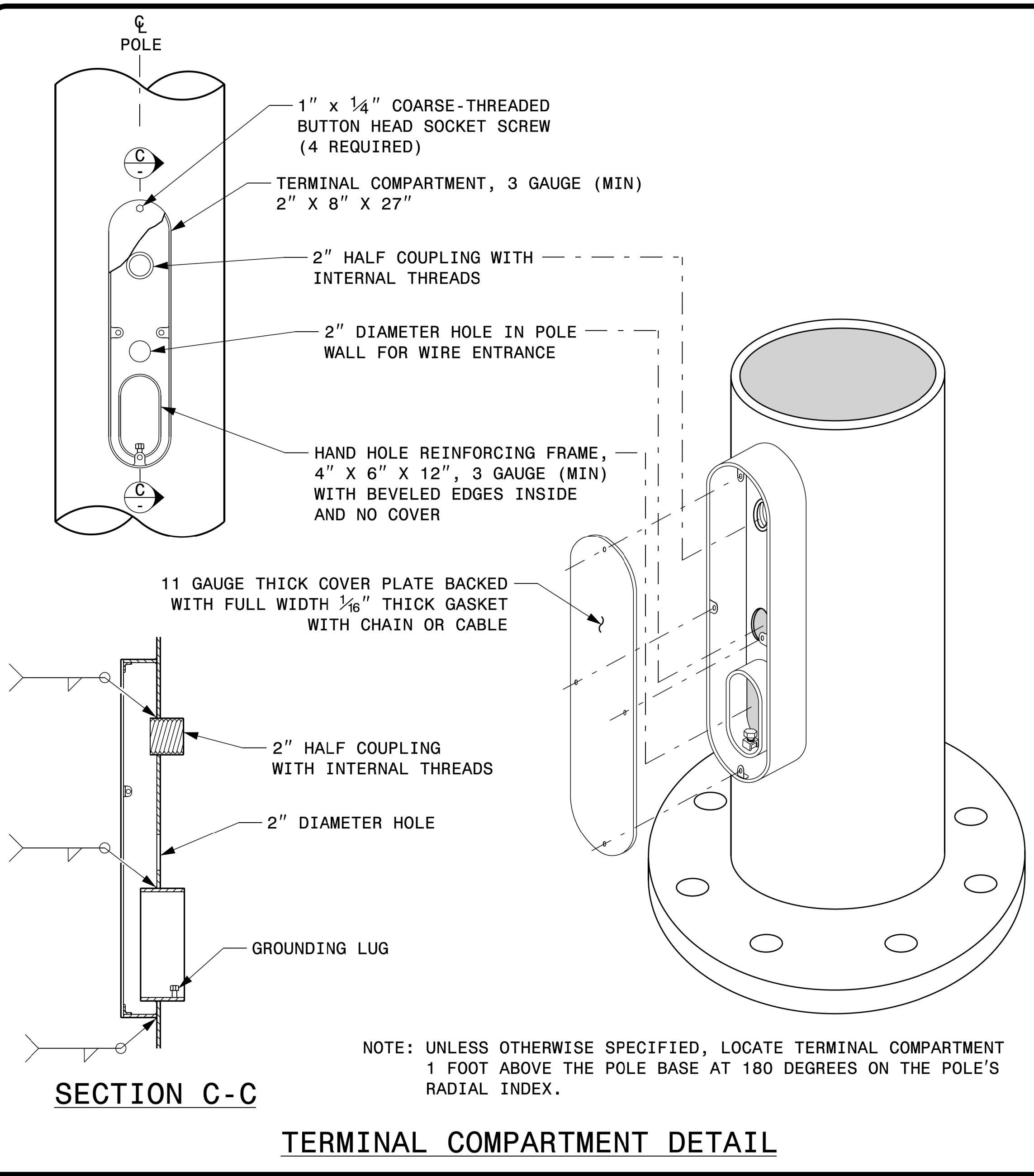
NCDOT CONTACTS:
MOBILITY AND SAFETY DIVISION -
TRANSPORTATION SYSTEMS MANAGEMENT
AND OPERATIONS UNIT

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



Prepared in the Offices of:

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

DocuSigned by: Kevin Durigon

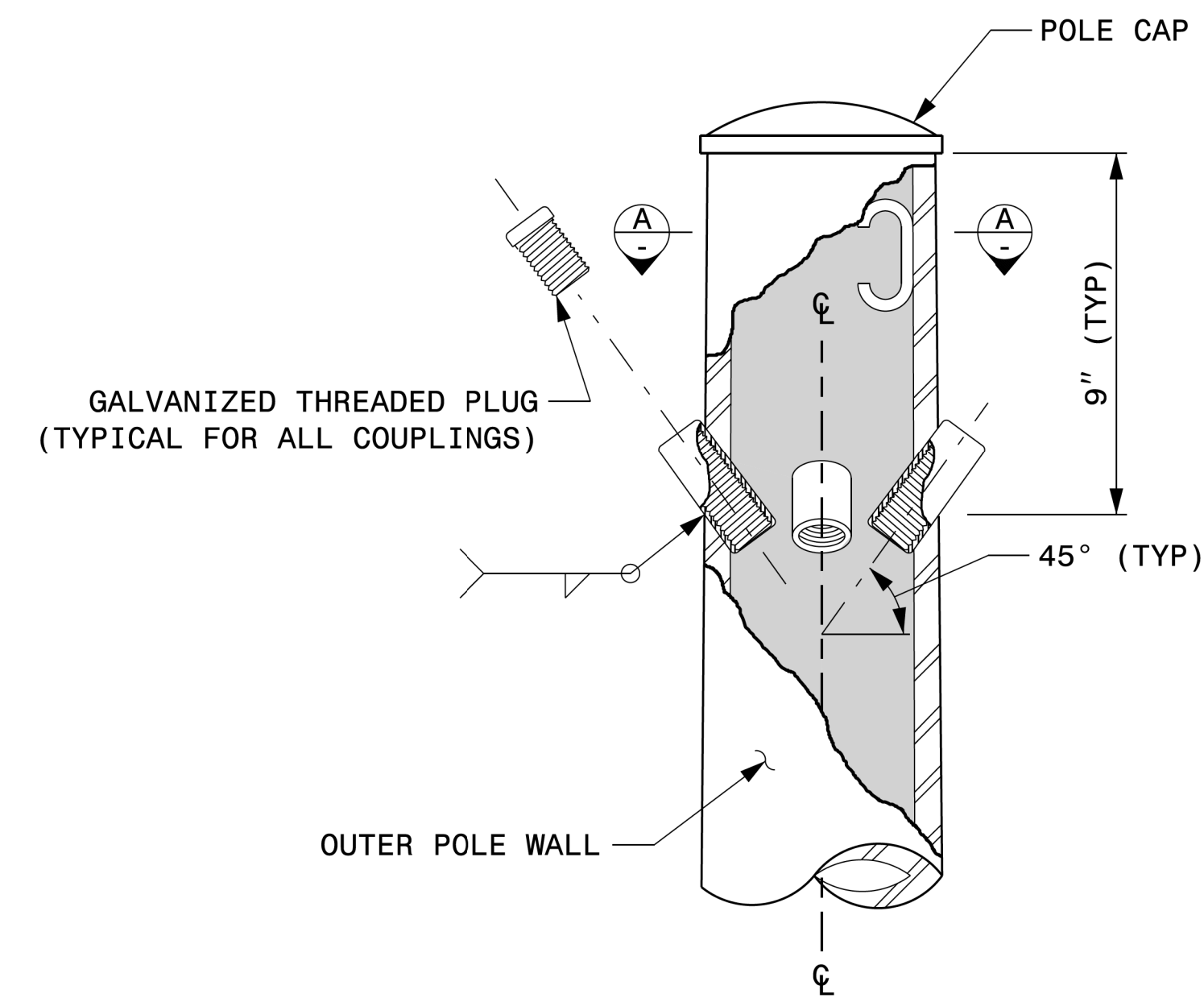
9/21/2023

Fabrication Details - All Metal Poles

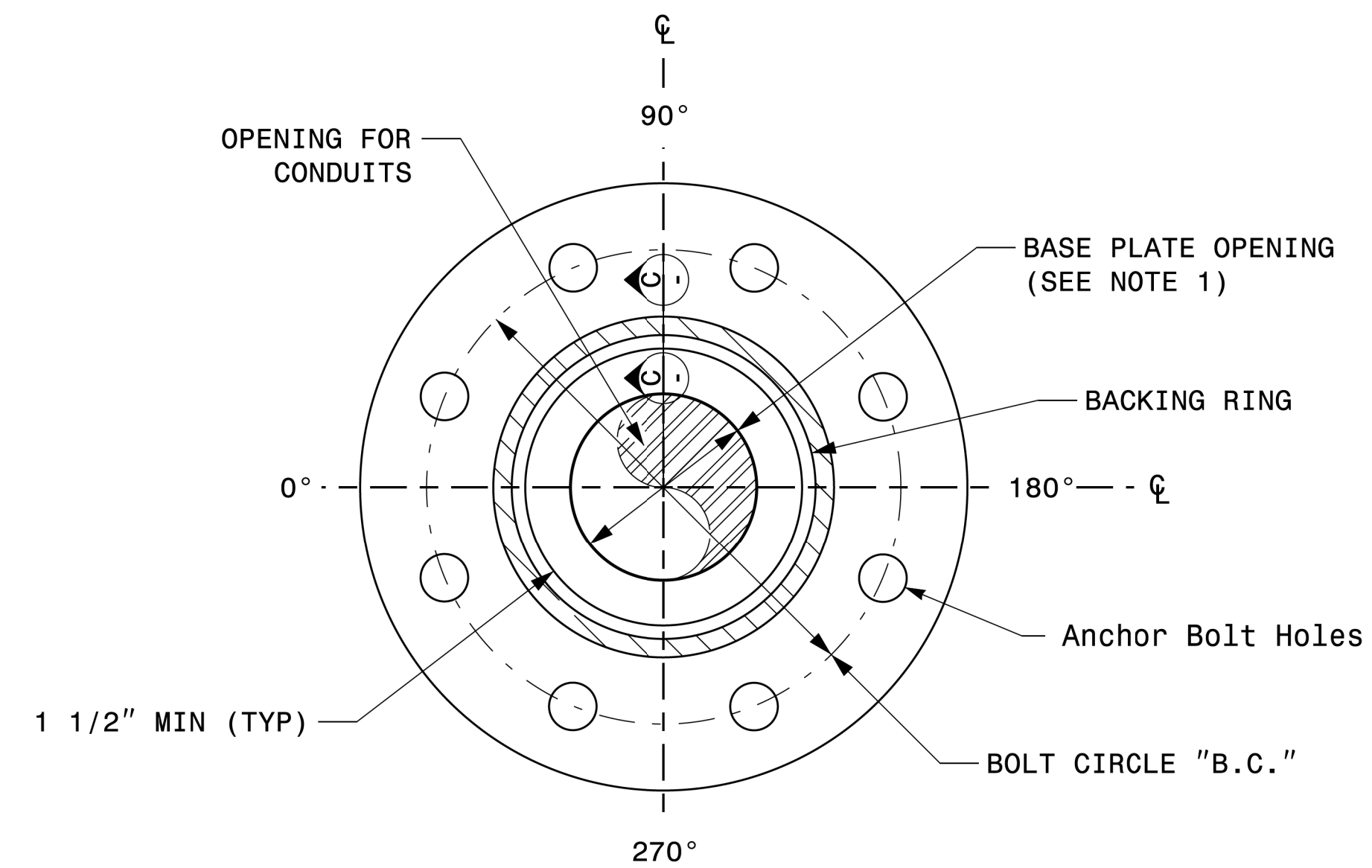
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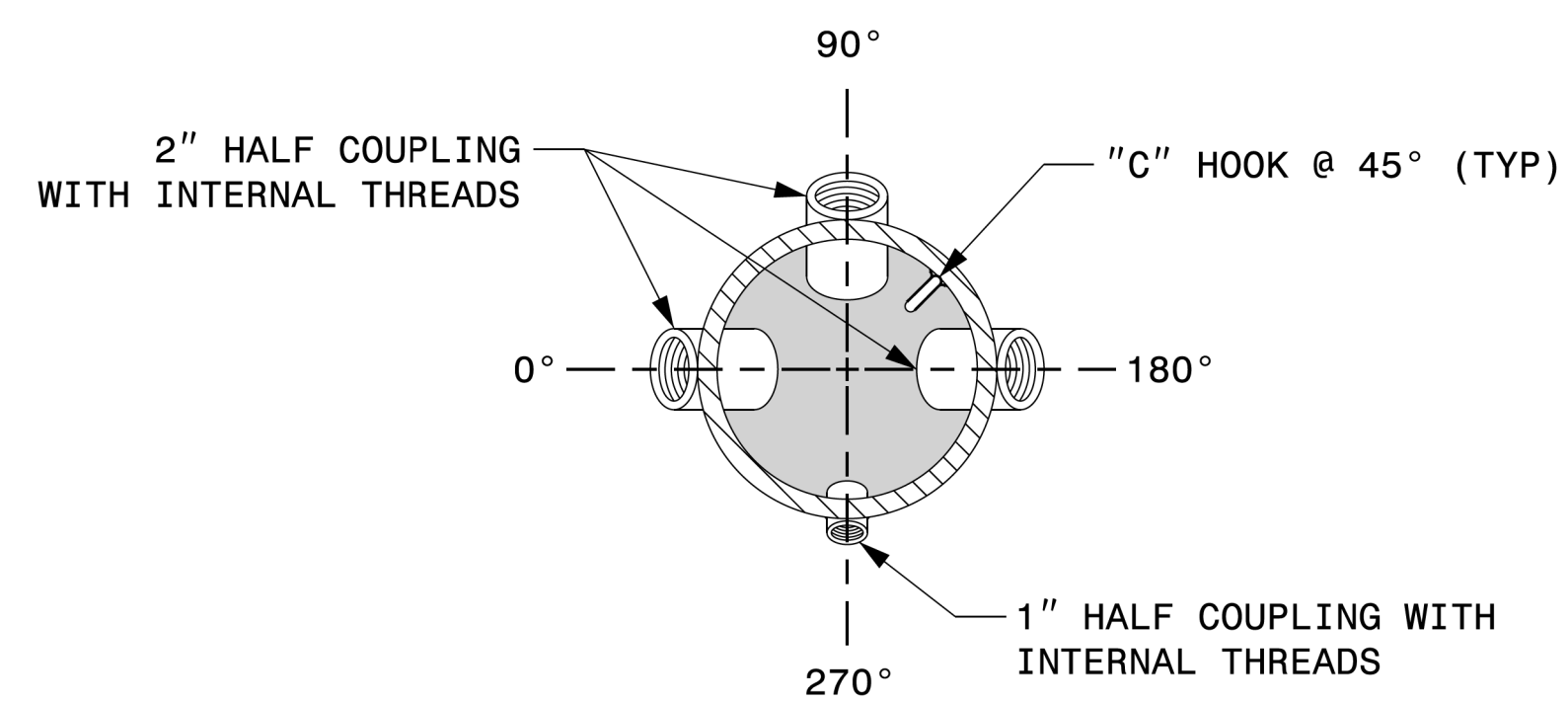
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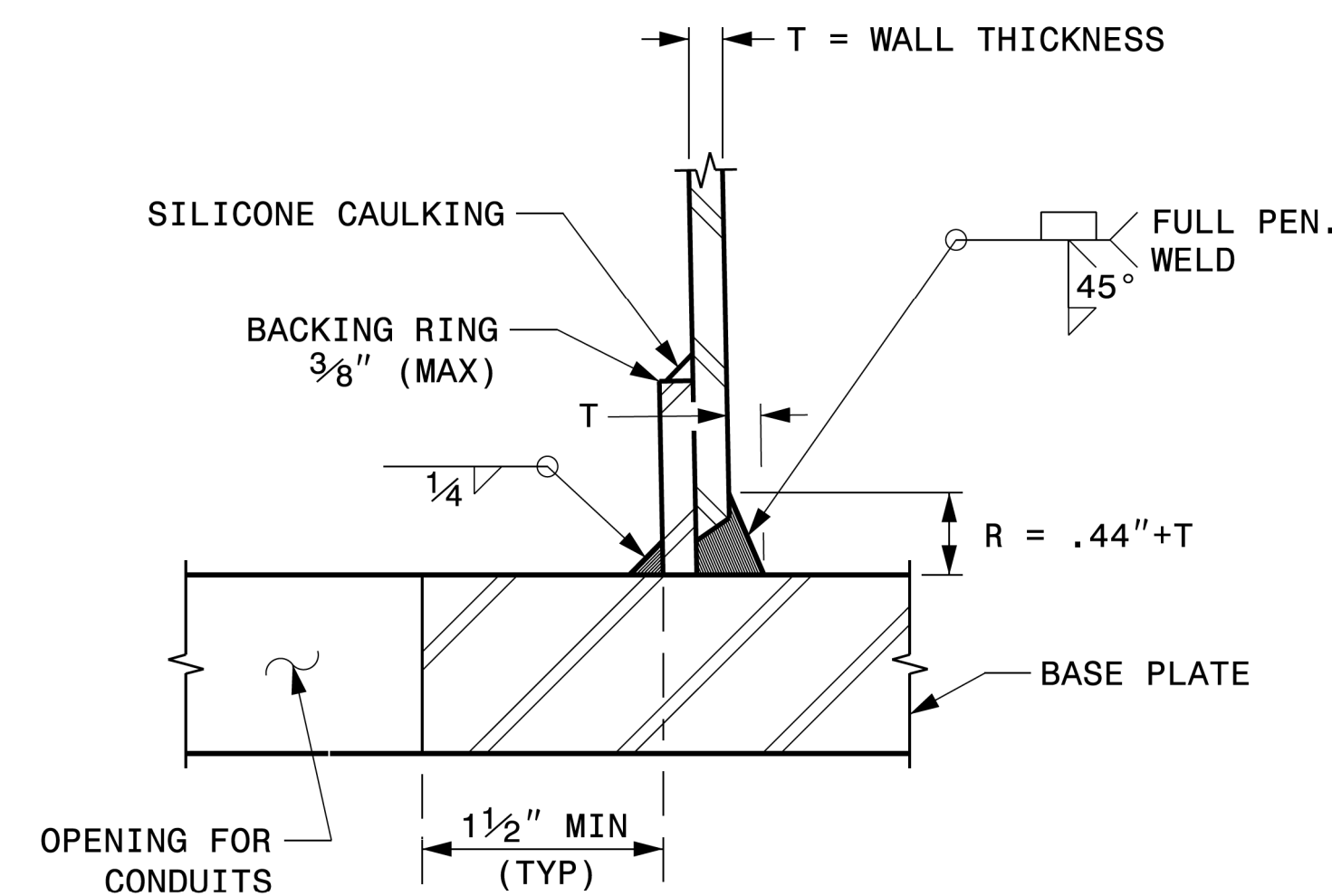
CABLE ENTRANCES AT TOP OF POLE



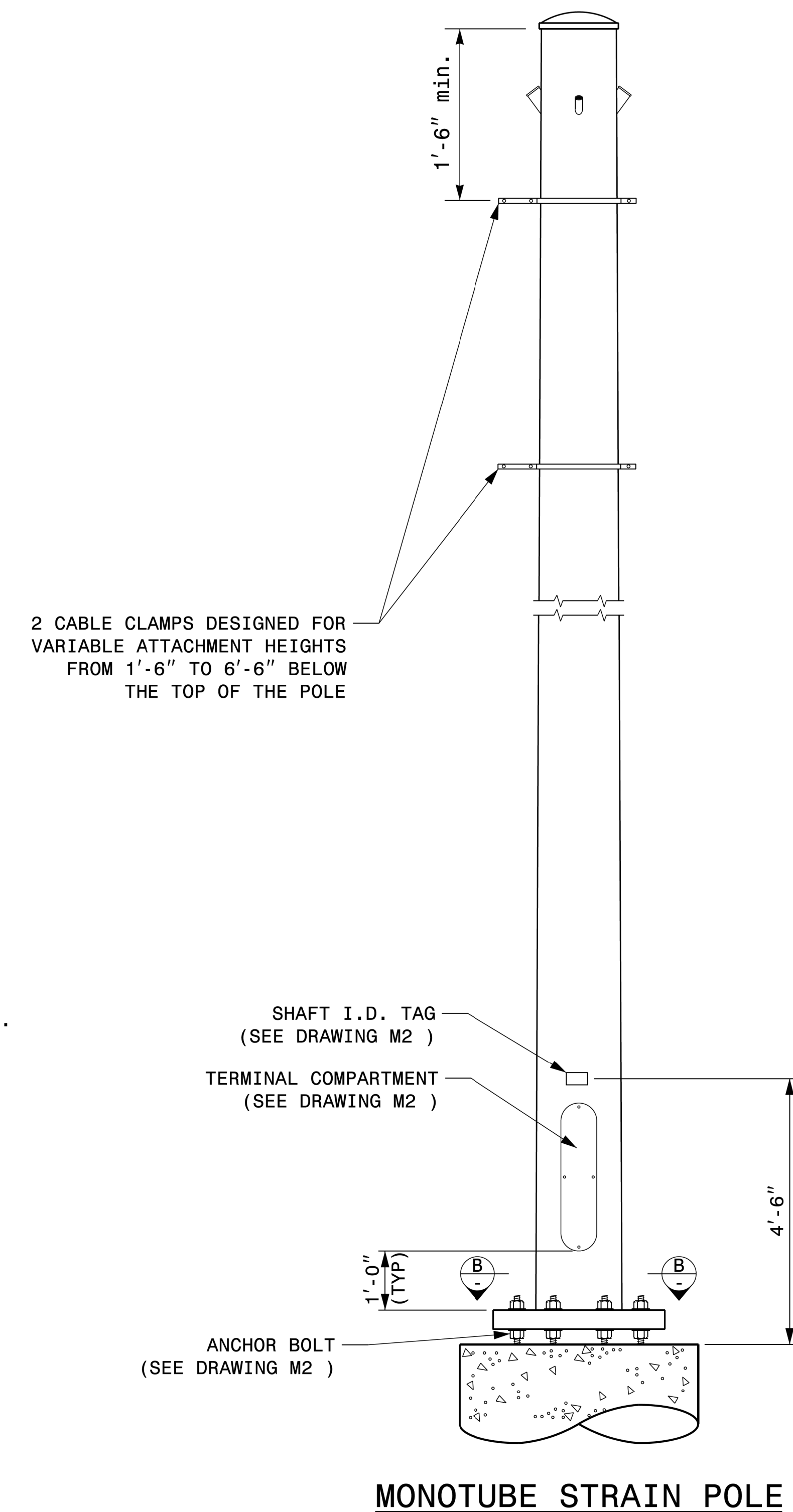
SECTION B-B
POLE BASE PLATE DETAILS
(8 AND 12 BOLT PATTERN)



SECTION A-A
RADIAL ORIENTATION OF FACTORY INSTALLED
ACCESSORIES AT TOP OF POLE



SECTION C-C
(POLE ATTACHMENT TO BASE PLATE)
FULL-PENETRATION
GROOVE WELD DETAIL



2 CABLE CLAMPS DESIGNED FOR
VARIABLE ATTACHMENT HEIGHTS
FROM 1'-6" TO 6'-6" BELOW
THE TOP OF THE POLE

MONOTUBE STRAIN POLE

Fabrication Details – Strain Poles

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE: NA
NONE

Typical Fabrication Details For Strain Poles	
PLAN DATE: SEPTEMBER 2023	DESIGNED BY: K.C. DURIGON
PREPARED BY: K.C. DURIGON	REVIEWED BY: D.C. SARKAR
REVISIONS	INIT. DATE

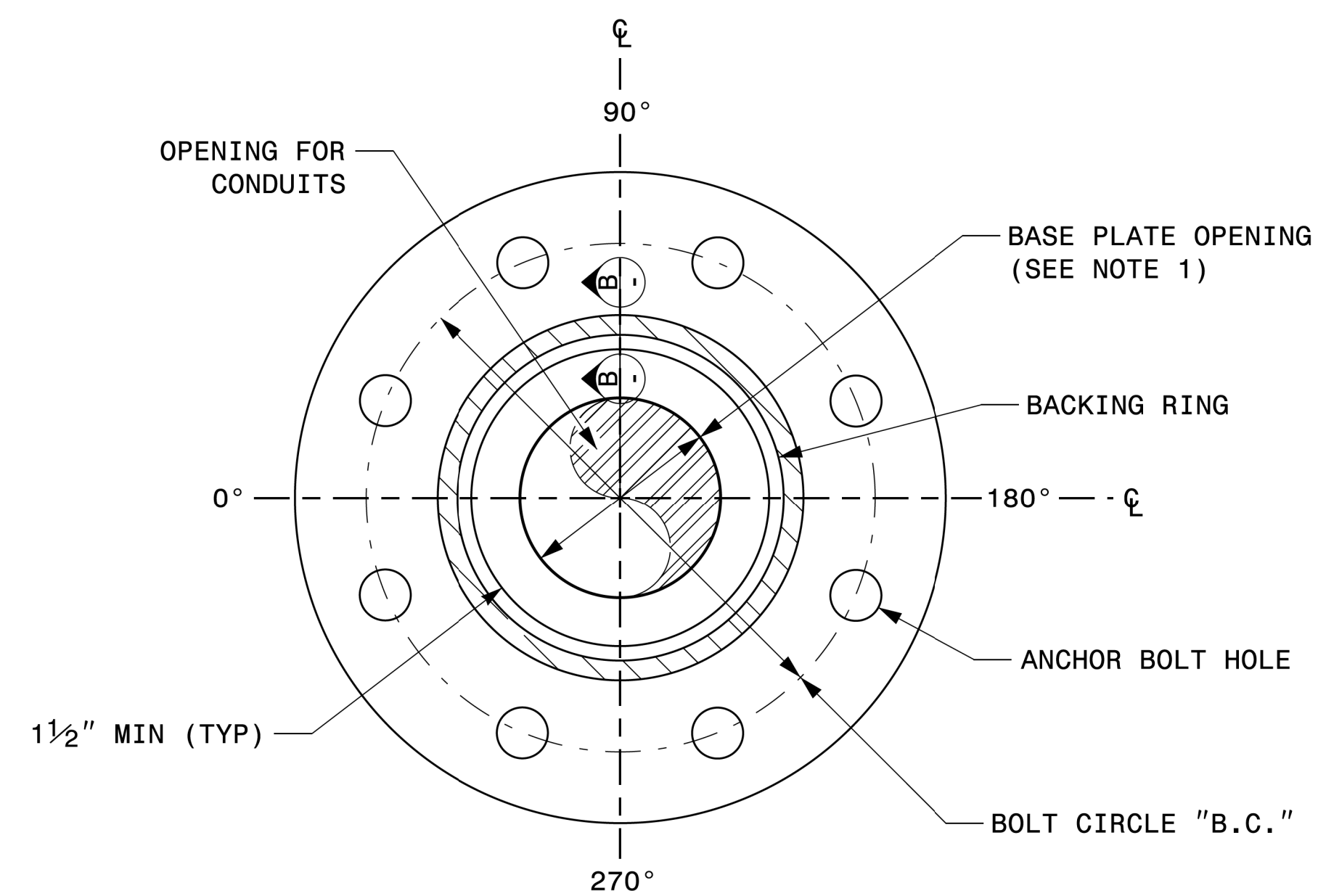
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DocuSigned by:
Kevin Durigon
SIGNATURE

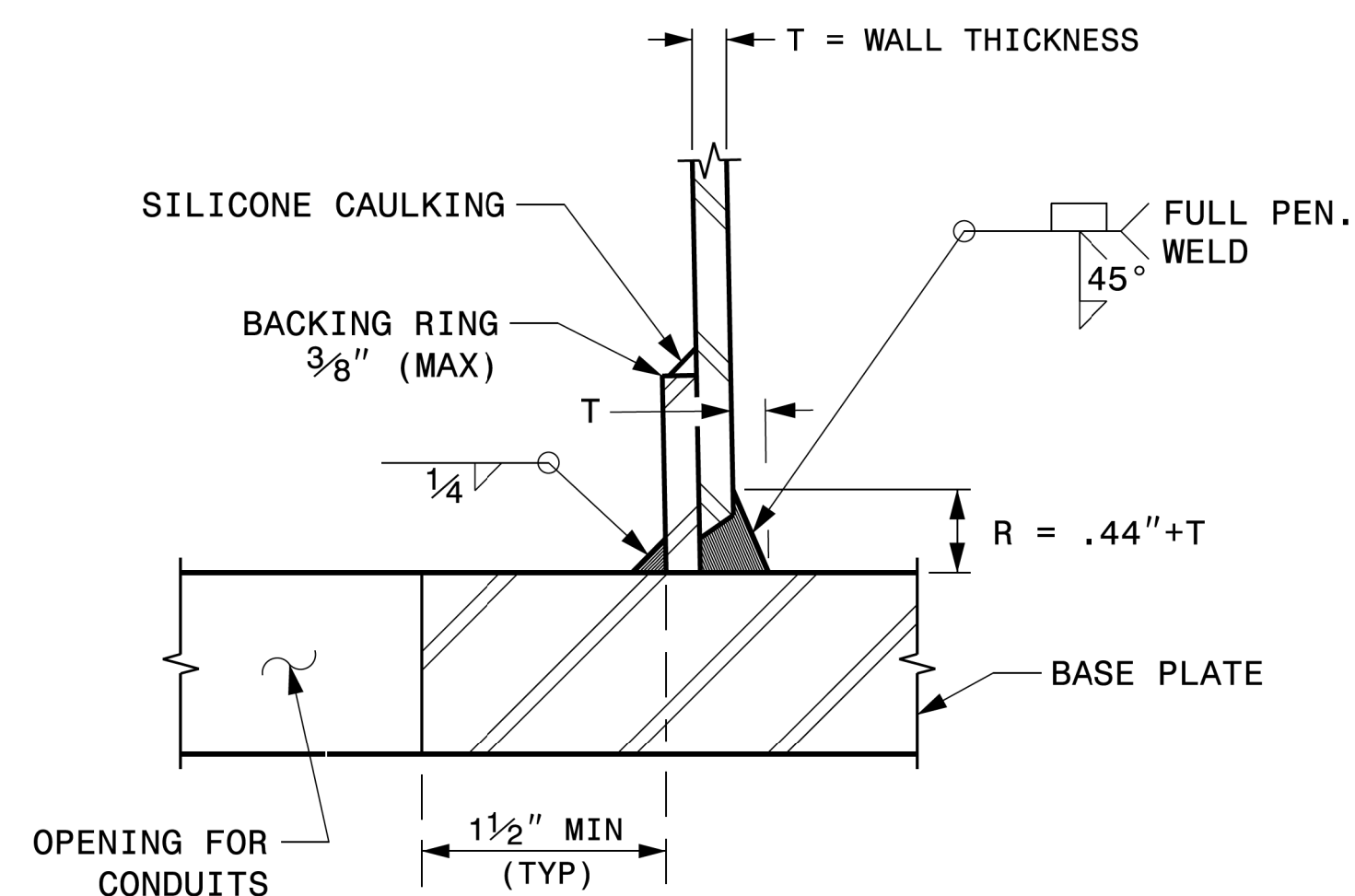
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DATE

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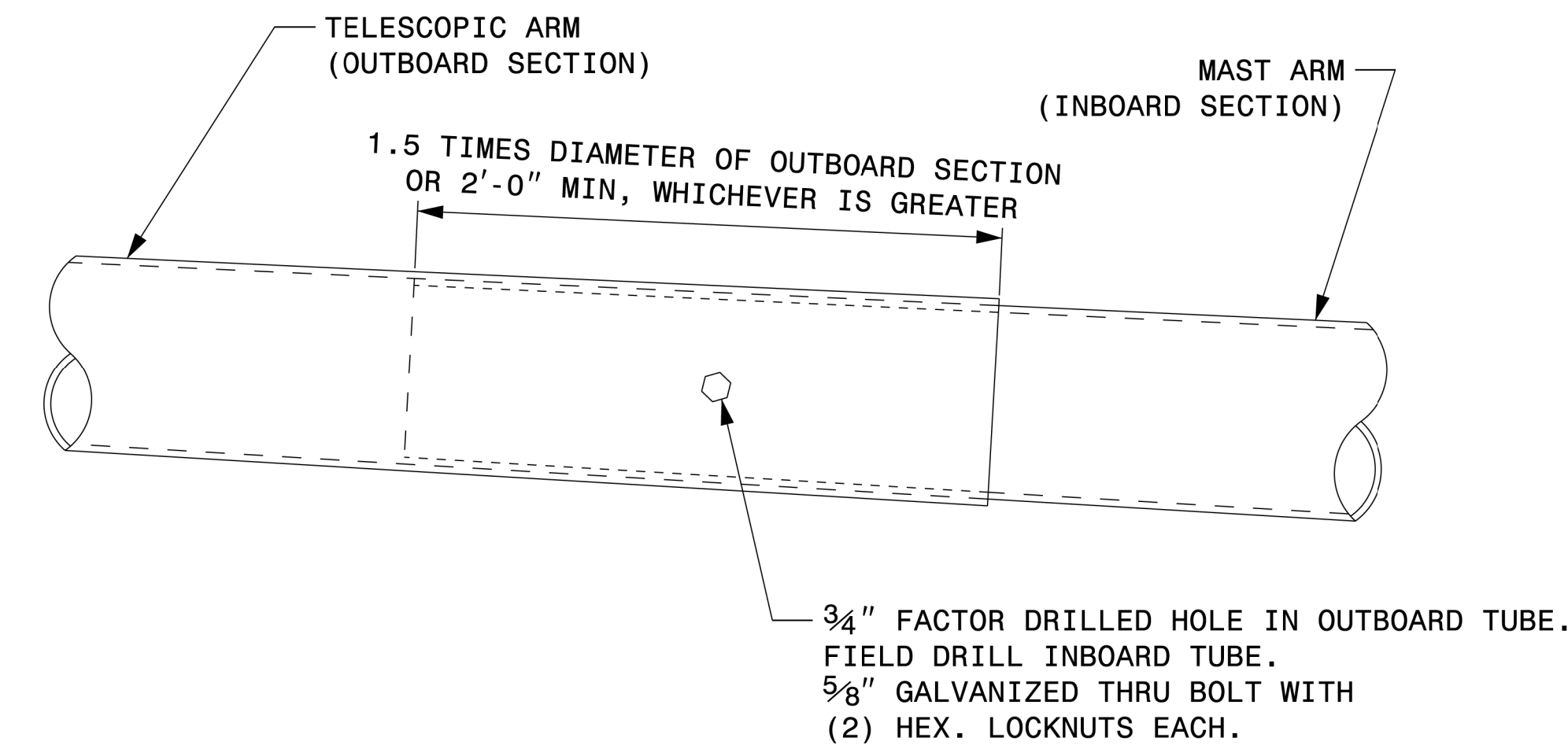
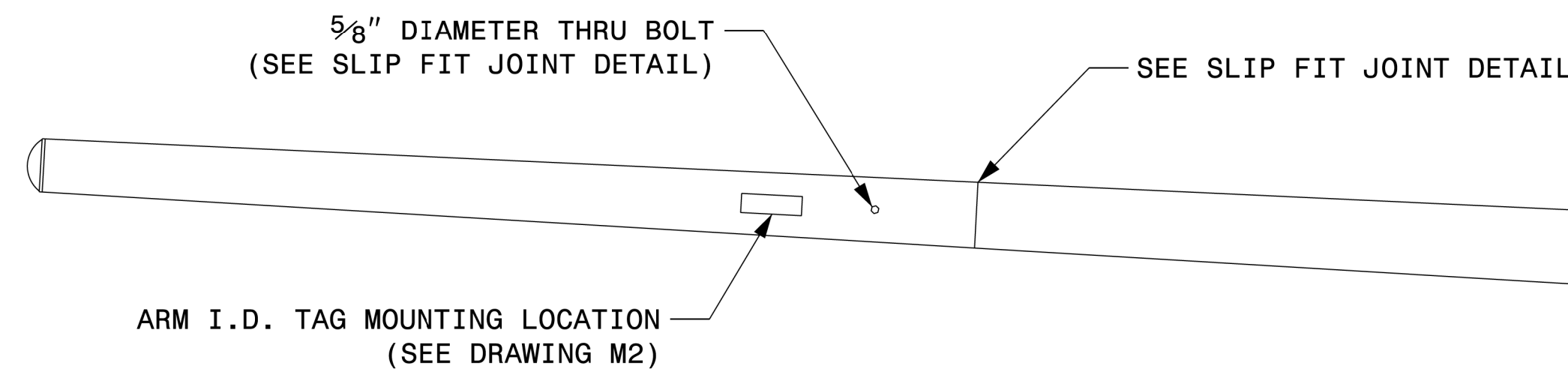
1. OPENING IN POLE BASE PLATE SHALL BE EQUAL TO POLE BASE INSIDE DIAMETER MINUS 3 1/2" BUT SHALL NOT BE LESS THAN 8 1/2".



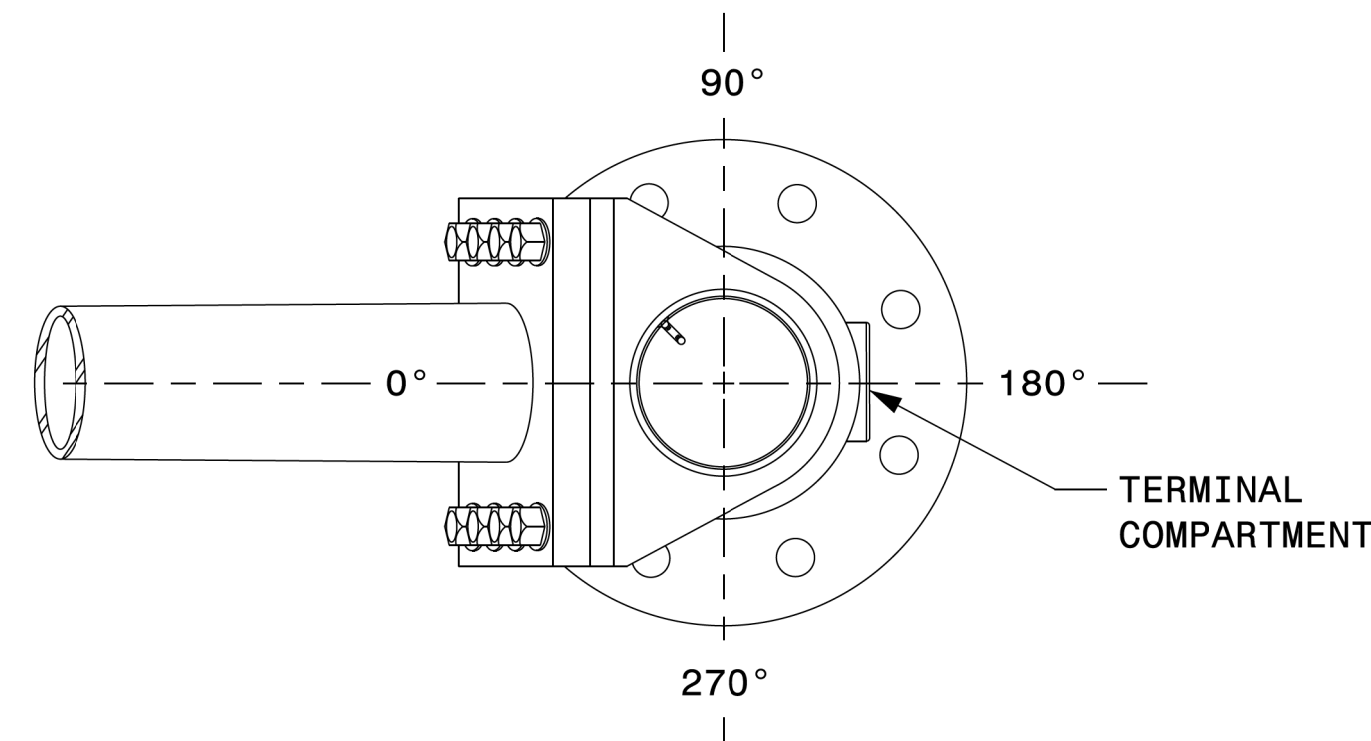
SECTION A-A
POLE BASE PLATE DETAILS



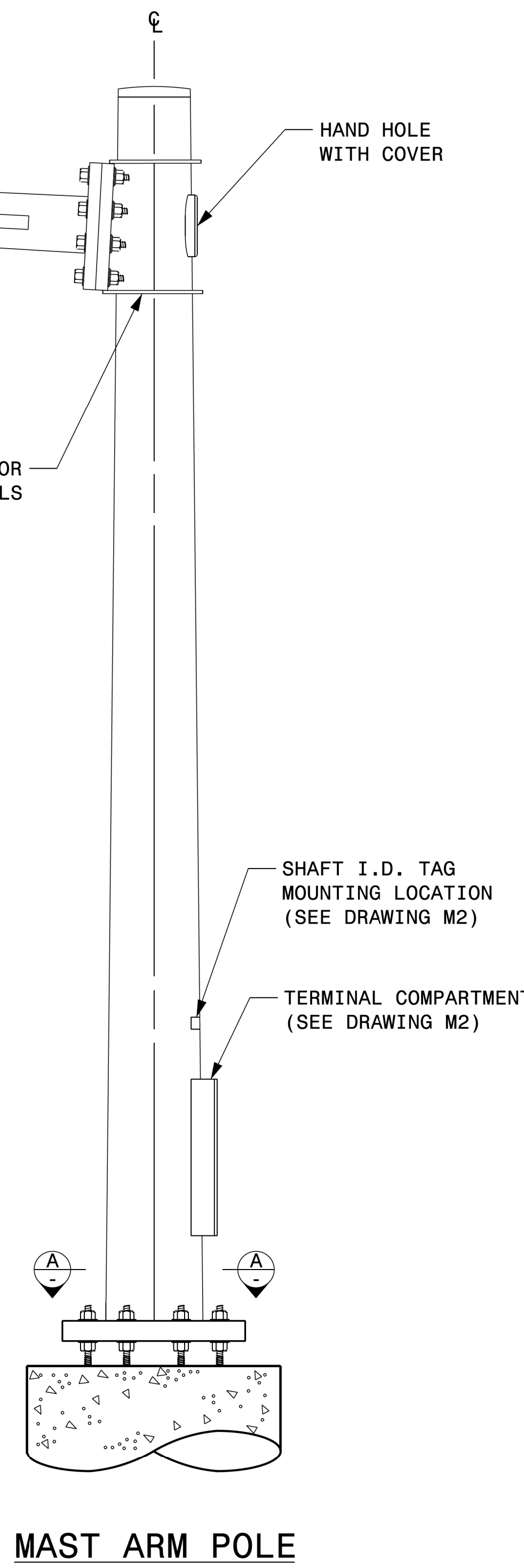
SECTION B-B
(POLE ATTACHMENT TO BASE PLATE)
FULL-PENETRATION
GROOVE WELD DETAIL



SLIP FIT JOINT DETAIL FOR MAST ARM



MAST ARM RADIAL ORIENTATION



MAST ARM POLE

Fabrication Details – Mast Arm Poles

21-SEP-2023 08:00 S:\ITS\AS\MTS\S\gnouls\Signal Design\Sections\Structures\Drawings\2024\Metrol Pole Std Drawings for LRFD\2024 Sig.M4 Std. Fabrication Details-Mast Arm Poles.dgn Kedar Igan

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE: NA
NONE

Typical Fabrication Details For Mast Arm Poles

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

SEAL

DocuSigned by:
Kevin Durigon
SIGNATURE

09/21/2023
DATE

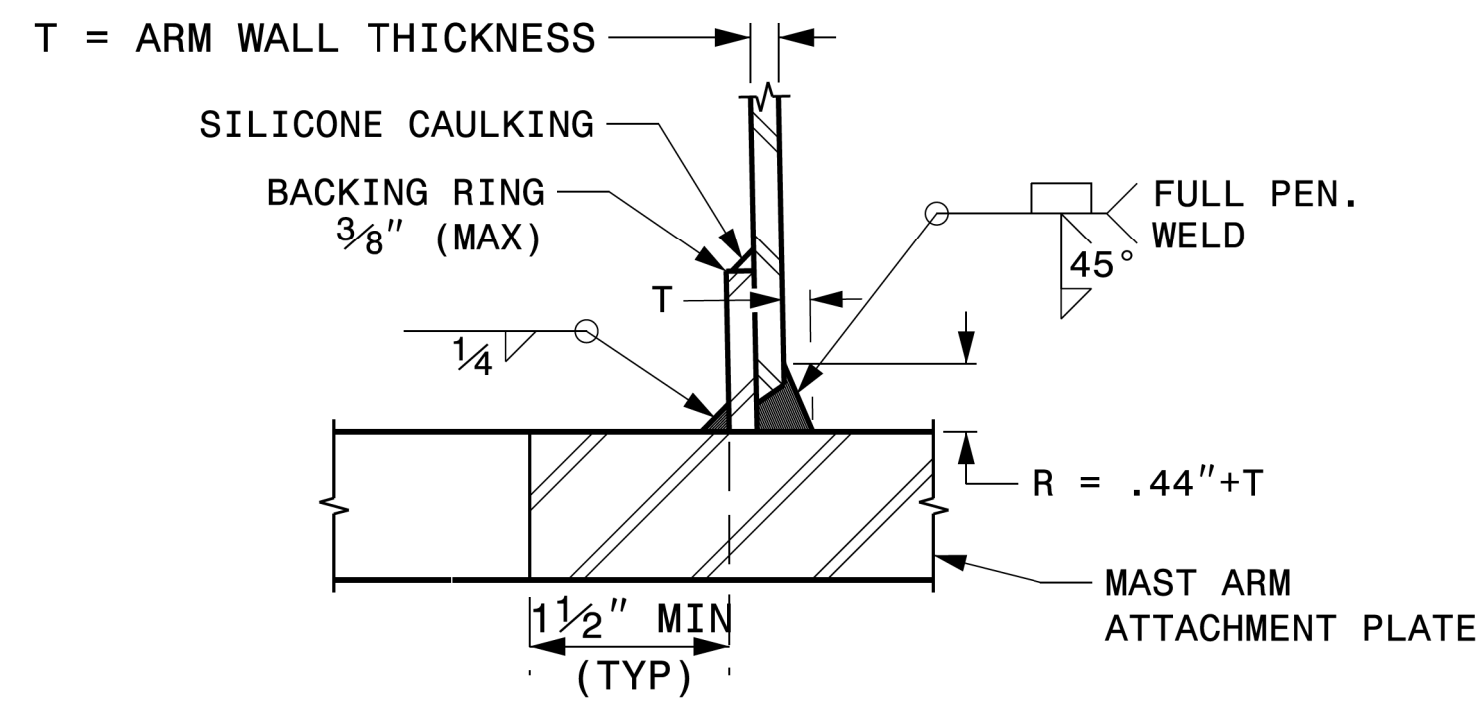
WELDED RING STIFFENED MAST ARM CONNECTION

PROJECT I.D. NO.

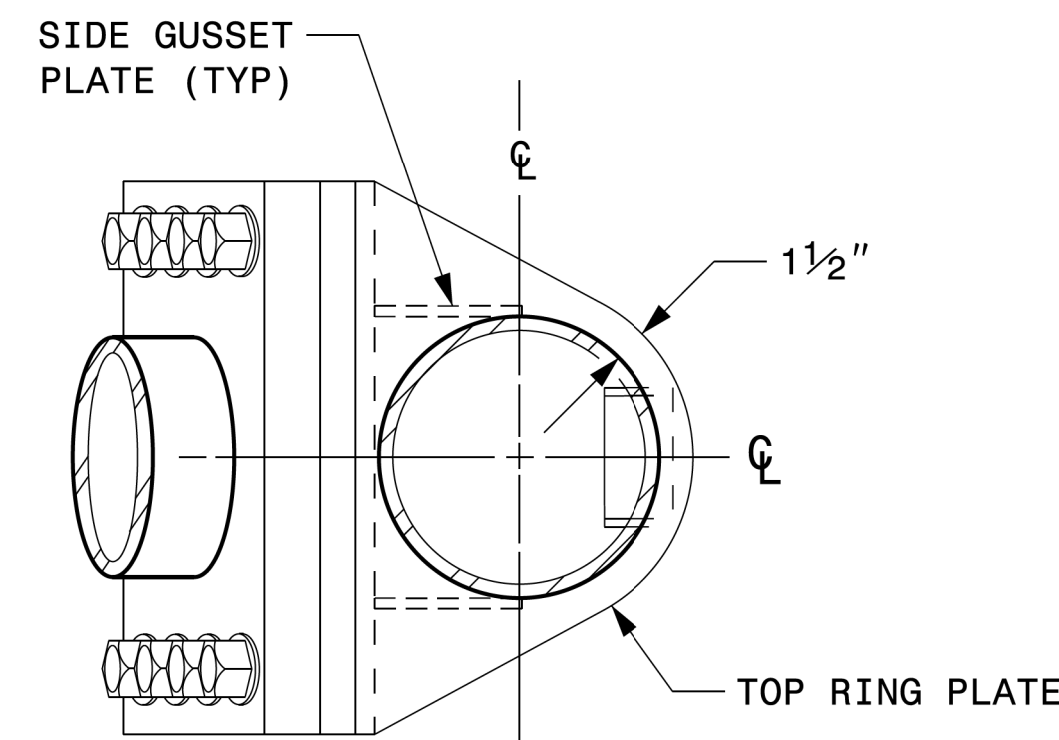
SHEET NO.

R-2577A

Sig.M5



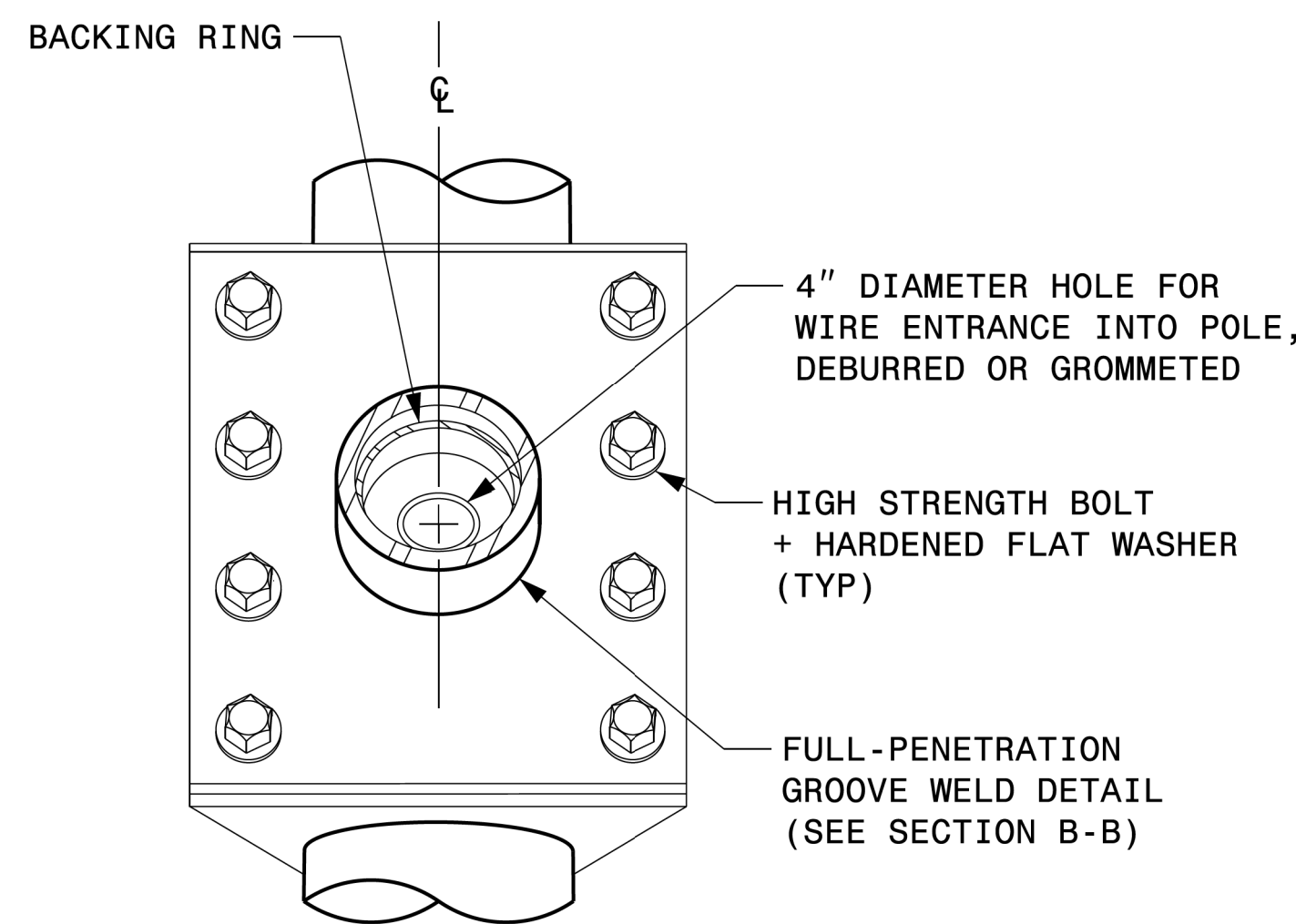
SECTION B-B
FULL-PENETRATION GROOVE WELD DETAIL



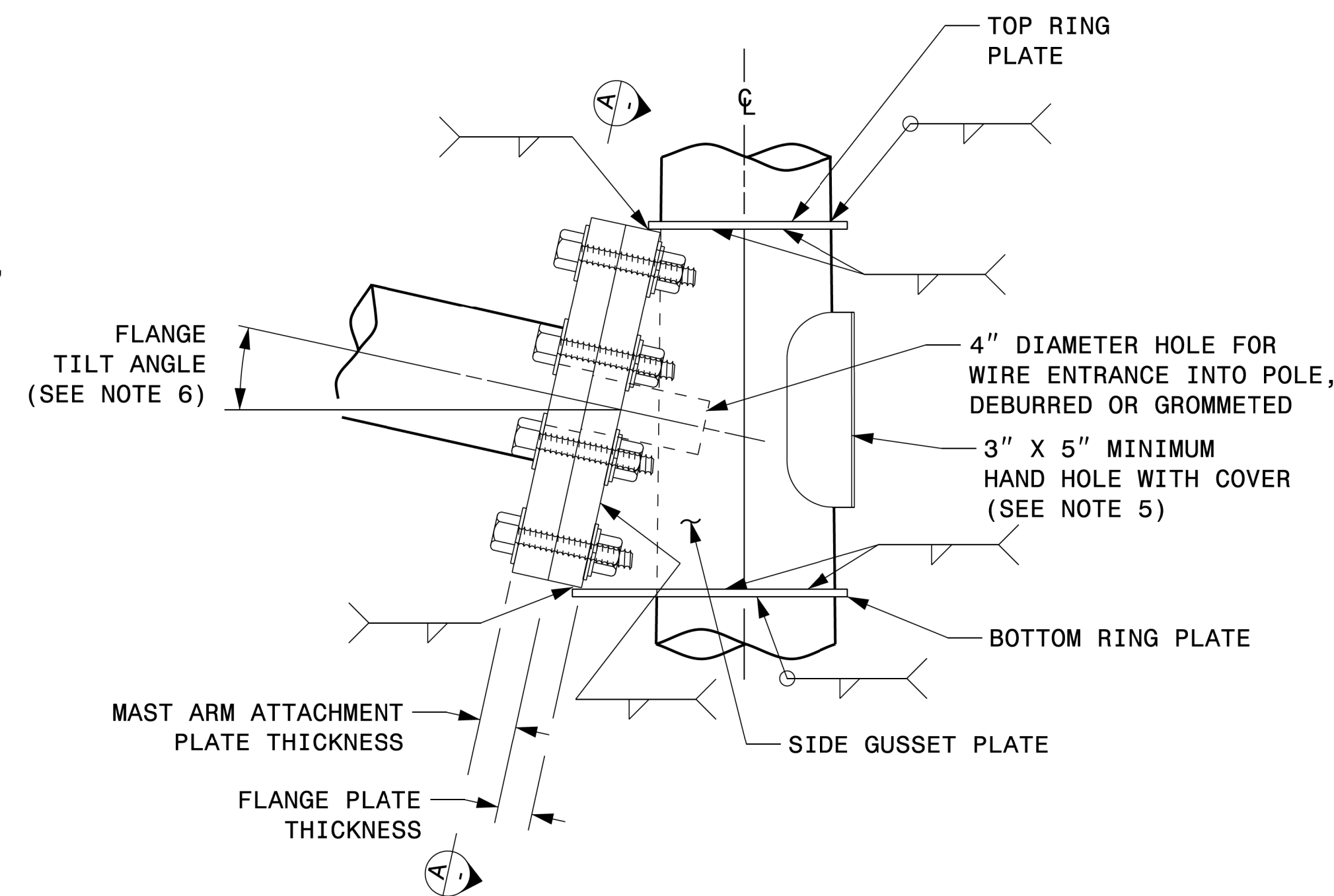
PLAN VIEW

NOTES:

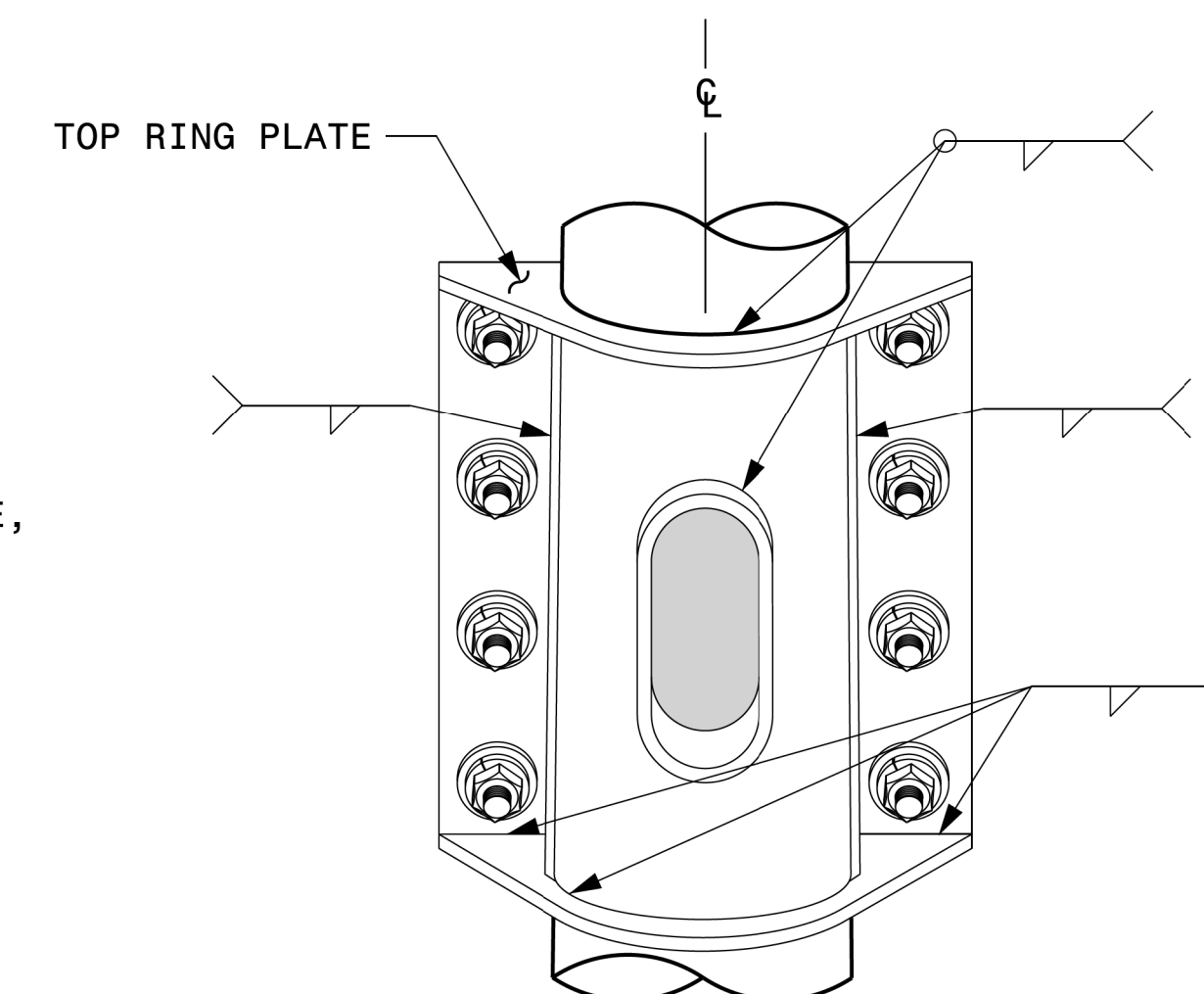
1. PROVIDE A PERMANENT MEANS OF IDENTIFICATION ABOVE THE MAST ARM TO INDICATE PROPER ATTACHMENT ORIENTATION OF THE MAST ARM.
2. DESIGNER WILL DETERMINE THE SIZE OF ALL STRUCTURAL COMPONENTS, PLATES, FASTENERS, AND WELDS SHOWN UNLESS THEY ARE ALREADY SPECIFIED.
3. FABRICATOR IS RESPONSIBLE FOR PROVIDING 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.



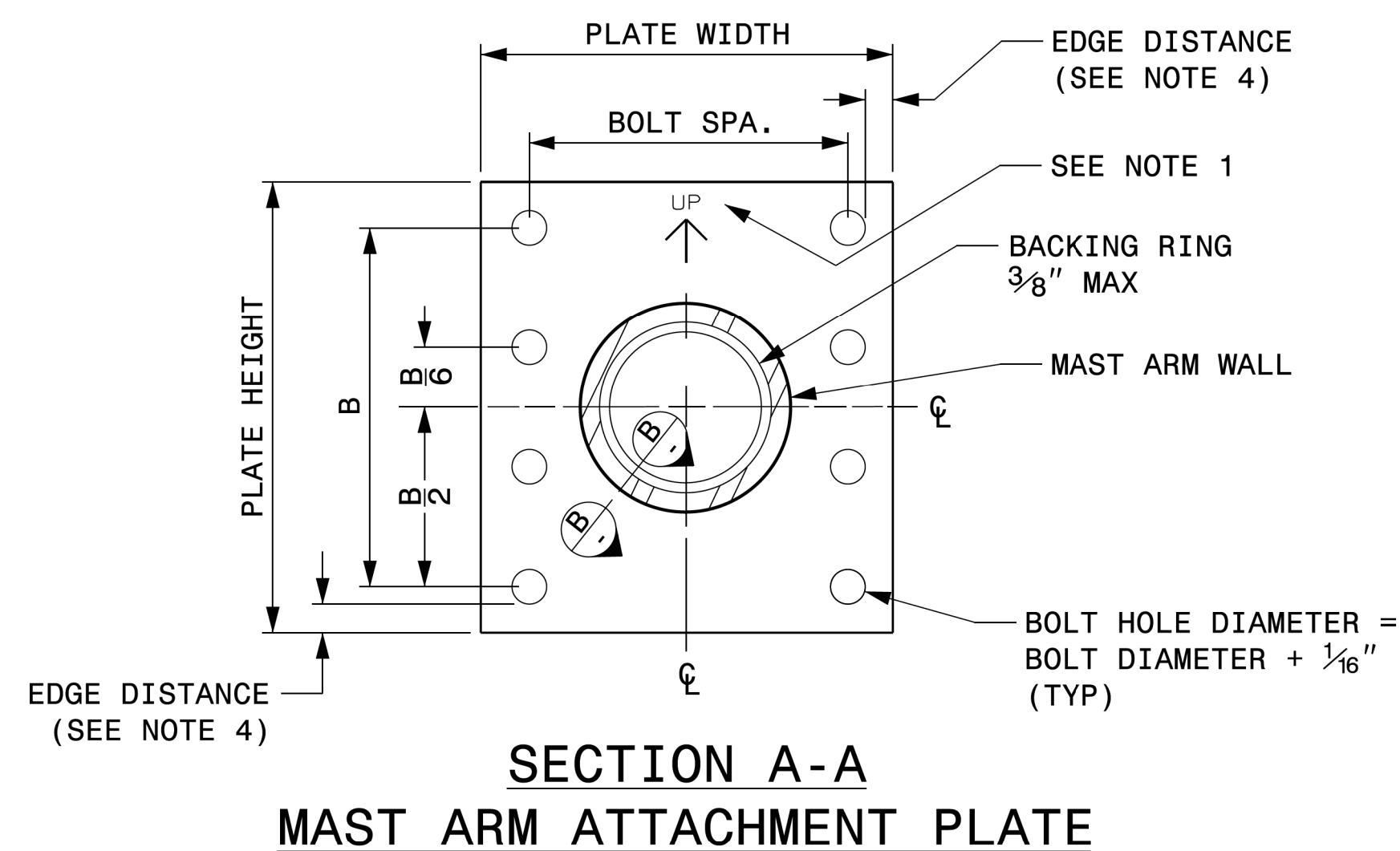
FRONT ELEVATION VIEW



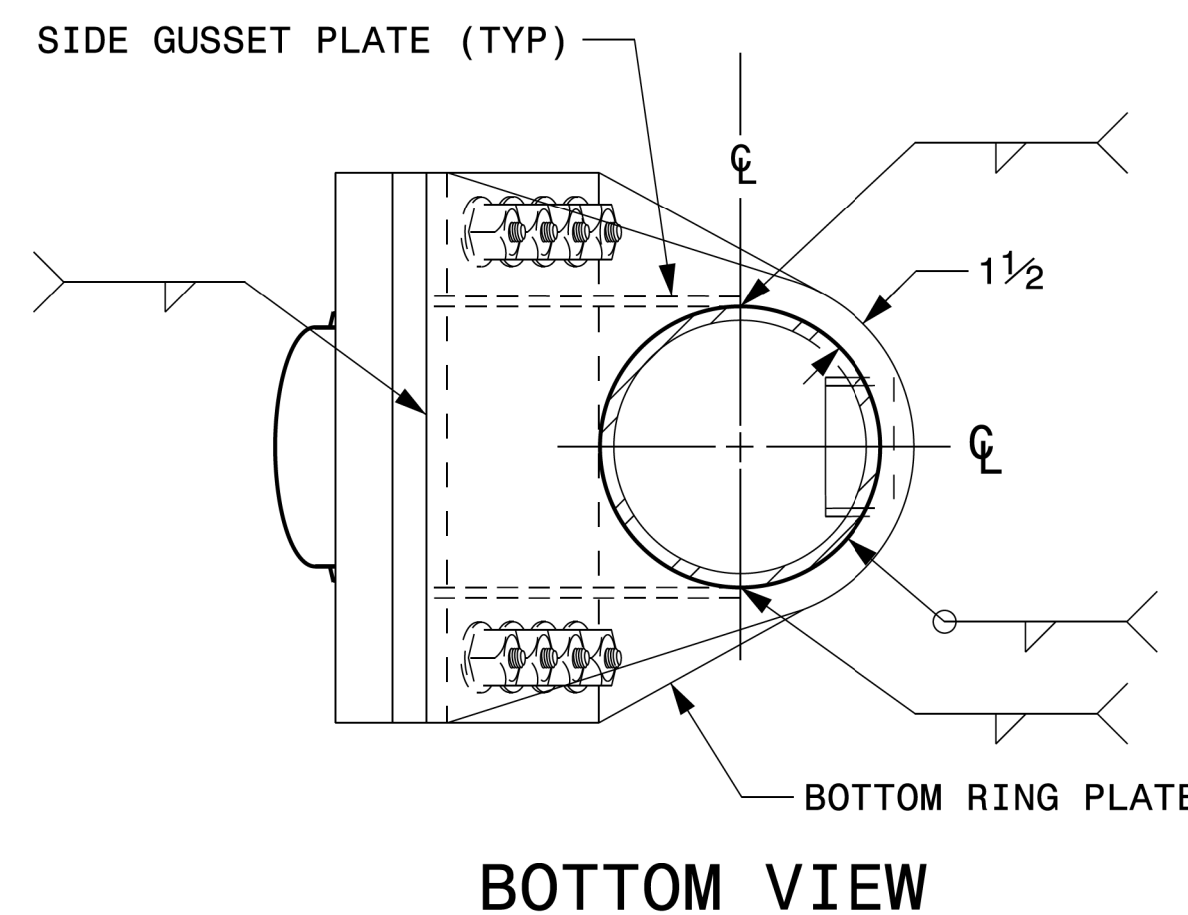
SIDE ELEVATION VIEW



BACK ELEVATION VIEW



SECTION A-A
MAST ARM ATTACHMENT PLATE



BOTTOM VIEW

Fabrication Details – Mast Arm Connection

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

Typical Fabrication Details For Mast Arm Connection To Pole			
PLAN DATE:	SEPTEMBER 2023	DESIGNED BY:	C.F. ANDREWS
PREPARED BY:	K.C. DURIGON	REVIEWED BY:	D.C. SARKAR
REVISIONS	INIT.	DATE	

SEAL

DocuSigned by:

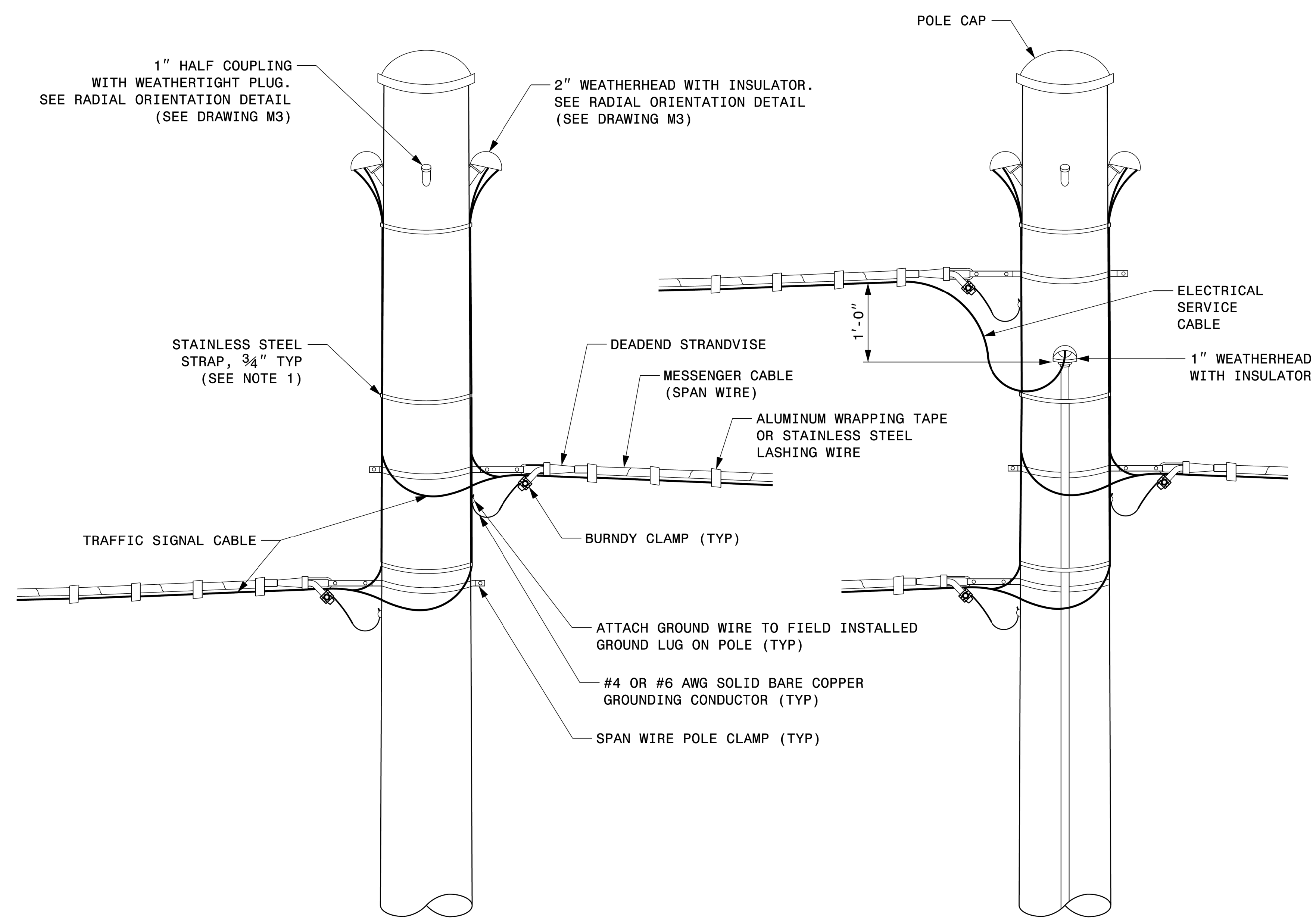
Kevin Durigon

9/21/2023

DATE

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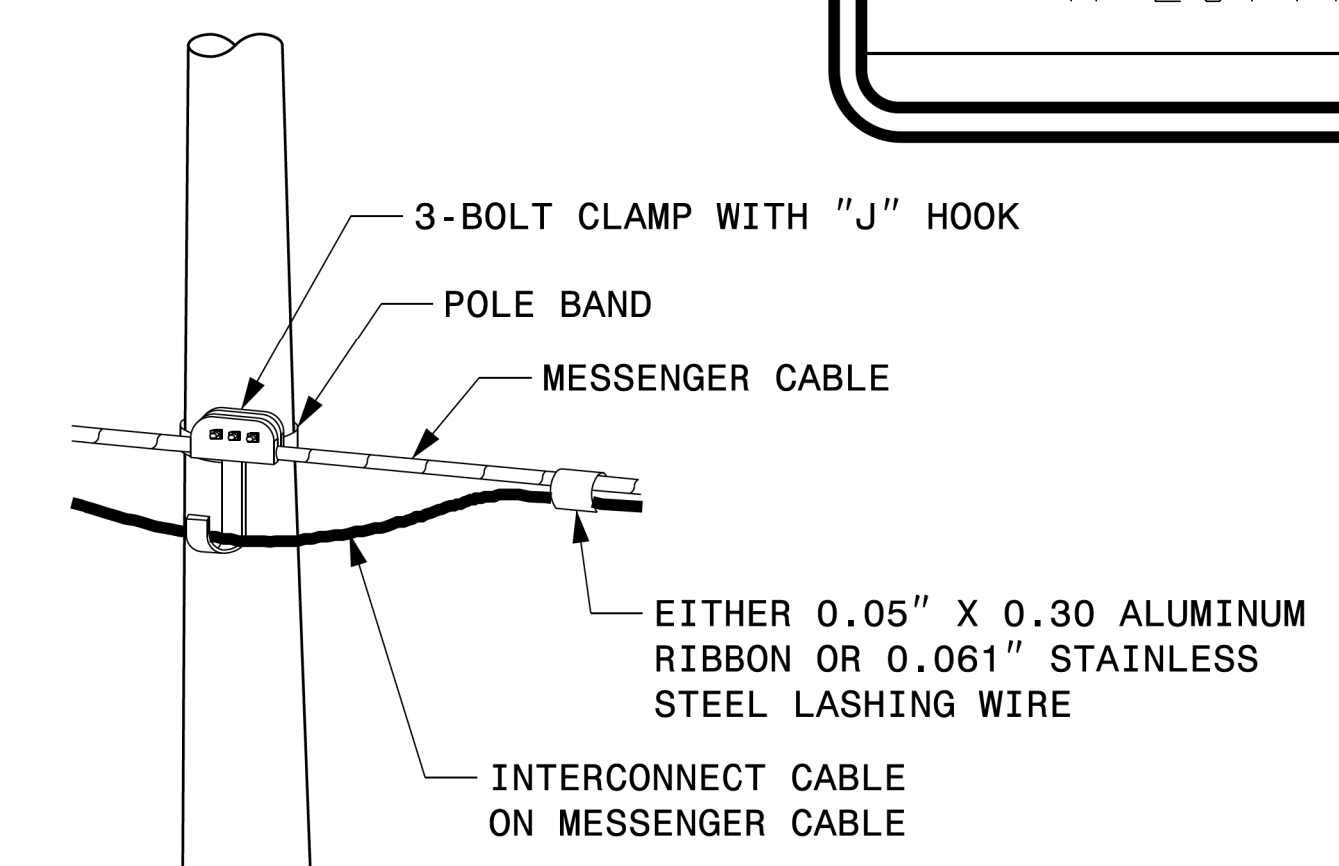
Fabrication Details – Strain Pole Attachments



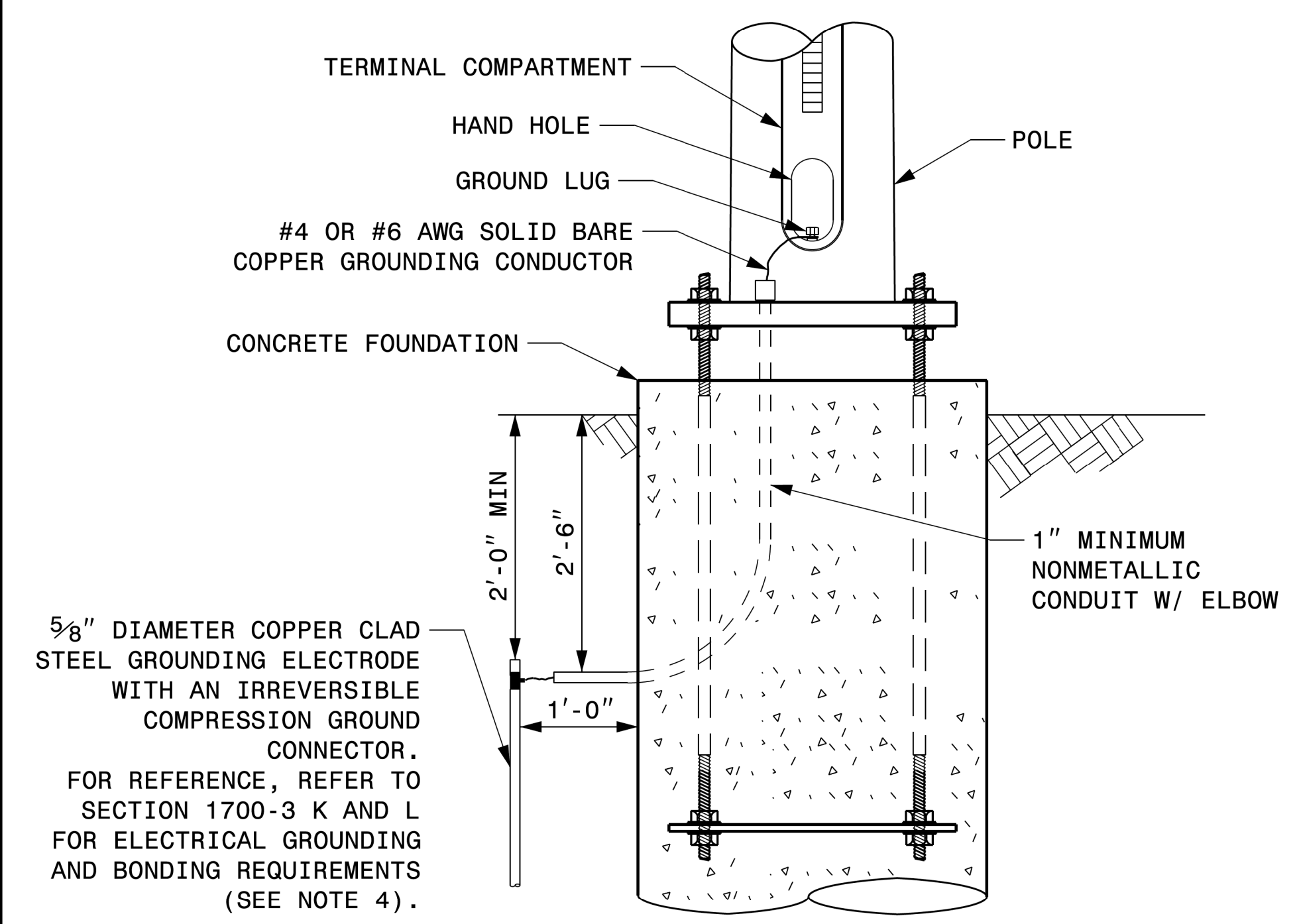
STRAIN POLE ATTACHMENTS

NOTES:

1. 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".
2. PROVIDE MINIMUM TWO SPAN WIRE POLE CLAMPS PER POLE.
3. IT IS PROHIBITED TO ATTACH TWO SPAN WIRES AT ONE POLE CLAMP.
4. 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

21-SEP-2023 08:03 S:\ITS\AS\MTS Signal\Signal Structures\Drawings\2024 Metal Pole Std Drawings for LRPD\2024 Sig.M6 Std. Fabrication Details-Strain Poles.dgn

Prepared in the Offices of:

750 N. Greenfield Pkwy, Corner, NC 27529

Typical Fabrication Details For Strain Pole Attachments

PLAN DATE: SEPTEMBER 2023 DESIGNED BY: C.F. ANDREWS

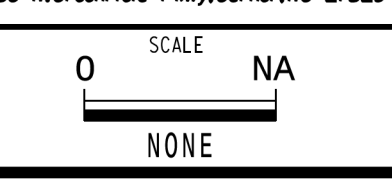
PREPARED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR

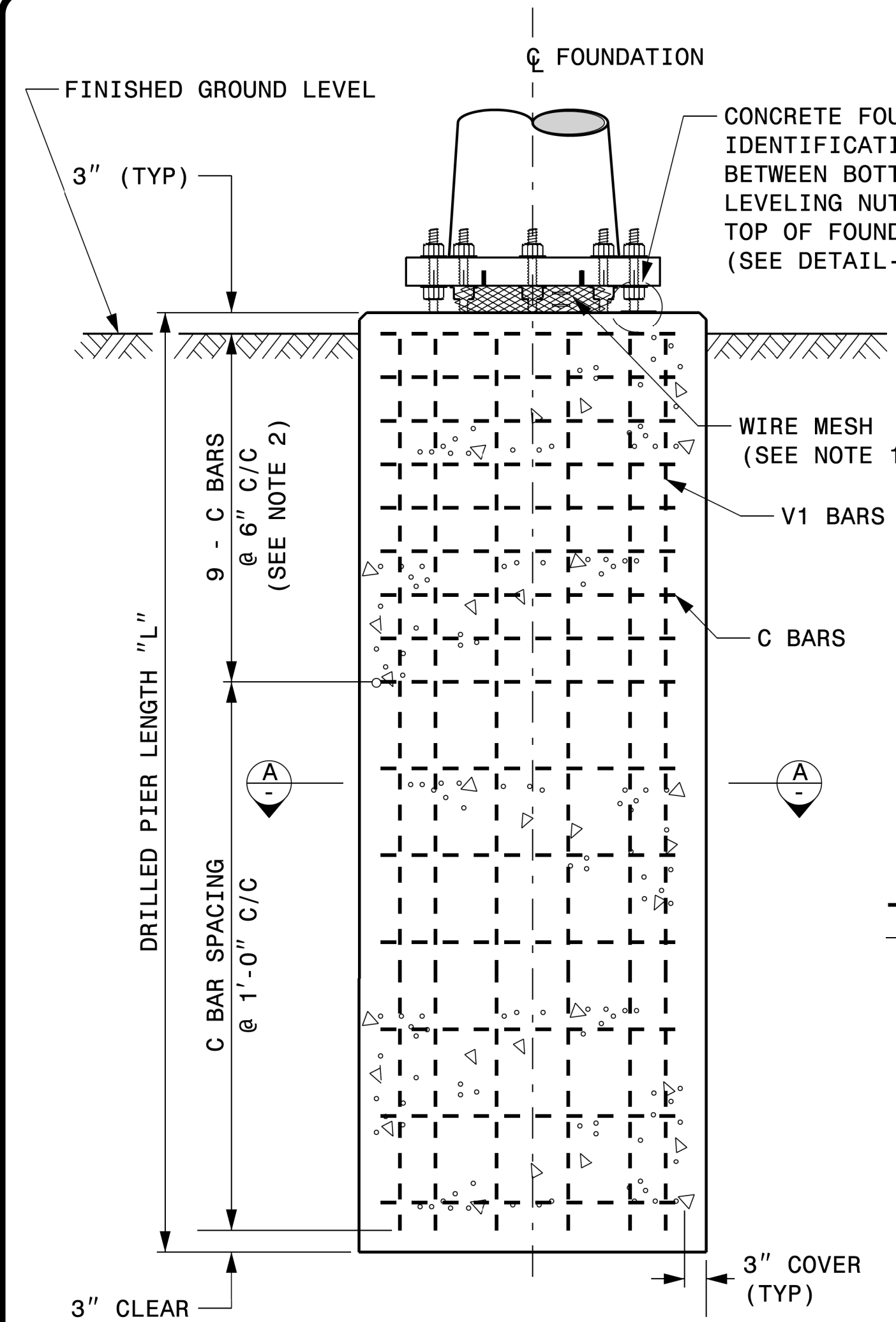
REVISIONS	INIT.	DATE

SEAL

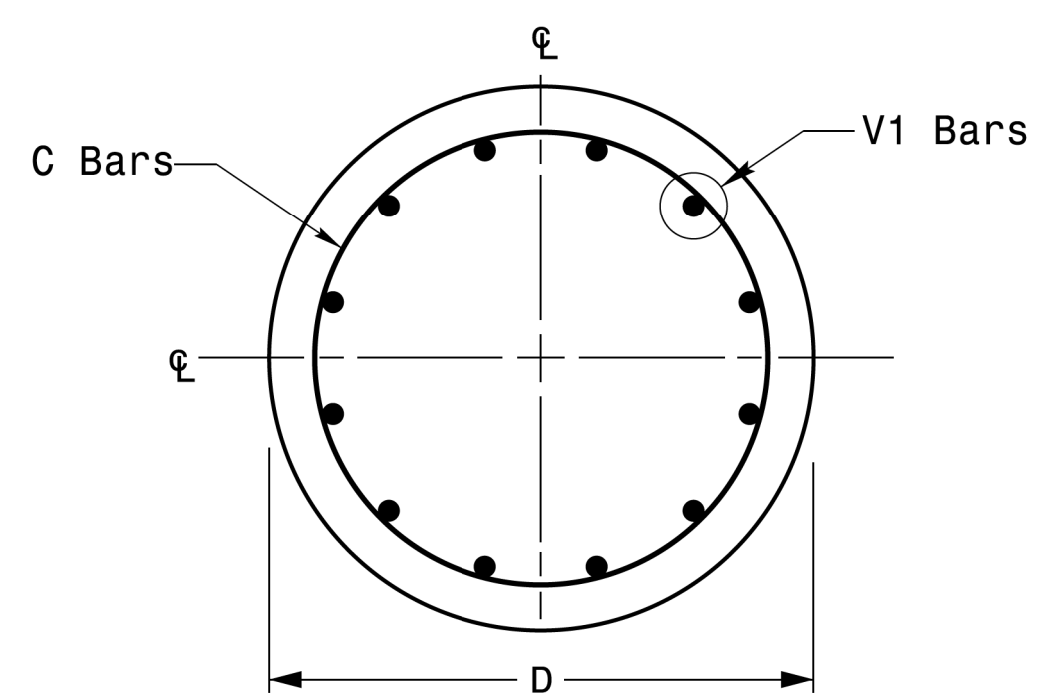
DocuSigned by: Kevin Durigon

9/21/2023 DATE

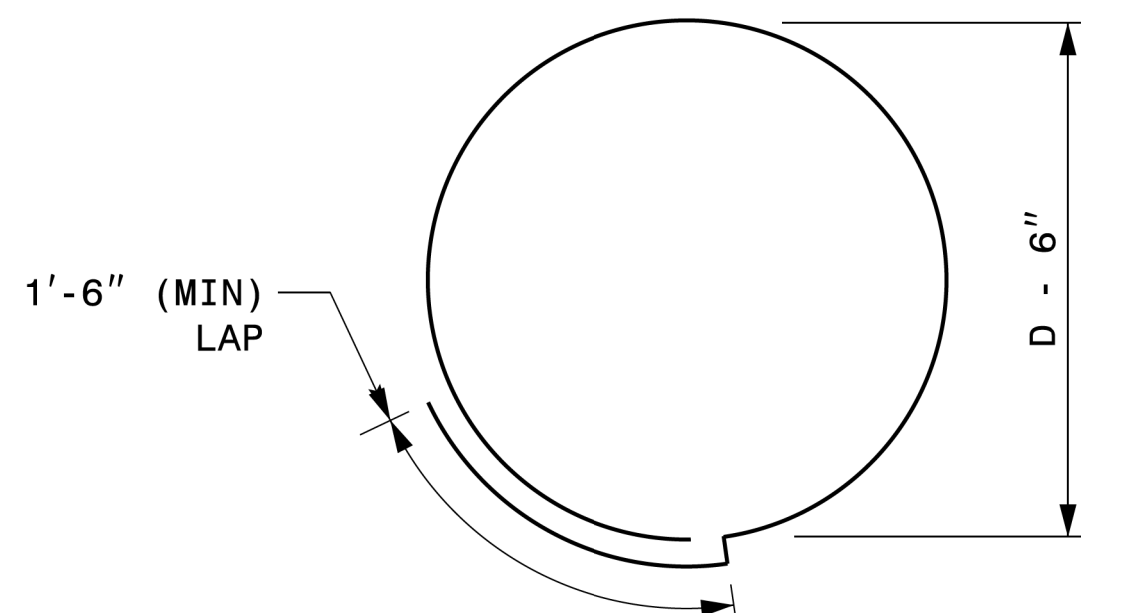




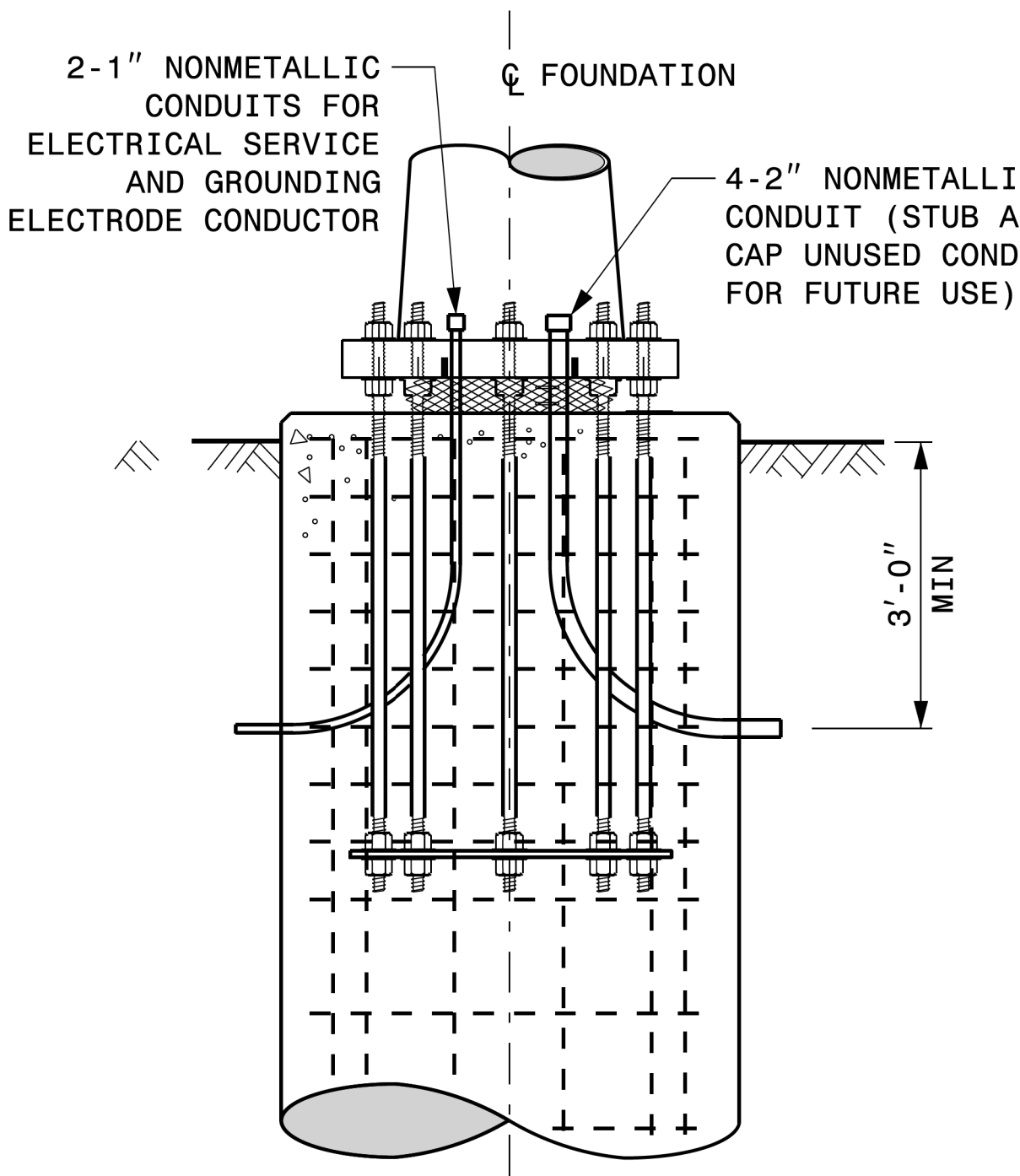
CONCRETE SHAFT ELEVATION



SECTION A-A



TYPICAL "C" BAR DETAIL



TYPICAL FOUNDATION CONDUIT DETAILS

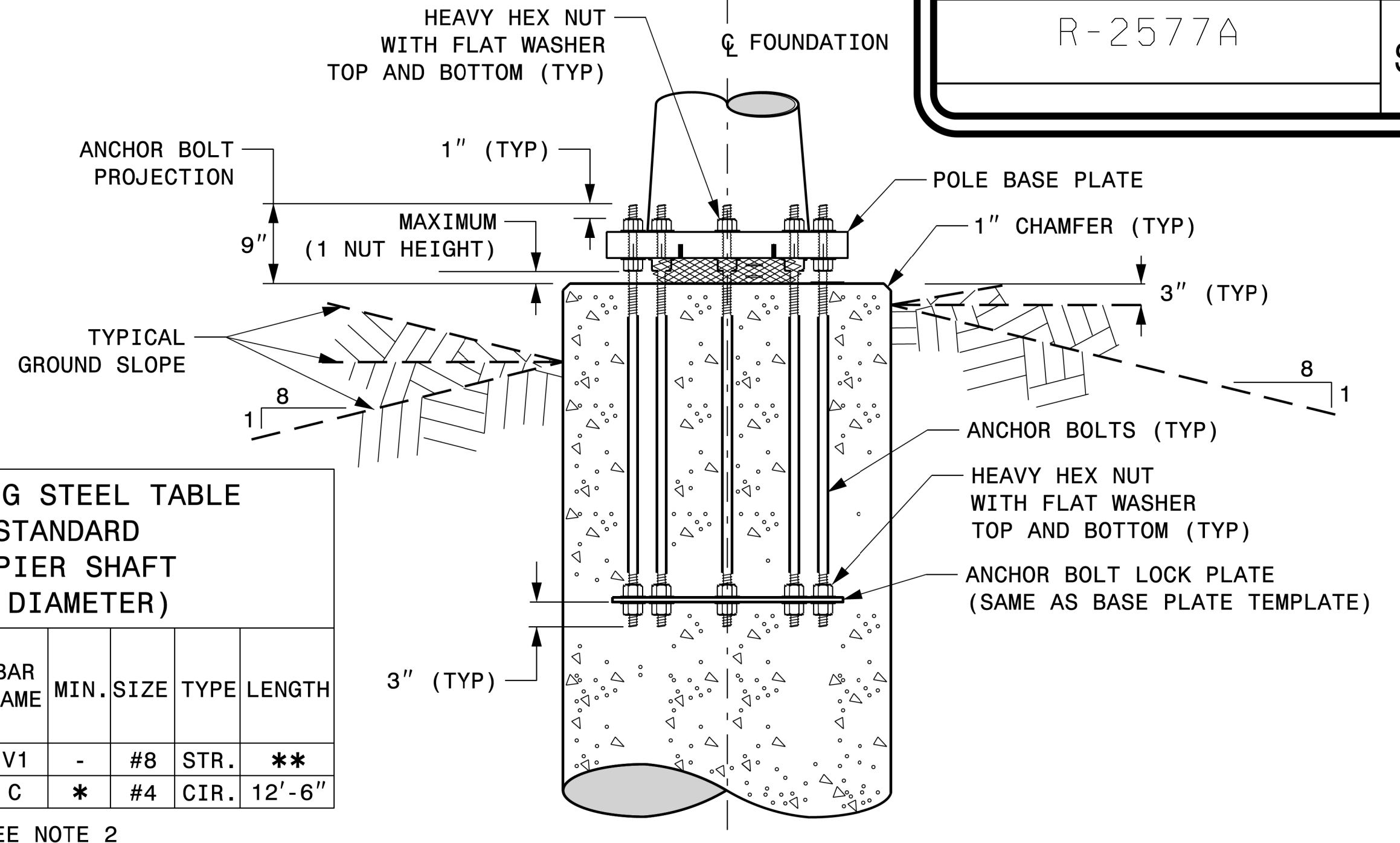
GENERAL NOTES:

- 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 SPO9 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 FOR STANDARD DRILL PIER SHAFT (4'-0" DIAMETER)

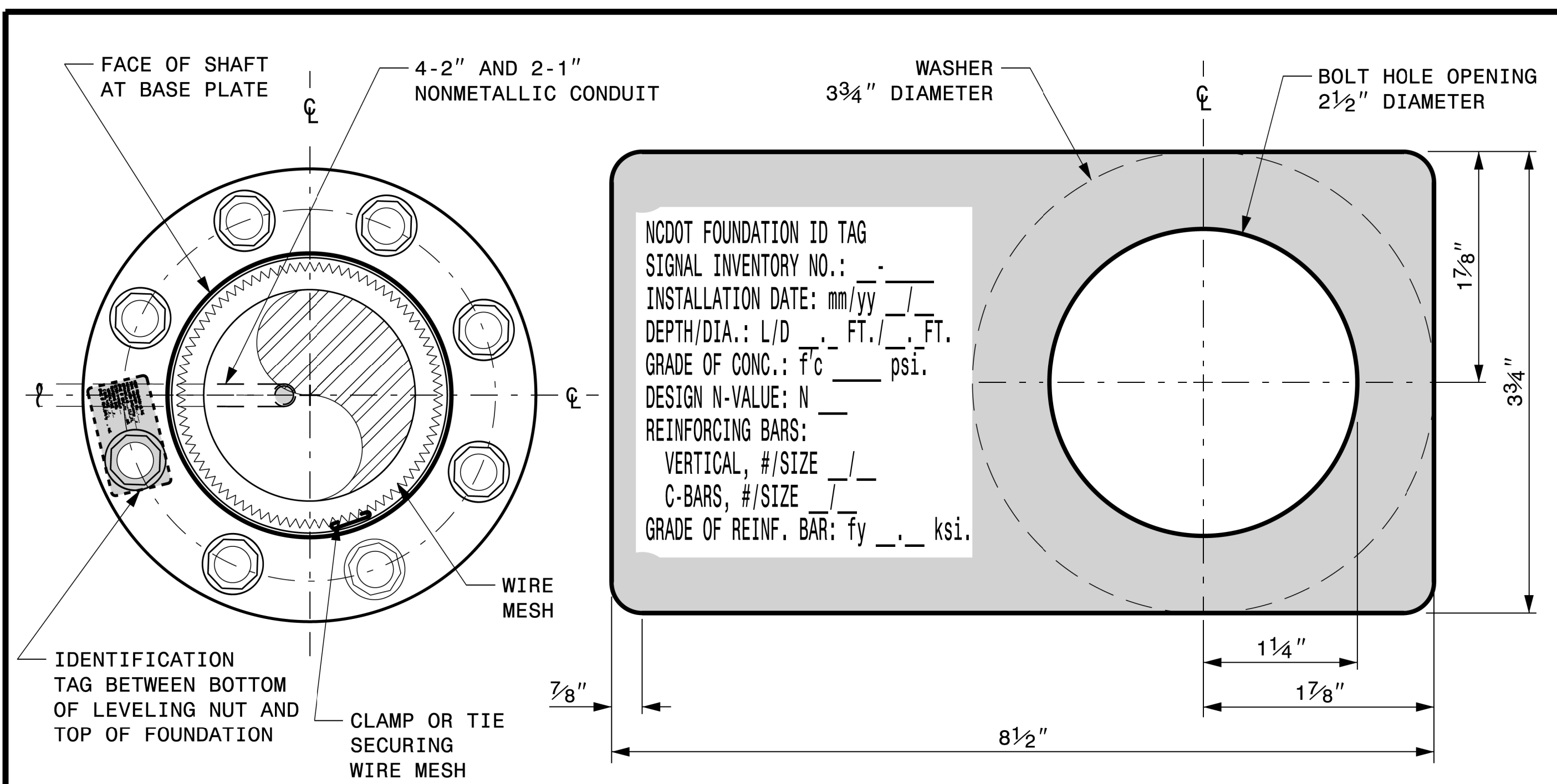
"D" SHAFT DIAMETER	CONCRETE VOLUME (CU. YDS)	BAR NAME	MIN. SIZE	TYPE	LENGTH
4'-0"	.465 X L	V1	#8	STR.	**
		C	#4	CIR.	12'-6"

* SEE NOTE 2
** SEE NOTE 3



TYPICAL FOUNDATION ANCHOR BOLT DETAILS

(REINFORCING CAGE NOT SHOWN FOR CLARITY)



DETAIL-A

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

	<p>Construction Details For Foundations</p>							
	<p>PLAN DATE: SEPTEMBER 2023 DESIGNED BY: K.C. DURIGON</p> <p>PREPARED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR</p>	<p>REVISIONS</p> <table border="1"> <tr> <th>NO.</th> <th>INIT.</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	INIT.	DATE		
NO.	INIT.	DATE						
<p>750 N. Greenfield Pkwy, Corner, NC 27529</p> <p>SCALE: NA</p> <p>NONE</p>	<p>DATE: 09/21/2023</p>		<p>40000070007040A</p>					

21-SEP-2023 08:06 S:\155501\15 Signal\Signal Design Sections\Structures\Drawings\2024 Metal Pole Std Drawings for LRFD\2024 Sig.M7 Std. Construction Details-Strain Poles.dgn Kcdurigan

Construction Details - Foundations

SOIL CONDITION

PROJECT I.D. NO.	SHEET NO.
R-2577A	Sig.M8

STANDARD STRAIN POLES						STANDARD FOUNDATIONS 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

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.


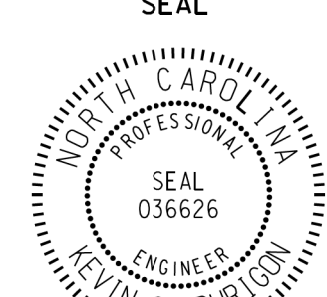
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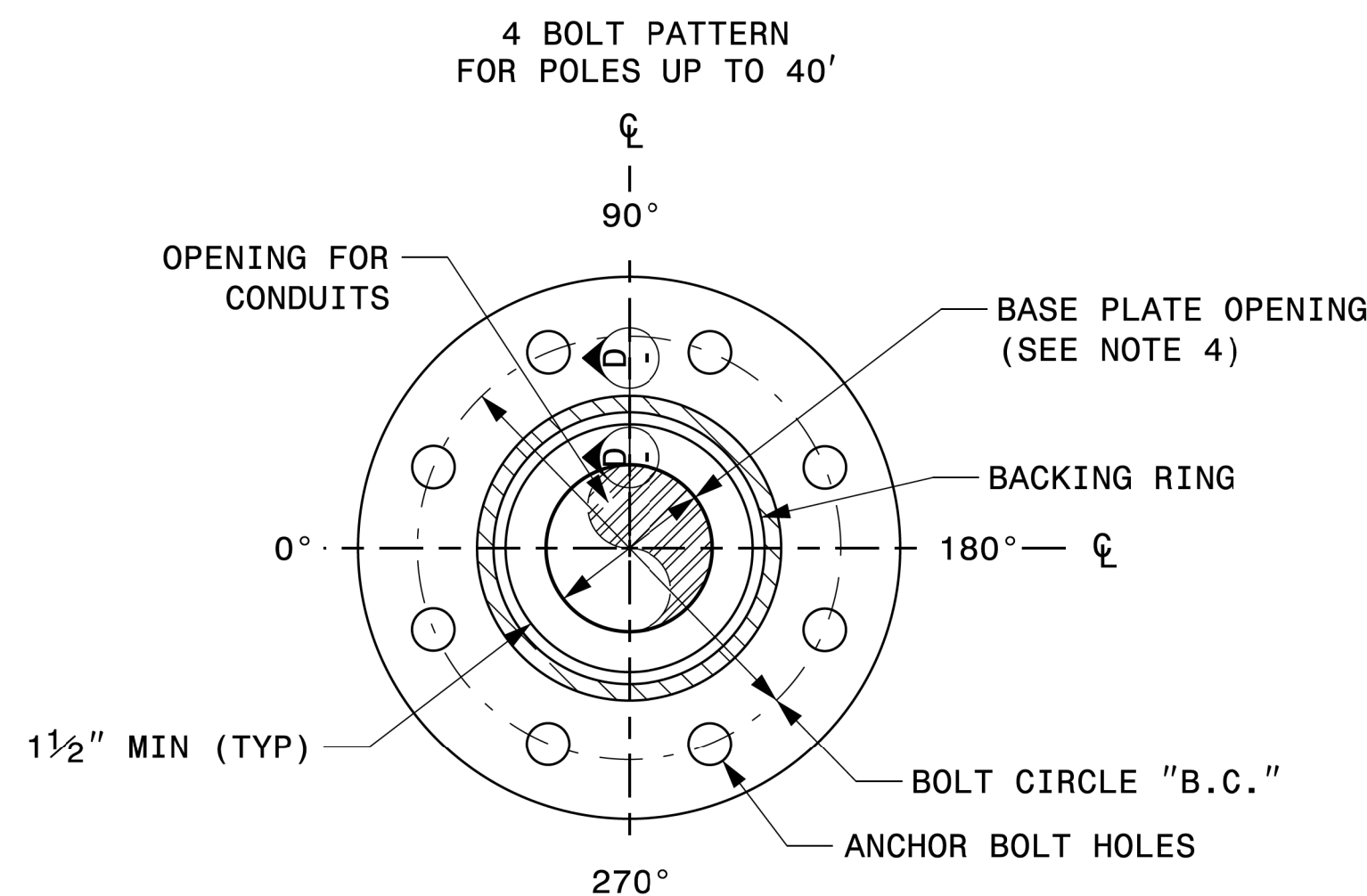
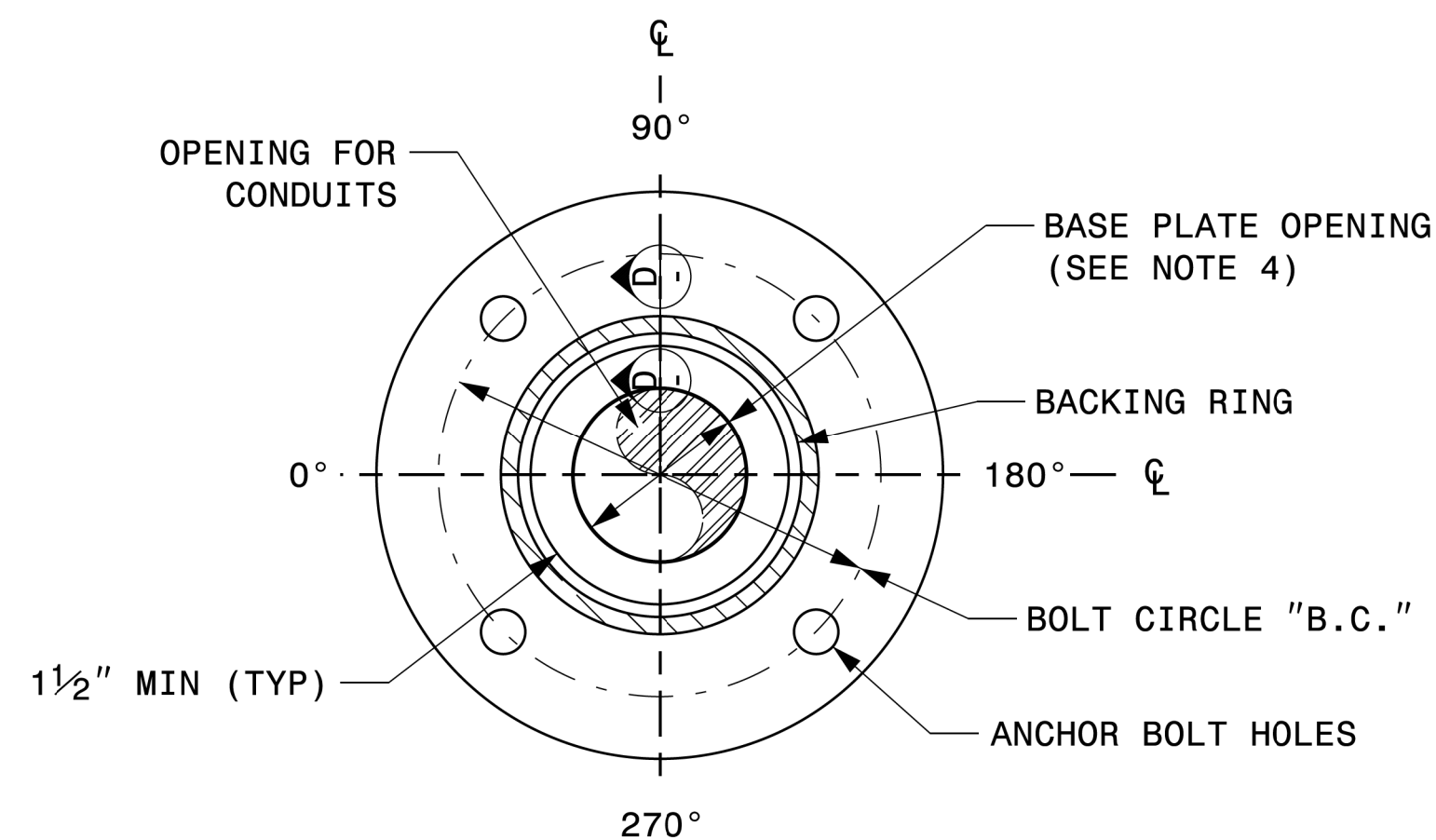
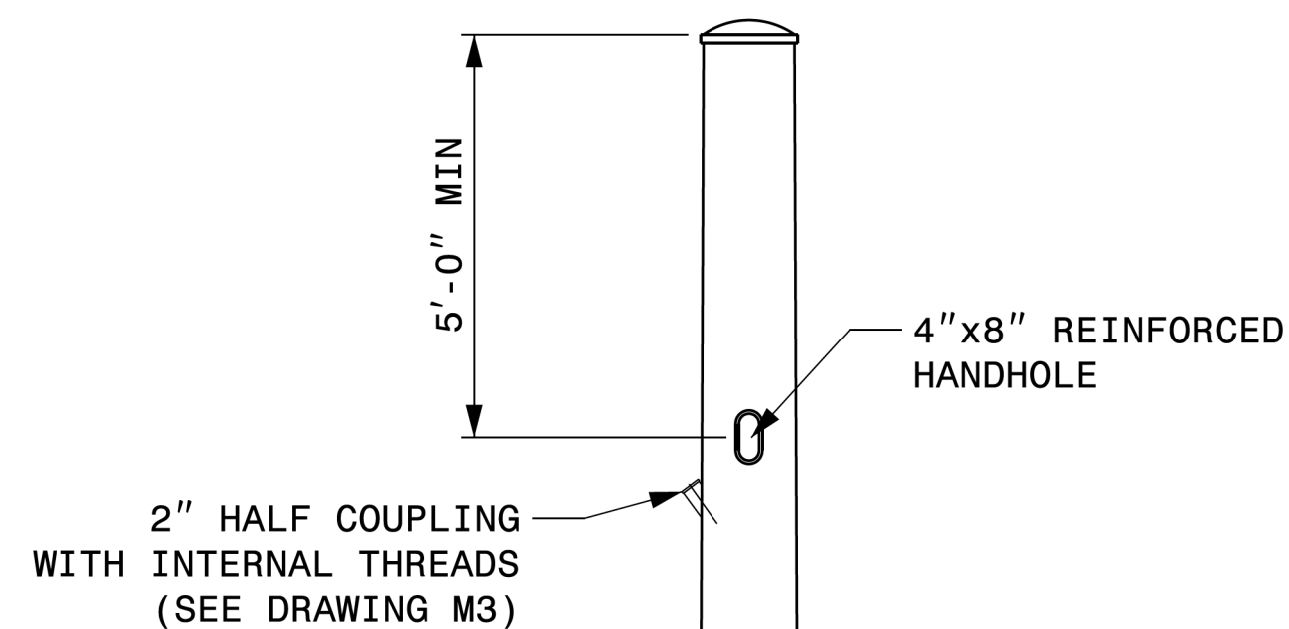
1. PERFORM A STANDARD PENETRATION TEST AT EACH PROPOSED FOUNDATION SITE TO DETERMINE "N" VALUE.
2. SELECT THE APPROPRIATE WIND ZONE FROM M1 DRAWING.
3. SELECT THE SOIL TYPE (CLAY OR SAND) THAT BEST DESCRIBES THE SOIL CHARACTERISTICS.
4. GET THE APPROPRIATE STANDARD POLE CASE NUMBER FROM THE PLANS OR 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.

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

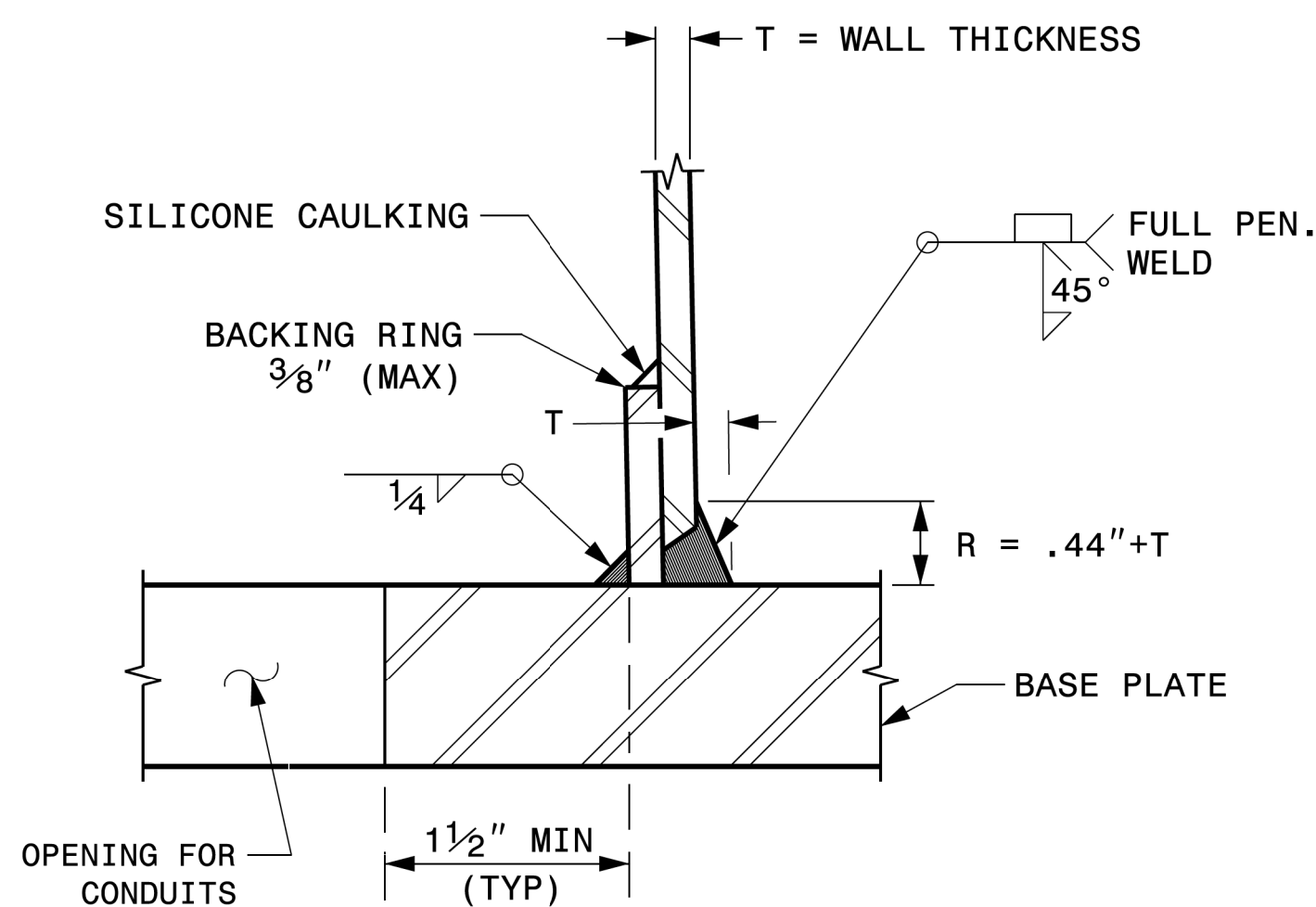
21-SEP-2023 08:08 S:\ITS\AS\MTS\S\ignolis\Signal Design\Sections\Structures\Drawings\2024\Metal Pole Std Drawings for LRFD\2024 Sig.M8 Std. Strain Pole Found.-Saturated Soil Condition.dgn

Standard Strain Pole Foundation - All Soil Conditions

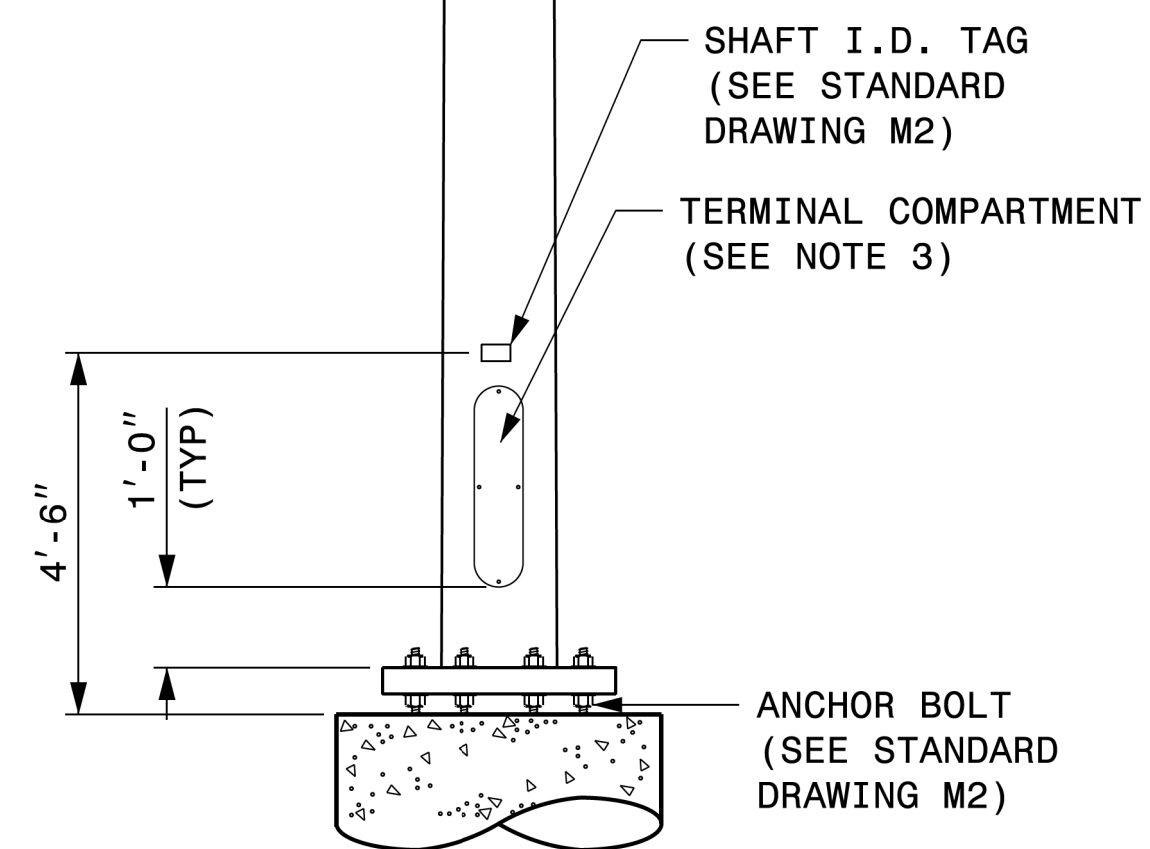
 Prepared in the Offices of: Transportation Mobility and Safety DIVISION OF TRANSPORTATION Signal Design Section 750 N. Greenfield Pkwy, Garner, NC 27529	Standard Strain Pole Foundation for All Soil Conditions PLAN DATE: SEPTEMBER 2023 DESIGNED BY: K.C. DURIGON PREPARED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR	SEAL  DocuSigned by: Kevin Durigon SIGNATURE	09/21/2023 DATE
SCALE: NA NONE	REVISIONS: _____ INIT: _____ DATE: _____ _____ _____		



BASE PLATE DETAILS



SECTION D-D
 (POLE ATTACHMENT TO BASE PLATE)
FULL-PENETRATION GROOVE WELD DETAIL



CCTV CAMERA POLE
 (NOT TO SCALE)

NOTES:

1. THIS DRAWING PROVIDES BASIC DETAILS FOR CCTV POLES. PROJECT REQUIREMENTS MAY REQUIRE SPECIAL FACTORY PREPS THAT ARE NOT SHOWN ON THESE DETAILS.
2. DETAILS FOR INTERNAL CAMERA LOWERING SYSTEMS ARE NOT SHOWN.
3. POLE MOUNTED CABINETS MAY REQUIRE MODIFICATIONS TO THE LOWER HANDHOLE OPENING TO MOUNT CABINETS. 4" X 8" REINFORCED HANDHOLES ARE ACCEPTABLE OPTIONS, AND MAY BE PREFERRED.
4. OPENING IN POLE BASE SHALL BE EQUAL TO POLE BASE INSIDE DIAMETER MINUS 3 1/2" BUT SHALL NOT BE LESS THAN 8 1/2".
5. USE COMPACT SECTION CRITERIA D/T RATIO PER AASHTO LTS-LRFD 1ST EDITION SECTION 5.7.2.

Prepared in the Offices of:

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE: NONE

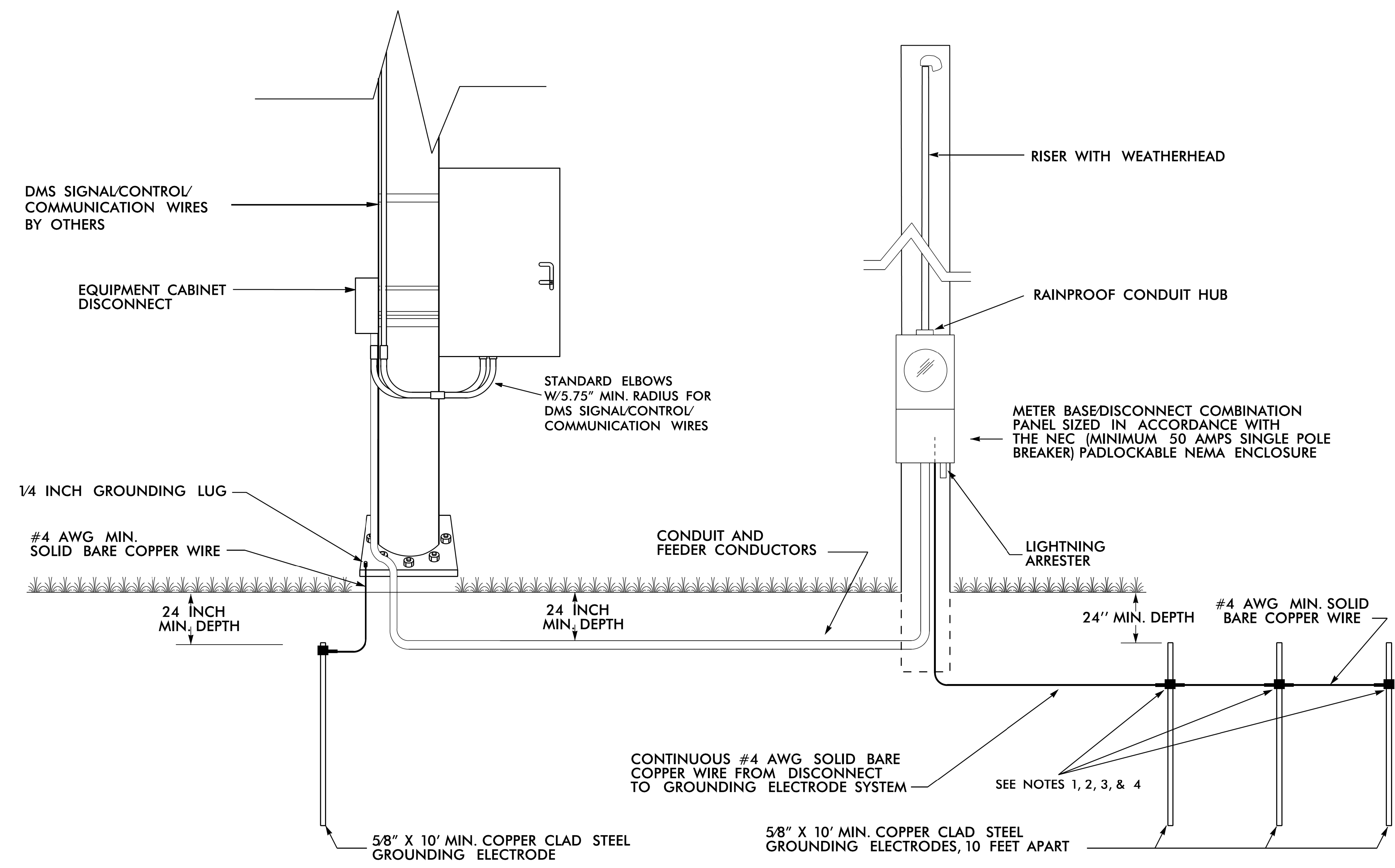
Typical Fabrication Details For CCTV Poles

PLAN DATE: SEPTEMBER 2023	DESIGNED BY: K.C. DURIGON
PREPARED BY: K.C. DURIGON	REVIEWED BY: C.F. ANDREWS
REVISIONS	INIT. DATE

SEAL

DocuSigned by: Kevin Durigon

09/21/2023



NOTES

1. INSTALL A MINIMUM OF THREE (3) GROUNDING ELECTRODES SPACED A MINIMUM OF 10 FEET APART. ENSURE THAT EXISTING UNDERGROUND FACILITIES ARE NOT DAMAGED DURING INSTALLATION.
2. TEST GROUNDING SYSTEM USING AN APPROVED METHOD. SYSTEM SHOULD MEASURE TWENTY (20) OHMS OR LESS. ADDITIONAL GROUNDING ELECTRODES SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER TO MEET THIS REQUIREMENT.
3. MECHANICALLY CRIMP ALL CONNECTIONS TO GROUND RODS USING AN IRREVERSIBLE COMPRESSION TOOL.
4. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.
5. REMOVE BONDING JUMPER IN EQUIPMENT CABINET IF INSTALLED BETWEEN AC NEUTRAL AND EQUIPMENT GROUND.
6. BOND ALL RIGID GALVANIZED STEEL CONDUITS ENTERING THE CABINET TO "EQUIPMENT GROUND".
7. INSTALL CONDUIT BETWEEN DISCONNECT AND CABINET.
8. ENSURE EQUIPMENT GROUND IS ELECTRICALLY BONDED TO CABINET.

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DYNAMIC MESSAGE SIGN WITH AERIAL ELECTRICAL SERVICE TYPICAL DETAIL

DIVISION 00 COUNTY CITY

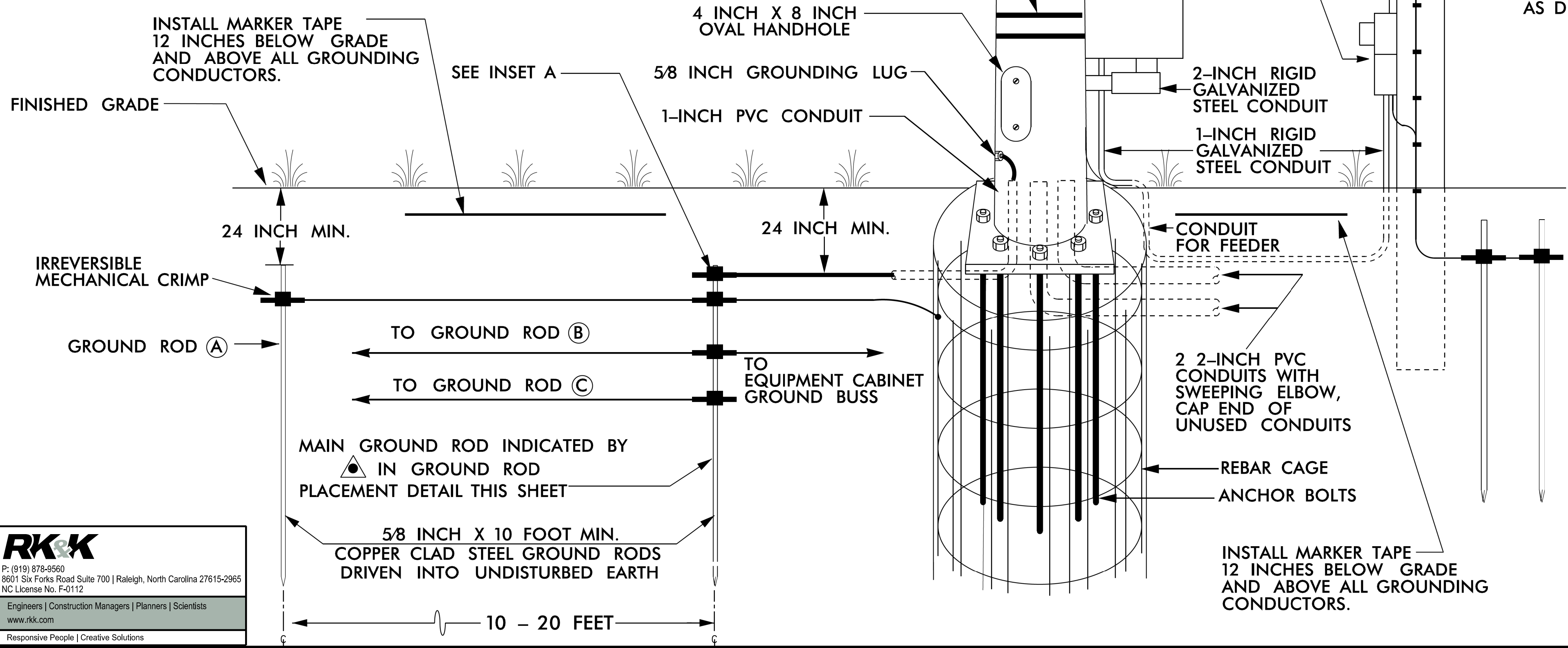
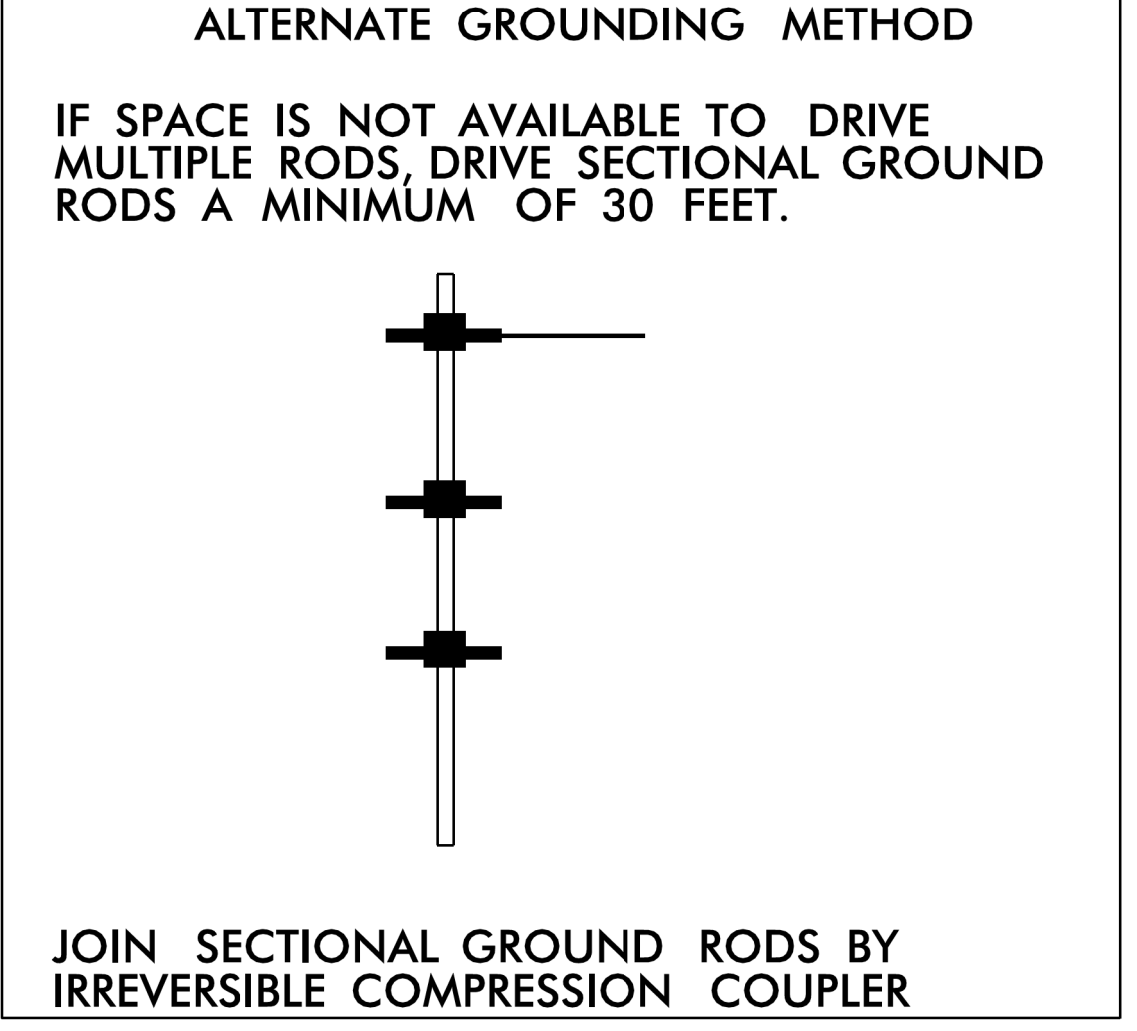
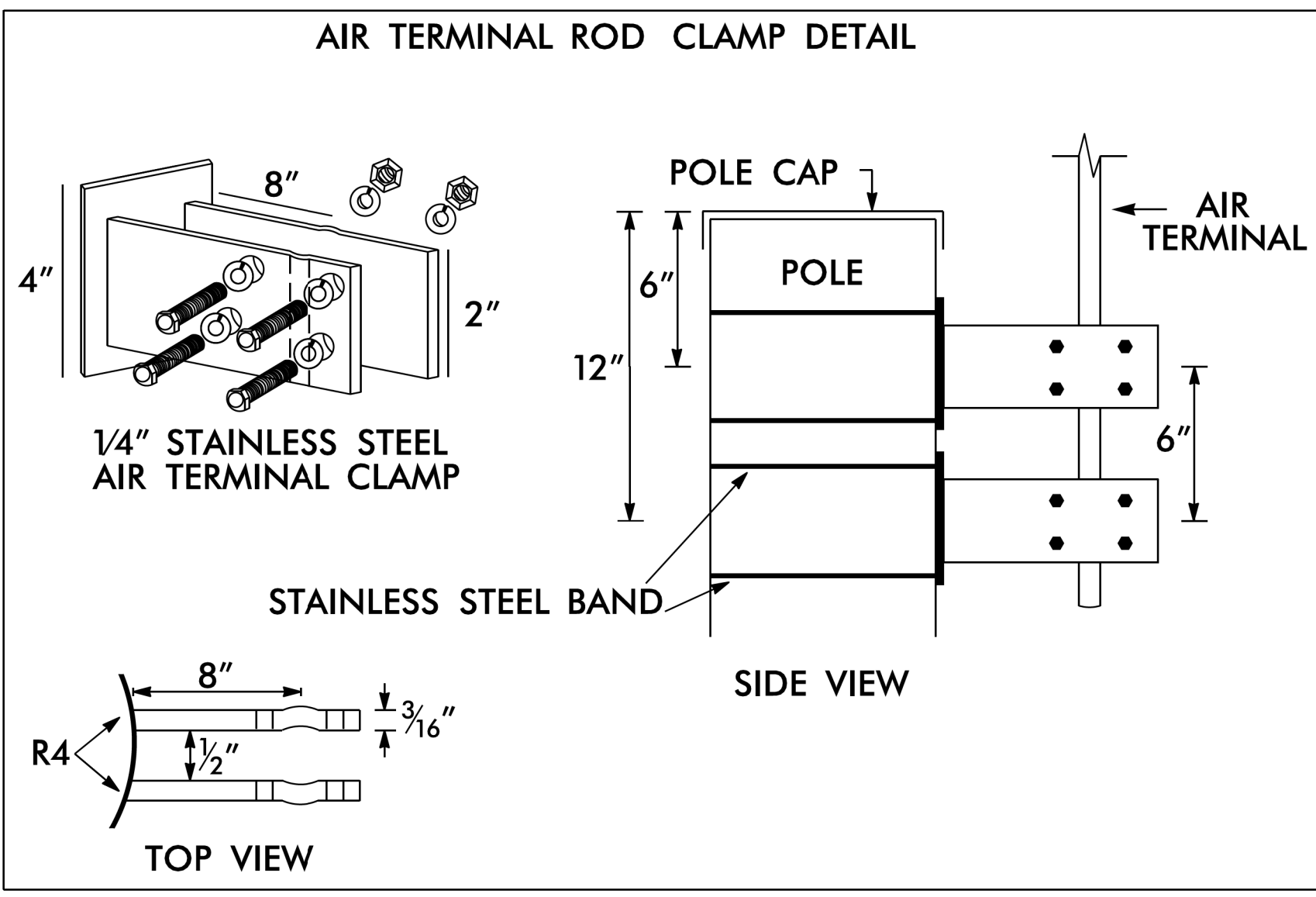
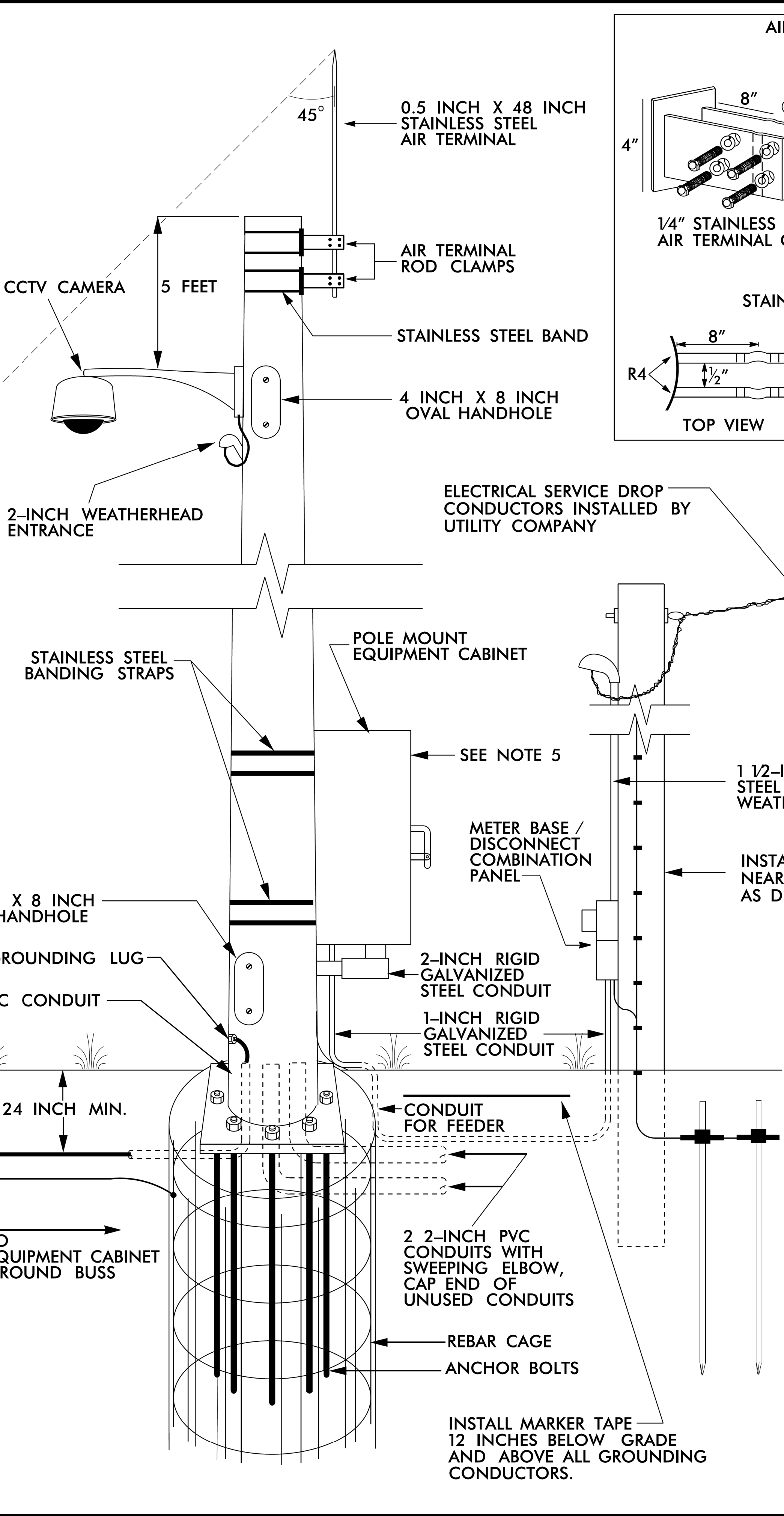
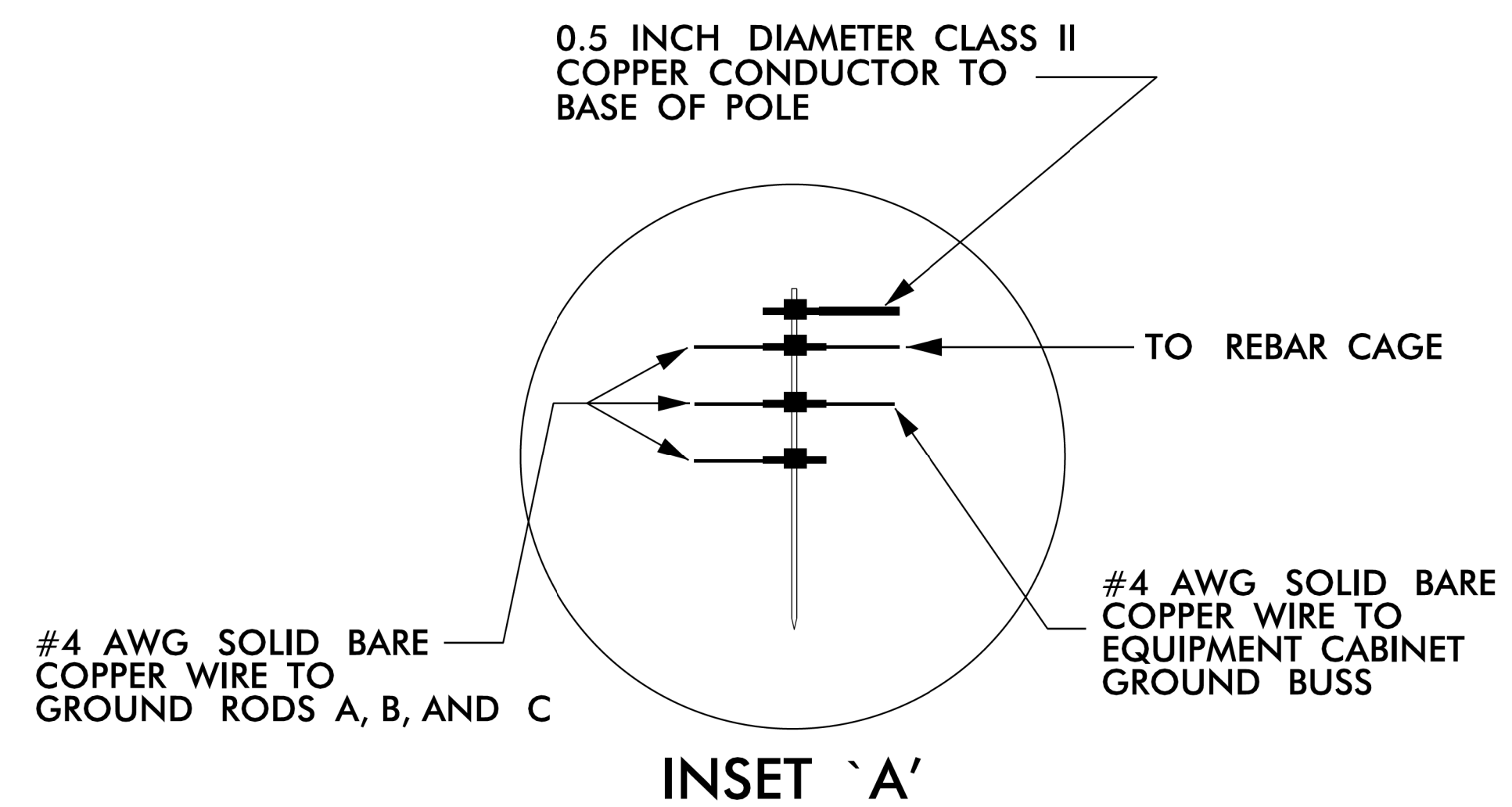
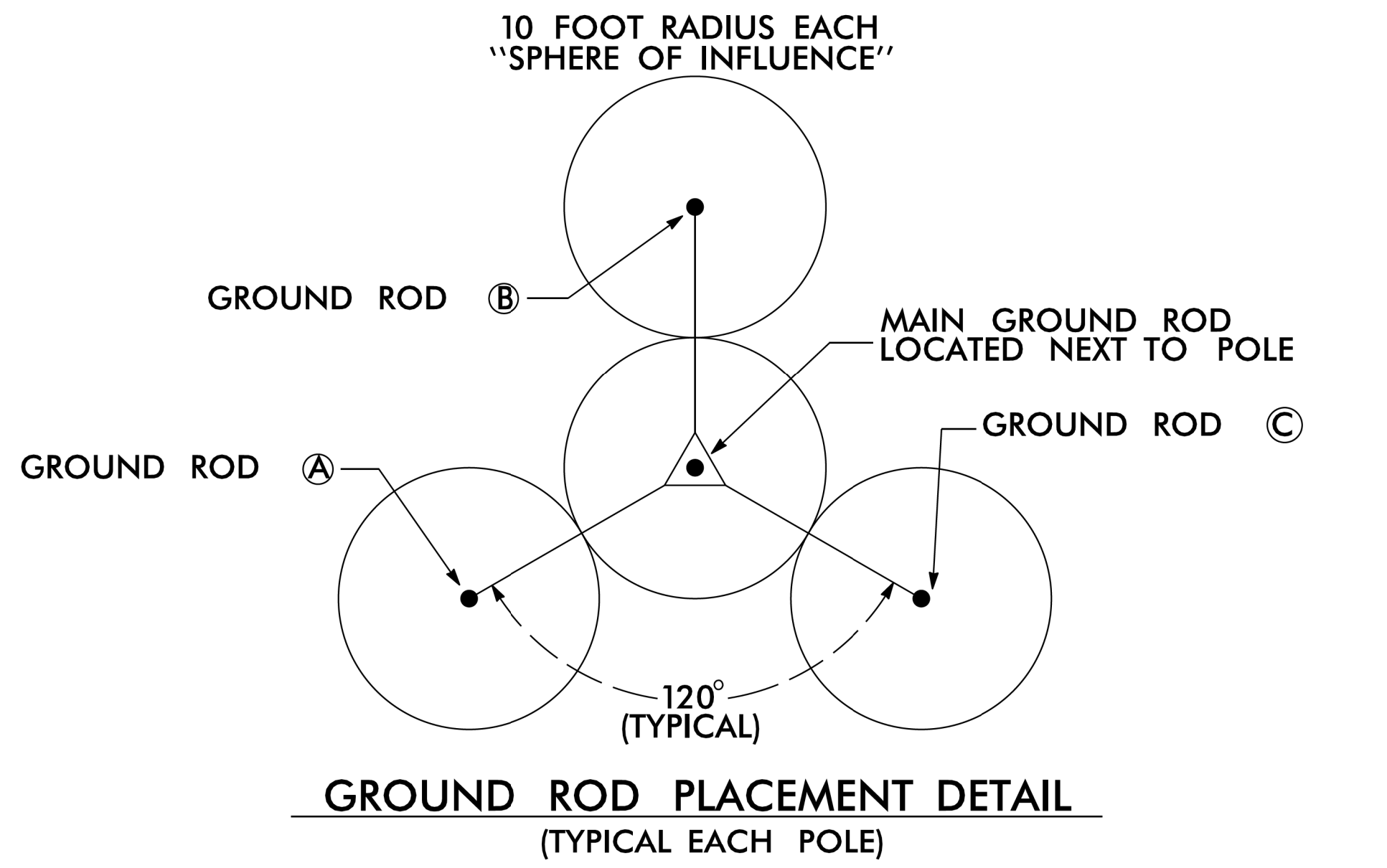
PLAN DATE: REVIEWED BY:

PREPARED BY: REVIEWED BY:

REVISIONS	INIT.	DATE

SIGNATURE DATE

CADD Filename:



NOTES

1. BOND 0.5 INCH DIAMETER, 28 STRAND (MINIMUM) CLASS II COPPER CONDUCTOR TO THE MAIN GROUND ROD BY AN IRREVERSIBLE MECHANICAL CRIMP METHOD.
2. ALL CONNECTIONS TO GROUND RODS SHOULD BE MADE WITH AN IRREVERSIBLE MECHANICAL CRIMP METHOD.
3. BOND #4 AWG SOLID BARE COPPER WIRE TO REBAR CAGE AND THE MAIN GROUND ROD BY AN IRREVERSIBLE MECHANICAL CRIMP.
4. ENSURE CAMERA HOUSING, CAMERA, AND PAN -TILT UNIT ARE BONDED TO POLE.
5. REMOVE BONDING JUMPER BETWEEN EQUIPMENT CABINET GROUND BUSS AND NEUTRAL BUSS.
6. REFER TO STANDARD DRAWING 1700-2 FOR ALTERNATE GROUND ROD INSTALLATION METHOD AS APPROVED BY THE ENGINEER.
7. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.

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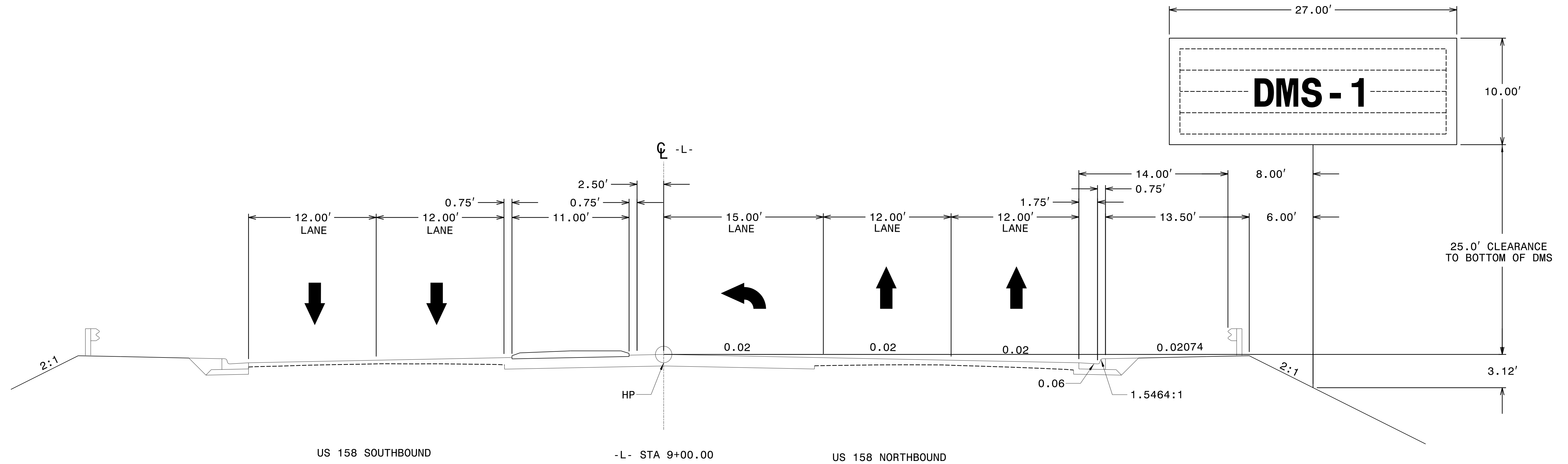
CCTV CAMERA INSTALLATION FOR METAL POLE WITH AERIAL ELECTRICAL SERVICE TYPICAL DETAIL

PLAN DATE: APRIL 2020 REVIEWED BY:
 PREPARED BY: NTS
 REVISIONS: INIT. DATE

DATE

NOTES:

1. IF THE CONTRACTOR PROVIDES AN ALUMINUM SIGN STRUCTURE, EACH SHALL BE PROVIDED WITH AN APPROVED HIGHWAY TRUSS DAMPER DEVICE IN ACCORDANCE WITH AASHTO SPECIFICATIONS.
2. FIELD VERIFICATION SHALL BE REQUIRED FOR ALL FOOTING ELEVATIONS, PER LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
3. THE TOP OF THE FOOTING SHALL EXTEND AT LEAST 4" AND NOT MORE THAN 24" ABOVE THE HIGHEST POINT OF THE GROUND SURFACE AT THE FOOTING.
4. SIGN HANGERS AND ATTACHMENT HARDWARE SHALL BE PROVIDED AND INSTALLED ON THE ASSEMBLY TO ACCOMMODATE ALL SIGNS SHOWN IN THE PLANS.
5. DESIGN AND CONSTRUCTION REQUIREMENTS FOR SIGN STRUCTURES SHALL ACCOMMODATE WIND VELOCITY OF 90 MPH.
6. MOUNT SIGNS VERTICALLY CENTERED ON HORIZONTAL MEMBER OF STRUCTURE.
7. THE EXACT SPAN DIMENSIONS SHALL BE DETERMINED BY THE FABRICATOR.
8. SIGN DIMENSIONS SHOWN SHALL BE USED FOR WIND LOAD AND DEAD LOAD COMPUTATIONS IN DESIGN OF STRUCTURE AND FOOTINGS.



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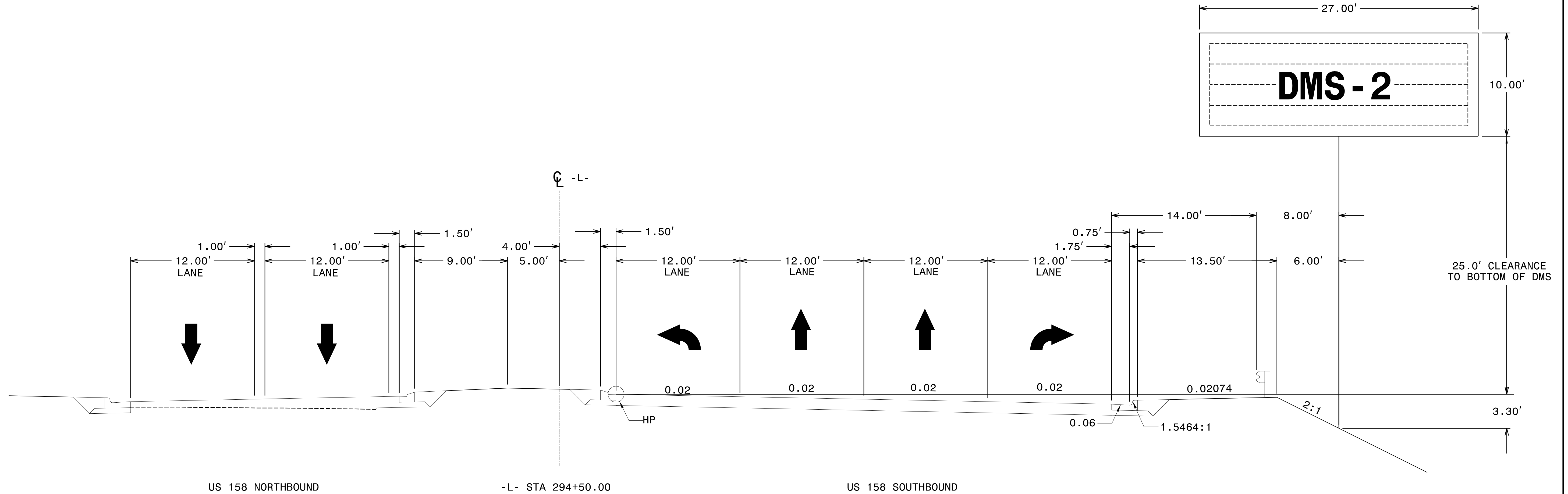
Prepared for the Offices of:
 Transportation Mobility and Safety Division
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 STATE OF NORTH CAROLINA
 Signal Design Section
 750 N. Greenfield Pkwy, Garner, NC 27529

**OVERHEAD SIGN
DMS-1 NEW LOCATION
-L- STA 9+00**
 Division 09 Forsyth County near Winston-Salem
 PLAN DATE: February 2024 REVIEWED BY: Porter Erickson-Jones
 PREPARED BY: Allen Tutt REVIEWED BY:
 REVISIONS
 SCALE
 0 5
 1" = 5'

SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEERS
 SEAL 056142
 W. PORTER JONES
 PORTER JONES
 SIGNATURE DATE 2/12/2024
 CADD Filename:

NOTES:

- IF THE CONTRACTOR PROVIDES AN ALUMINUM SIGN STRUCTURE, EACH SHALL BE PROVIDED WITH AN APPROVED HIGHWAY TRUSS DAMPER DEVICE IN ACCORDANCE WITH AASHTO SPECIFICATIONS.
- FIELD VERIFICATION SHALL BE REQUIRED FOR ALL FOOTING ELEVATIONS, PER LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
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- DESIGN AND CONSTRUCTION REQUIREMENTS FOR SIGN STRUCTURES SHALL ACCOMMODATE WIND VELOCITY OF 90 MPH.
- MOUNT SIGNS VERTICALLY CENTERED ON HORIZONTAL MEMBER OF STRUCTURE.
- THE EXACT SPAN DIMENSIONS SHALL BE DETERMINED BY THE FABRICATOR.
- SIGN DIMENSIONS SHOWN SHALL BE USED FOR WIND LOAD AND DEAD LOAD COMPUTATIONS IN DESIGN OF STRUCTURE AND FOOTINGS.



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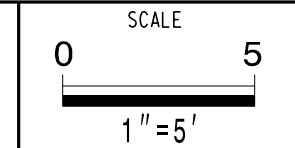
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 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 State Design Section
 750 N. Greenfield Pkwy, Garner, NC 27529

**OVERHEAD SIGN
DMS-2 NEW LOCATION
-L- STA 294+50**
 Division 09 Forsyth County near Winston-Salem
 PLAN DATE: February 2024 REVIEWED BY: Porter Erickson-Jones
 PREPARED BY: Allen Tutt REVIEWED BY:

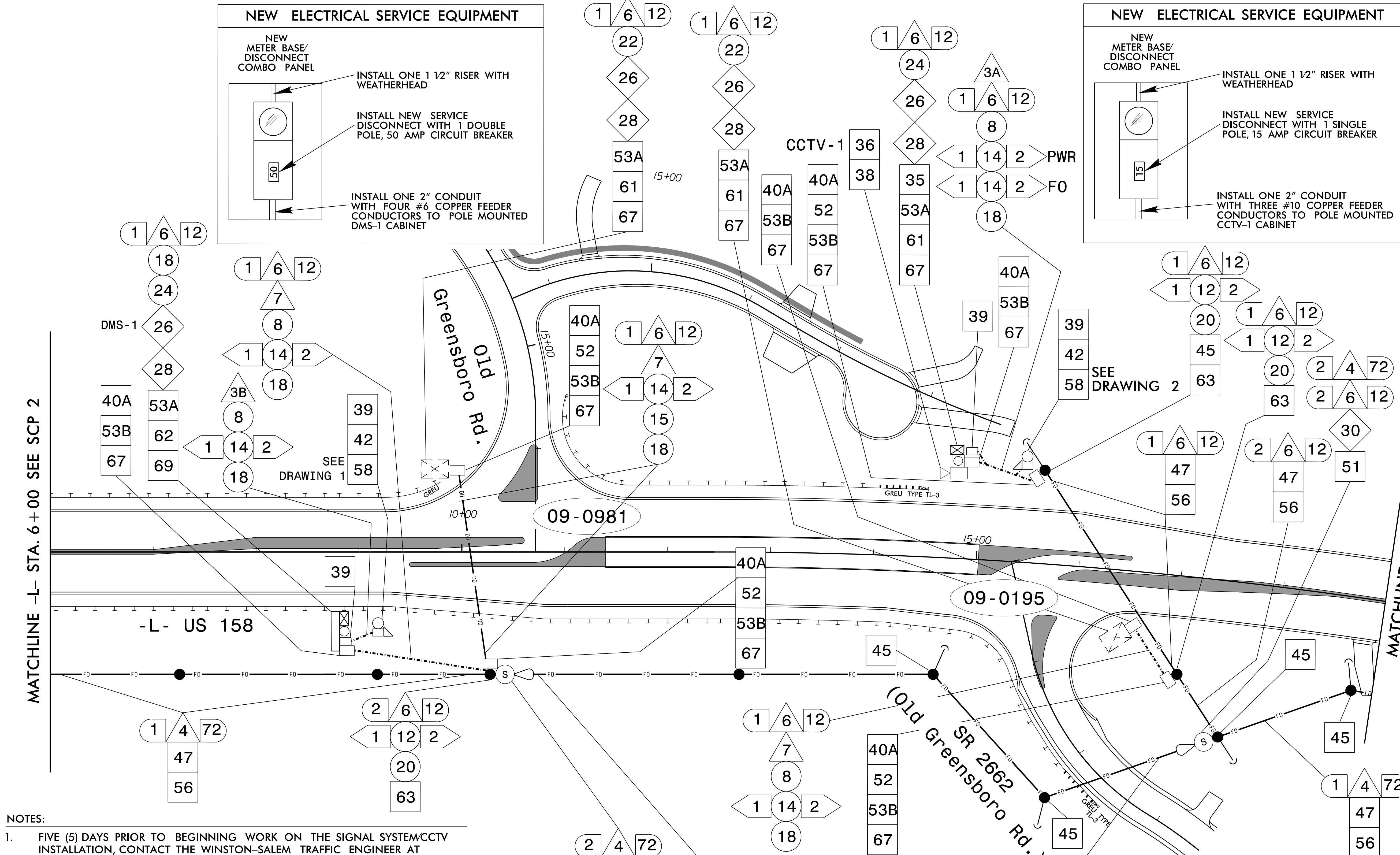
REVISIONS	INIT.	DATE

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 NORTH CAROLINA PROFESSIONAL SEAL 056142
 W. ENGINEER PORTER ERICKSON-JONES
 DocuSigned by:
 Porter Jones 2/12/2024
 SIGNATURE DATE
 CADD Filename:



DRAWING 1

DRAWING 2



- NOTES:
- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
 - FIBER OPTIC CABLES AND ELECTRICAL FEEDER CONDUCTORS MAY BE INSTALLED IN THE SAME TRENCH, BUT MUST BE IN SEPARATE JUNCTION BOXES AND CONDUIT.
 - THE FINAL LOCATION OF ALL ITS DEVICES MUST BE VERIFIED BY THE REGIONAL TRAFFIC ENGINEER AT (336)315-7080 PRIOR TO INSTALLATION.

2/12/2024 R:\MT\OFFICE\Signal\Drawings\Signal\SCPs\R-2577A_SCP_PSHH.dgn WJ Jones

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 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION, MOBILITY AND SAFETY
 SIGNAL DESIGN SECTION

Winston-Salem Signal System Signal Communication Plans

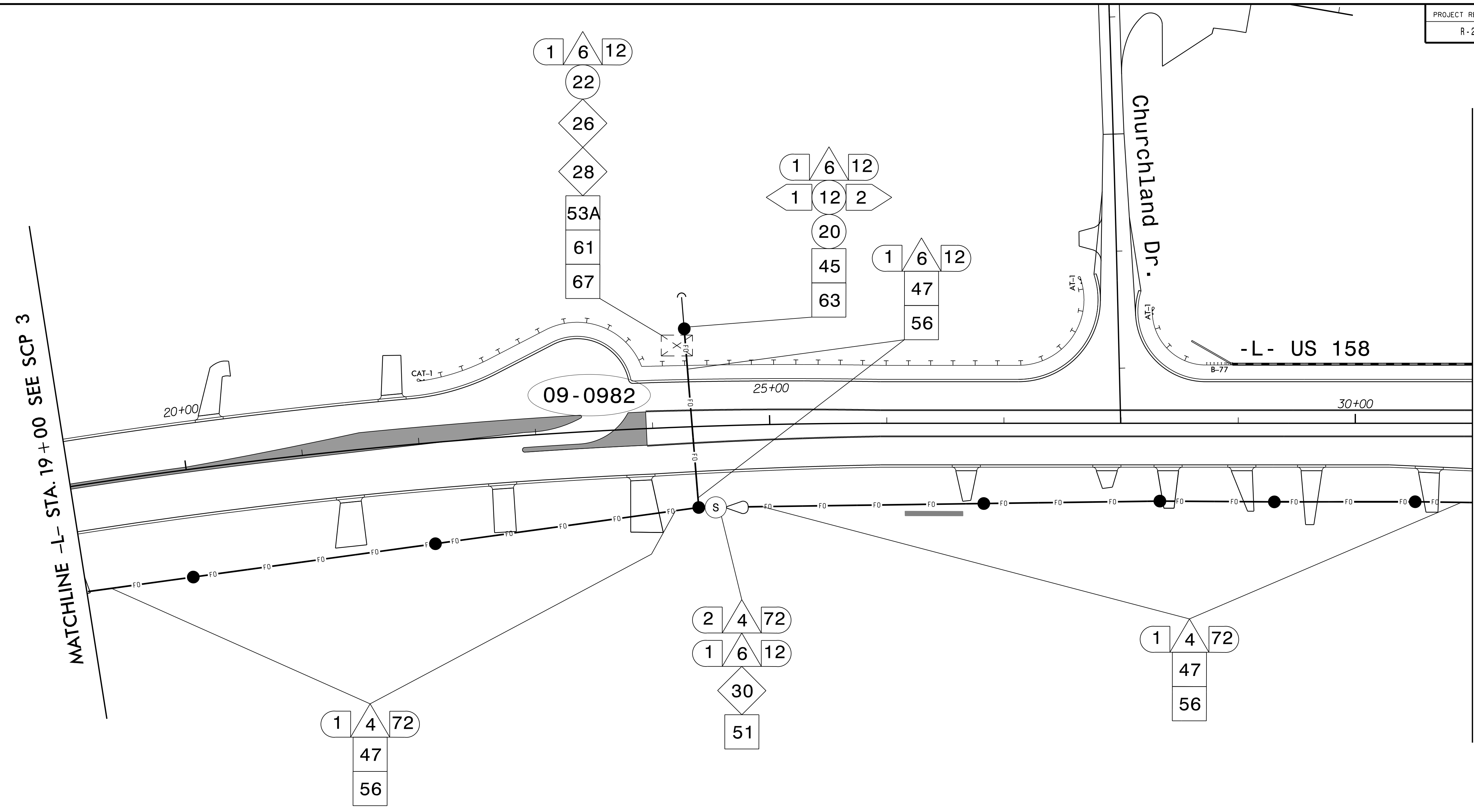
Winston-Salem/Walkertown
 Division 09 Forsyth County
 PLAN DATE: February 2024 REVIEWED BY: Porter Erickson-Jones
 PREPARED BY: Haylee Townsend REVIEWED BY:

REVISIONS	INIT.	DATE

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 ENGINEER
 SIGNATURE
 DATE: 2/12/2024
 SIG. INVENTORY NO.



MATCHLINE -L- STA. 19+00 SEE SCP 3

MATCHLINE -L- STA. 31+00 SEE SCP 5

NOTES:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM/CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
- THE FINAL LOCATION OF ALL ITS DEVICES MUST BE VERIFIED BY THE REGIONAL TRAFFIC ENGINEER AT (336)315-7080 PRIOR TO INSTALLATION.

2/12/2024
R:\Traffic\cchs\gnw\gnw\1545CP\2577A_SCP_PSH4.dgn
wpjones

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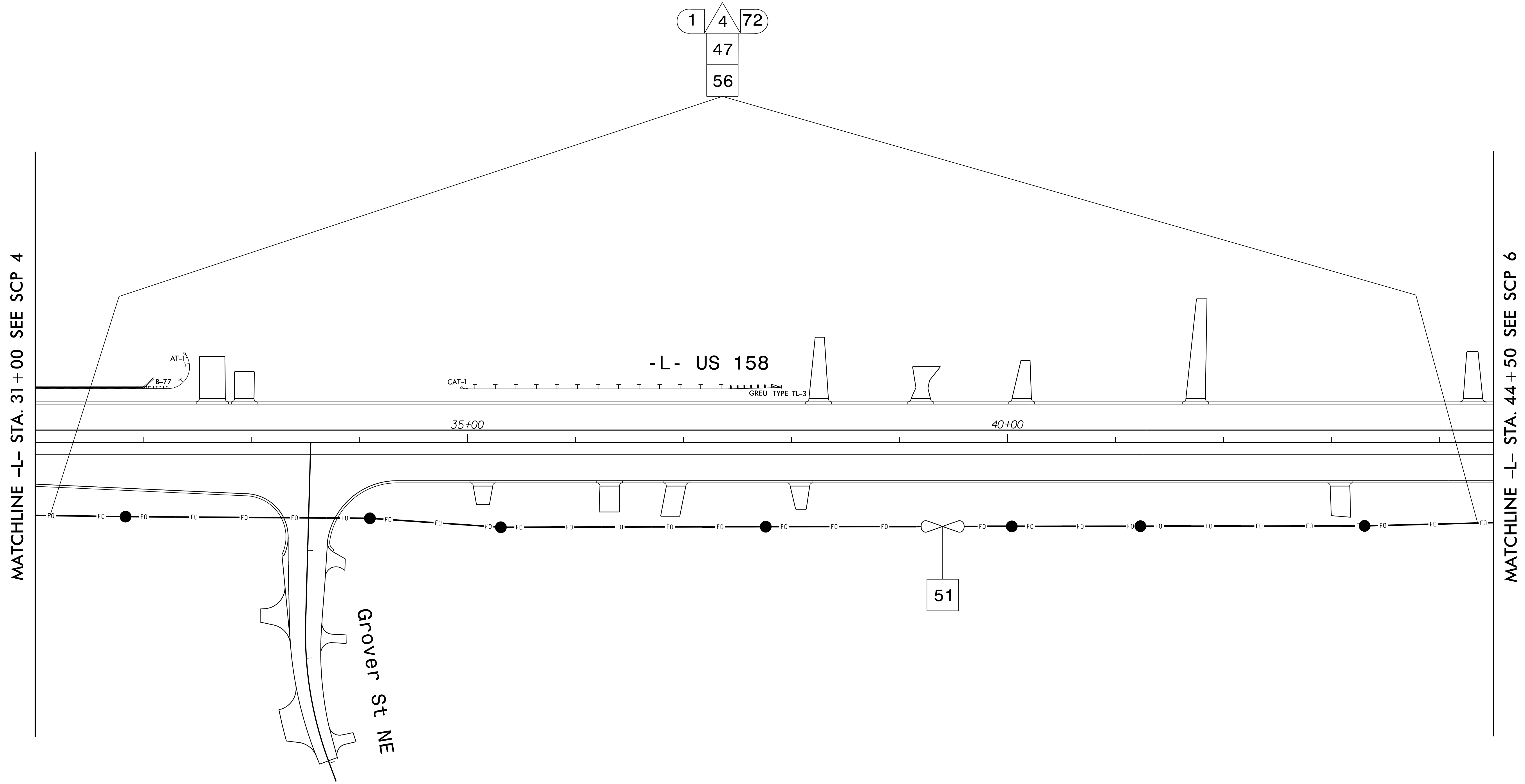
Prepared for the Offices of:

**Winston-Salem Signal System
Signal Communication Plans**
 Division 09 Forsyth County Winston-Salem/
 Walkertown
 PLAN DATE: February 2024 REVIEWED BY: Porter Erickson-Jones
 PREPARED BY: Haylee Townsend REVIEWED BY:
 REVISIONS INIT. DATE

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 Porter Jones
 SIGNATURE DATE 2/12/2024
 SIG. INVENTORY NO.



NOTES:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM/CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.

2/12/2024
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 SCALE: NTS

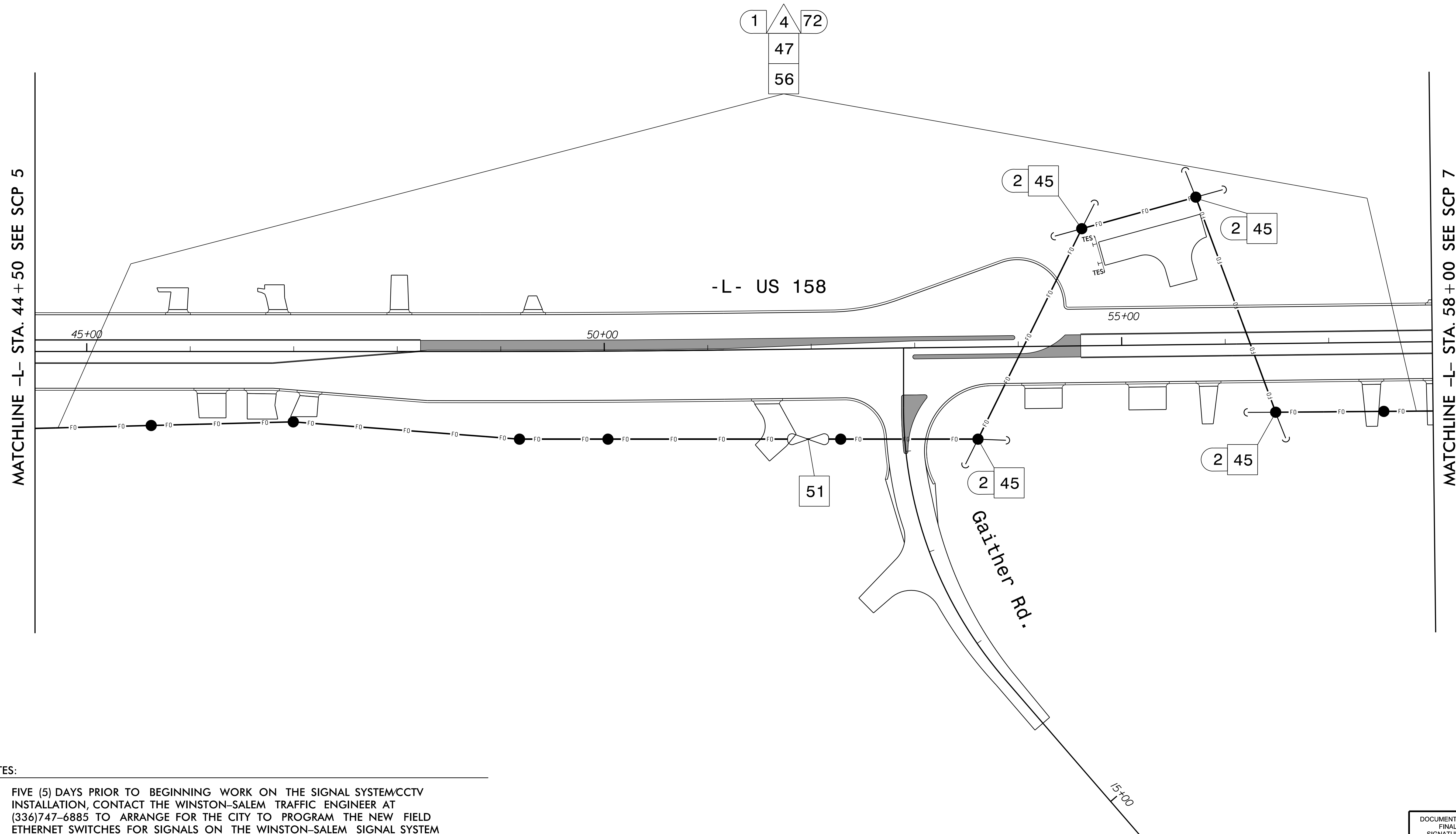
**Winston-Salem Signal System
 Signal Communication Plans**
 Division 09 Forsyth County Winston-Salem/
 Walkertown
 PLAN DATE: February 2024 REVIEWED BY: Porter Erickson-Jones
 PREPARED BY: Haylee Townsend REVIEWED BY:

REVISIONS	INIT.	DATE

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 PORTER JONES
 ENGINEER
 PORTER JONES
 2/12/2024
 SIGNATURE DATE
 SIG. INVENTORY NO.



- NOTES:**
- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM/CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.

2/12/2024
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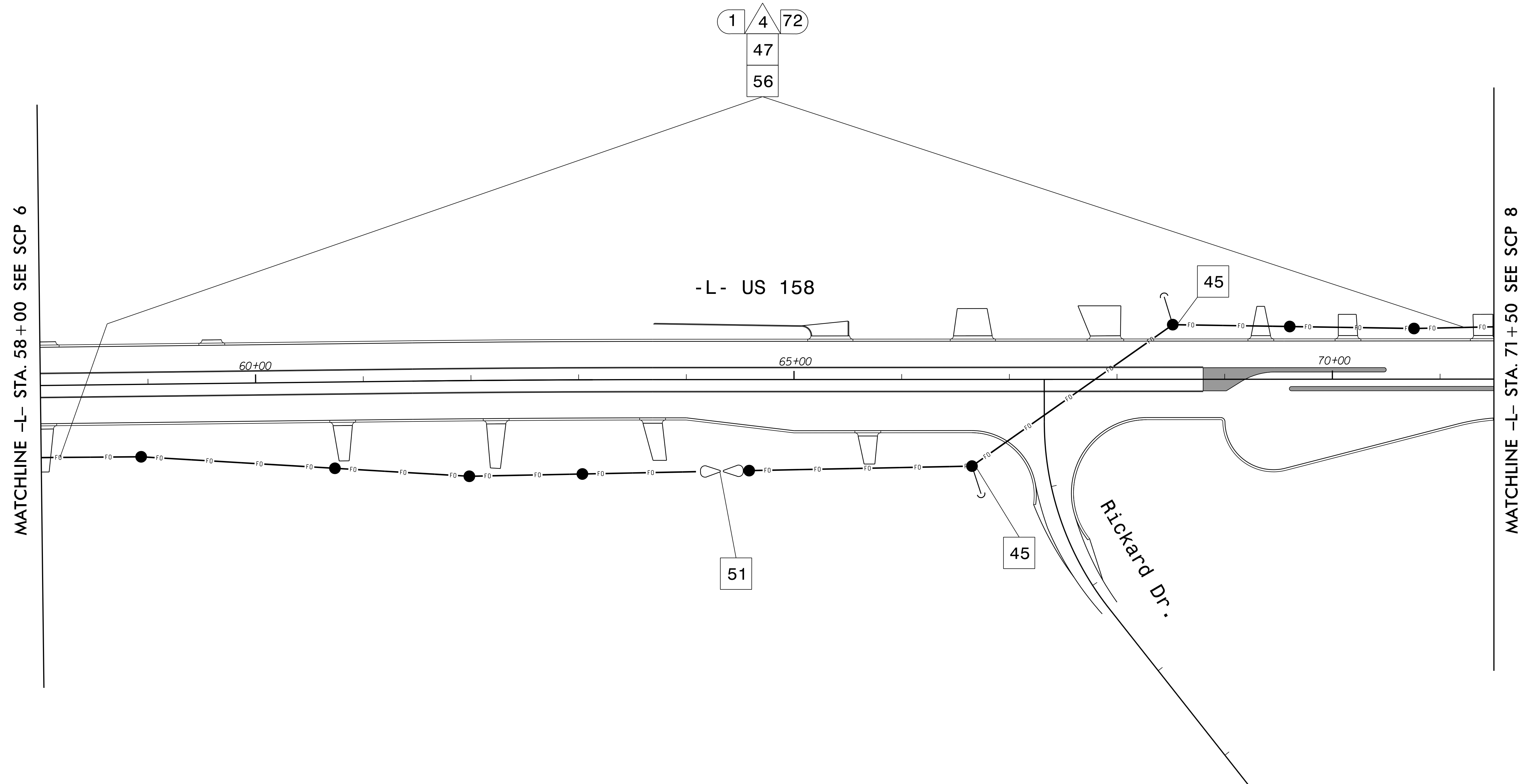
Prepared for the Offices of:
 Transportation Mobility and Safety Division
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 SIGNAL DESIGN SECTION

**Winston-Salem Signal System
 Signal Communication Plans**
 Division 09 Forsyth County Winston-Salem/
 Walkertown
 PLAN DATE: February 2024 REVIEWED BY: Porter Erickson-Jones
 PREPARED BY: Haylee Townsend REVIEWED BY:

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL 056142
 PORTER JONES
 2/12/2024
 SIGNATURE DATE
 SIG. INVENTORY NO.



MATCHLINE -L- STA. 58+00 SEE SCP 6

MATCHLINE -L- STA. 71+50 SEE SCP 8

NOTES:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM/CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.

2/12/2024
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WJL:cnb

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Prepared for the Offices of:

 750 N. Greenfield Pkwy, Garner, NC 27529
 SCALE: NTS

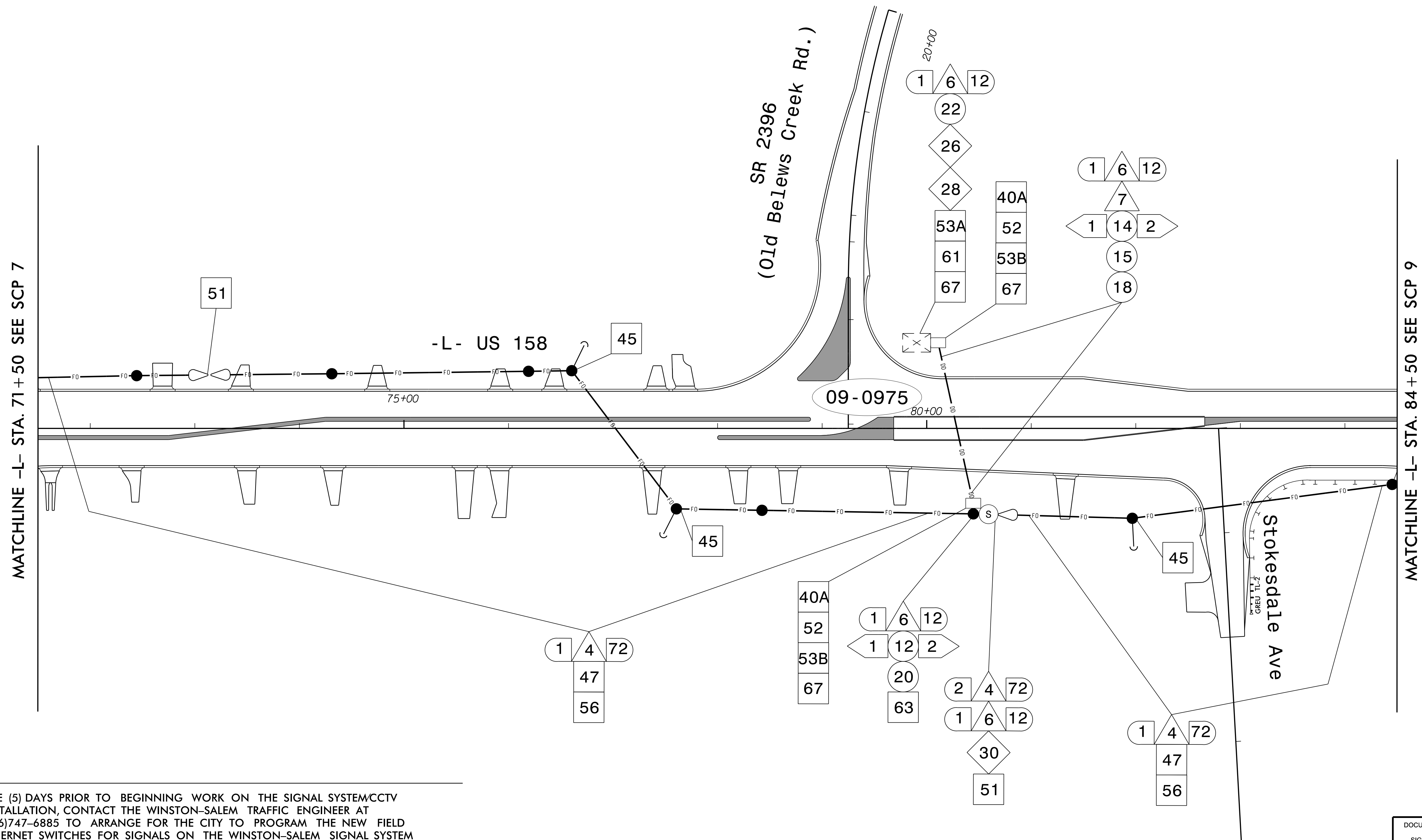
**Winston-Salem Signal System
Signal Communication Plans**
 Winston-Salem/
 Walkertown
 Division 09 Forsyth County
 PLAN DATE: February 2024
 PREPARED BY: Haylee Townsend
 REVIEWED BY: Porter Erickson-Jones

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

 PORTER JONES
 ENGINEER
 2/12/2024
 DATE
 SIG. INVENTORY NO.



NOTES:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM/CCVTY INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.

2/12/2024
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 wptjones

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TRANSPORTATION MOBILITY and SAFETY DIVISION
DEPARTMENT OF TRANSPORTATION
SIGNAL DESIGN SECTION

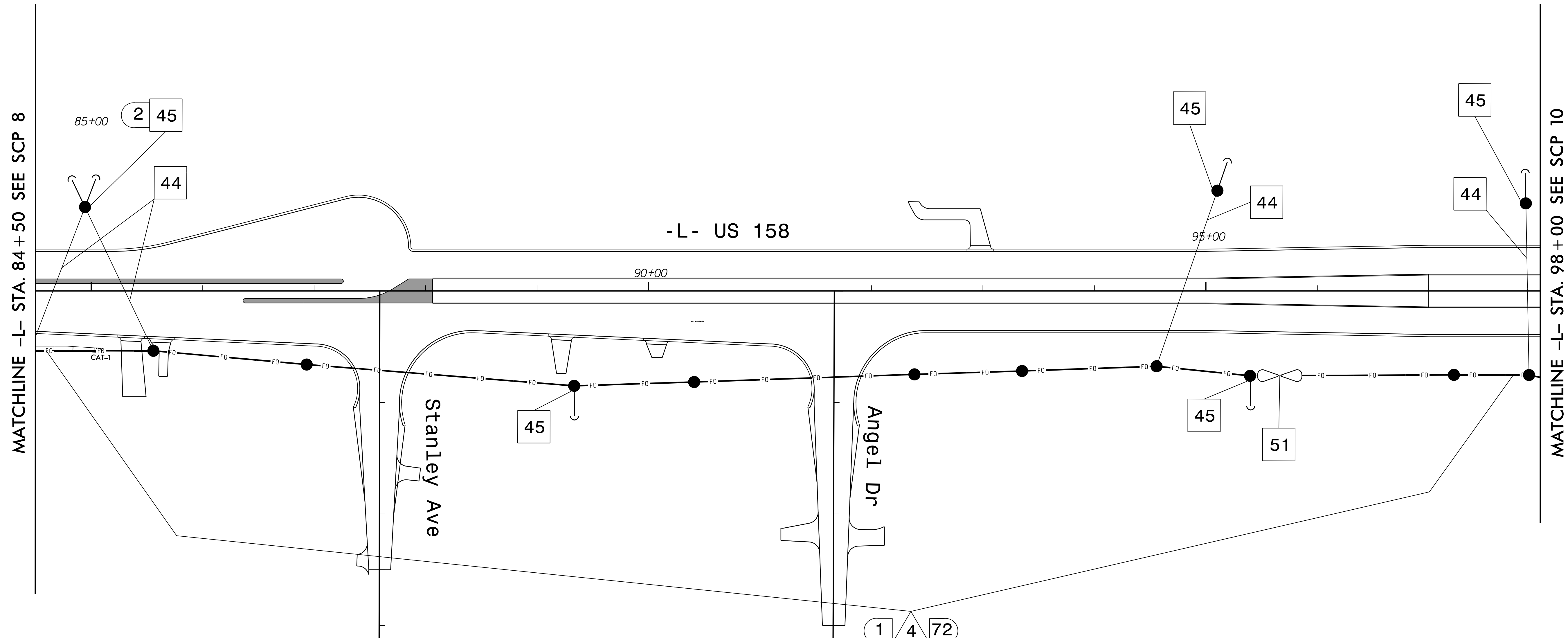
Winston-Salem Signal System Signal Communication Plans
 Winston-Salem/Walkertown
 Division 09 Forsyth County
 PLAN DATE: February 2024 REVIEWED BY: Porter Erickson-Jones
 PREPARED BY: Haylee Townsend REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL

Porter Jones
 2/12/2024
 DATE

SIG. INVENTORY NO.



- NOTES:**
- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM/CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.

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Prepared for the Offices of:

 TRANSPORTATION MOBILITY AND SAFETY DIVISION
 STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 Signal Design Section

**Winston-Salem Signal System
 Signal Communication Plans**
 Division 09 Forsyth County Winston-Salem/
 Walkertown
 PLAN DATE: February 2024 REVIEWED BY: Porter Erickson-Jones
 PREPARED BY: Haylee Townsend REVIEWED BY:

REVISIONS	INIT.	DATE

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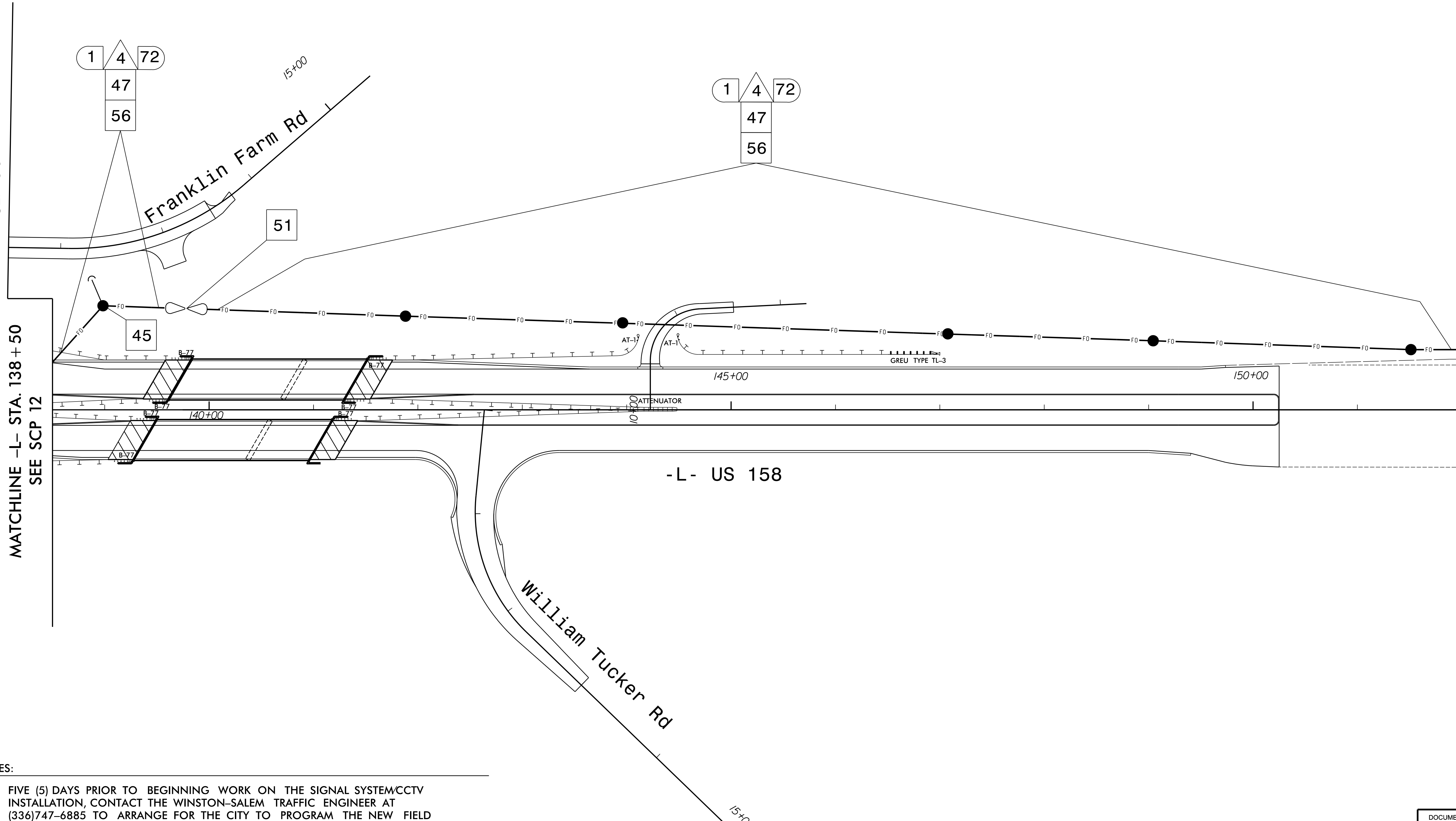
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 PORTER JONES
 ENGINEER
 SIGNATURE DATE 2/12/2024
 SIG. INVENTORY NO.

MATCHLINE -Y14- STA. 11 + 50
SEE SCP 12

MATCHLINE -L- STA. 152 + 00 SEE SCP 14

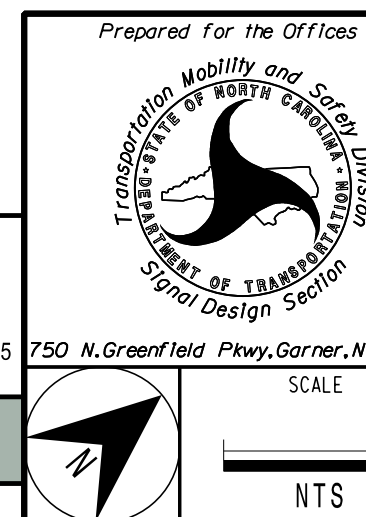
MATCHLINE -L- STA. 138 + 50
SEE SCP 12



NOTES:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM/CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.

2/12/2024
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 wpj,ones



Prepared for the Offices of:
Winston-Salem Signal System Signal Communication Plans
 Division 09 Forsyth County Winston-Salem/Walkertown
 PLAN DATE: February 2024 REVIEWED BY: Porter Erickson-Jones
 PREPARED BY: Haylee Townsend REVIEWED BY:

REVISIONS	INIT.	DATE

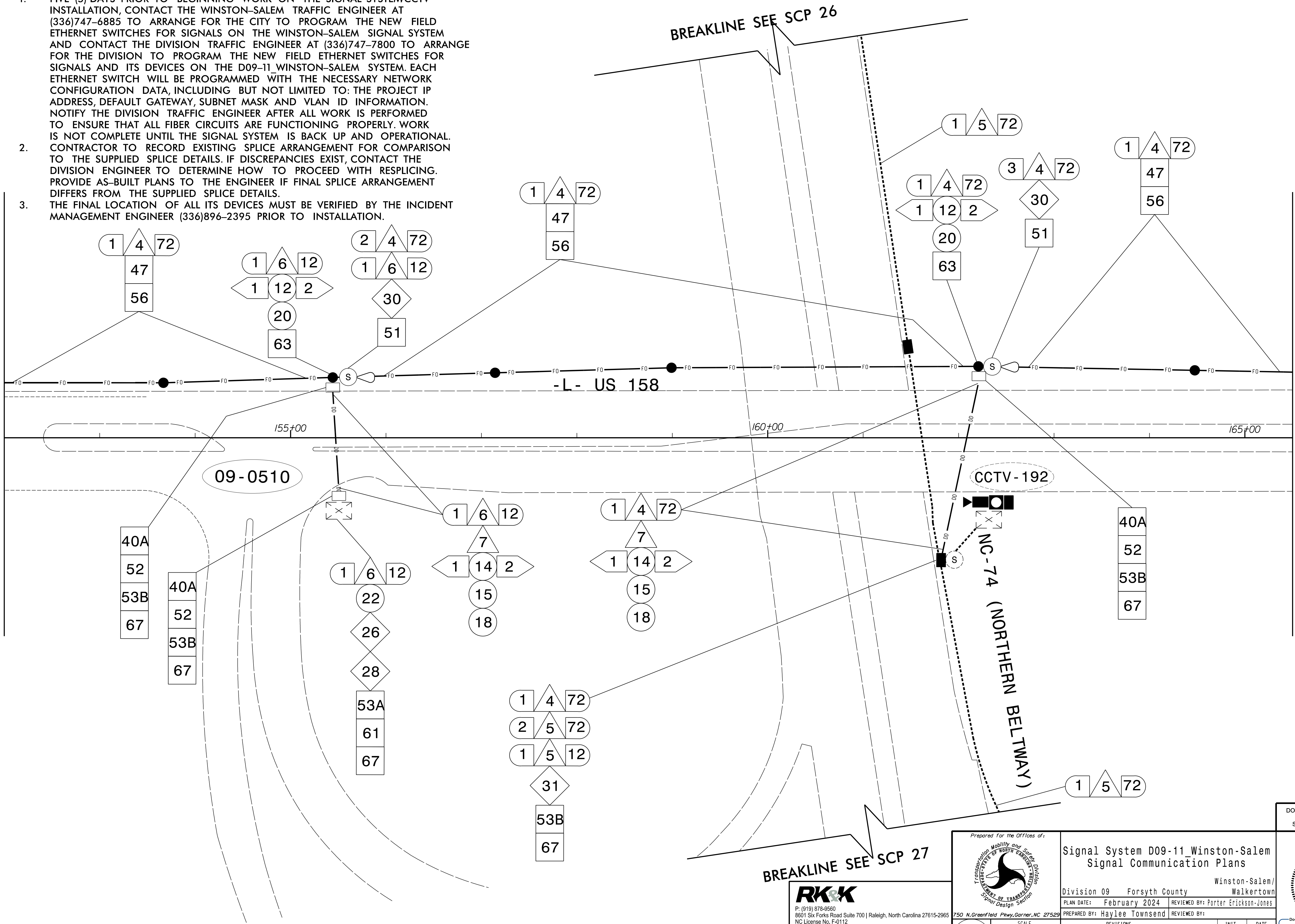
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SEAL
 NORTH CAROLINA PROFESSIONAL ENGINEER
 W. PORTER JONES
 SEAL 056142
 DocuSigned by:
Porter Jones
 2/12/2024
 SIGNATURE DATE
 SIG. INVENTORY NO.

NOTES:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
- CONTRACTOR TO RECORD EXISTING SPLICE ARRANGEMENT FOR COMPARISON TO THE SUPPLIED SPLICE DETAILS. IF DISCREPANCIES EXIST, CONTACT THE DIVISION ENGINEER TO DETERMINE HOW TO PROCEED WITH RESPLICING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPLICE ARRANGEMENT DIFFERS FROM THE SUPPLIED SPLICE DETAILS.
- THE FINAL LOCATION OF ALL ITS DEVICES MUST BE VERIFIED BY THE INCIDENT MANAGEMENT ENGINEER (336)896-2395 PRIOR TO INSTALLATION.

MATCHLINE -L- STA. 152+00 SEE SCP 13



MATCHLINE -L- STA. 165+50 SEE SCP 15

2/12/2024
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WJLones

BREAKLINE SEE SCP 27

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 DEPARTMENT OF TRANSPORTATION
 Signal Design Section

Signal System D09-11 Winston-Salem
 Signal Communication Plans
 Division 09 Forsyth County Winston-Salem/
 Walkertown
 PLAN DATE: February 2024 REVIEWED BY: Porter Erickson-Jones
 PREPARED BY: Haylee Townsend REVIEWED BY:

REVISIONS	INIT.	DATE

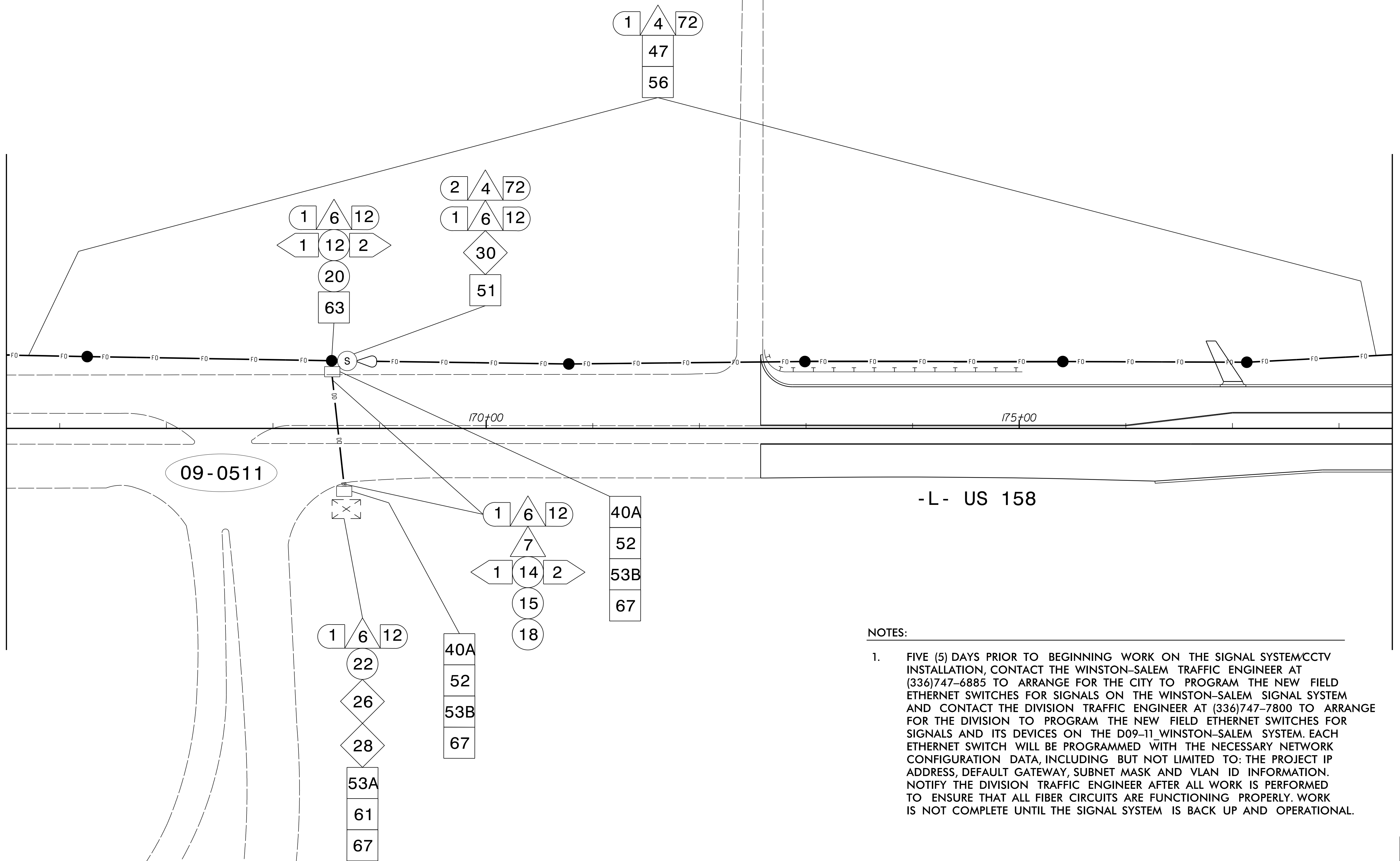
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 SIGNATURES COMPLETED

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	2/12/2024 DATE

SIG. INVENTORY NO.

MATCHLINE -L- STA. 165 + 50 SEE SCP 14

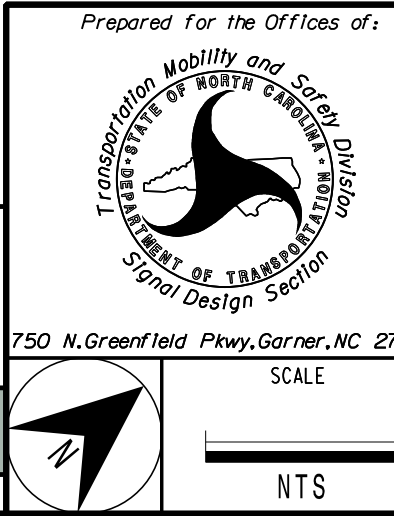
MATCHLINE -L- STA. 178 + 50 SEE SCP 16



NOTES:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM/CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.

2/12/2024
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Signal System D09-11 Winston-Salem Signal Communication Plans	
Division 09 Forsyth County	Winston-Salem/ Walkertown
PLAN DATE: February 2024	REVIEWED BY: Porter Erickson-Jones
PREPARED BY: Haylee Townsend	REVIEWED BY:
REVISIONS	INIT. DATE

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SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER

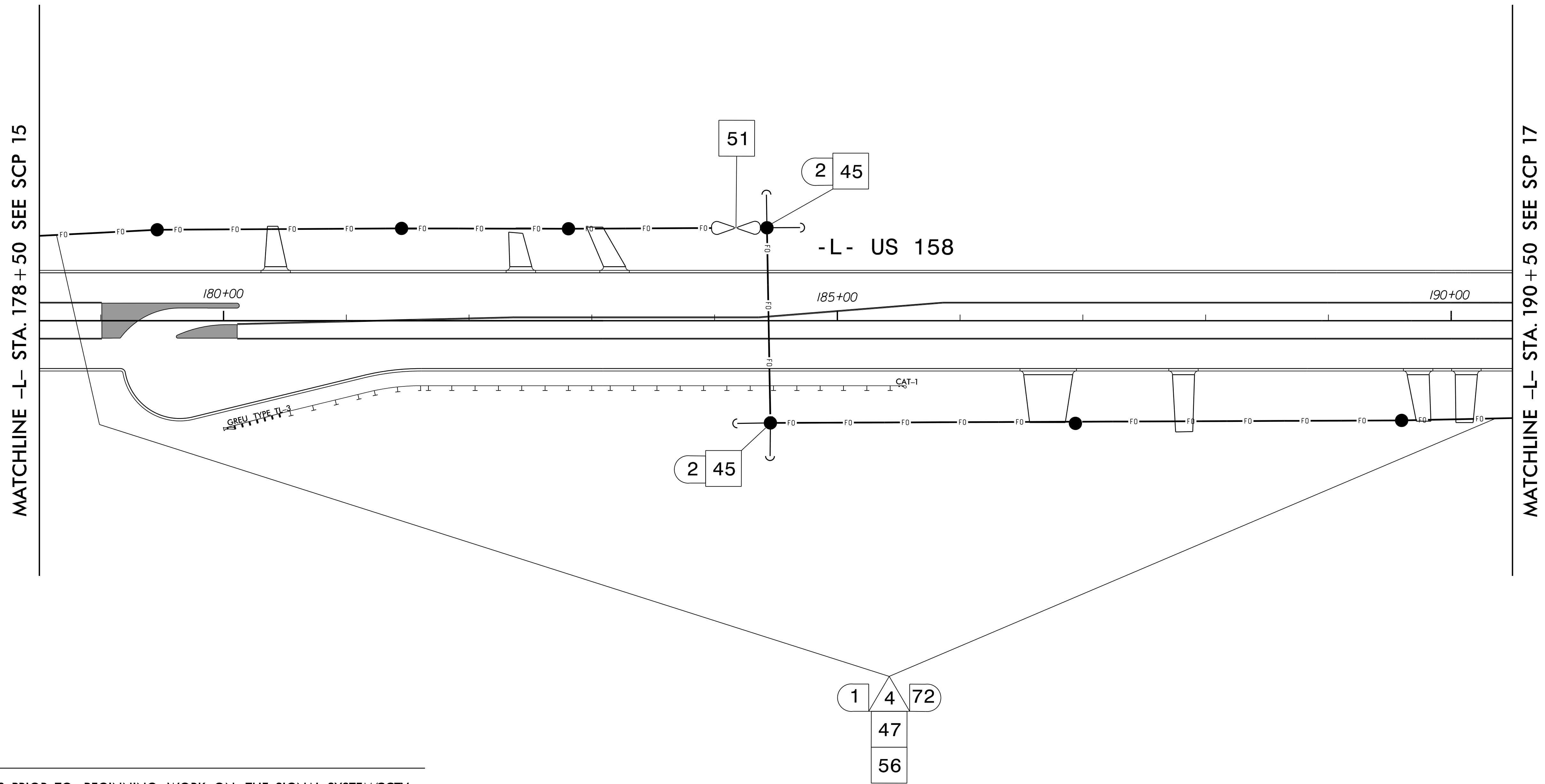
SEAL 056142

PORTER JONES

Porter Jones 2/12/2024

SIGNATURE DATE

SIG. INVENTORY NO.



NOTES:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM/CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.

2/12/2024
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 Transportation Mobility and Safety Division
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 SIGNAL DESIGN SECTION
 750 N. Greenfield Pkwy, Garner, NC 27529

Signal System D09-11 Winston-Salem
 Signal Communication Plans
 Division 09 Forsyth County Winston-Salem/
 Walkertown
 PLAN DATE: February 2024 REVIEWED BY: Porter Erickson-Jones
 PREPARED BY: Haylee Townsend REVIEWED BY:

REVISIONS	INIT.	DATE

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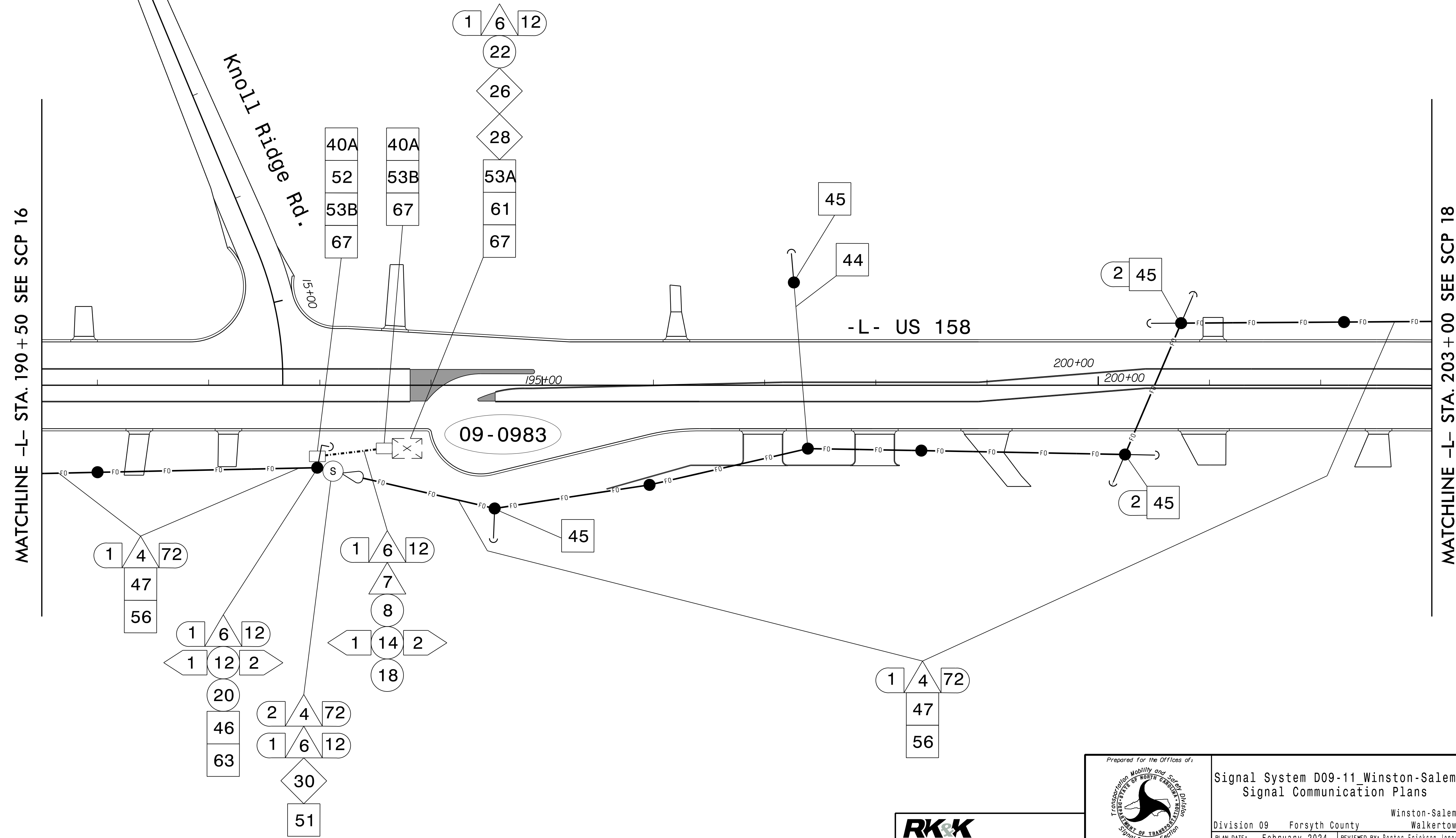
SEAL

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 056142
 W. PORTER JONES

Porter Jones
 2/12/2024
 SIGNATURE DATE
 SIG. INVENTORY NO.

NOTES:

1. FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM/CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.



MATCHLINE -L- STA. 190+50 SEE SCP 16

MATCHLINE -L- STA. 203+00 SEE SCP 18

2/12/2024
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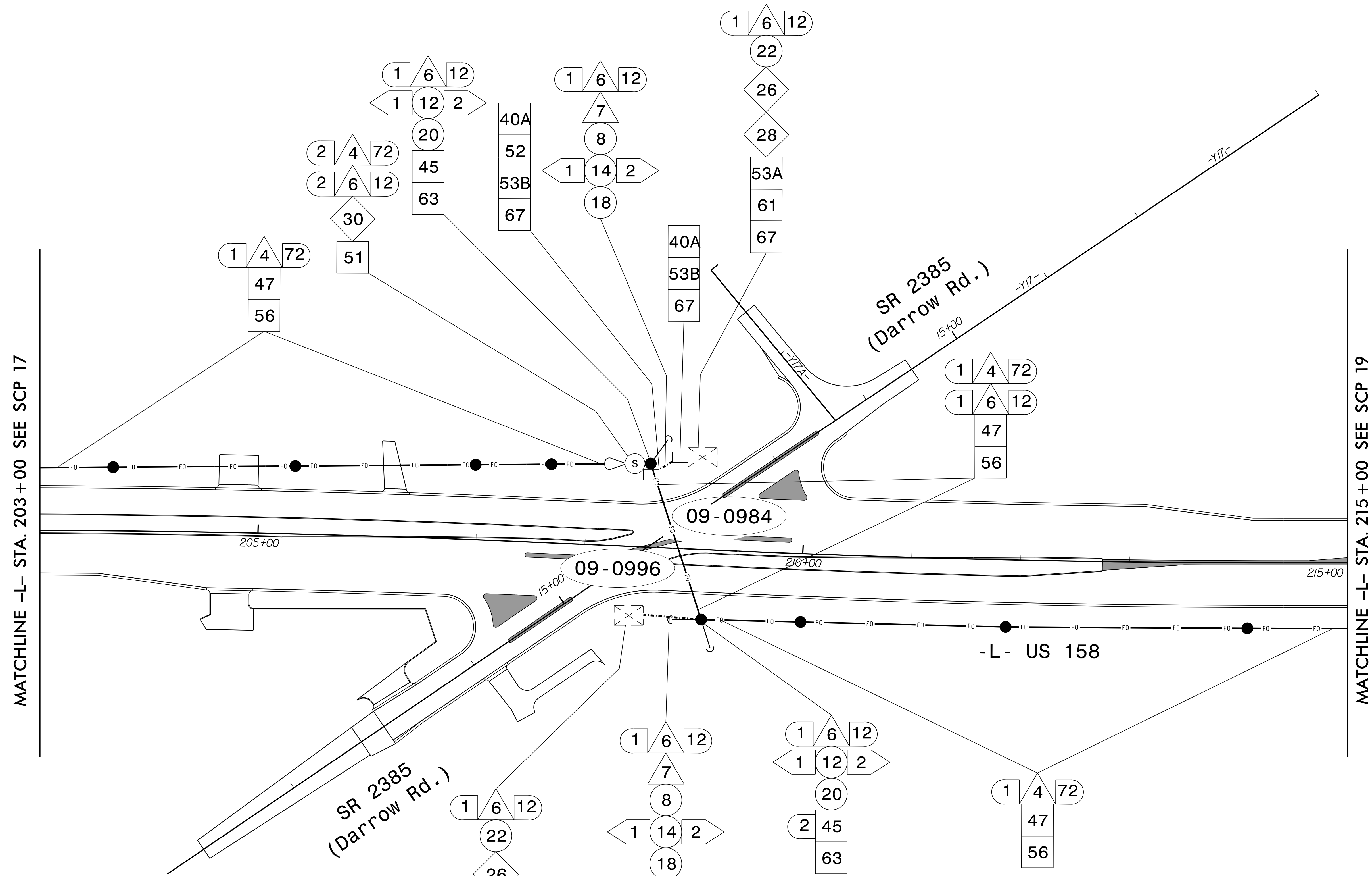
Prepared for the Offices of:
 Transportation, Mobility and Safety Division
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 STATE OF NORTH CAROLINA
 ENGINEER
 PORTER JONES
 750 N. Greenfield Pkwy, Garner, NC 27529
 SCALE
 NTS

Signal System D09-11 Winston-Salem Signal Communication Plans			
Division 09 Forsyth County		Winston-Salem/ Walkertown	
PLAN DATE: February 2024	REVIEWED BY: Porter Erickson-Jones	PREPARED BY: Haylee Townsend	
REVISIONS	INIT.	DATE	

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Porter Jones
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 DATE
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NOTES:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.

2/12/2024
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Signal System D09-11 Winston-Salem Signal Communication Plans	
Division 09 Forsyth County	Winston-Salem/ Walkertown
PLAN DATE: February 2024	REVIEWED BY: Porter Erickson-Jones
PREPARED BY: Haylee Townsend	REVIEWED BY:
REVISIONS	INIT. DATE

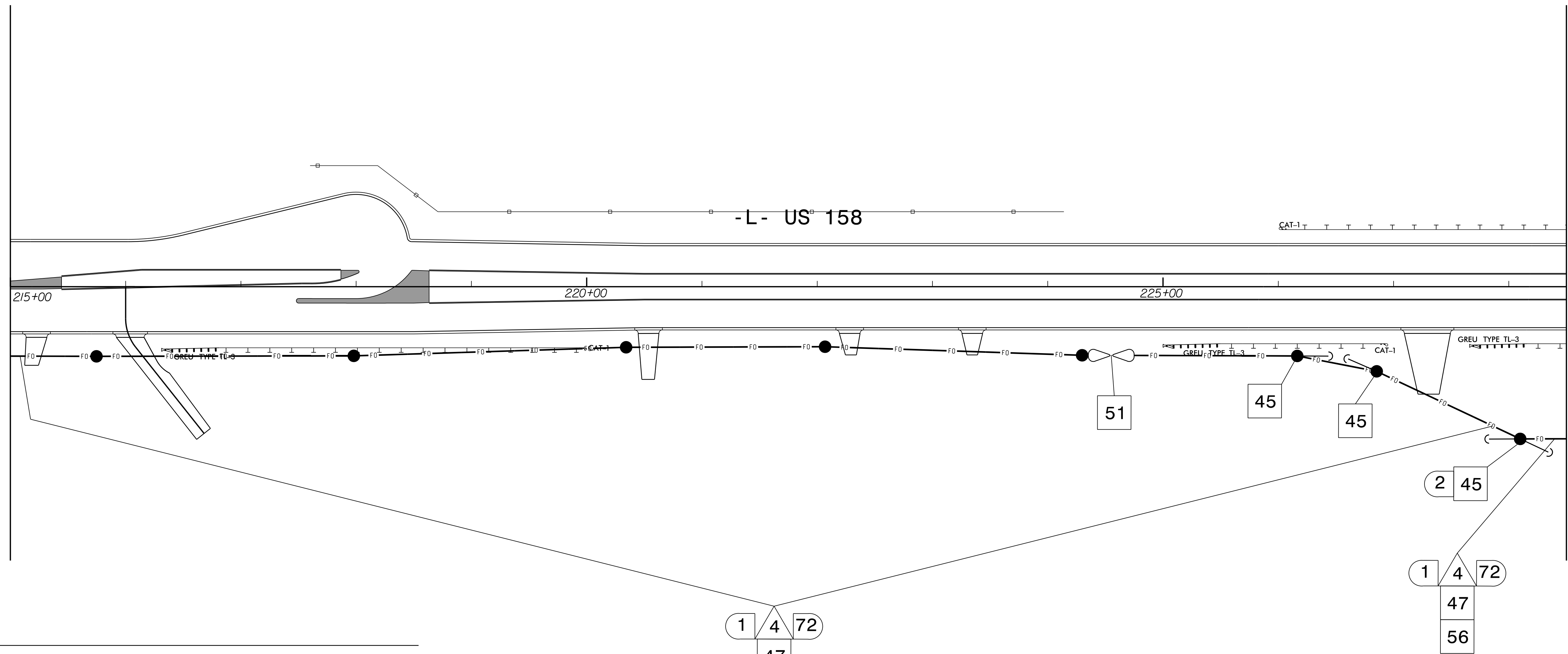
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 Porter Jones
 2/12/2024
 SIGNATURE DATE
 SIG. INVENTORY NO.

MATCHLINE -L- STA. 215+00 SEE SCP 18

MATCHLINE -L- STA. 228+50 SEE SCP 20



NOTES:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM/CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.

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 750 N. Greenfield Pkwy, Garner, NC 27529
 SCALE: NTS

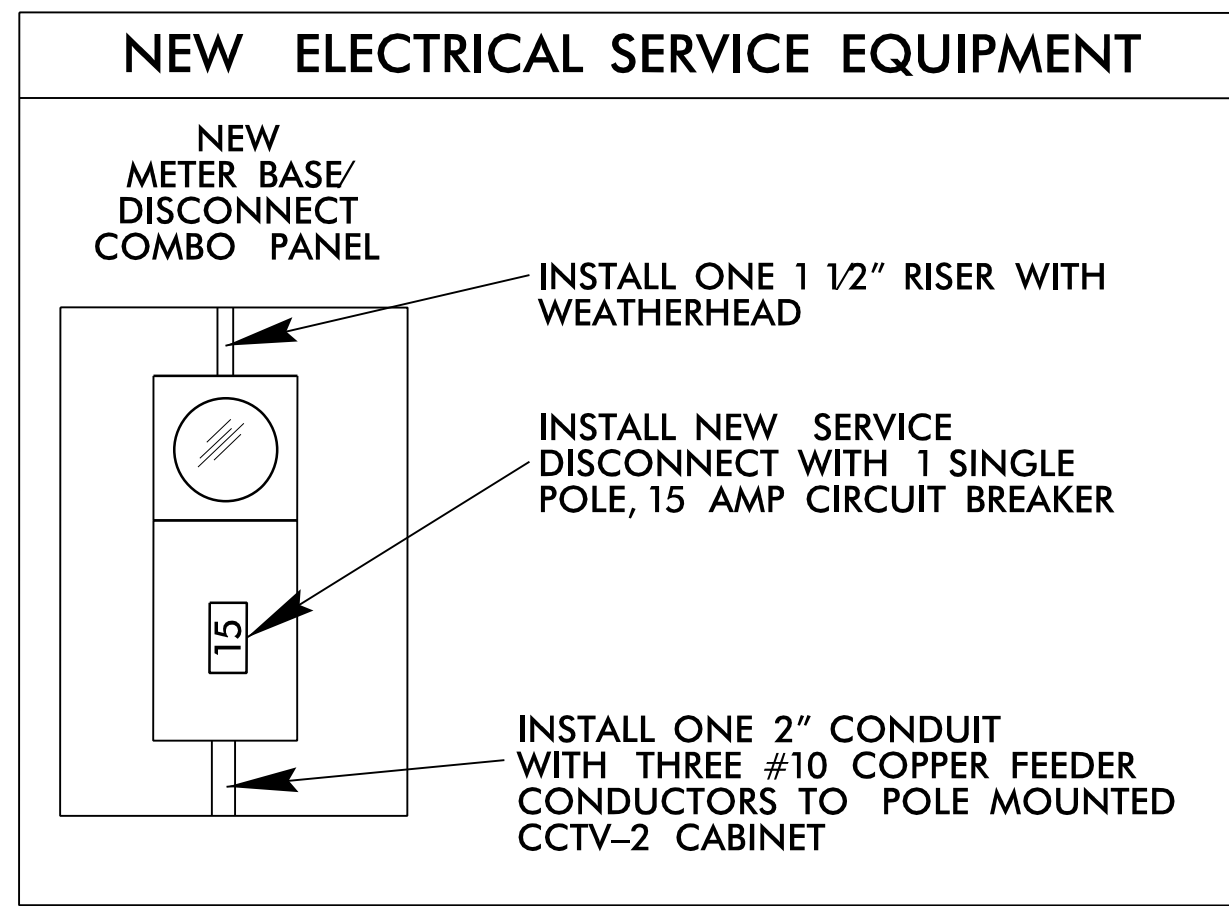
Signal System D09-11 Winston-Salem Signal Communication Plans	
Division 09 Forsyth County	Winston-Salem/ Walkertown
PLAN DATE: February 2024	REVIEWED BY: Porter Erickson-Jones
PREPARED BY: Haylee Townsend	REVIEWED BY:
REVISIONS	INIT. DATE

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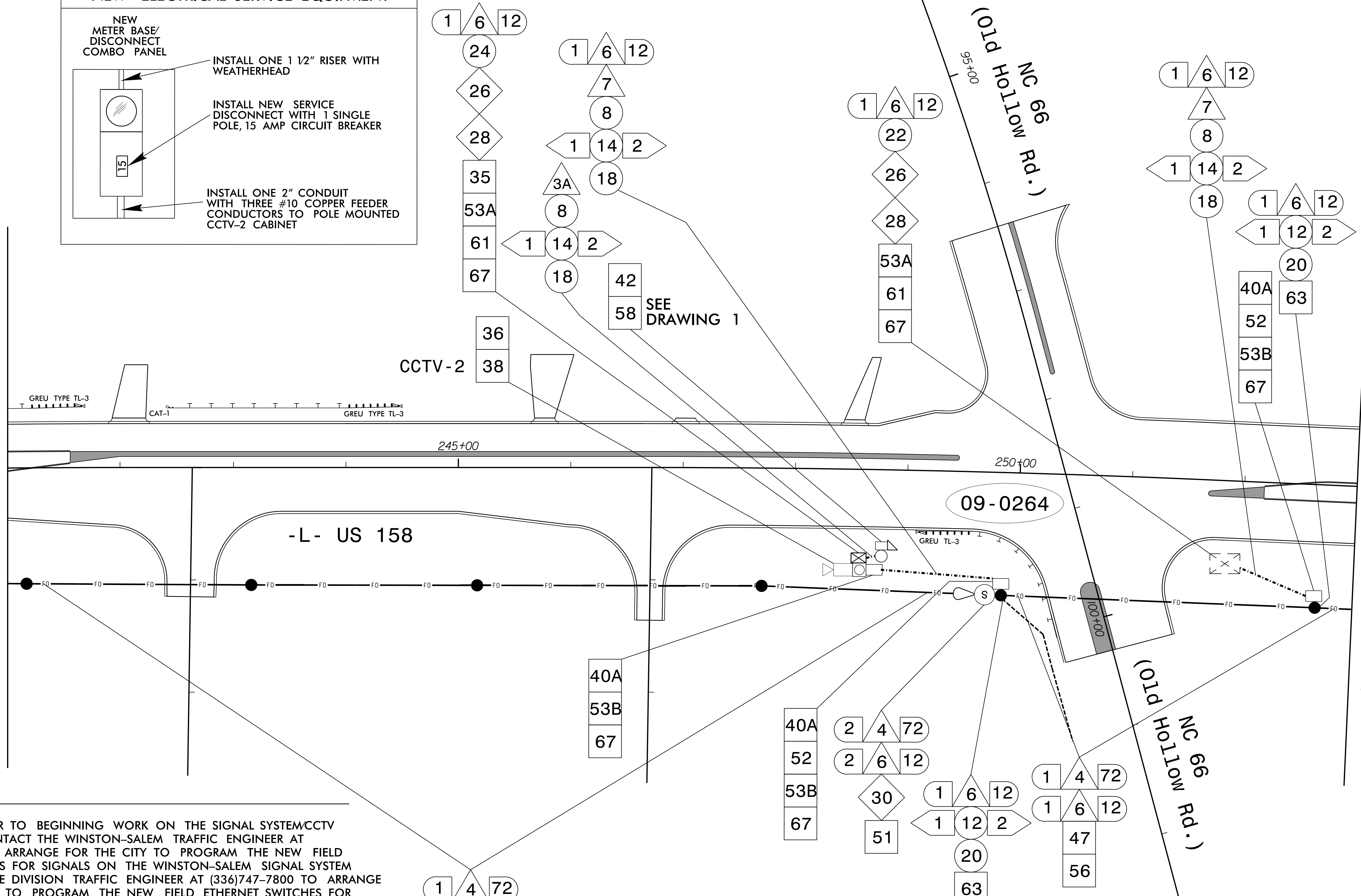
 Porter Jones
 2/12/2024
 SIGNATURE DATE
 SIG. INVENTORY NO.

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MATCHLINE -L- STA. 241+00 SEE SCP 20

MATCHLINE -L- STA. 253+00 SEE SCP 22



NOTES:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM/CCTV INSTALLATION, CONTACT THE WINSTON-SALEM TRAFFIC ENGINEER AT (336)747-6885 TO ARRANGE FOR THE CITY TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS ON THE WINSTON-SALEM SIGNAL SYSTEM AND CONTACT THE DIVISION TRAFFIC ENGINEER AT (336)747-7800 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES FOR SIGNALS AND ITS DEVICES ON THE D09-11 WINSTON-SALEM SYSTEM. EACH ETHERNET SWITCH WILL BE PROGRAMMED WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO: THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION. NOTIFY THE DIVISION TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
- THE FINAL LOCATION OF ALL ITS DEVICES MUST BE VERIFIED BY THE INCIDENT MANAGEMENT ENGINEER (336)896-2395 PRIOR TO INSTALLATION.
- INSTALL CCTV CAMERA 45' ABOVE GRADE.

2/12/2024 R:\Projects\2577A\Drawings\Signal\SCP_21.dgn

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Prepared for the Offices of:

 SCALE: NTS

Signal System D09-11_Winston-Salem
 Signal Communication Plans
 Winston-Salem/
 Walkertown
 Division 09 Forsyth County
 PLAN DATE: February 2024 REVIEWED BY: Porter Erickson-Jones
 PREPARED BY: Haylee Townsend REVIEWED BY:
 REVISIONS: _____ INIT. DATE

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SEAL

 PORTER JONES
 SIGNATURE DATE: 2/12/2024
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