

NOTE: NO ITS WORK ON THIS SHEET. FOR INFORMATION ONLY



MATCHLINE -L- ITS- STA. 198 + 00, SEE SHEET 17

N 29° 39' 26.8" E

200+00

205+00

US 74/GREAT SMOKY MOUNTAINS EXPRESSWAY

210+00

PC Sta. 201+88.41

PT Sta. 203+14.46



1 12

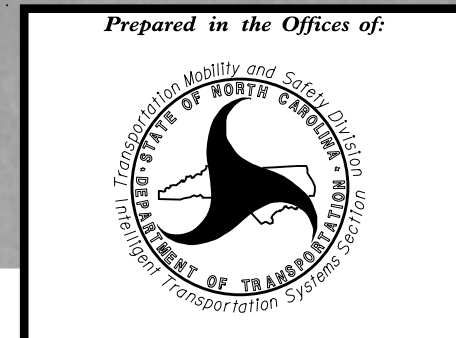
EXISTING CABLE IN EXISTING CONDUIT

NORTHWOOD DRIVE

EXISTING 12 CT FIBER OPTIC CABLE CONTINUES TO I-40

COLLINS DRIVE

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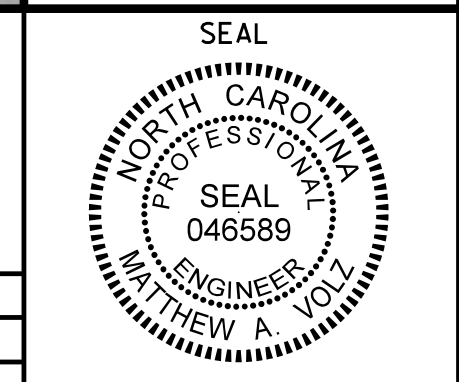
ITS, COMMUNICATIONS AND CABLE ROUTING PLANS

Division 14 Haywood County

PLAN DATE: APRIL 13, 2022 REVIEWED BY: C. BEARD

PREPARED BY: T. MCHENRY APPROVED BY: M. VOLZ

REVISIONS	INIT.	DATE



Matthew A. Volz 4/14/2022
SIGNATURE DATE

CADD FILE NAME: 83186-85898-ITS_LAYOUT.DGN

HDR HDR Engineering, Inc. of the Carolinas
555 Fayetteville St. Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116

SCALE
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1" = 50'

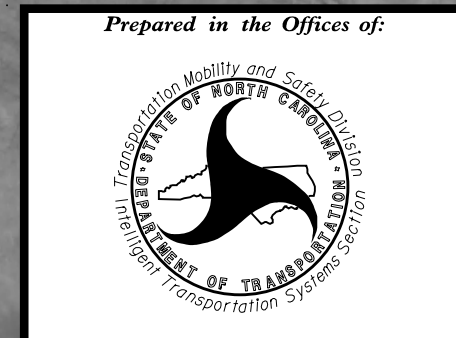
PROJECT REFERENCE NO.	SHEET NO.
B-3186 / B-5898	ITS-19

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ON THIS SHEET.
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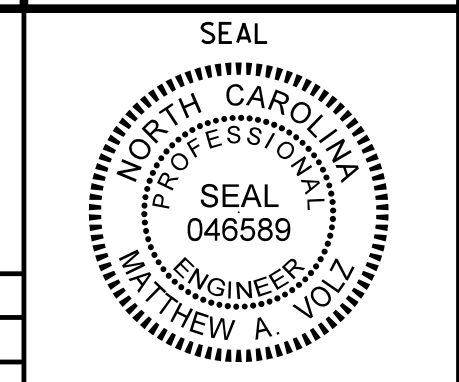
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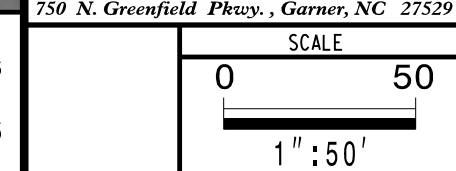
**ITS, COMMUNICATIONS AND
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Division 14 Haywood County
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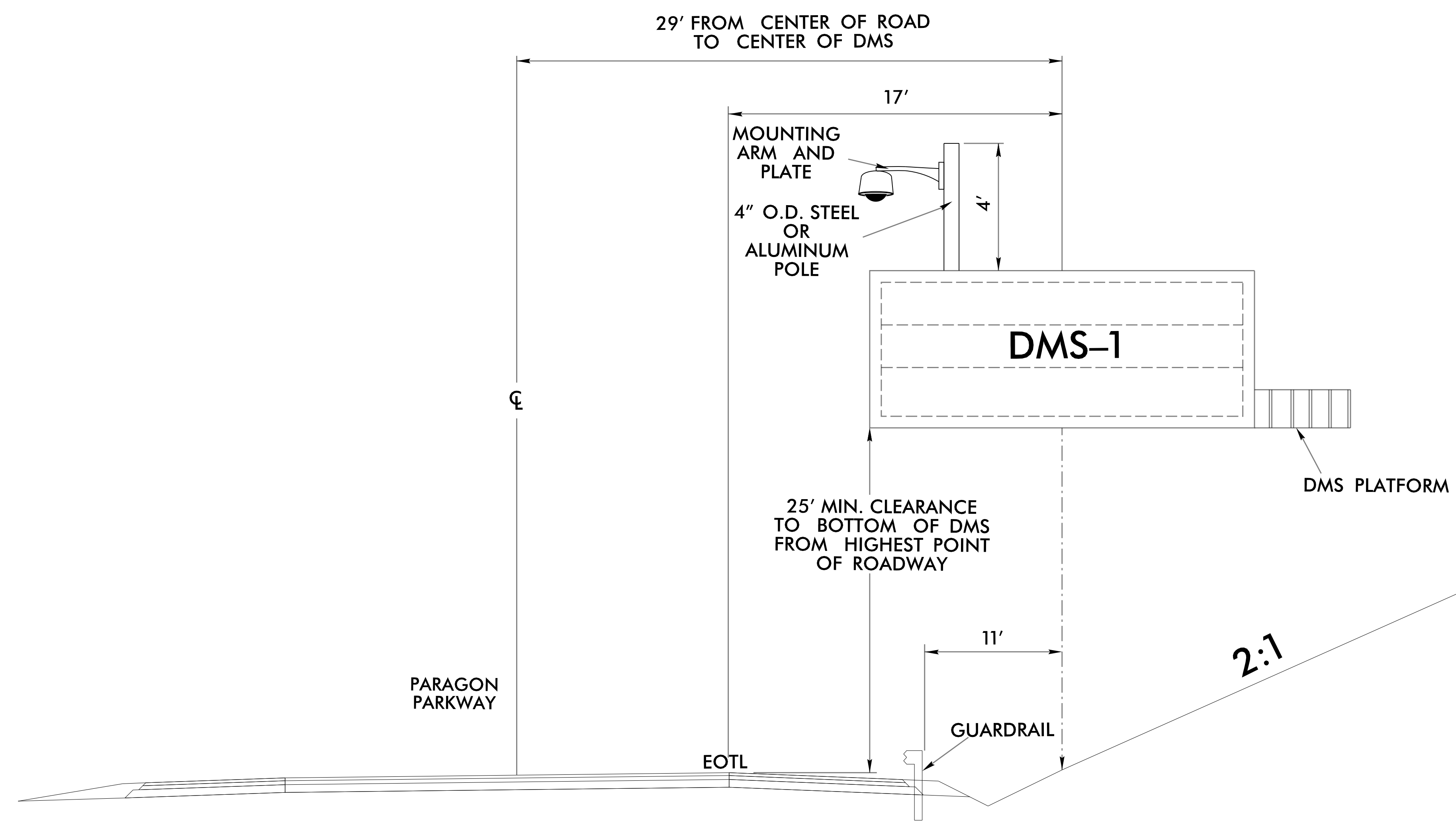
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REVISIONS	INIT.	DATE

DRAWING NOT TO SCALE
ESTIMATED DMS DIMENSIONS 8' X 22'

1. CONTRACTOR IS RESPONSIBLE FOR FURNISHING ELEVATION DRAWINGS FOR ENGINEER'S APPROVAL.
2. PROVIDE A FIXED LADDER LEADING TO THE ACCESS PLATFORM FOR THE DMS AS INDICATED IN THE PROJECT SPECIAL PROVISIONS.
3. EQUIP THE LADDER WITH A SECURITY COVER (LADDER GUARD). START THE FIRST LADDER RUNG NO MORE THAN 18 INCHES ABOVE A CONCRETE LANDING PAD. DESIGN RUNGS ON 12 INCH CENTER-TO-CENTER TYPICAL SPACING.
4. INSTALL A CONCRETE LANDING PAD MEASURING A MINIMUM 4 INCHES DEEP, 24 INCHES WIDE, AND 36 INCHES LONG DIRECTLY BENEATH THE LADDER.
5. USE ACTUAL DIMENSIONS AND WEIGHT OF THE DMS TO COMPLETE THE DESIGN OF THE DMS STRUCTURE.
6. FIELD VERIFY ALL FOOTING ELEVATIONS AND GROUND SLOPES AT THE FOOTINGS USING THE LATEST NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES
7. ENSURE THAT THE TOP OF THE FOOTING EXTENDS AT LEAST 6 INCHES AND NOT MORE THAN 24 INCHES ABOVE THE HIGHEST POINT OF THE GROUND SURFACE AT THE FOOTING
8. DESIGN AND CONSTRUCT THE PEDESTAL STRUCTURES AND DMS ENCLOSURE TO WITHSTAND WIND VELOCITIES OF 120 MPH
9. VERIFY ALL UNDERGROUND UTILITY LOCATIONS BEFORE BEGINNING ANY UNDERGROUND WORK. DO NOT DAMAGE ANY EXISTING UTILITIES OR NCDOT COMMUNICATIONS CABLE DURING CONSTRUCTION
10. REFER TO THE PROJECT SPECIAL PROVISIONS FOR INFORMATION ABOUT THE MATERIALS NEEDED FOR THE CCTV EXTENSION ARM AND BANDING



-L- STA 122 + 00

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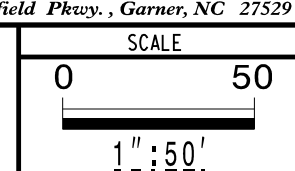
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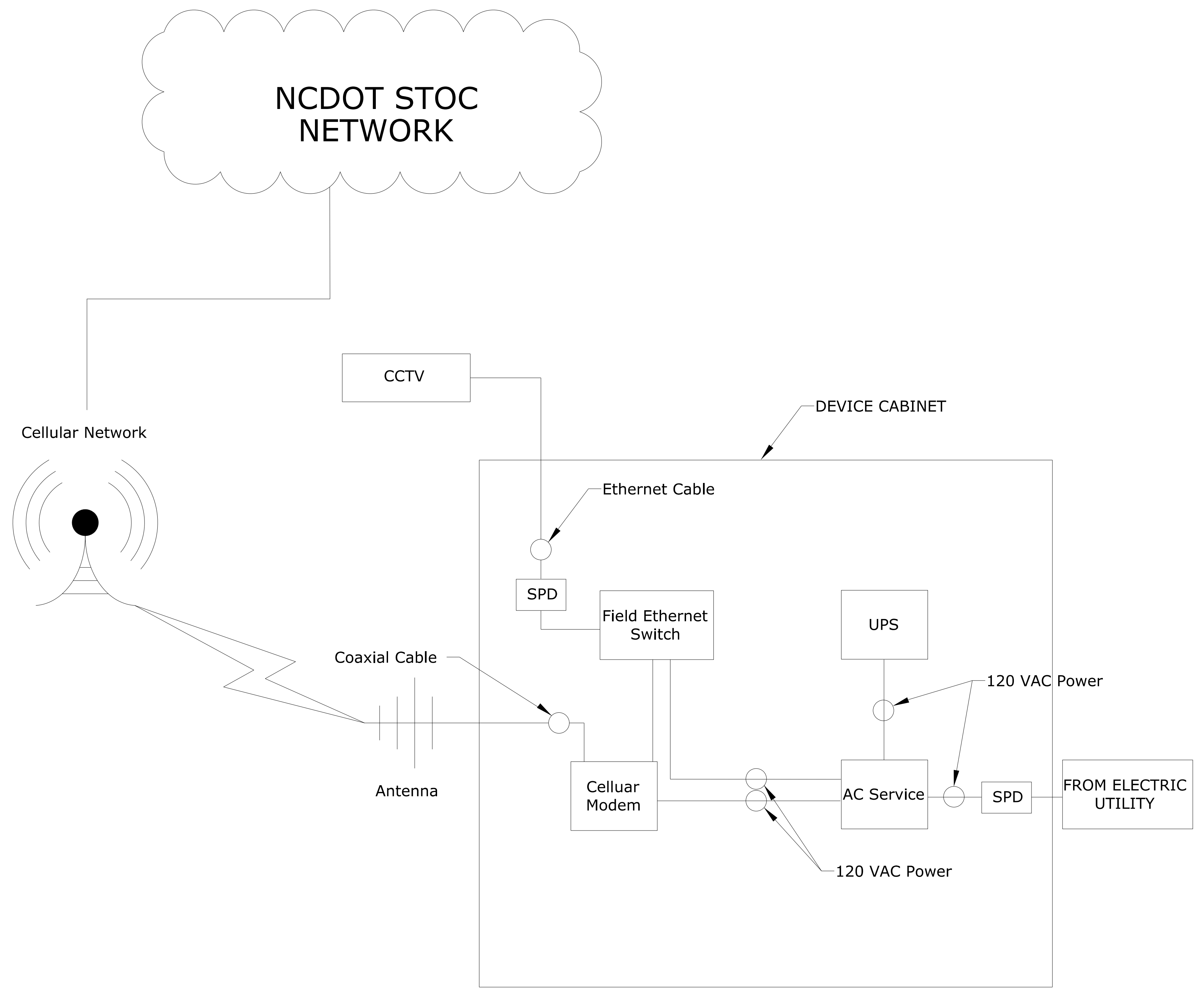
250 N. Greenfield Place, Garner, NC 27529

DMS INSTALLATION DETAIL	
Division 14 Haywood County	
PLAN DATE: APRIL 13, 2022	REVIEWED BY: C. BEARD
PREPARED BY: T. MCHENRY	APPROVED BY: M. VOLZ
REVISIONS	INIT. DATE

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Matthew A. Volz
4/14/2022
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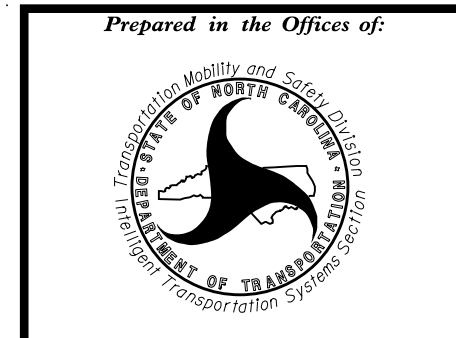
Cabinet Block Diagram

CCTV CABINET WITH CELLUAR MODEM

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ITS DEVICES AND COMMUNICATIONS BLOCK DIAGRAM

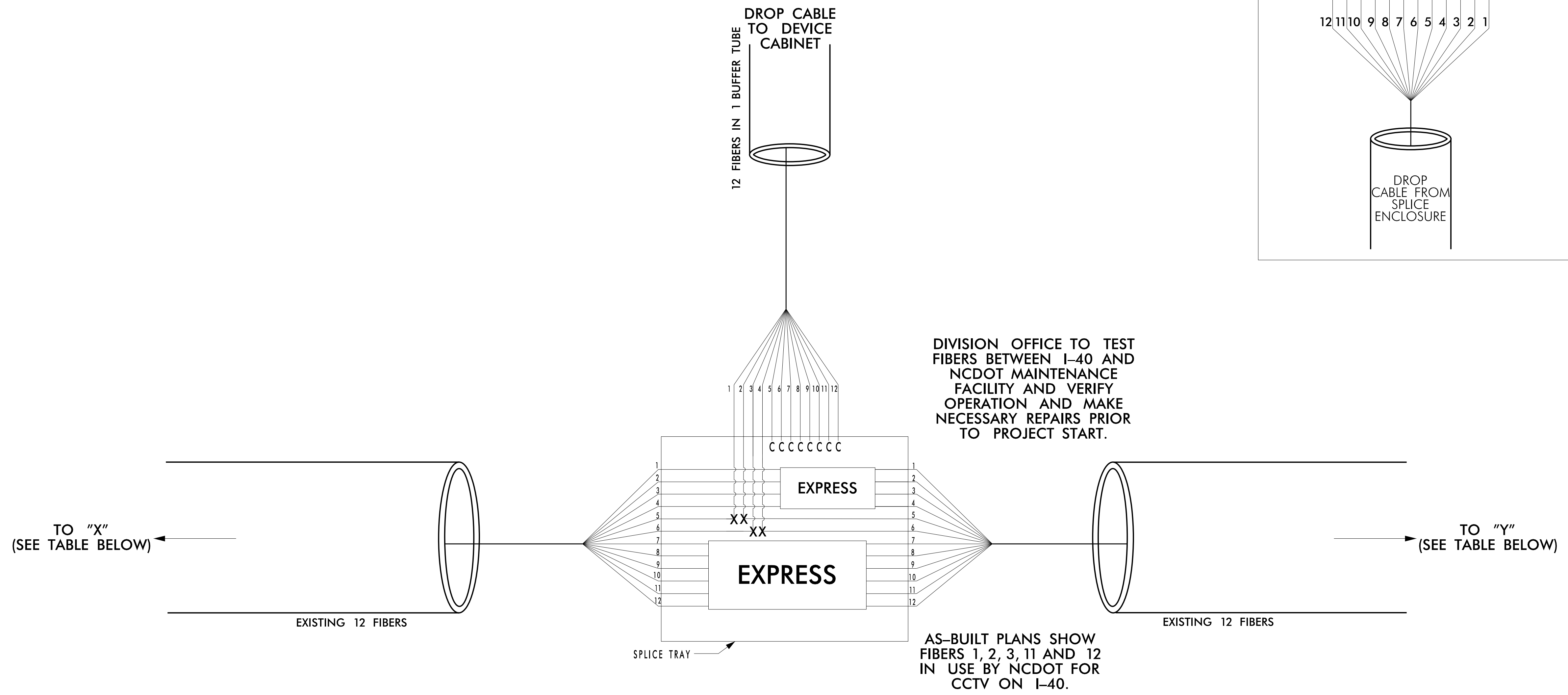
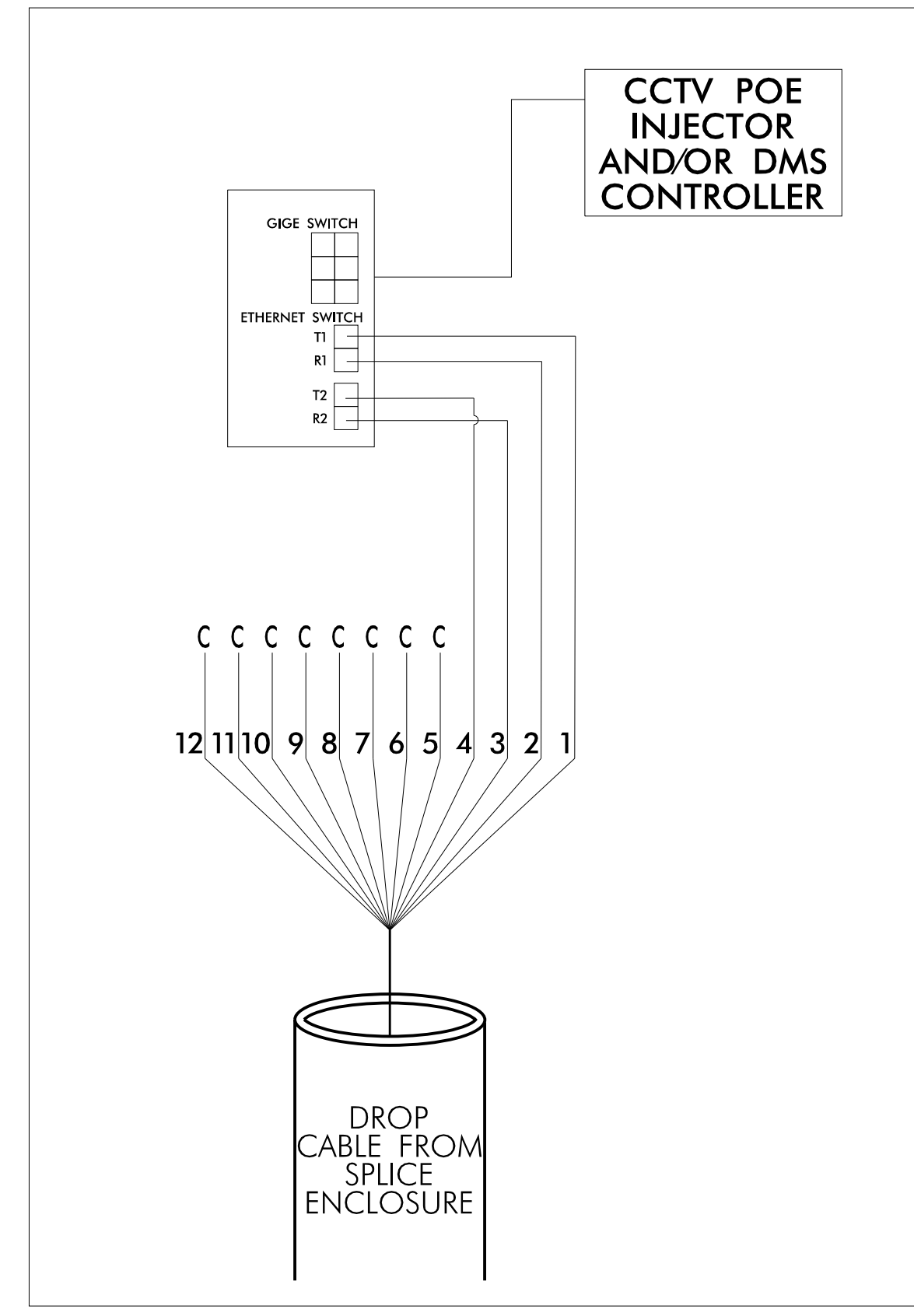
Division 14 Haywood County
 PLAN DATE: APRIL 13, 2022 REVIEWED BY: C. BEARD
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REVISIONS	INIT.	DATE

SEAL
 NORTH CAROLINA
 PROFESSIONAL
 ENGINEER
 SEAL
 046589
 MATTHEW A. VOLZ
 Signature: Matthew A. Volz
 DATE: 4/14/2022
 CADD FILE NAME: 83186-85898-ITS_LAYOUT.dgn

250 N. Greenfield Place, Garner, NC 27529
 SCALE: 0 50
 1" = 50'

SPLICE ENCLOSURE SE-1,2, AND 3



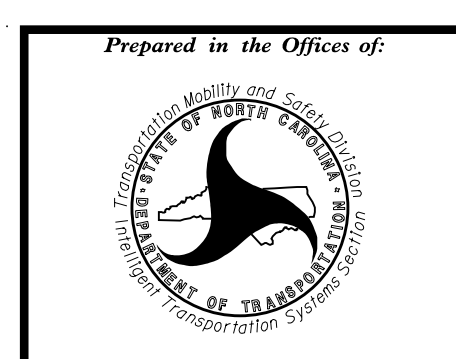
- COLOR CODE**
TIA/EIA 598-A
- (1) BLUE (7) RED
 - (2) ORANGE (8) BLACK
 - (3) GREEN (9) YELLOW
 - (4) BROWN (10) VIOLET
 - (5) SLATE (11) ROSE
 - (6) WHITE (12) AQUA

LEGEND
X = FUSION SPLICE
C = CAP IN TRAY

SPLICE ENCLOSURE TYPICAL NO. SE 1, 2, and 3			
DEVICE ID	SHEET	TO	FROM
		X	Y
DMS-1/CCTV-2	ITS-12	Server Room at 619 Paragon Parkway	CCTV-3 (Attached to Existing DMS)
CCTV-3 (Attached to Existing DMS)	ITS-15	DMS-1 / CCTV-2	CCTV-4
CCTV-4	ITS-17	CCTV-3 (Attached to Existing DMS)	CCTVs along I-40

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FIBER OPTIC SPLICING DETAILS

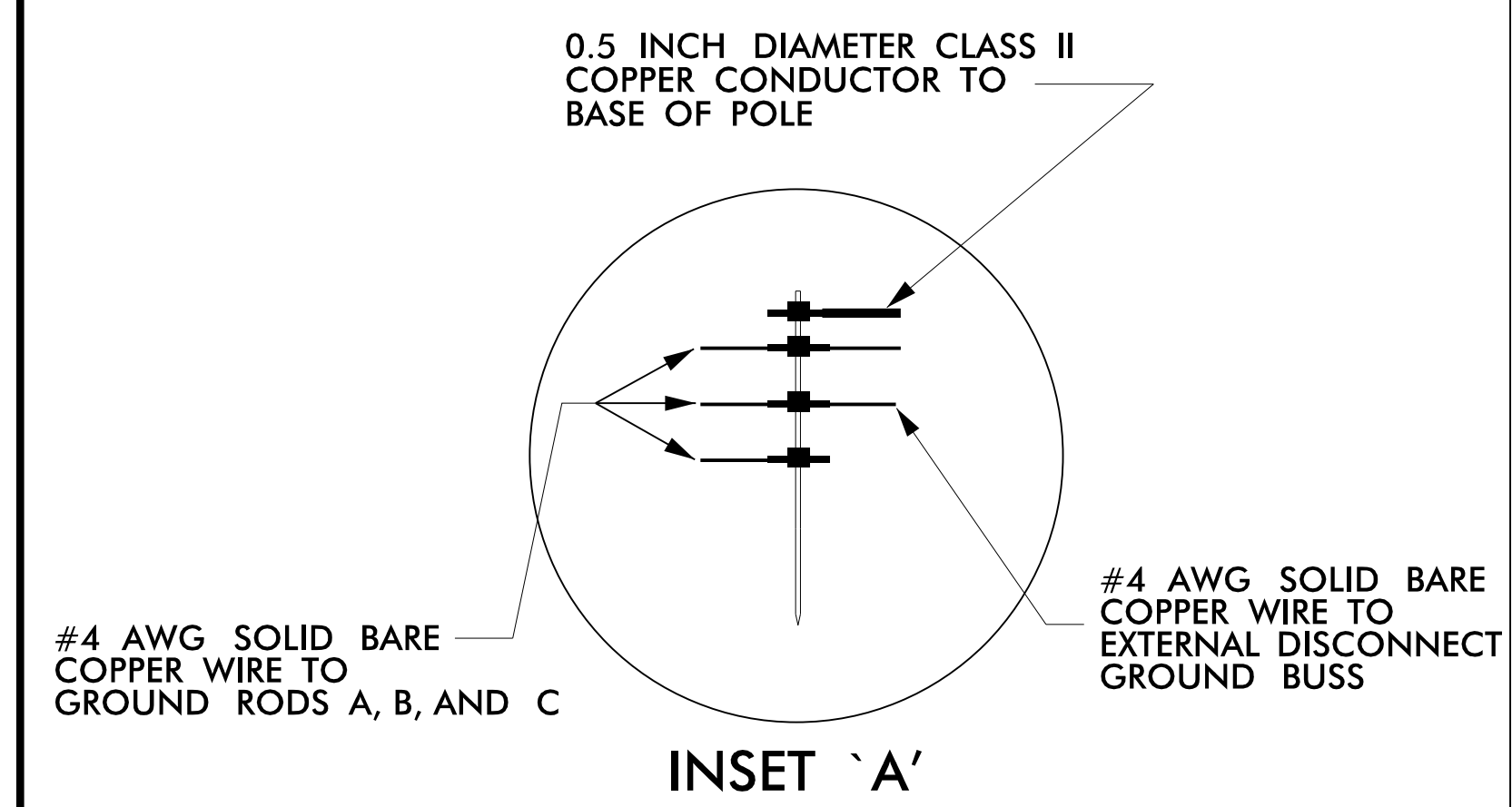
Division 14 Haywood County

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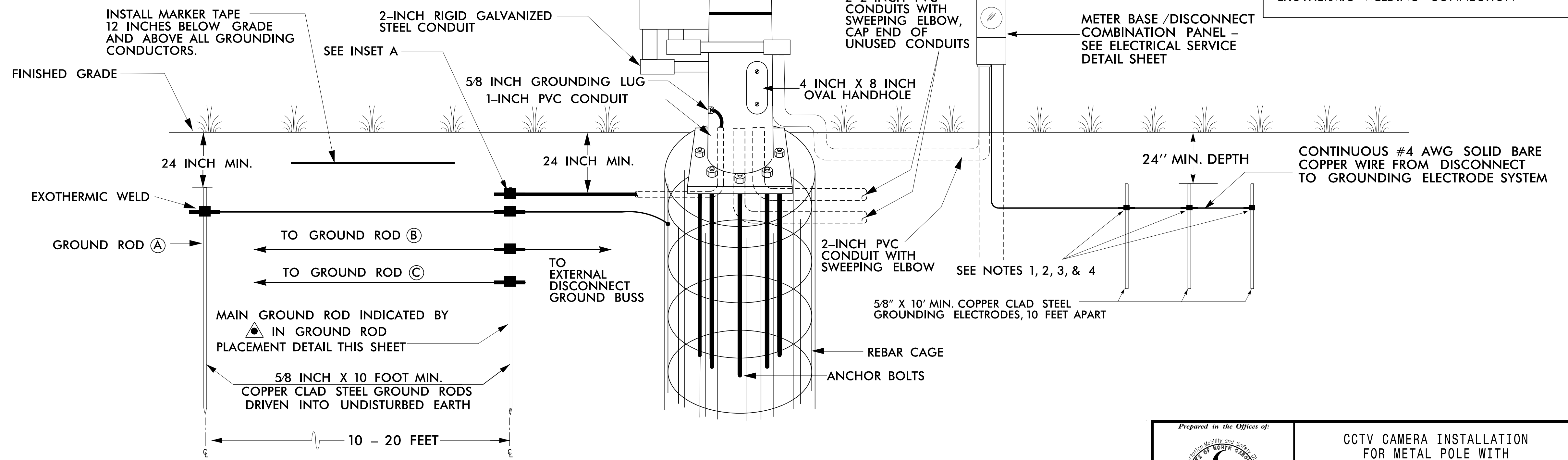
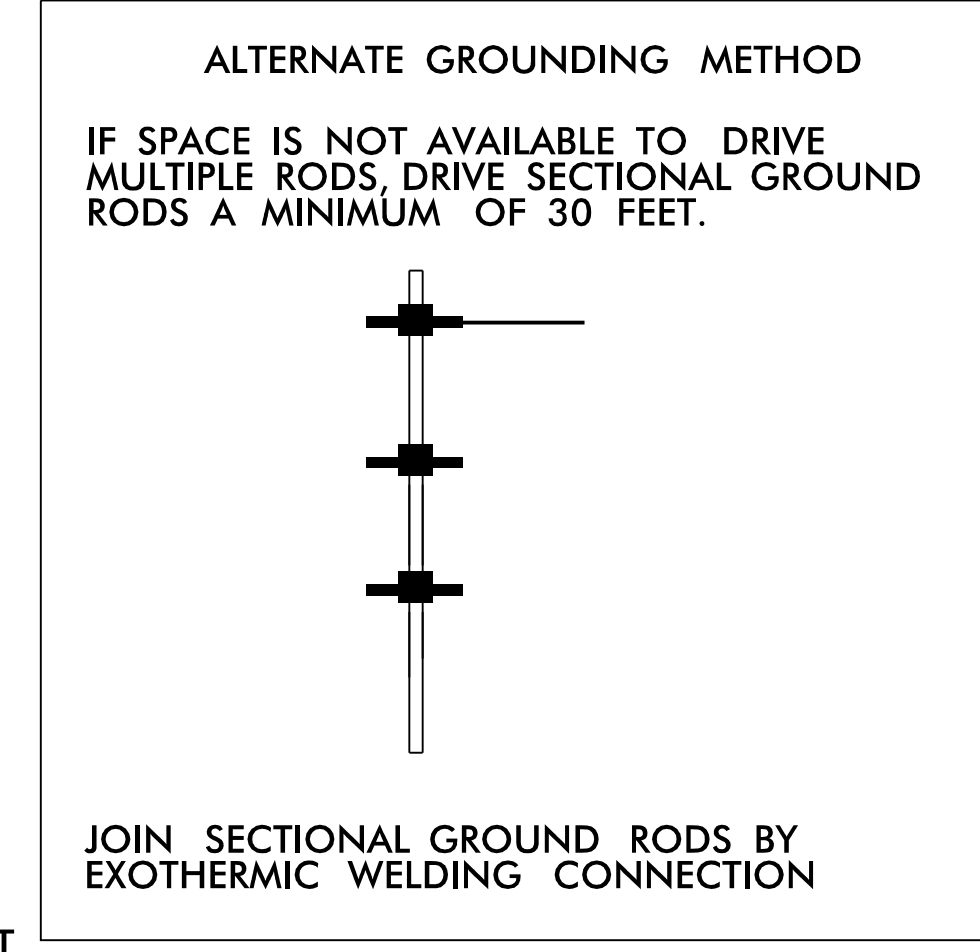
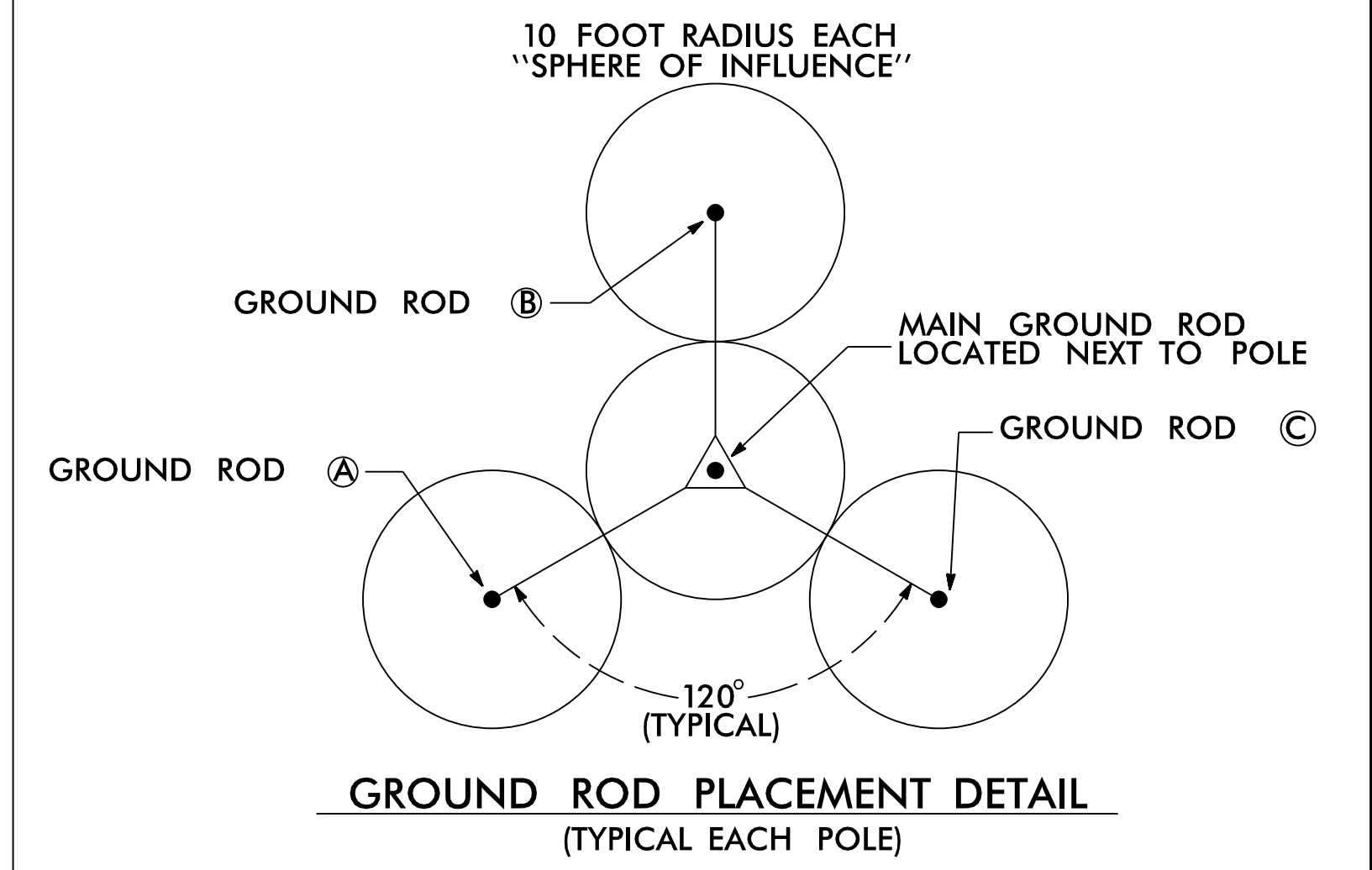
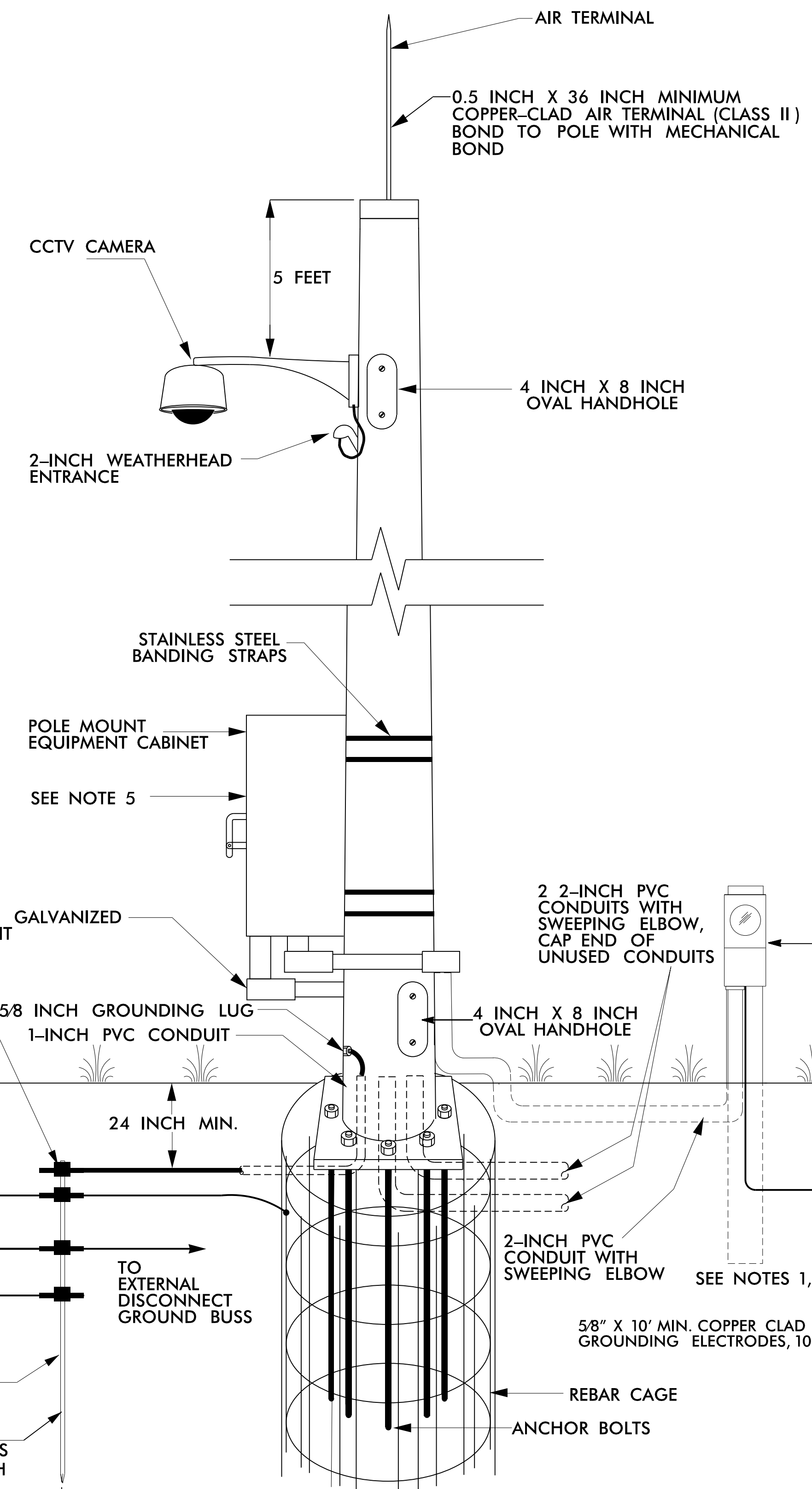
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SEAL 046589
MATTHEW A. VOLZ
Matthew A. Volz 4/14/2022
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NOTES

1. BOND 0.5 INCH DIAMETER, 28 STRAND (MINIMUM) CLASS II COPPER CONDUCTOR TO THE MAIN GROUND ROD BY AN MECHANICAL CRIMP METHOD.
2. MECHANICAL CRIMP ALL CONNECTIONS TO GROUND RODS.
3. BOND #4 AWG SOLID BARE COPPER WIRE TO REBAR CAGE AND THE MAIN GROUND ROD BY MECHANICAL CRIMP METHOD.
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. THE CONTRACTOR MAY, UPON APPROVAL OF THE ENGINEER, INSTALL A 30-FOOT SECTIONAL GROUND ROD WHEN CONDITIONS WILL NOT ALLOW FOR THE INSTALLATION OF THE 3 - RADIAL GROUND RODS.
7. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.



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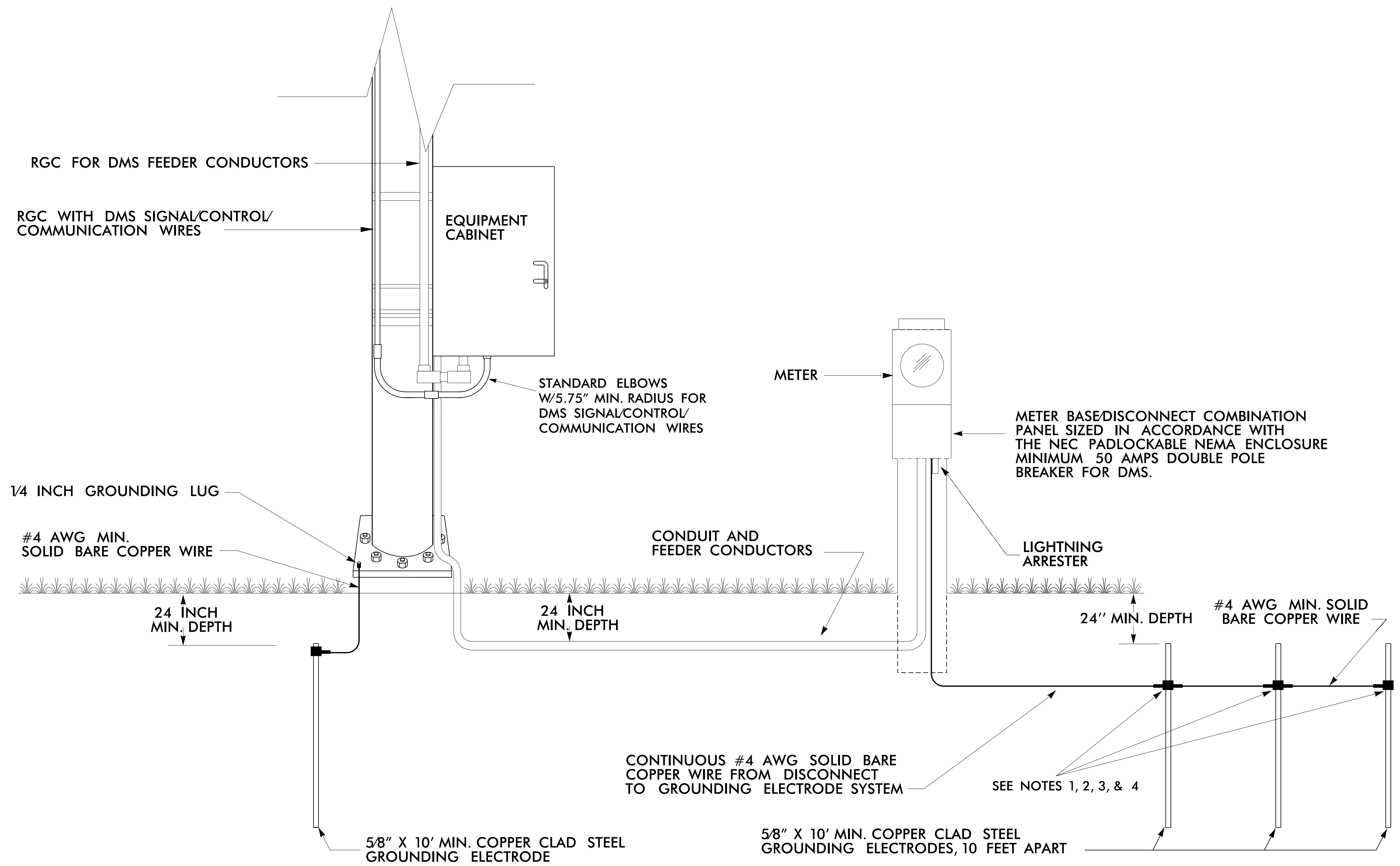
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	CCTV CAMERA INSTALLATION FOR METAL POLE WITH UNDERGROUND ELECTRICAL SERVICE TYPICAL DETAIL	
	Division 14 Haywood County	
PLAN DATE: APRIL 13, 2022	REVIEWED BY: C. BEARD	
PREPARED BY: T. MCHENRY	APPROVED BY: M. VOLZ	
REVISIONS	INIT.	DATE
_____	_____	_____
Signature: <i>Matthew A. Volz</i> DATE: 4/14/2022		

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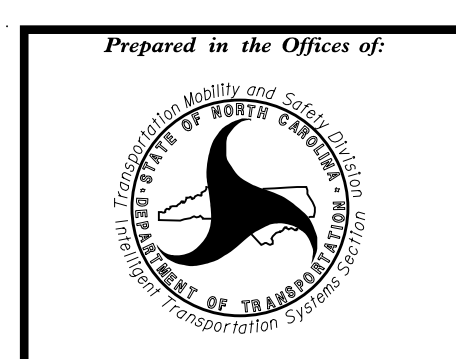
NOTES

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. USE MECHANICAL CRIMP FOR ALL CONNECTIONS TO GROUND RODS.
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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Prepared in the Offices of:	
 DYNAMIC MESSAGE SIGN ELECTRICAL SERVICE AND GROUNDING TYPICAL DETAIL	
Division 14 Haywood County	
PLAN DATE: APRIL 13, 2022	REVIEWED BY: C. BEARD
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 SEAL 046589
 MATTHEW A. VOLZ
 Signature: *Matthew A. Volz* DATE: 4/14/2022
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