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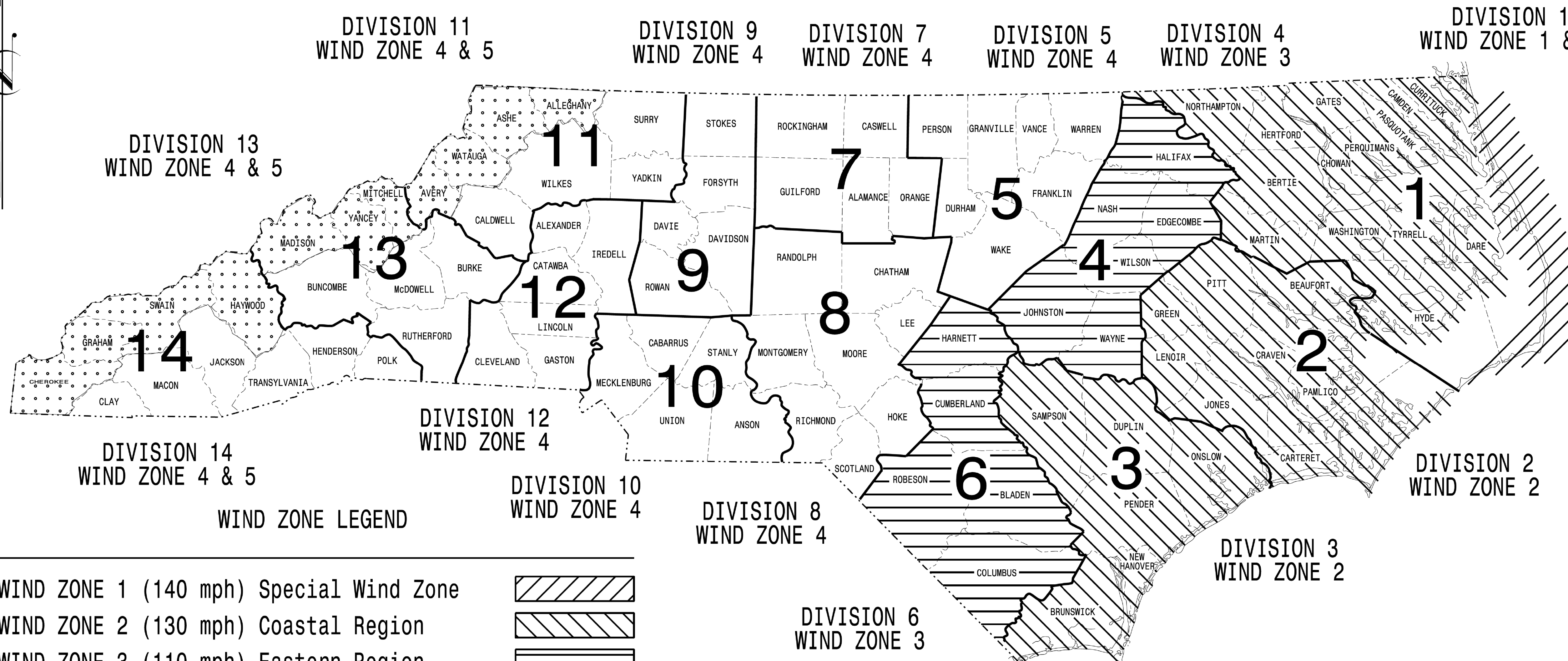
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**NCDOT METAL POLE STANDARDS**

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

PROJECT I.D. NO.	SHEET NO.
I-5714 / U-5114	Sig.M1

## STANDARD DRAWINGS FOR ALL METAL POLES



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

Prepared In the Offices of:

750, N. Greenfield Pkwy.  
Garner, NC 27529

Designed in conformance with the latest 2015 Interim to the 6th Edition 2013 **AASHTO** Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals

DRAWING NUMBER	DESCRIPTION
Sig. M 1	Statewide Wind Zone Map
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

**NCDOT CONTACTS:**

**MOBILITY AND SAFETY DIVISION - ITS AND SIGNALS UNIT**

M.M. MCDIARMID, P.E. - STATE ITS AND SIGNALS ENGINEER

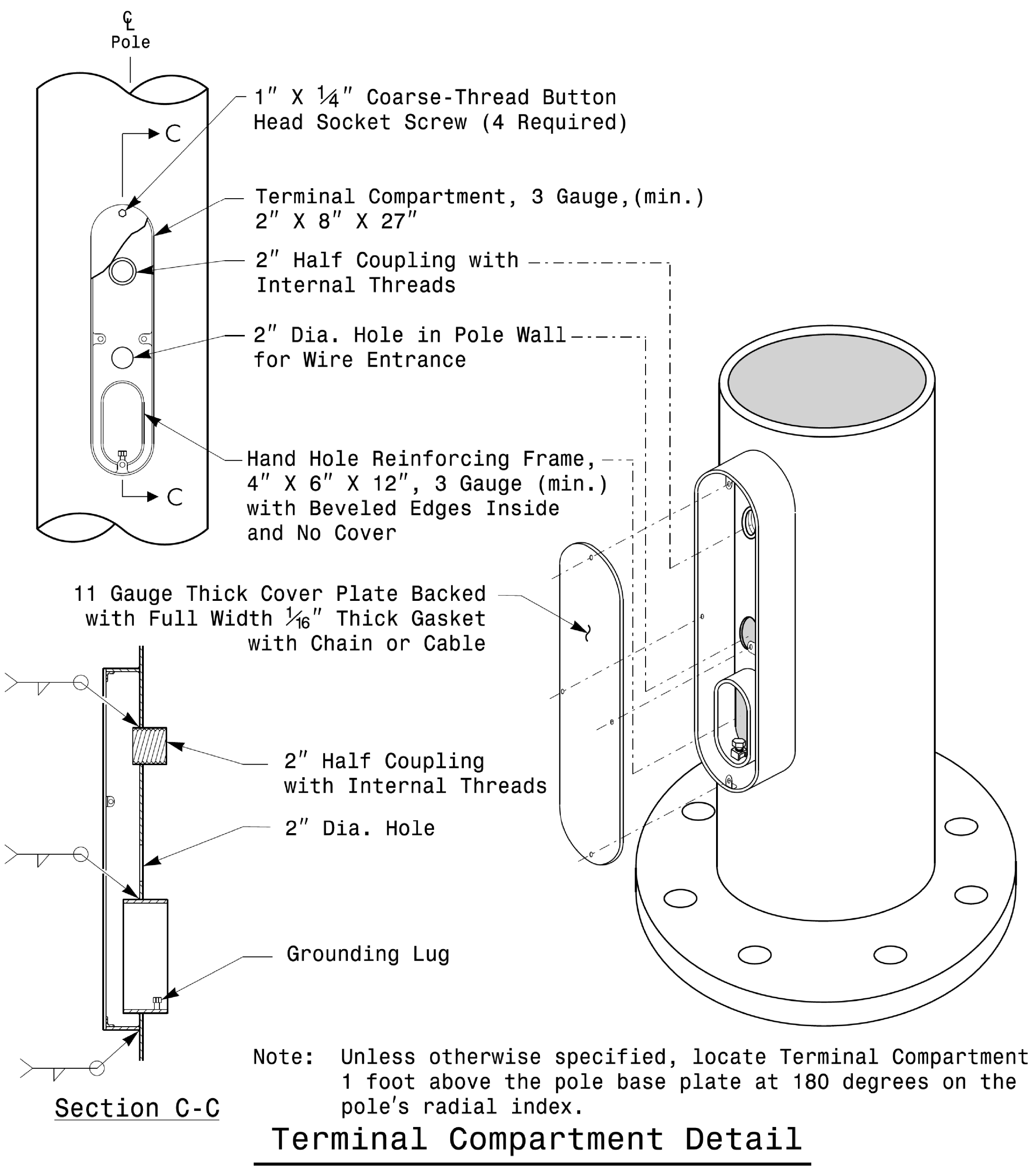
J. P. GALLOWAY, P.E. - STATE SIGNALS ENGINEER

D.C. SARKAR, P.E. - ITS AND SIGNALS SENIOR STRUCTURAL ENGINEER

SEAL

10/11/2017  
DATE

PROJECT ID. NO.	SHEET NO.
I-5714 / U-5114	Sig.M2

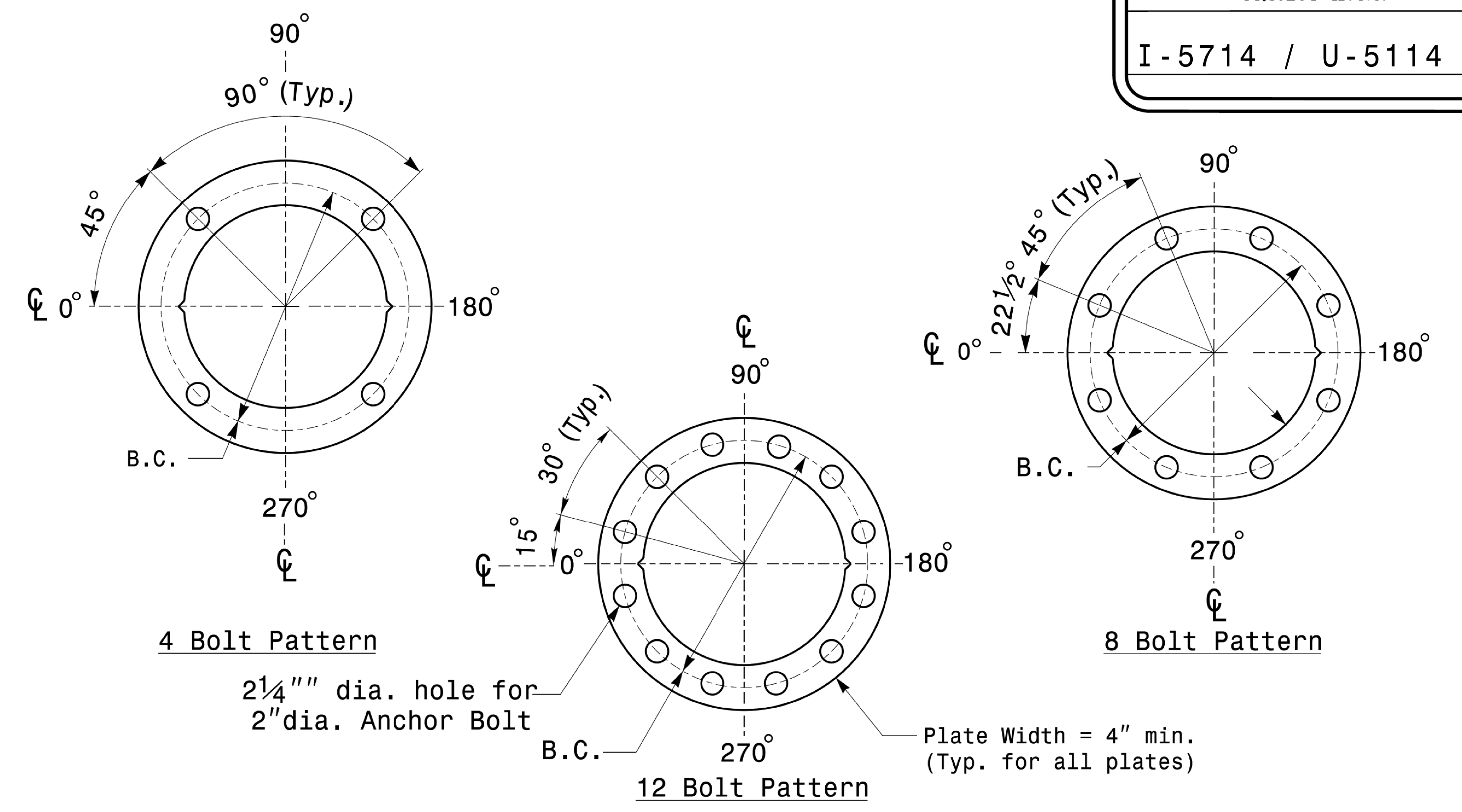


MFG _____ MFG. DATE: MM/YY	MFG _____ MFG. DATE: MM/YY
SHAFT D/T/L/Y ...../...../.....	SECTION D/T/L/Y ...../...../.....
ARM-A D/T/L/Y ...../...../.....	NCDOT SIG. INV. NO. ....
ARM-B D/T/L/Y ...../...../.....	NCDOT POLE NO. ....
A.B. DIA./B.C./L/Y ...../...../.....	Arm I.D. Tag
NCDOT SIG. INV. NO. ....	(Provide on each section of a multi-section mast arm.)
NCDOT POLE NO. ....	

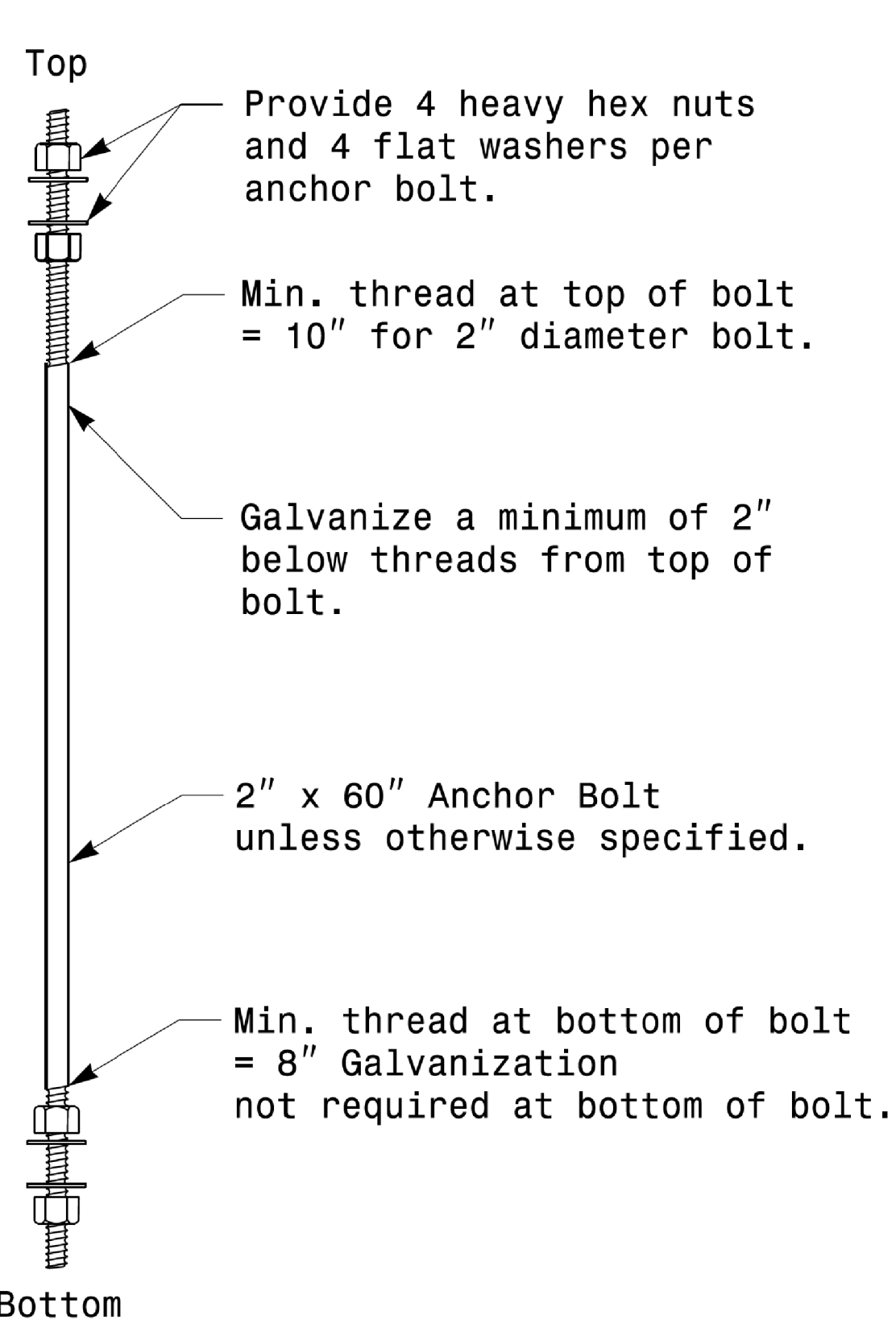
Shaft I.D. Tag  
 (Provide on Shaft of Strain Poles and Mast Arm Poles Shaft)

Notes:  
 1) D= Diameter, T= Thickness, L= Length, Y= Yield Strength  
 2) A.B. = Anchor Bolt  
 3) B.C. = Bolt Circle of Anchor Bolts  
 4) If Custom Design, use "NCDOT STANDARD" line for Signal Inv. Number and pole I.D. number  
 5) See drawing M3 and M4 for mounting positions of I.D. tags.

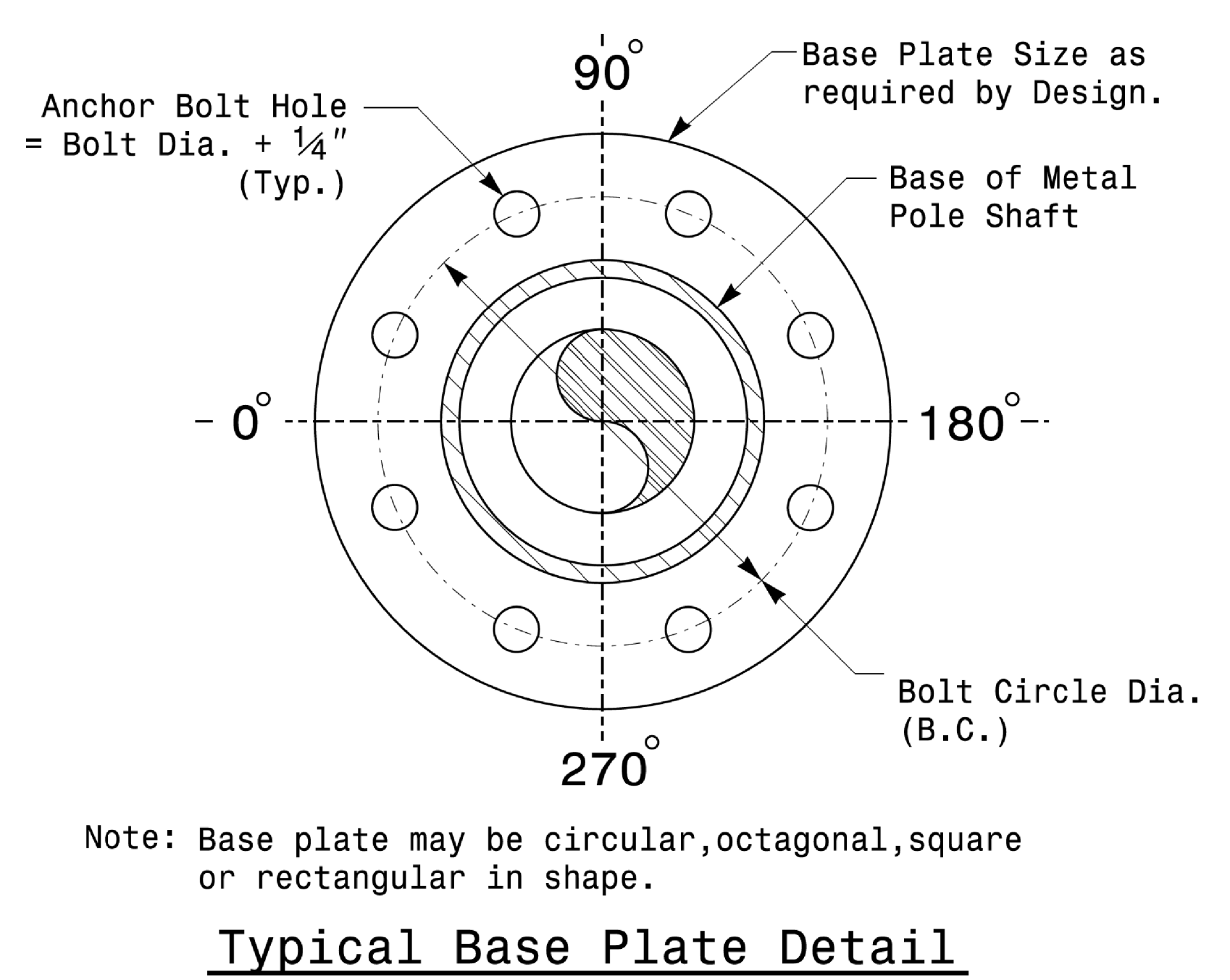
**Identification Tag Details**



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**



**Typical Base Plate Detail**

Prepared in the Offices of:

**Typical Fabrication Details For All Metal Poles**

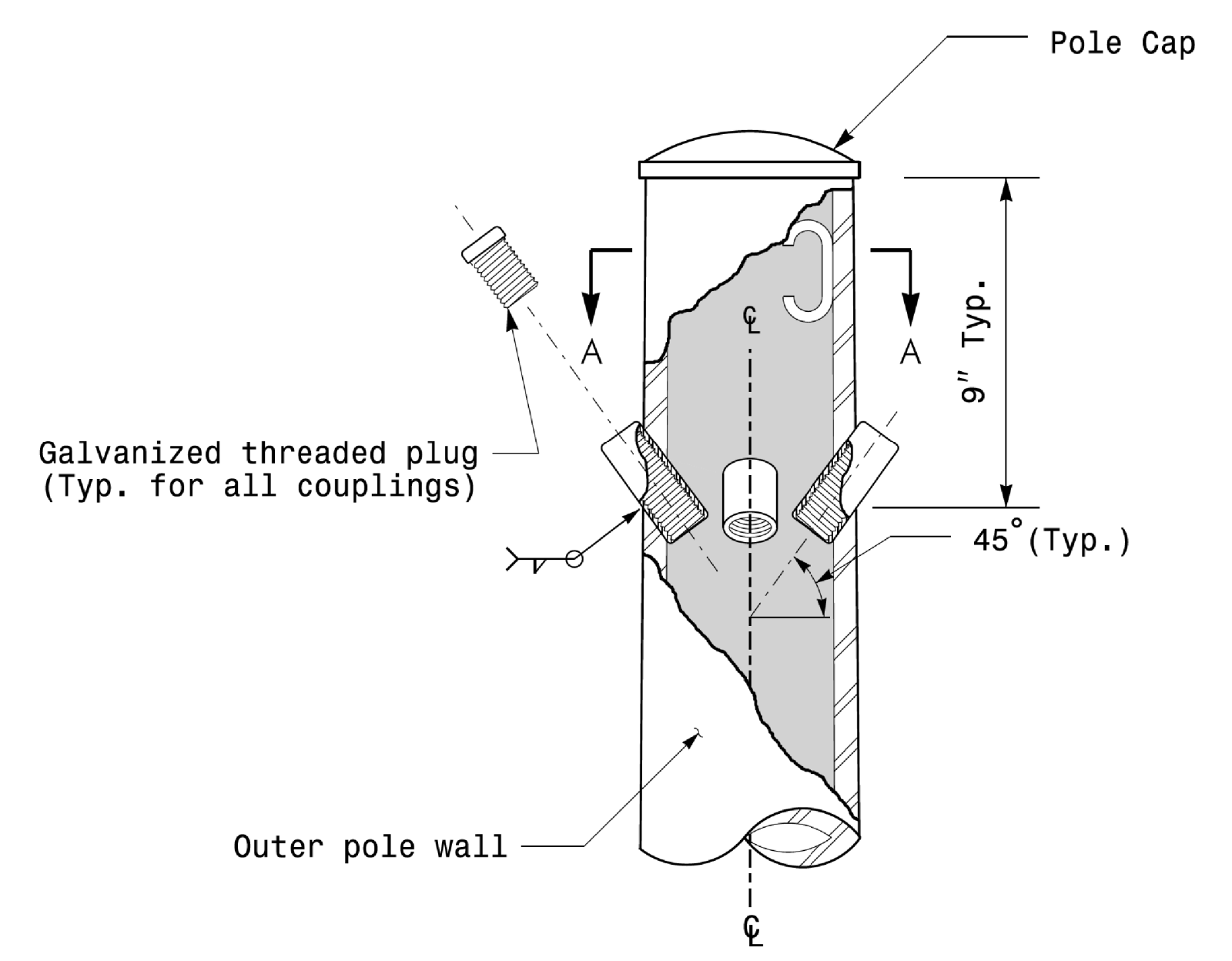
PLAN DATE: OCTOBER 2017	DESIGNED BY: C.F. ANDREWS
PREPARED BY: N. BITTING	REVIEWED BY: D.C. SARKAR
REVISIONS	INIT. DATE

SCALE: 0 NONE NA  
 10/11/2017 DATE

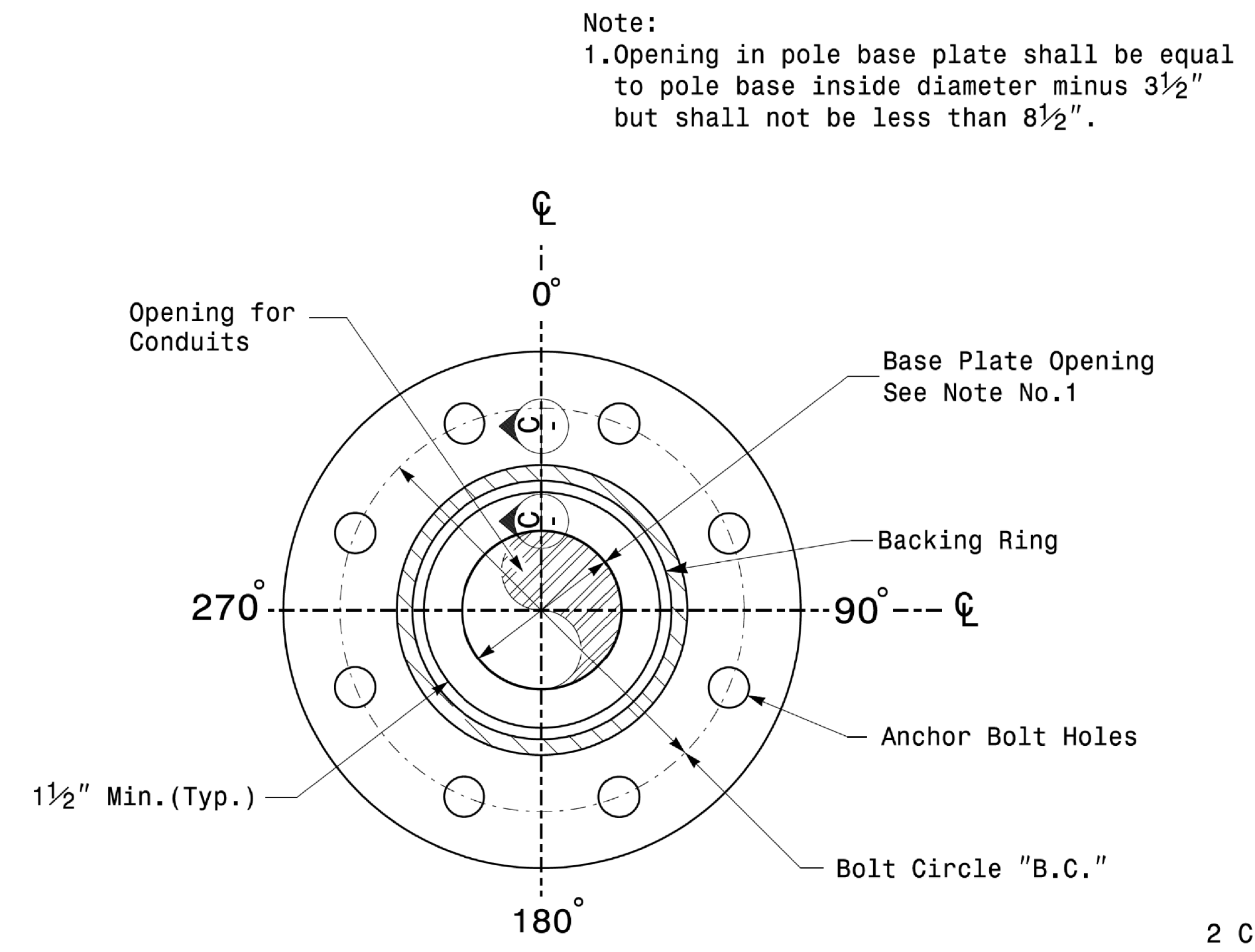
DocuSigned by:  
 Delish C. Sarkar

**Fabrication Details – All Metal Poles**

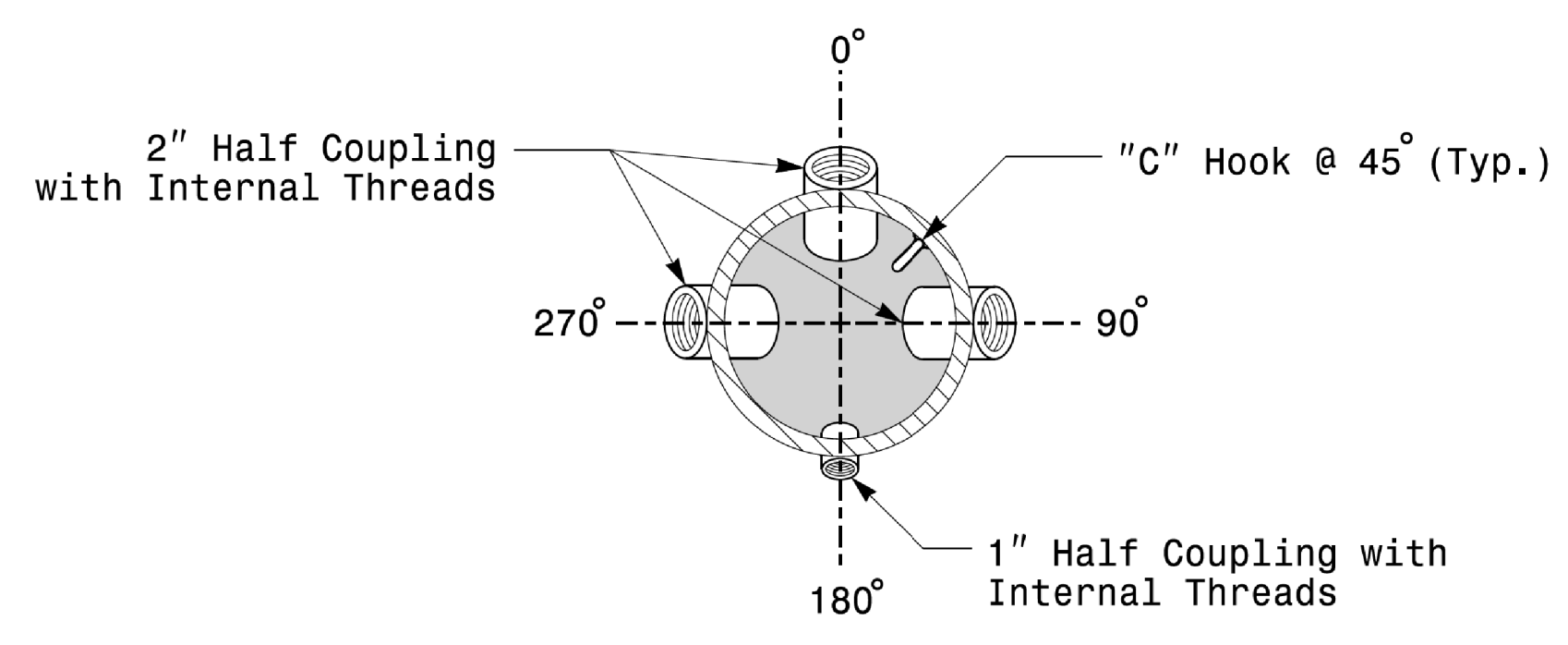
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 STATE SIGNALS Signal Design Section  
 Design Section Eastern Region  
 Sheets 2016/2014 Sig.M2 Srd. Fabrication Details-All Poles.dgn



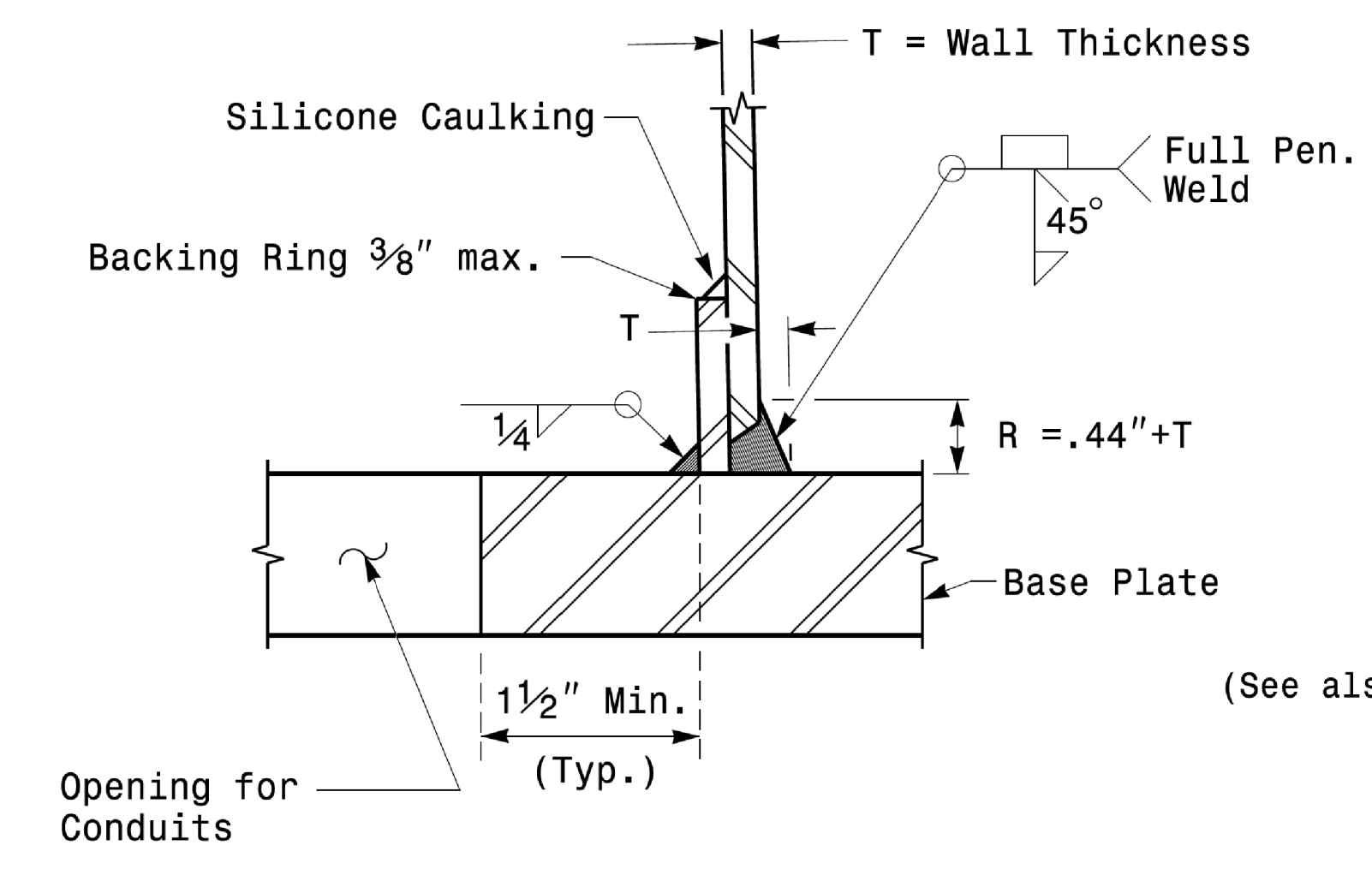
**Cable Entrances at Top of Pole**



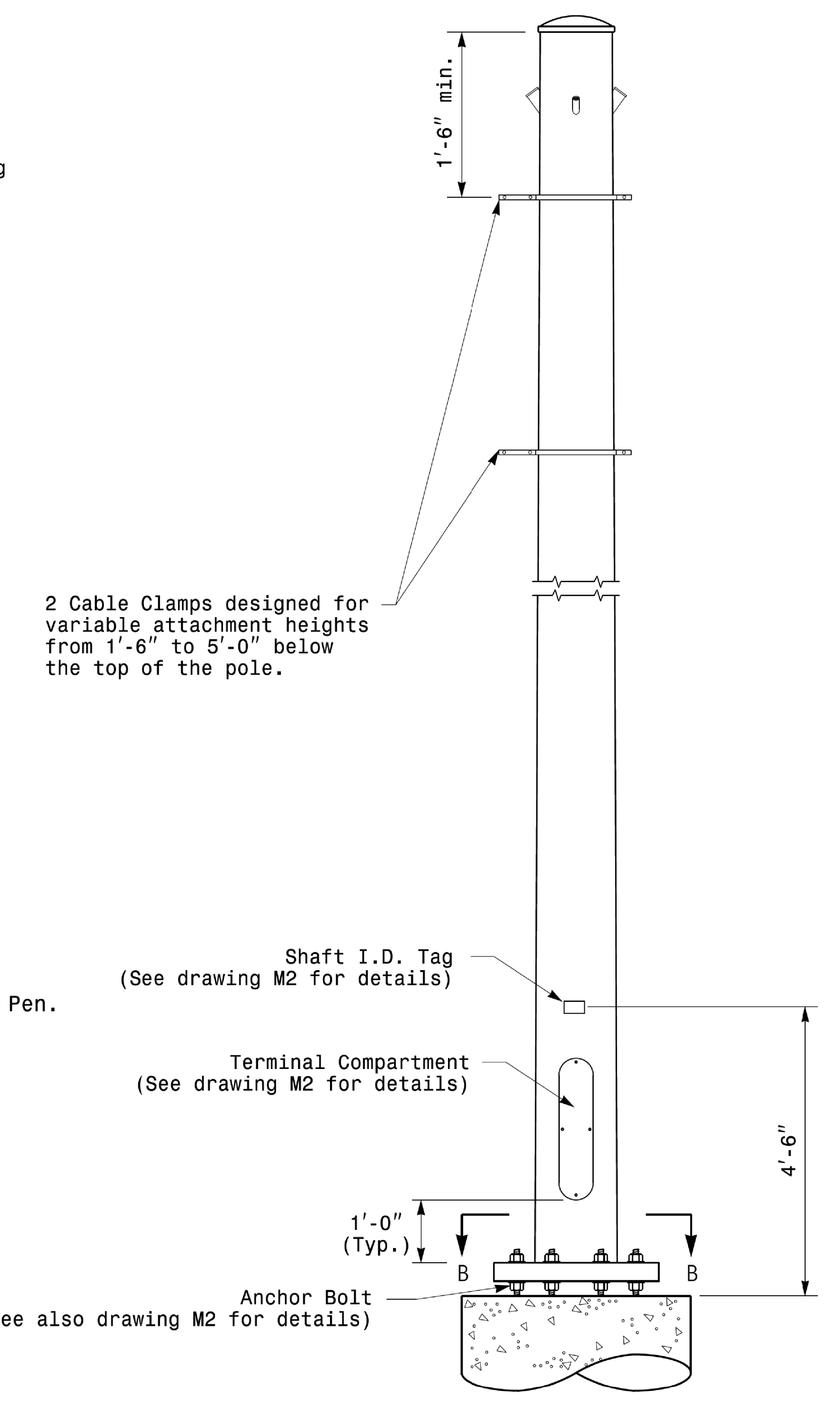
**Section B-B  
Pole Base Plate Details  
(8 and 12 Bolt Pattern)**



**Section A-A  
Radial Orientation for Factory Installed  
Accessories at Top of Pole**



**Section C-C  
(Pole Attachment to Base Plate)  
Full-Penetration  
Groove Weld Detail**



**Monotube Strain Pole**

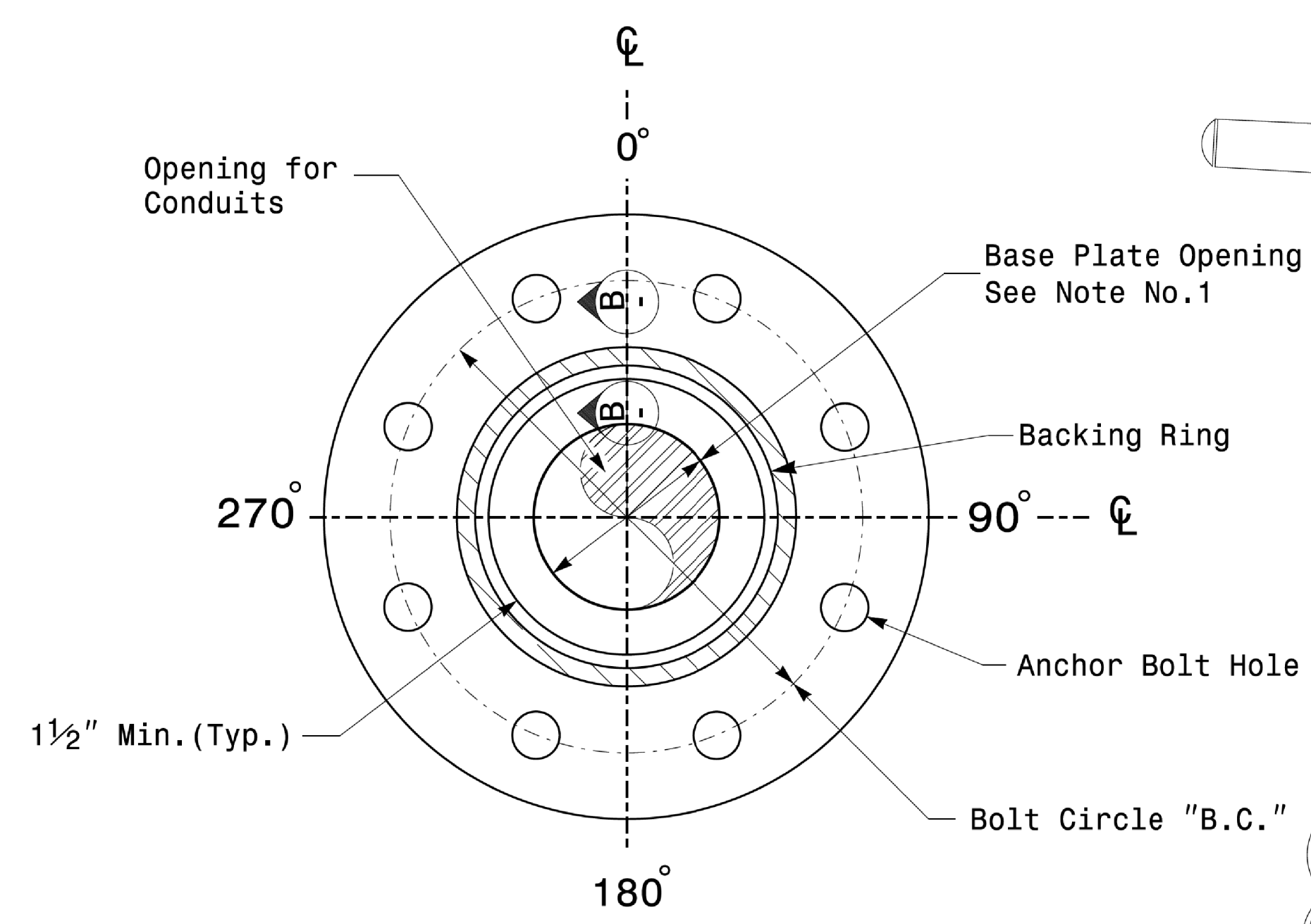
**Fabrication Details - Strain Poles**

11-10CT-2017\_084225  
S:\MTESS\WITS\_Signals\Signal\_Design\_Section\Eastern\_Region\M\_Signals\2016\2014\_Sig\_M3\_Sht\_4-Fabrication\_Details-Strain\_Poles.dgn  
10/11/2017

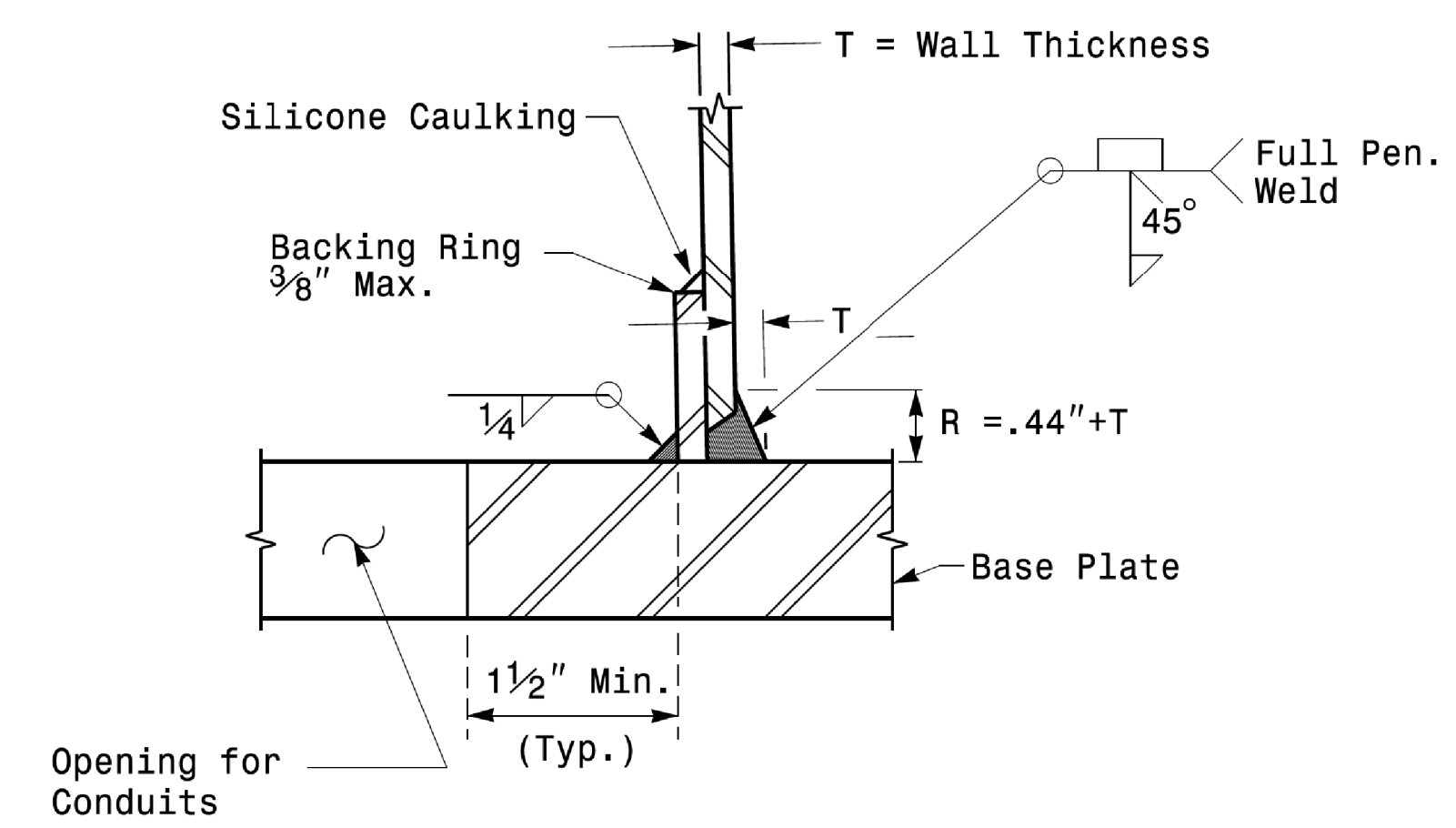
<p>750 N. Greenfield Pkwy, Garner, NC 27529</p>	<b>Typical Fabrication Details For Strain Poles</b>		
	PLAN DATE: OCTOBER 2017 DESIGNED BY: K.C. DURIGON PREPARED BY: N. BITTING REVISIONS: _____ INIT: _____ DATE: _____	REVIEWED BY: D.C. SARKAR REVISIONS: _____ INIT: _____ DATE: _____	

PROJECT ID. NO.	SHEET NO.
I-5714 / U-5114	Sig.M4

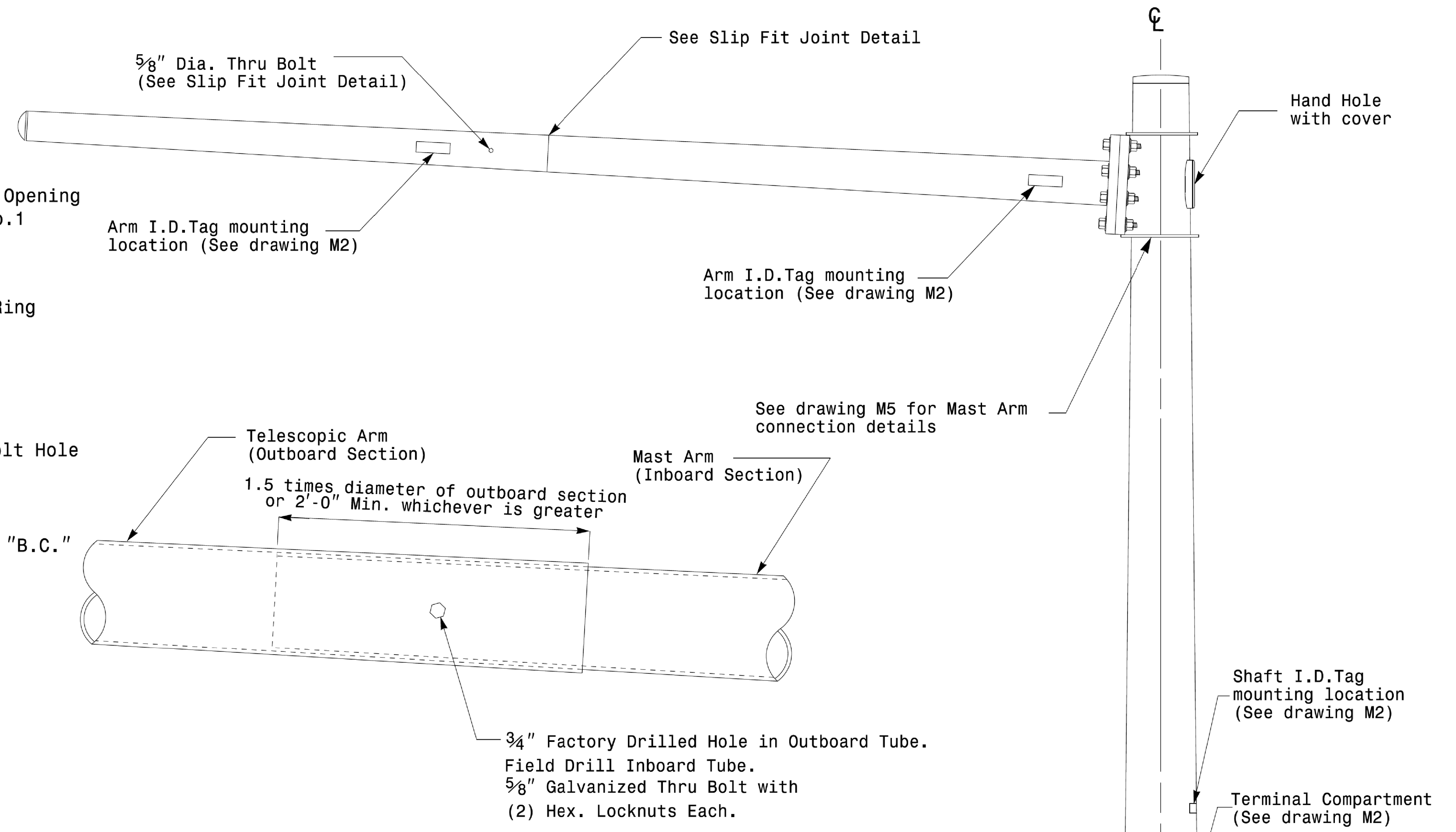
Note:  
 1. Opening in pole base plate shall be equal to pole base inside diameter minus 3 1/2" but shall not be less than 8 1/2".



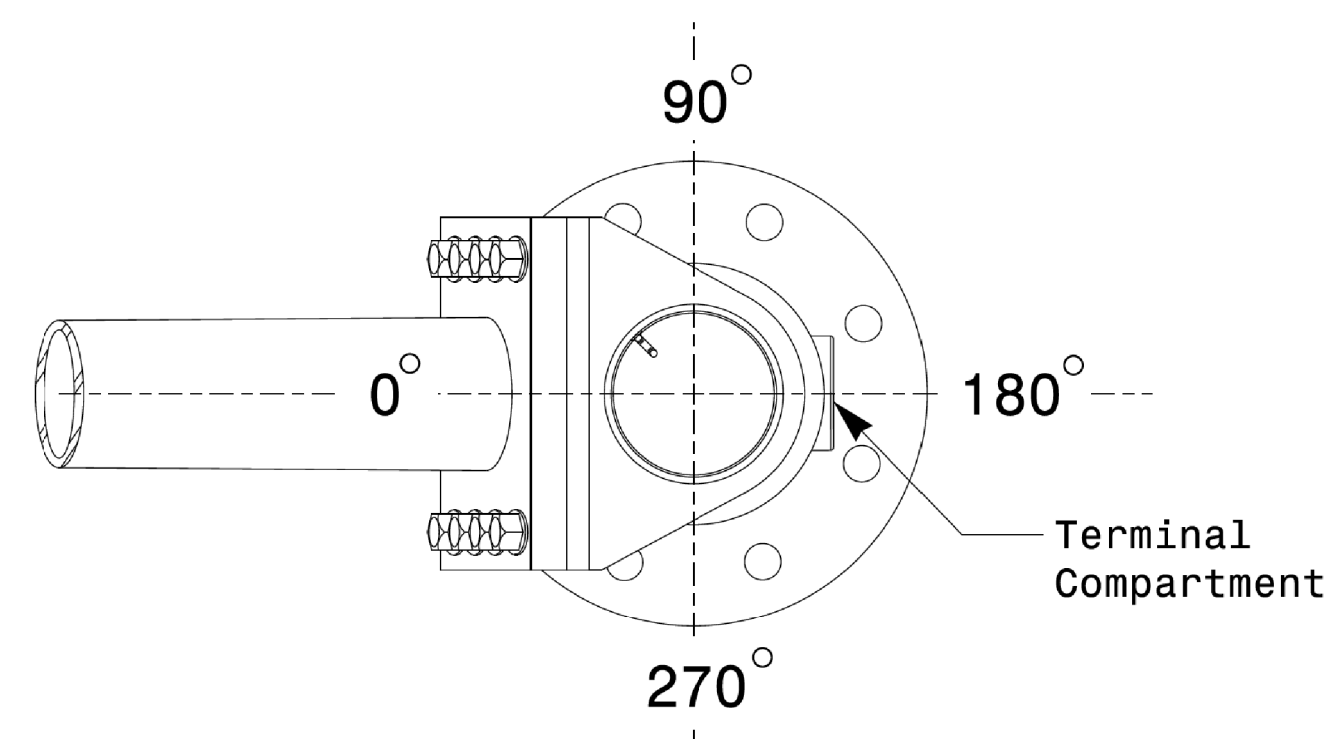
**Section A-A**  
**Pole Base Plate Details**



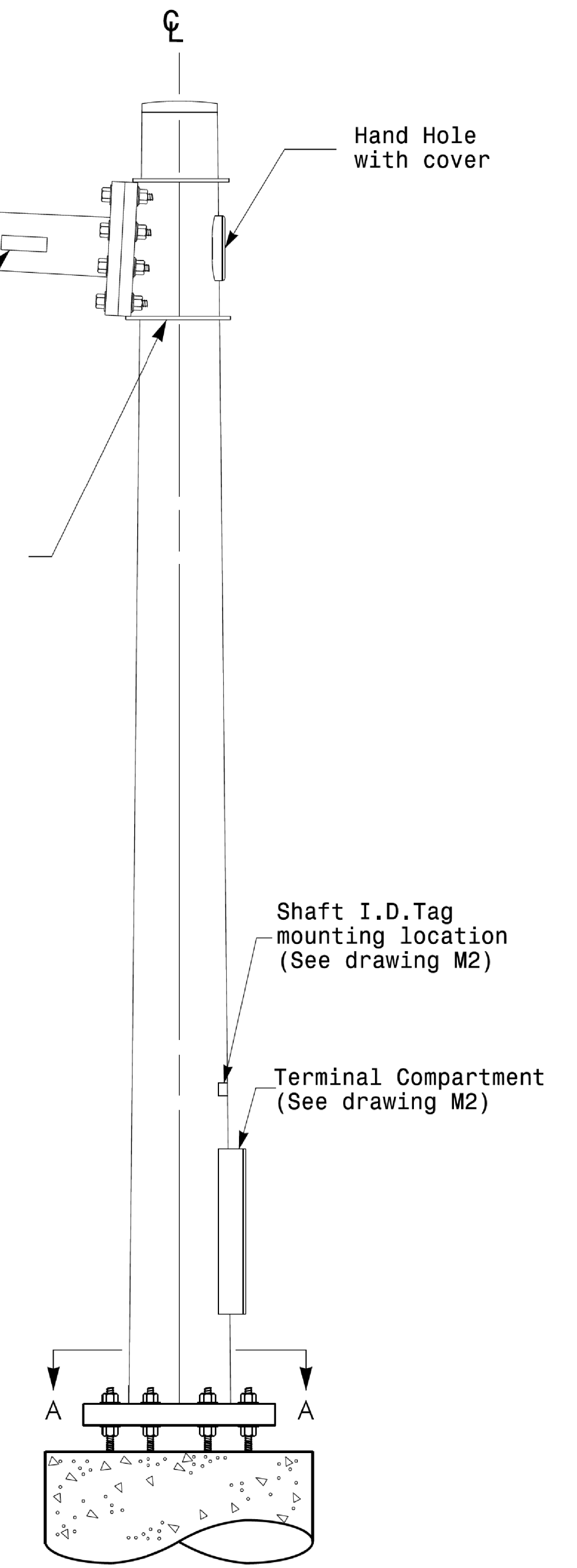
**Section B-B**  
 (Pole Attachment to Base Plate)  
**Full-Penetration Groove Weld Detail**



**Slip Fit Joint Detail for Mast Arm**



**Mast Arm Radial Orientation**



**Mast Arm Pole**

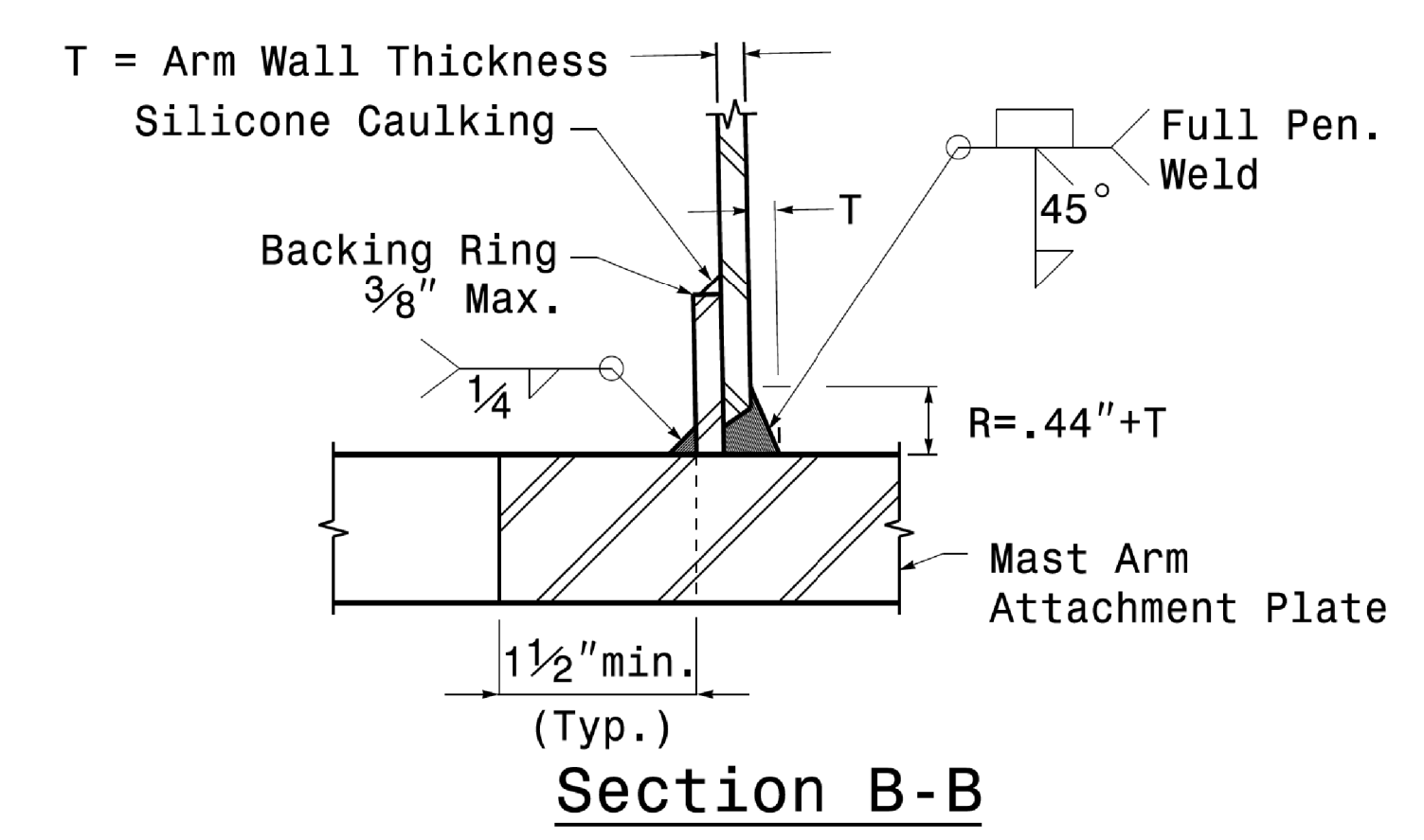
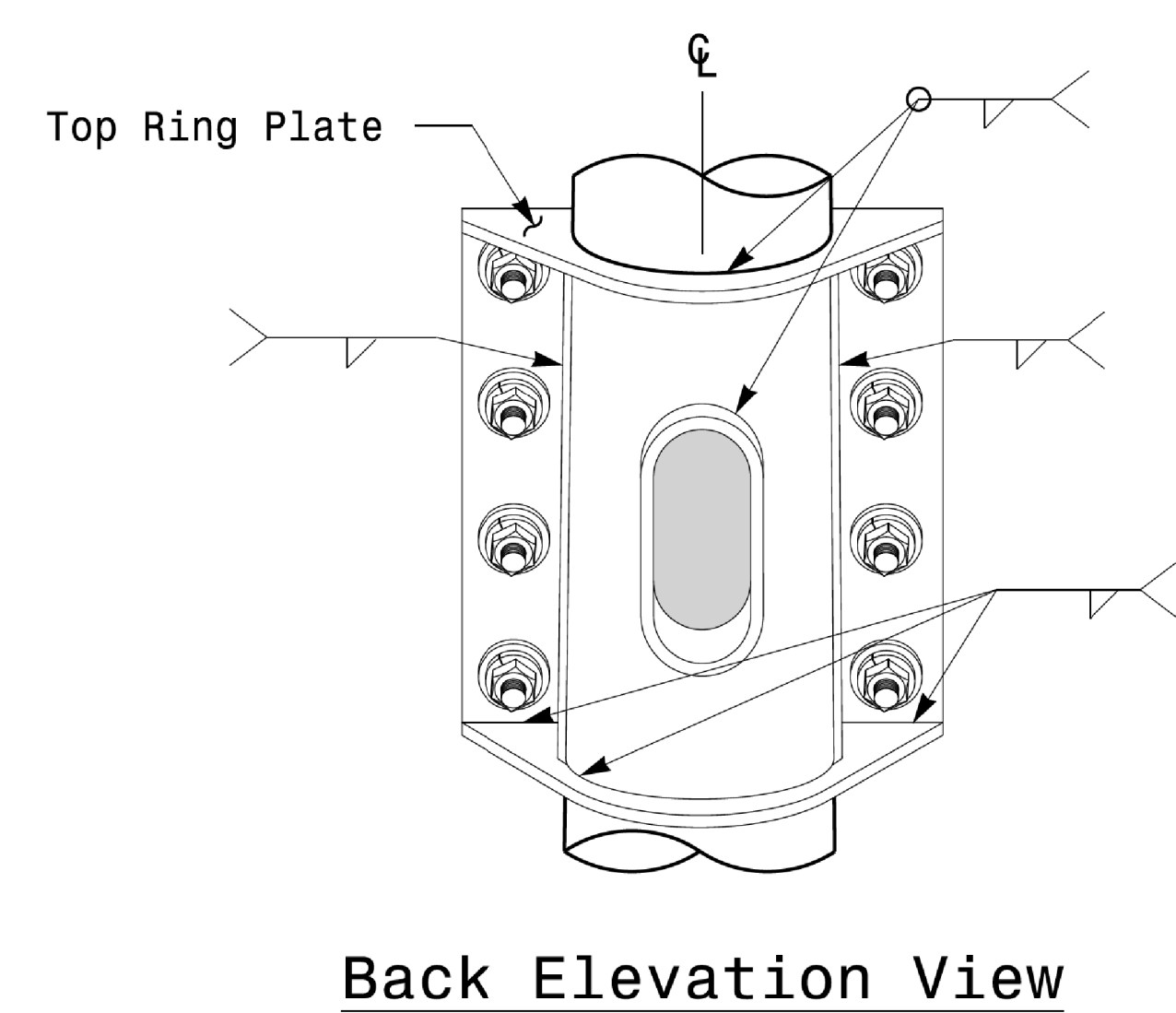
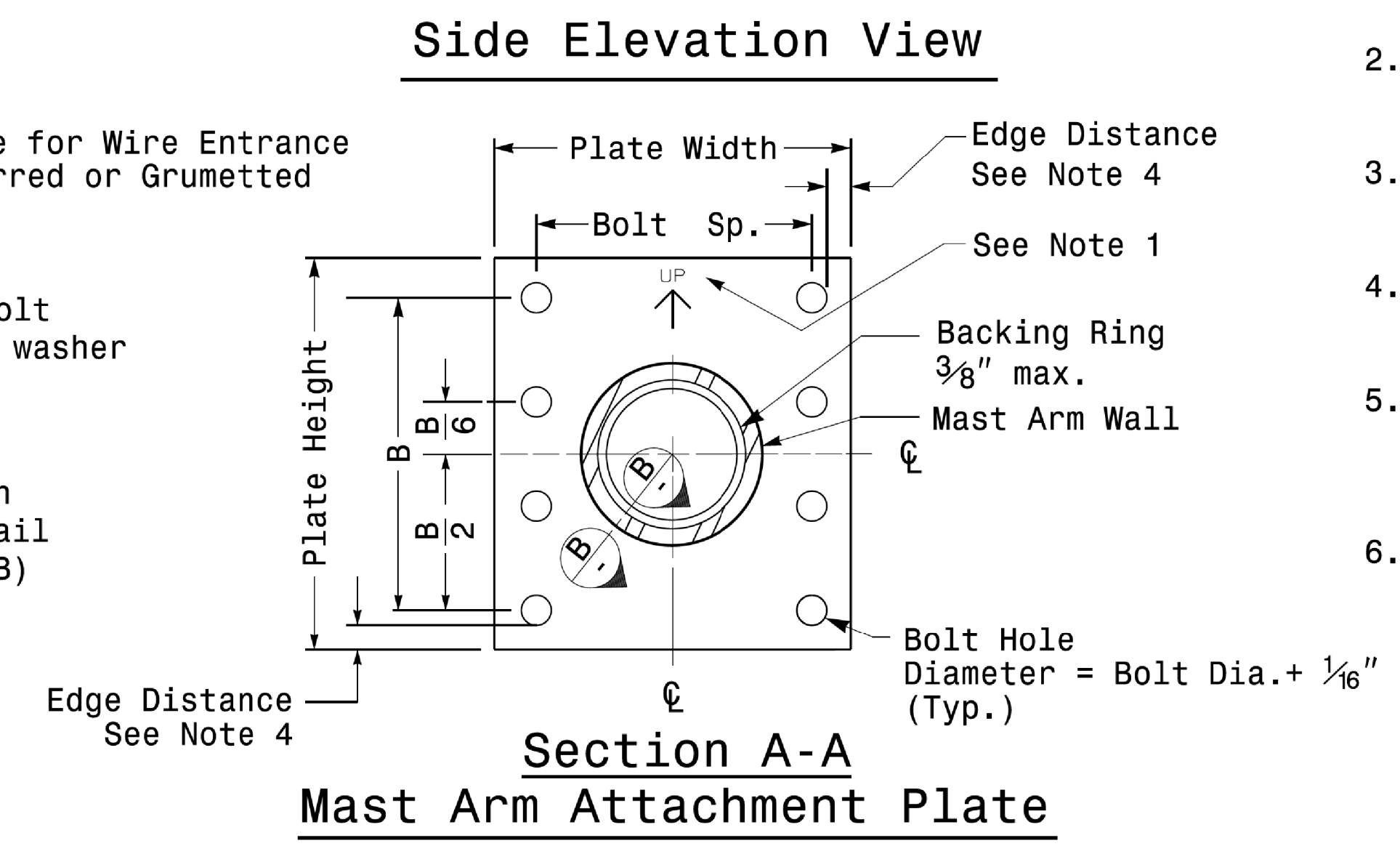
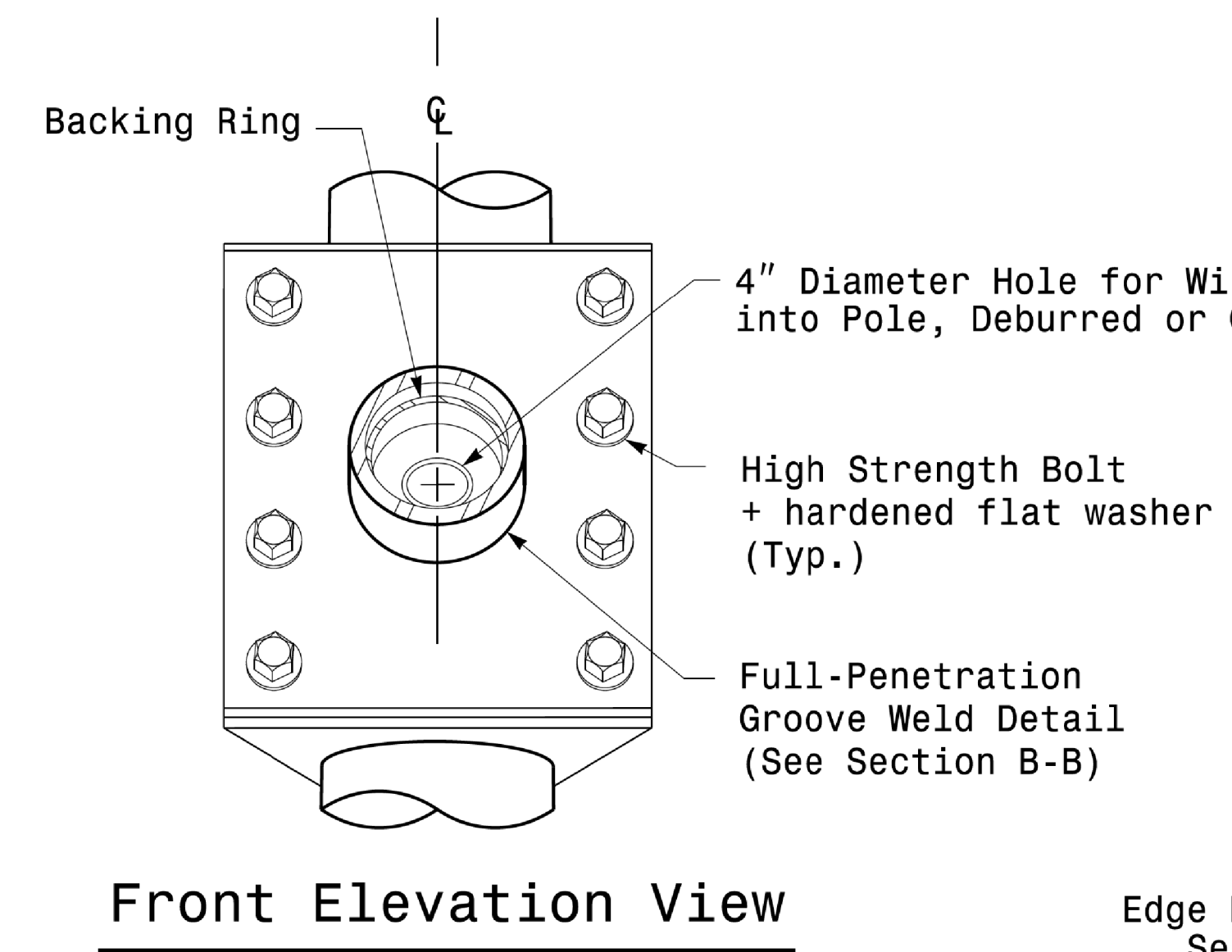
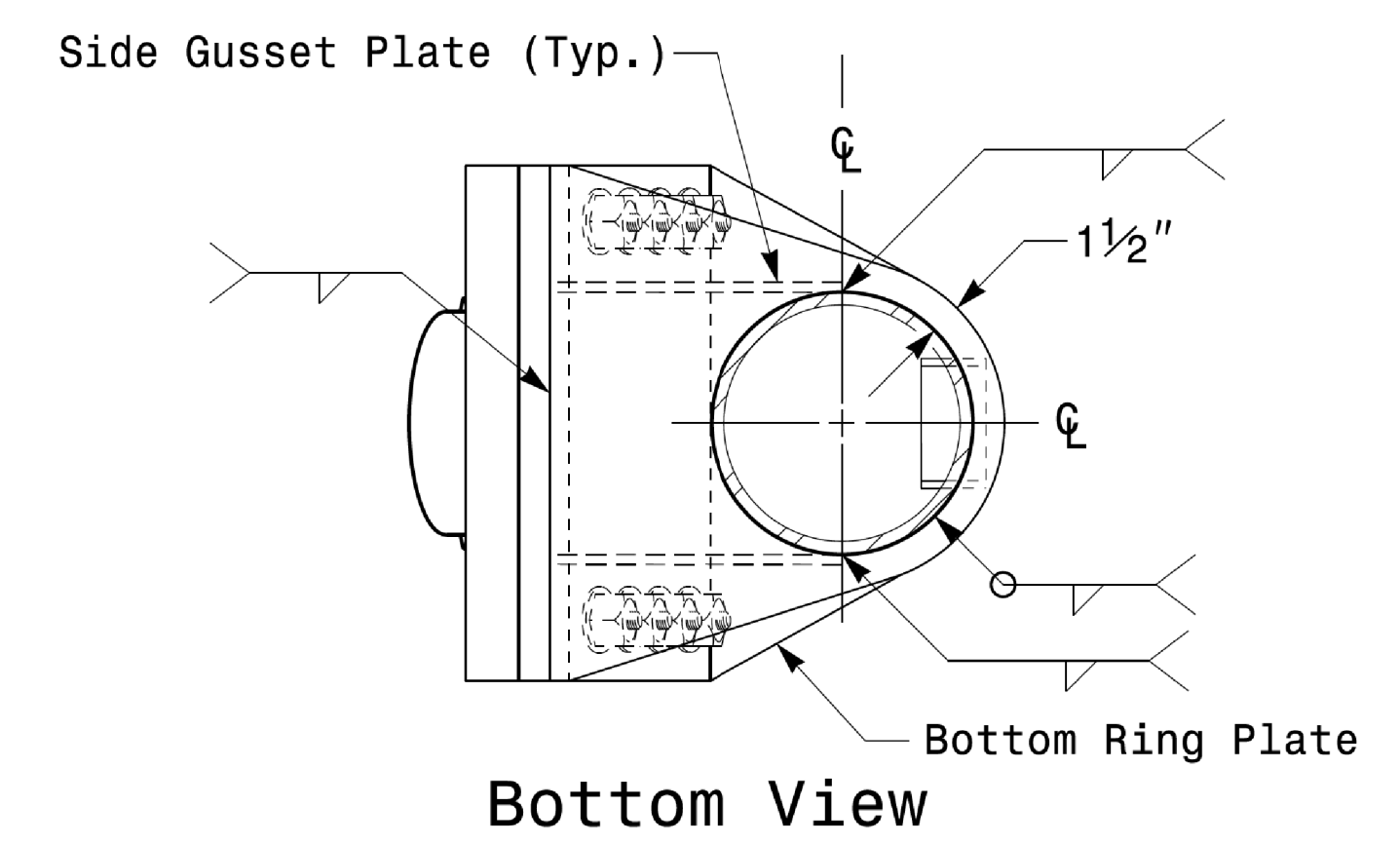
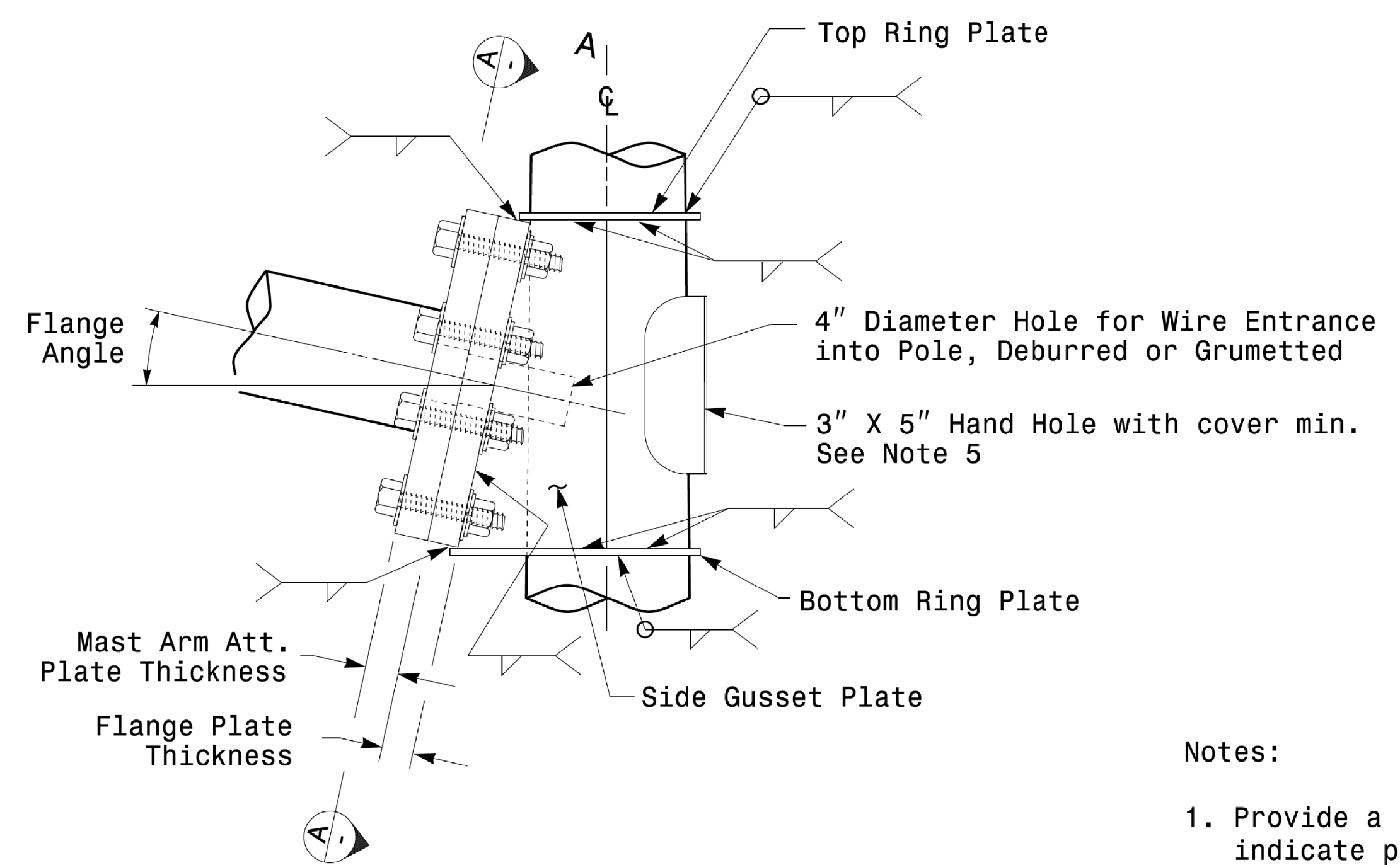
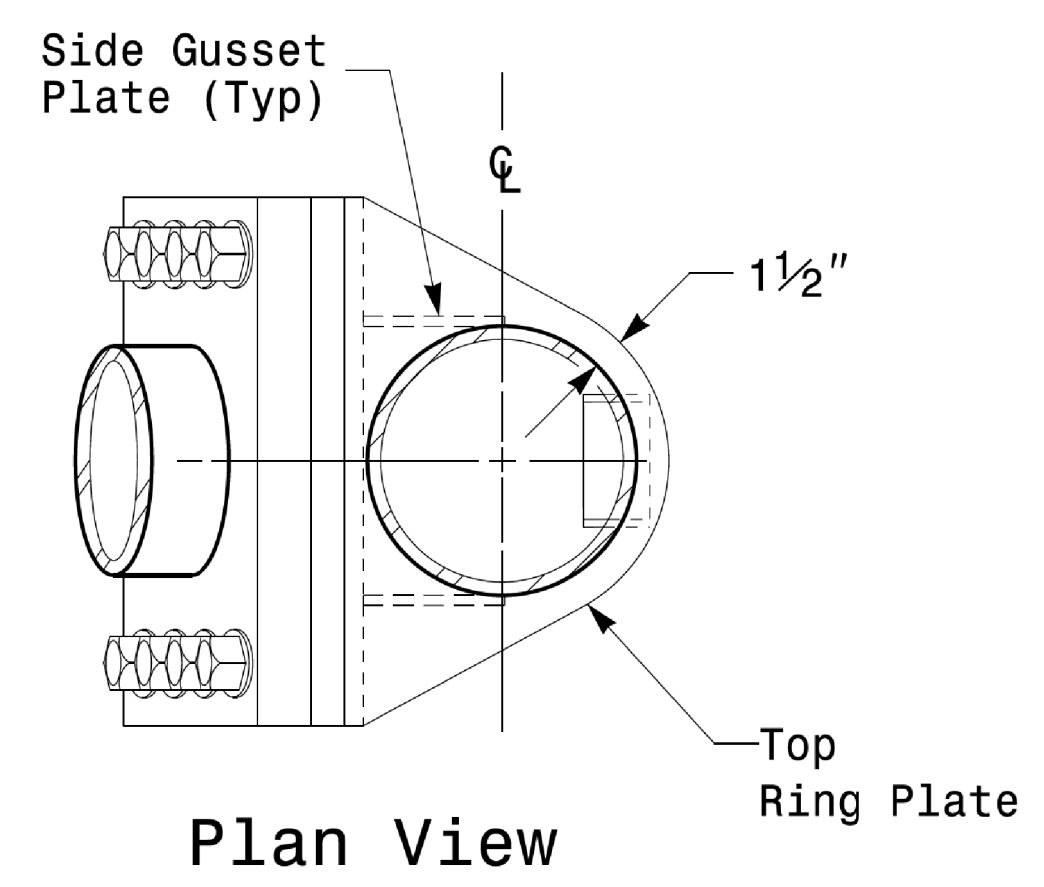
**Fabrication Details - Mast Arm Poles**

11-001-2017\_08:33 S:\PROJECTS\175\SIGNALS\SIGNAL Design Section\Mast Arm Pole.dgn

<p>750 N. Greenfield Pkwy, Garner, NC 27529</p>	<b>Typical Fabrication Details For Mast Arm Poles</b>		SEAL 
	PLAN DATE: OCTOBER 2017 PREPARED BY: N. BITTING	DESIGNED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR	
SCALE: 0 NA NONE	DESIGNED BY: <i>D. Sarkar</i>		DATE: 10/11/2017

# Welded Ring Stiffened Mast Arm Connection

PROJECT ID. NO.	SHEET NO.
I-5714 / U-5114	Sig.M5



**Notes:**

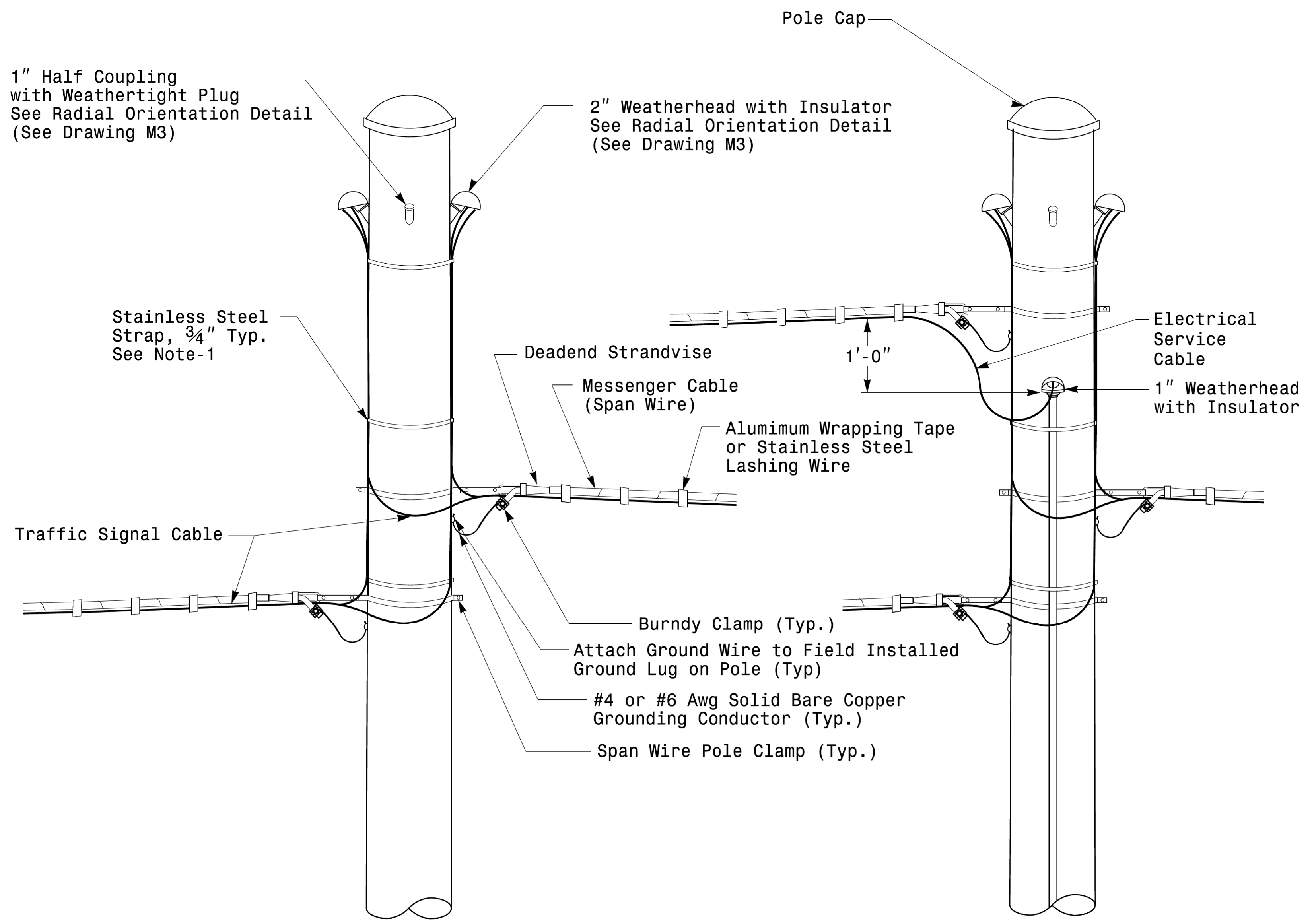
1. Provide a permanent means of identification above the mast arm to indicate proper attachment orientation of the mast arm.
2. Designer will determine the size of all structural components, plates, fasteners, and welds shown unless they are already specified.
3. Fabricator is responsible for providing appropriate holes at drainage points to drain galvanizing materials.
4. For minimum edge distance follow AISC Table J3.4 and J3.5. For nominal bolt hole size use Table J3.3.
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.

**Fabrication Details – Mast Arm Connection**

11-OCT-2017 08:35 S:\IT\SS\WITS\_Signals\esign\Design Section\MastArm\_Sheets\2016\2014\_Sig\_M5\_Std\_Connection\_Fabrication\_Details-Mast Arm Poles.dgn

	Prepared in the Offices of: 		Typical Fabrication Details For Mast Arm Connection To Pole	
	PLAN DATE: OCTOBER 2017 PREPARED BY: N. BITTING	DESIGNED BY: C.F. ANDREWS REVIEWED BY: D.C. SARKAR	REVISIONS	INIT.
SCALE: 0 NA NONE		Documented by: <i>D. C. Sarkar</i> DATE: 10/11/2017		

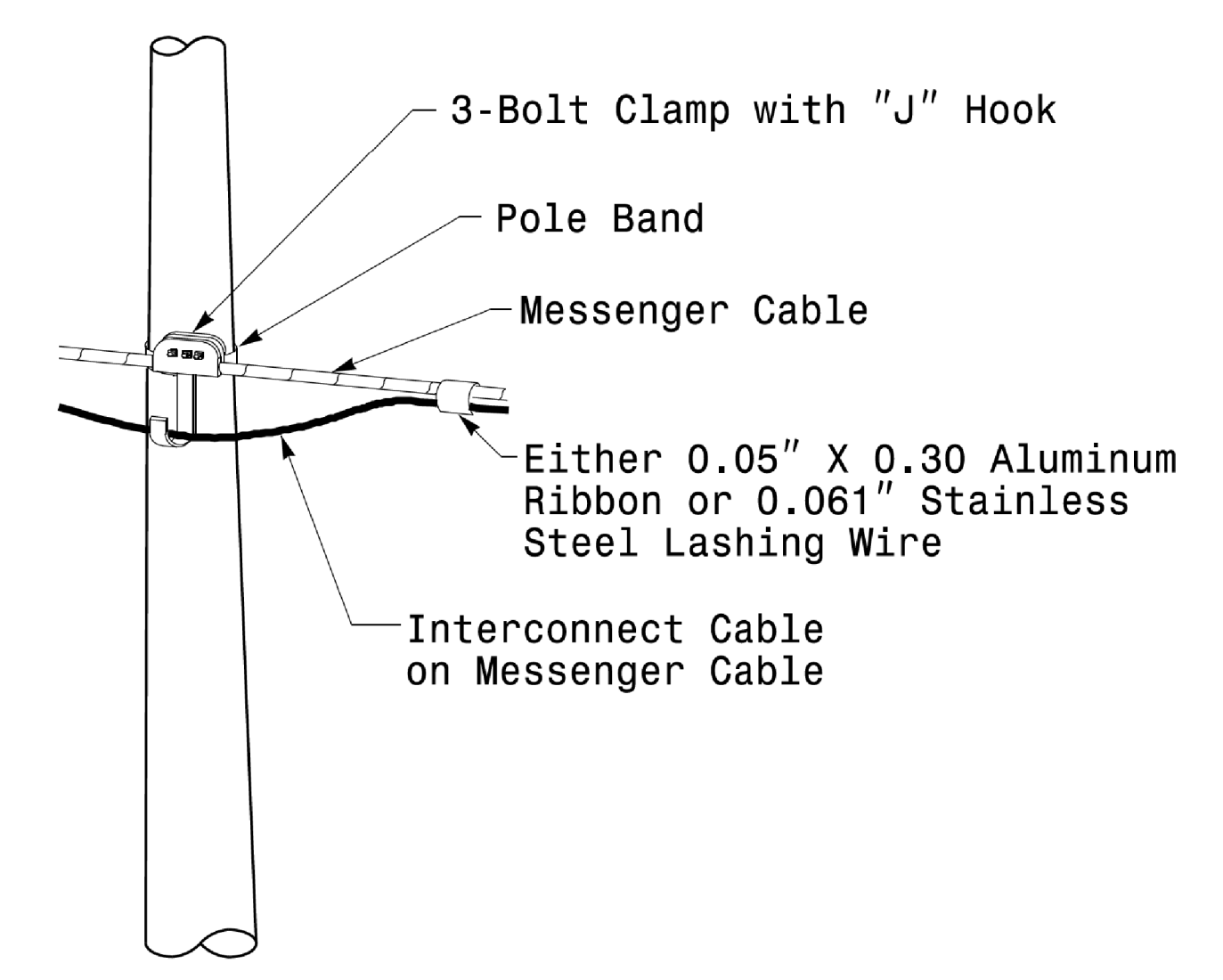
PROJECT ID. NO.	SHEET NO.
I-5714 / U-5114	Sig.M6



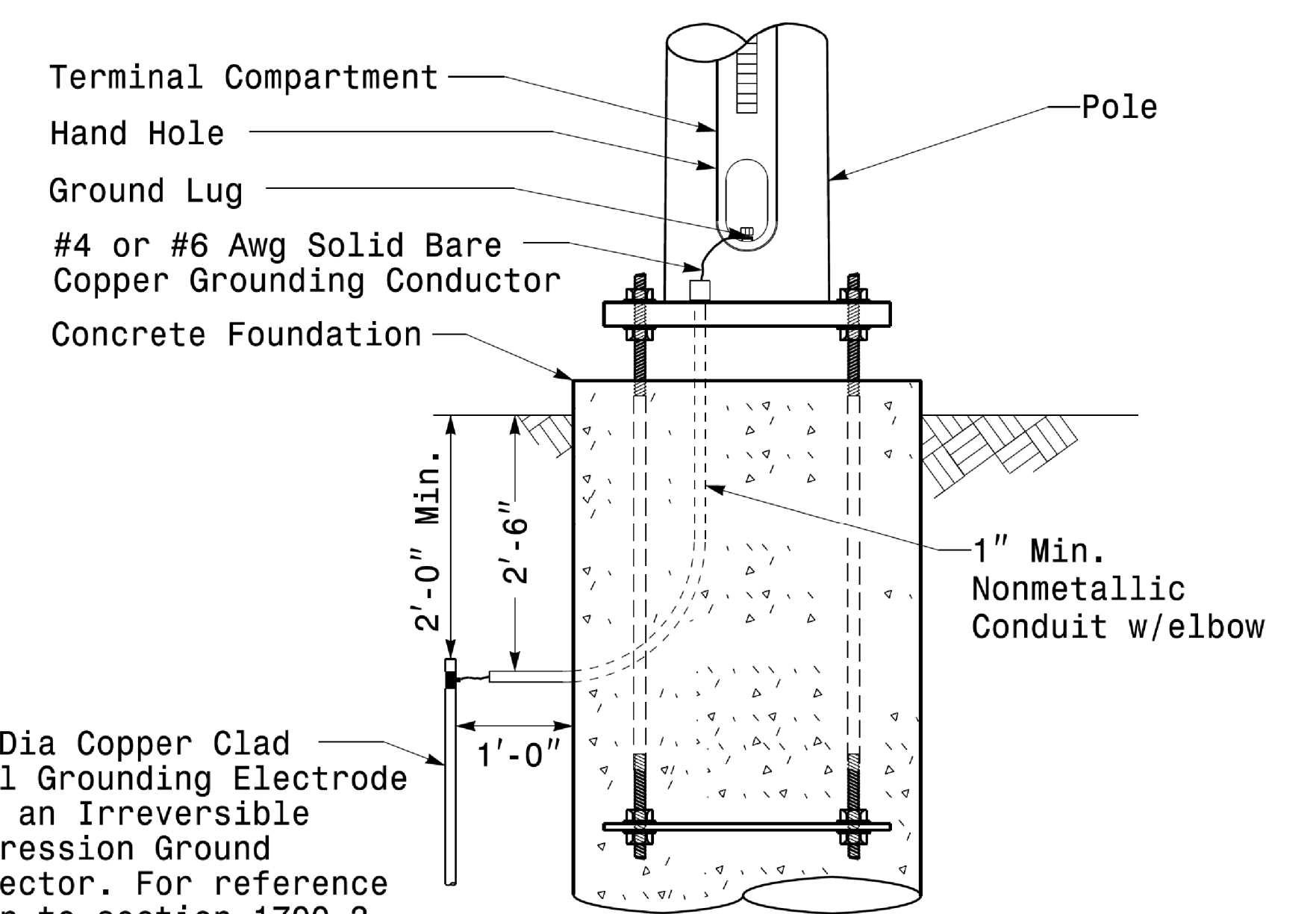
**Strain Pole Attachments**

**NOTE:**

1. Strap all signal cables to the side of the pole with 3/4" stainless steel straps when the distance between the spanwire attachment clamp and the weatherheads exceeds 3'-0".
2. Provide minimum two spanwire 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 2018.



**Attachment of Cable to Intermediate Metal Pole**

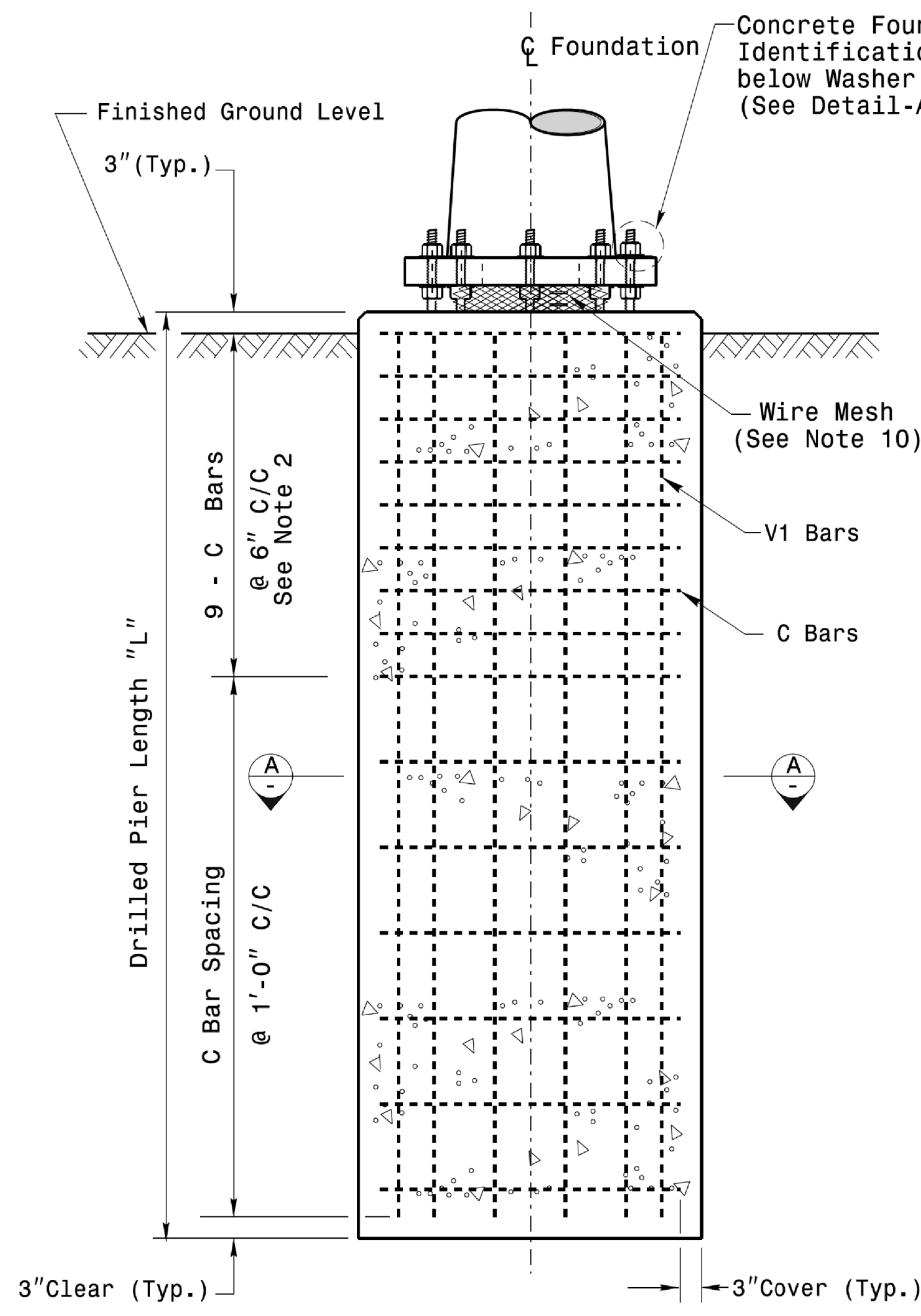


**Metal Pole Grounding Detail For Strain Pole and Mast Arm**

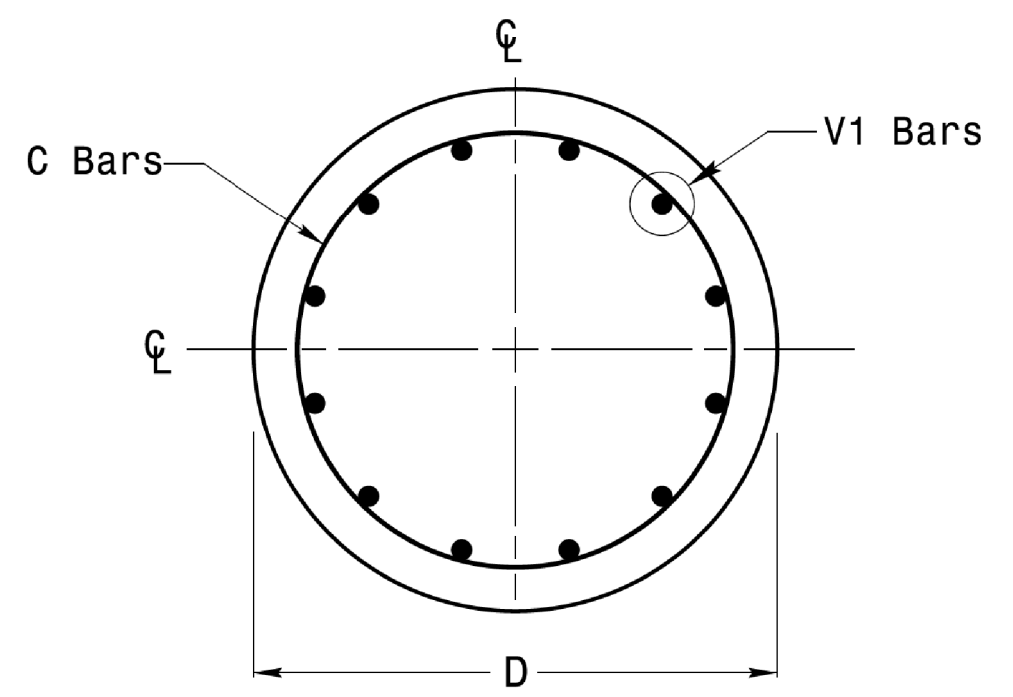
**Fabrication Details – Strain Pole Attachments**

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S:\PROJECTS\I-5714\I-5714-SIGNALSIGNAL Design Section\Eastern Region\I-5714-Sig.M6-Std. Fabrication Details-Strain Poles.dgn  
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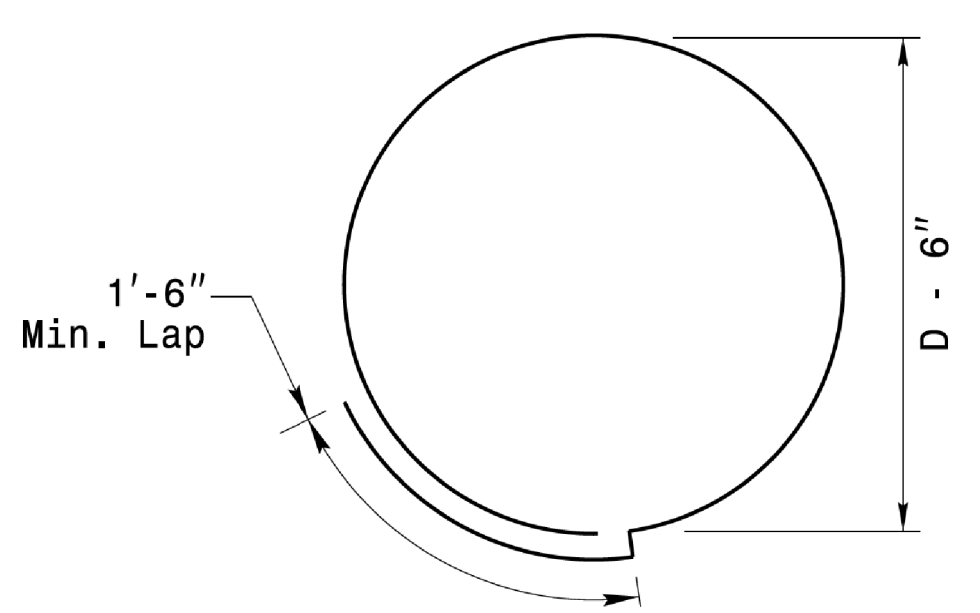
	<p>Typical Fabrication Details For Strain Pole Attachments</p>		<p>SEAL</p>
	<p>PLAN DATE: OCTOBER 2017</p>	<p>DESIGNED BY: C.F. ANDREWS</p>	
<p>SCALE: NONE</p>	<p>PREPARED BY: N. BITTING</p>	<p>REVISIONS</p>	<p>INIT. DATE</p>
<p>Signature: Debesh C. Sarkar</p>			<p>DATE: 10/11/2017</p>



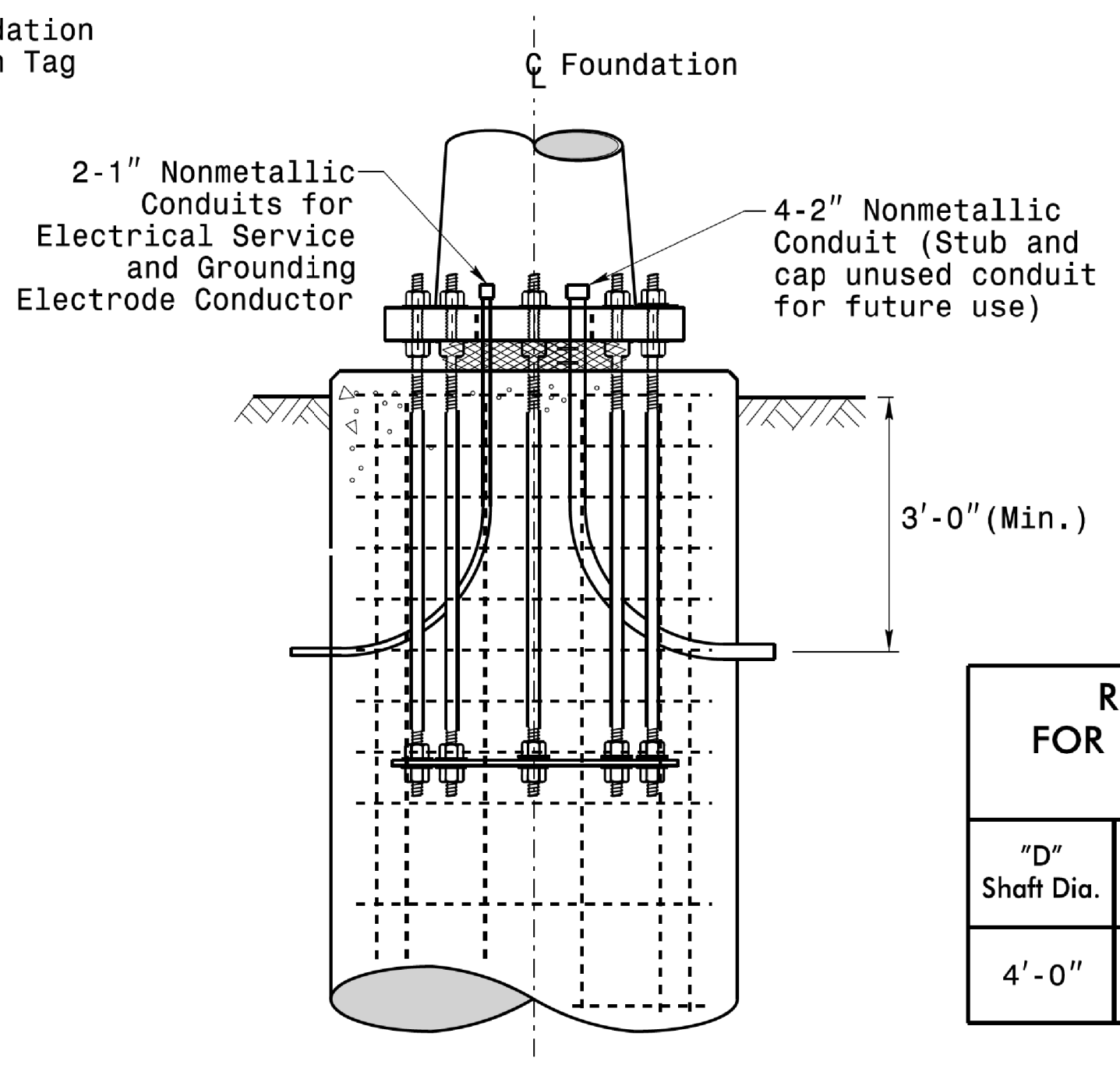
**Concrete Shaft Elevation**



**Section A-A**



**Typical "C" Bar Detail**



**Typical Foundation Conduit Details**

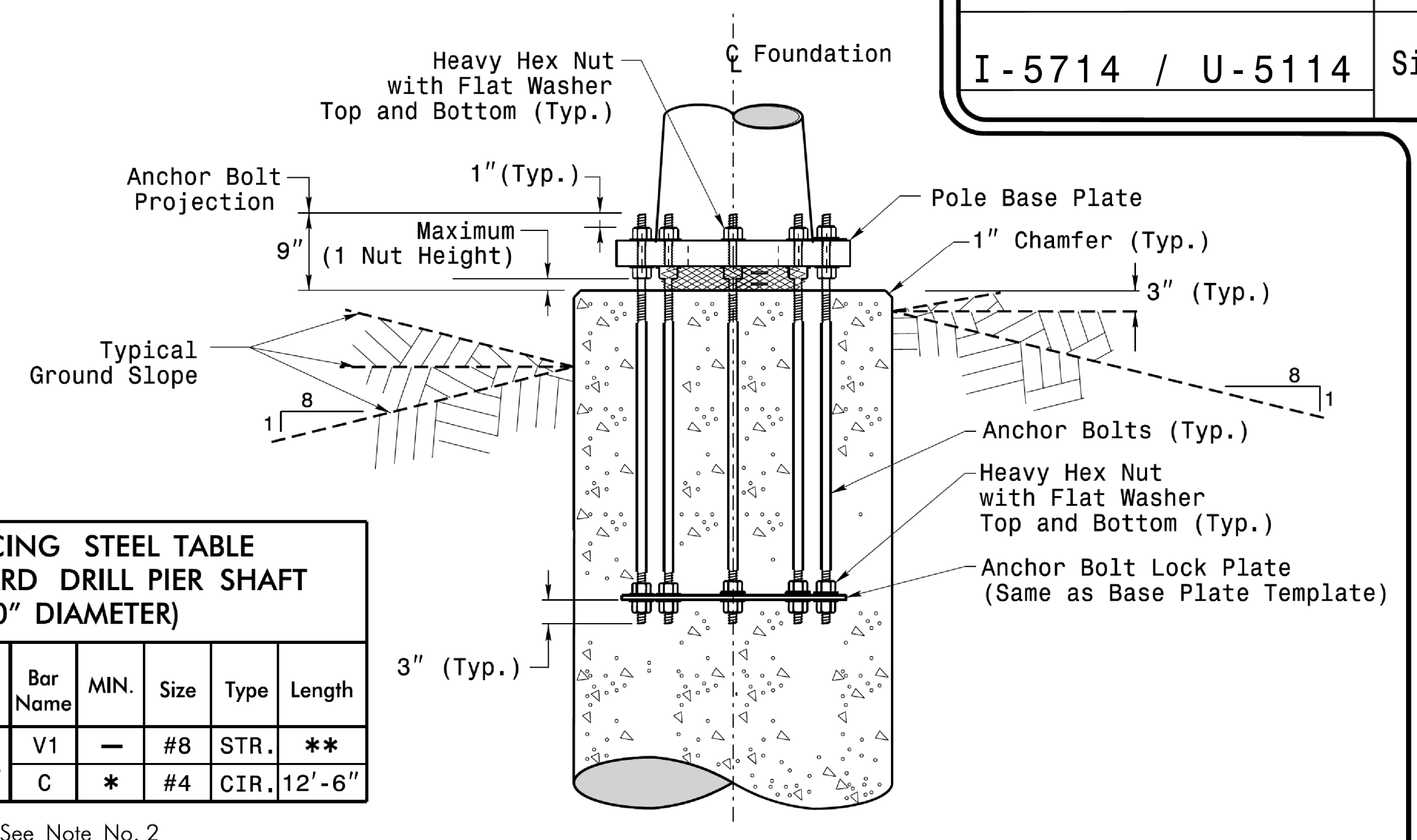
**REINFORCING STEEL TABLE FOR STANDARD DRILL PIER SHAFT (4'-0" DIAMETER)**

"D" Shaft Dia.	Conc. Volume (cu. yds.)	Bar Name	MIN.	Size	Type	Length
4'-0"	.465 x L	V1	-	#8	STR.	**
		C	*	#4	CIR.	12'-6"

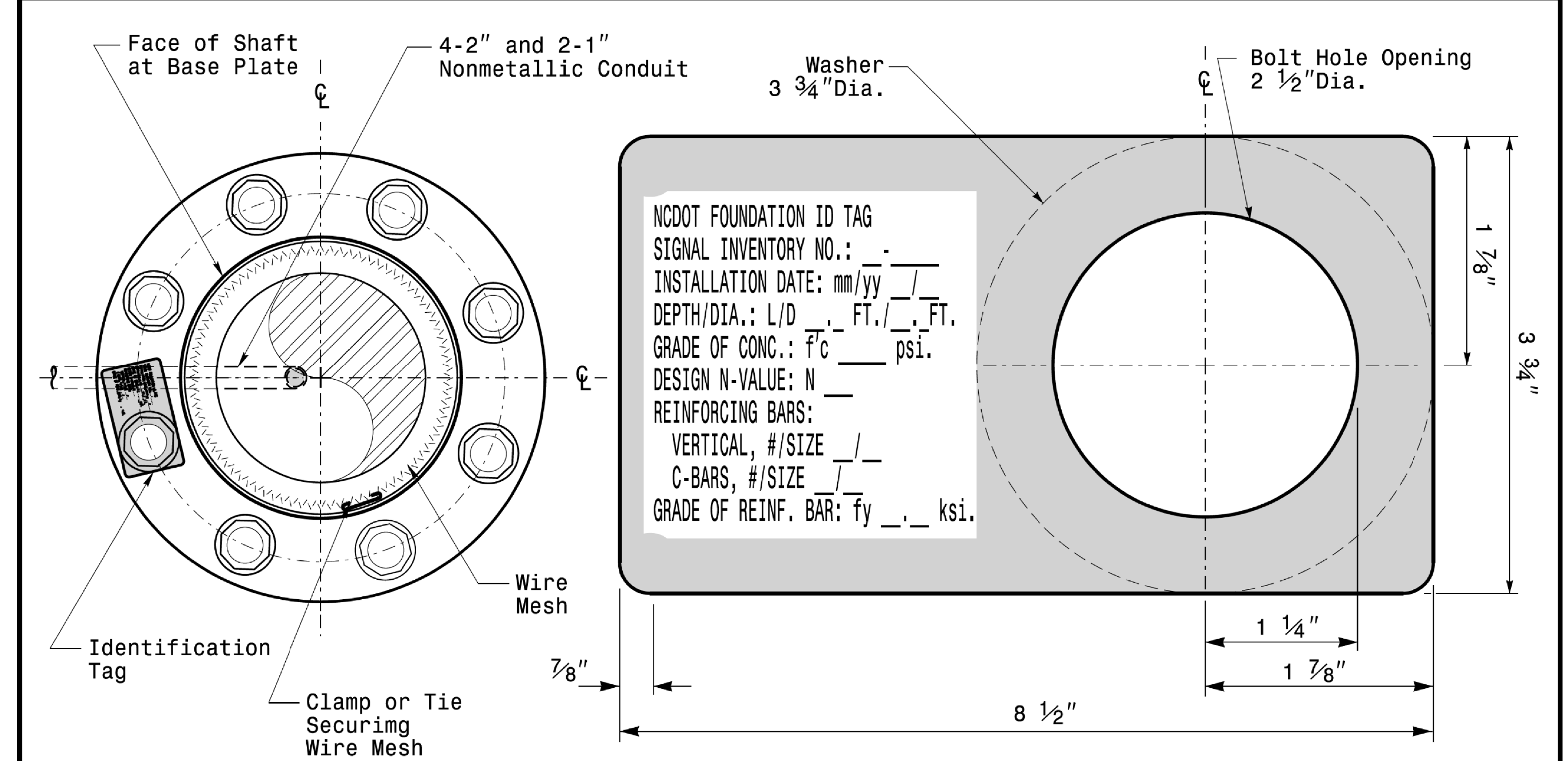
\* See Note No. 2  
\*\* See Note No. 3

**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 2018 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 the Identification Tag on the top of the base plate, directly above the conduit's entry point.
- Provide two layers of galvanized welded 23 gauge (0.25) 6" wide 4 mesh wire 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.



**Typical Foundation Anchor Bolt Details**  
(Reinforcing Cage Not Shown for Clarity)



**Concrete Foundation Identification Tag Details**

D = Diameter  
L = Length/Depth  
mm = Month  
yy = Year

**Detail-A**

Prepared in the Office of:  
**TRANSPORTATION MOBILITY AND SAFETY DIVISION**  
DIVISION OF TRANSPORTATION  
Special Design Section  
750 N. Greenfield Pkwy, Garner, NC 27529

**Construction Details For Foundations**

PLAN DATE: OCTOBER 2018	DESIGNED BY: C.B. COGDILL
PREPARED BY: N. BITTING	REVIEWED BY: D.C. SARKAR
REV. NO. 1	COMMENTS: Revised Foundation Tag Details
INIT. N.B.	DATE: 5/11/2015

SEAL  
NORTH CAROLINA PROFESSIONAL ENGINEER  
SEAL 028094  
DEBESH C. SARKAR  
DocuSigned by:  
Debash C. Sarkar  
10/11/2017  
DATE

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# SOIL CONDITION

PROJECT ID. NO.	SHEET NO.
I-5714 / U-5114	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.)
WIND ZONE 1	LIGHT	S26L3	26	25	2	11	270	19	13	10	8	17	14.5	12.5	8	12	4	12
		S30L3	30	25	2	11	300	19.5	13.5	10	8	17.5	15	13	8	14	4	12
		S35L3	35	25	3	11	320	20	13.5	10.5	8	17.5	15	13	8	14	4	12
	HEAVY	S30H3	30	29	3	16	450	24.5	16	12	9	21	17.5	15	8	16	4	6
		S35H3	35	29	4	16	515	26	17	12.5	9.5	22	18.5	16	8	16	4	6
WIND ZONE 2	LIGHT	S26L2	26	23	2	10	245	18	12.5	9.5	8	16.5	14	12	8	12	4	12
		S30L2	30	23	2	10	270	18.5	12.5	10	8	16.5	14	12.5	8	12	4	12
		S35L2	35	23	3	10	300	19.5	13	10	8	17	14.5	13	8	12	4	12
	HEAVY	S30H2	30	29	3	15	415	23	15.5	11.5	9	20	17	14.5	8	16	4	6
		S35H2	35	29	4	15	475	25	16.5	12	9.5	21	17.5	15.5	8	16	4	6
WIND ZONE 3	LIGHT	S26L2	26	23	2	10	245	18	12.5	9.5	8	16.5	14	12	8	12	4	12
		S30L2	30	23	2	10	270	18.5	12.5	10	8	16.5	14	12.5	8	12	4	12
		S35L2	35	23	3	10	300	19.5	13	10	8	17	14.5	13	8	12	4	12
	HEAVY	S30H2	30	29	3	15	415	23	15.5	11.5	9	20	17	14.5	8	16	4	6
		S35H2	35	29	4	15	475	25	16.5	12	9.5	21	17.5	15.5	8	16	4	6
WIND ZONE 4	LIGHT	S26L1	26	22	2	8	190	16	11.5	8.5	8	15	12.5	11	8	12	4	12
		S30L1	30	22	2	8	205	16.5	11.5	9	8	15	13	11.5	8	12	4	12
		S35L1	35	22	3	8	230	17	12	9	8	15.5	13.5	11.5	8	12	4	12
	HEAVY	S30H1	30	25	3	12	320	20.5	13.5	10.5	8	18	15	13.5	8	16	4	6
		S35H1	35	25	4	12	350	21	14	10.5	8.5	18.5	15.5	13.5	8	16	4	6
WIND ZONE 5	LIGHT	S26L2	26	23	2	10	245	18	12.5	9.5	8	16.5	14	12	8	12	4	12
		S30L2	30	23	2	10	270	18.5	12.5	10	8	16.5	14	12.5	8	12	4	12
		S35L2	35	23	3	10	300	19.5	13	10	8	17	14.5	13	8	12	4	12
	HEAVY	S30H2	30	29	3	15	415	23	15.5	11.5	9	20	17	14.5	8	16	4	6
		S35H2	35	29	4	15	475	25	16.5	12	9.5	21	17.5	15.5	8	16	4	6

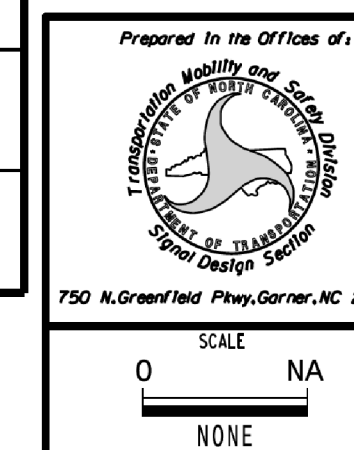
**General Notes:**

1. Values shown in the "Reactions at the Pole Base" column represent the minimum acceptable capacity allowed for design using a design CSR of 1.00.
2. Use chairs and spacers to maintain proper clearance.
3. For foundation, always use air-entrain 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 M 1 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 for Reference Drilled Shafts.

48" Dia. Foundations Concrete Volume (cubic yards) = (0.465) x Drilled Pier Length



Standard Strain Pole Foundation for All Soil Conditions	
PLAN DATE: OCTOBER 2017	DESIGNED BY: C.B. COGDILL
PREPARED BY: N. BITTING	REVIEWED BY: D.C. SARKAR
REVISIONS	INIT. DATE
Changed "Foundation Depth" to "Drilled Pier Length" in Calc. Exp.	N.B. 7/12/2015

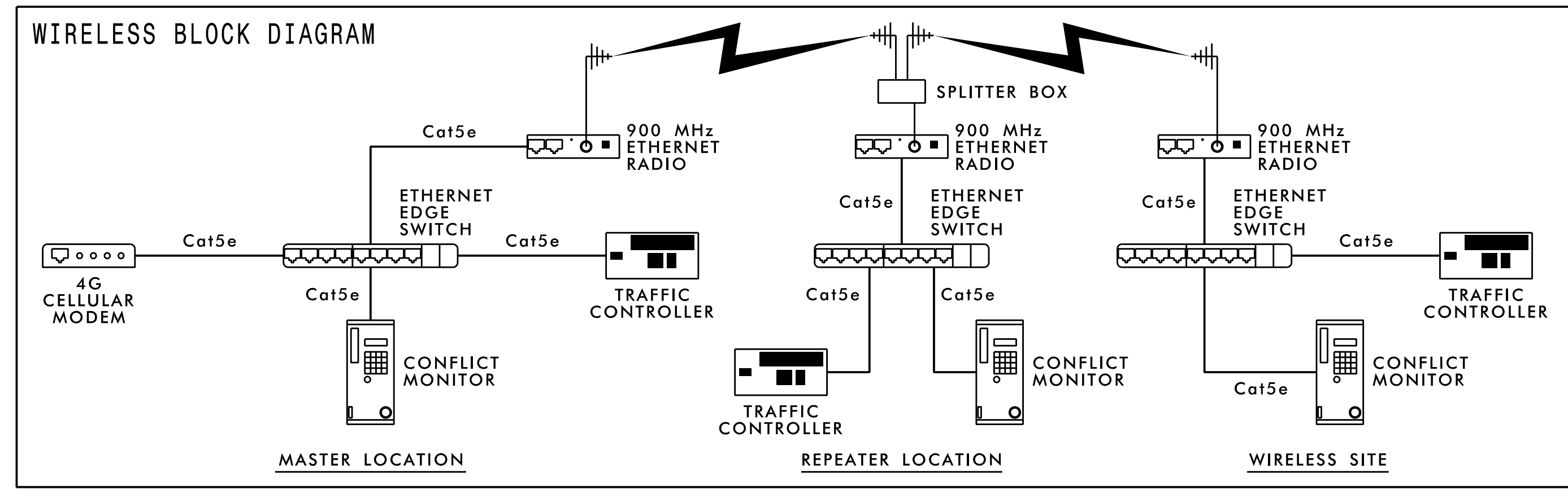
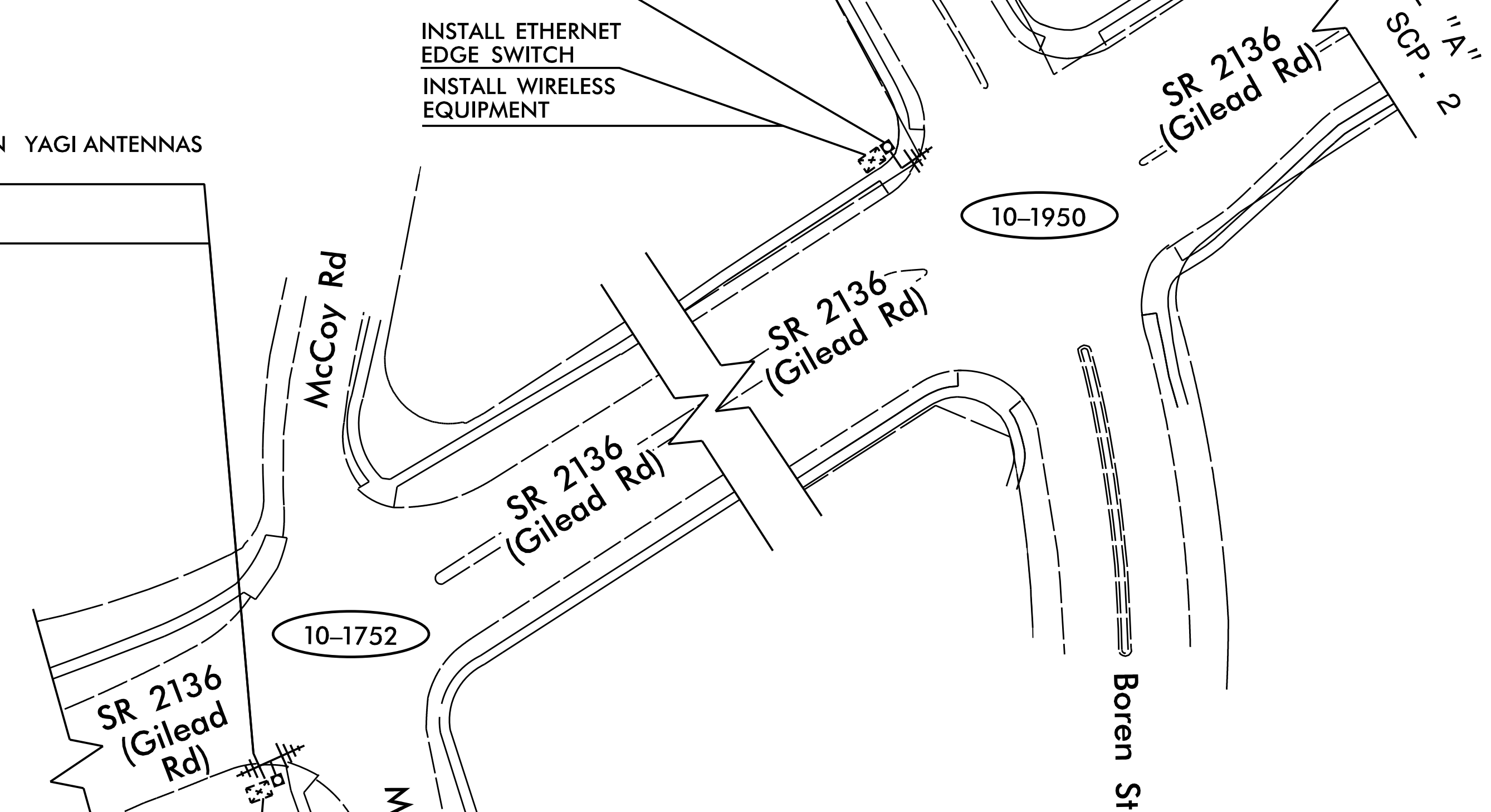
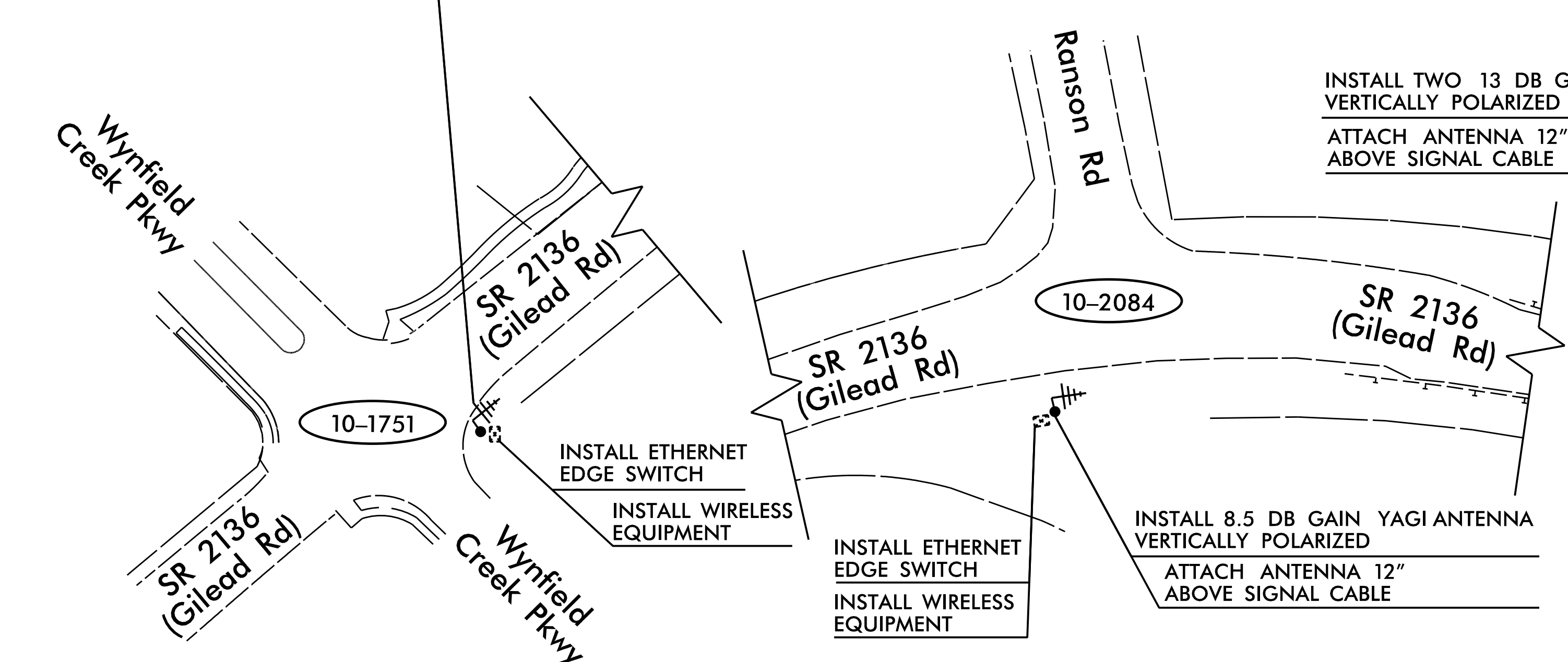
SEAL

10/11/2017

Standard Strain Pole Foundation-All Soil Condition

INSTALL 8.5 DB GAIN YAGI ANTENNA VERTICALLY POLARIZED  
ATTACH ANTENNA 12" ABOVE SIGNAL CABLE

INSTALL 8.5 DB GAIN YAGI ANTENNA VERTICALLY POLARIZED  
ATTACH ANTENNA 12" ABOVE FIBER OPTIC CABLE



**LEGEND**

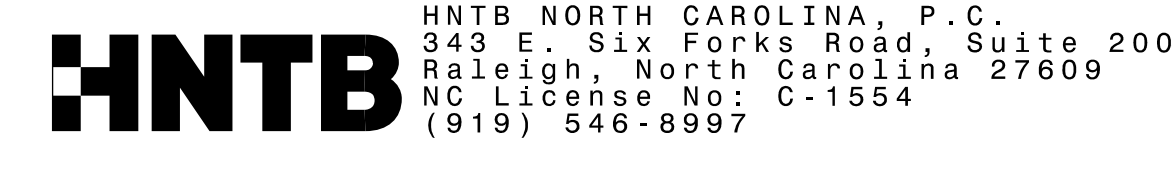
	YAGI ANTENNA (DOUBLE) FOR REPEATER OPERATION
	YAGI ANTENNA (SINGLE)
	NEW CONTROLLER AND CABINET
	EXISTING CONTROLLER AND CABINET
	SIGNAL INVENTORY NUMBER
	NEW METAL POLE W/MAST ARM
	EXISTING METAL POLE W/MAST ARM
	NEW METAL STRAIN POLE
	EXISTING METAL STRAIN POLE
	NEW WOOD POLE
	EXISTING WOOD POLE

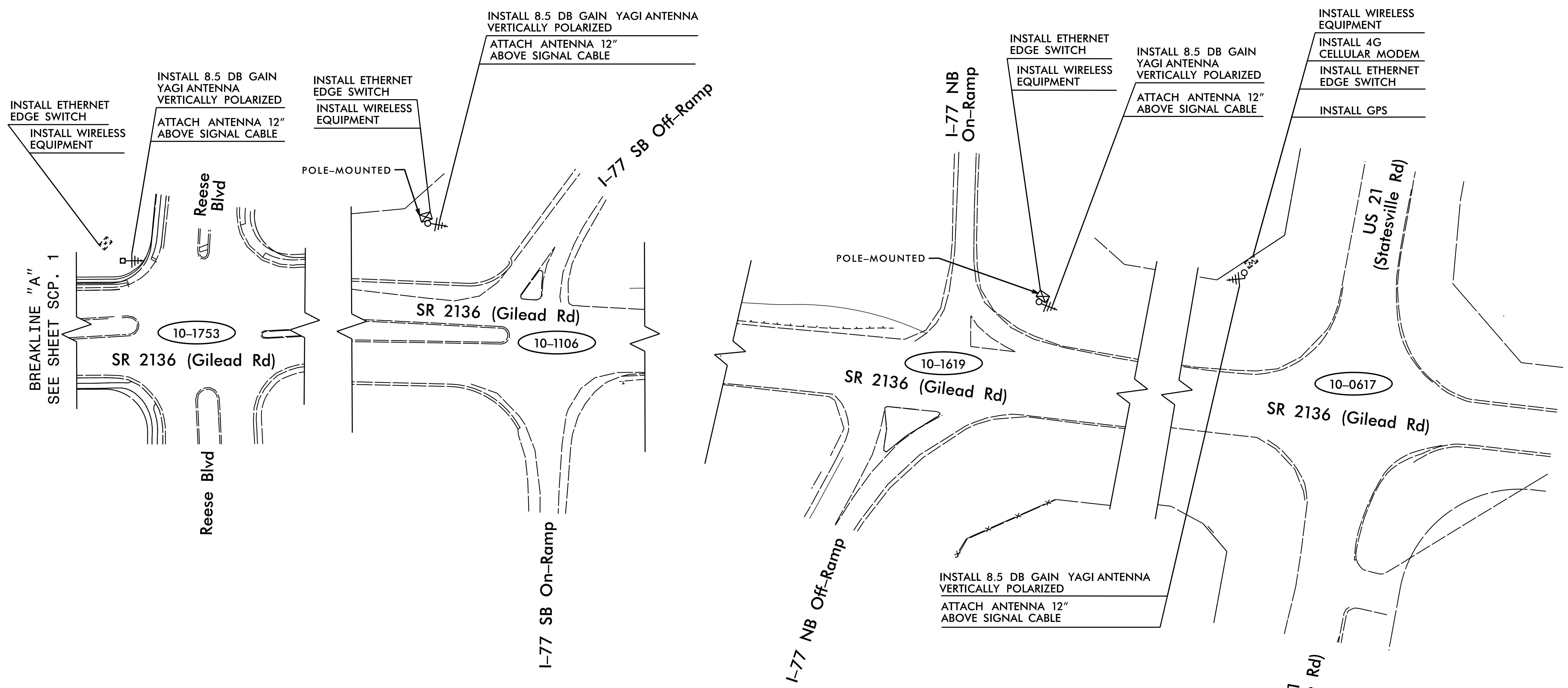
- NOTES FOR EXISTING COMMUNICATIONS CABLE:**
- REMOVE ALL EXISTING COMMUNICATIONS CABLE FROM INSIDE THE CONTROLLER CABINET AND THE RISER ASSEMBLY. LEAVE RISER ASSEMBLY IN PLACE.
- NOTES FOR WIRELESS COMMUNICATIONS:**
- INSTALL COAXIAL CABLE:
    - ON WOOD POLES, REQUIRING A NEW RIGID GALVANIZED STEEL RISER, INSTALL A 2" RISER WITH WEATHERHEAD AND ROUTE THE COAXIAL CABLE TO THE ANTENNA.
    - ON METAL POLES WITH MAST ARMS, RUN COAXIAL CABLE UP THROUGH THE POLE AND OUT THE MAST ARM; FIELD DRILL A 1/2" HOLE UP THROUGH THE BOTTOM OF MAST ARM FOR INSTALLATION OF THE COAXIAL CABLE TO THE ANTENNA.
    - ON METAL STRAIN POLES, RUN COAXIAL CABLE UP THROUGH THE POLE AND OUT THE WEATHERHEAD AND ROUTE THE COAXIAL CABLE TO THE ANTENNA.
    - BETWEEN THE POINT OF EXITING THE RISER, METAL POLE, OR MAST ARM AND THE ANTENNA, SECURE THE COAXIAL CABLE TO THE STRUCTURE USING 3/4" STAINLESS STEEL STRAPS EVERY 12".
  - IF AN EXISTING 2" SPARE RIGID GALVANIZED STEEL RISER IS AVAILABLE, INSTALL THE COAXIAL CABLE IN THE SPARE RISER.
  - INSTALL WIRELESS ANTENNA ON POLE WITH RF WARNING SIGN.  
(NOTE: RF WARNING SIGN NOT REQUIRED WHEN ANTENNA IS INSTALLED ON AN NCDOT-OWNED POLE.)
  - MAINTAIN PROPER CLEARANCE FROM ALL UTILITIES PER THE NATIONAL ELECTRICAL SAFETY CODE.
  - REFERENCE "WIRELESS RADIO ANTENNA TYPICAL DETAILS" IN THE 2018 NCDOT ROADWAY STANDARD DRAWINGS.
  - RETURN EXISTING WIRELESS RADIO EQUIPMENT TO THE DIVISION 10 SIGNAL SHOP. THE DIVISION 10 OFFICE CAN BE REACHED AT 704-983-4400.
  - FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 10 DEPUTY TRAFFIC ENGINEER, LAURA JEAN, AT (704) 983-4400 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES 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 DEPUTY 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 FUNCTIONAL.

TEMPORARY PLAN 1

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

 250 N. Greenfield Pkwy., Garner, NC 27529 HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609 NC License No: C-1554 (919) 546-8997	SR 2136 (GILEAD RD) WIRELESS COMMUNICATIONS PLANS		SEAL  NATASHA R. SIMMONS ENGINEER 031464
	Division 10 Mecklenburg Co. Huntersville PLAN DATE: December 2017 REVIEWED BY: T.R. Terrell PREPARED BY: J.A. Wagner REVIEWED BY: N.R. Simmons		
0 SCALE 50 1" = 50'	REVISIONS INIT. DATE	AUTHORIZED SIGNATURE DATE	DocuSigned by: Natasha R. Simmons/23/2018 CADD File name: I5714_U5114_SCP-1.dgn





**NOTES FOR EXISTING COMMUNICATIONS CABLE:**

- REMOVE ALL EXISTING COMMUNICATIONS CABLE FROM INSIDE THE CONTROLLER CABINET AND THE RISER ASSEMBLY. LEAVE RISER ASSEMBLY IN PLACE.

**NOTES FOR WIRELESS COMMUNICATIONS:**

- INSTALL COAXIAL CABLE:
  - ON WOOD POLES, REQUIRING A NEW RIGID GALVANIZED STEEL RISER, INSTALL A 2" RISER WITH WEATHERHEAD AND ROUTE THE COAXIAL CABLE TO THE ANTENNA.
  - ON METAL POLES WITH MAST ARMS, RUN COAXIAL CABLE UP THROUGH THE POLE AND OUT THE MAST ARM; FIELD DRILL A 1/2" HOLE UP THROUGH THE BOTTOM OF MAST ARM FOR INSTALLATION OF THE COAXIAL CABLE TO THE ANTENNA.
  - ON METAL STRAIN POLES, RUN COAXIAL CABLE UP THROUGH THE POLE AND OUT THE WEATHERHEAD AND ROUTE THE COAXIAL CABLE TO THE ANTENNA.
  - BETWEEN THE POINT OF EXITING THE RISER, METAL POLE, OR MAST ARM AND THE ANTENNA, SECURE THE COAXIAL CABLE TO THE STRUCTURE USING 3/4" STAINLESS STEEL STRAPS EVERY 12".
- IF AN EXISTING 2" SPARE RIGID GALVANIZED STEEL RISER IS AVAILABLE, INSTALL THE COAXIAL CABLE IN THE SPARE RISER.
- INSTALL WIRELESS ANTENNA ON POLE WITH RF WARNING SIGN.  
(NOTE: RF WARNING SIGN NOT REQUIRED WHEN ANTENNA IS INSTALLED ON AN NCDOT-OWNED POLE.)
- MAINTAIN PROPER CLEARANCE FROM ALL UTILITIES PER THE NATIONAL ELECTRICAL SAFETY CODE.
- REFERENCE "WIRELESS RADIO ANTENNA TYPICAL DETAILS" IN THE 2018 NCDOT ROADWAY STANDARD DRAWINGS.
- RETURN EXISTING WIRELESS RADIO EQUIPMENT TO THE DIVISION 10 SIGNAL SHOP. THE DIVISION 10 OFFICE CAN BE REACHED AT 704-983-4400.
- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 10 DEPUTY TRAFFIC ENGINEER, LAURA JEAN, AT (704) 983-4400 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES 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 DEPUTY 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 FUNCTIONAL.

**LEGEND**

	YAGI ANTENNA (DOUBLE) FOR REPEATER OPERATION
	YAGI ANTENNA (SINGLE)
	NEW CONTROLLER AND CABINET
	NEW MASTER CONTROLLER AND NEW CABINET
	EXISTING CONTROLLER AND CABINET
	SIGNAL INVENTORY NUMBER
	NEW METAL POLE W/MAST ARM
	EXISTING METAL POLE W/MAST ARM
	NEW METAL STRAIN POLE
	EXISTING METAL STRAIN POLE
	NEW WOOD POLE
	EXISTING WOOD POLE

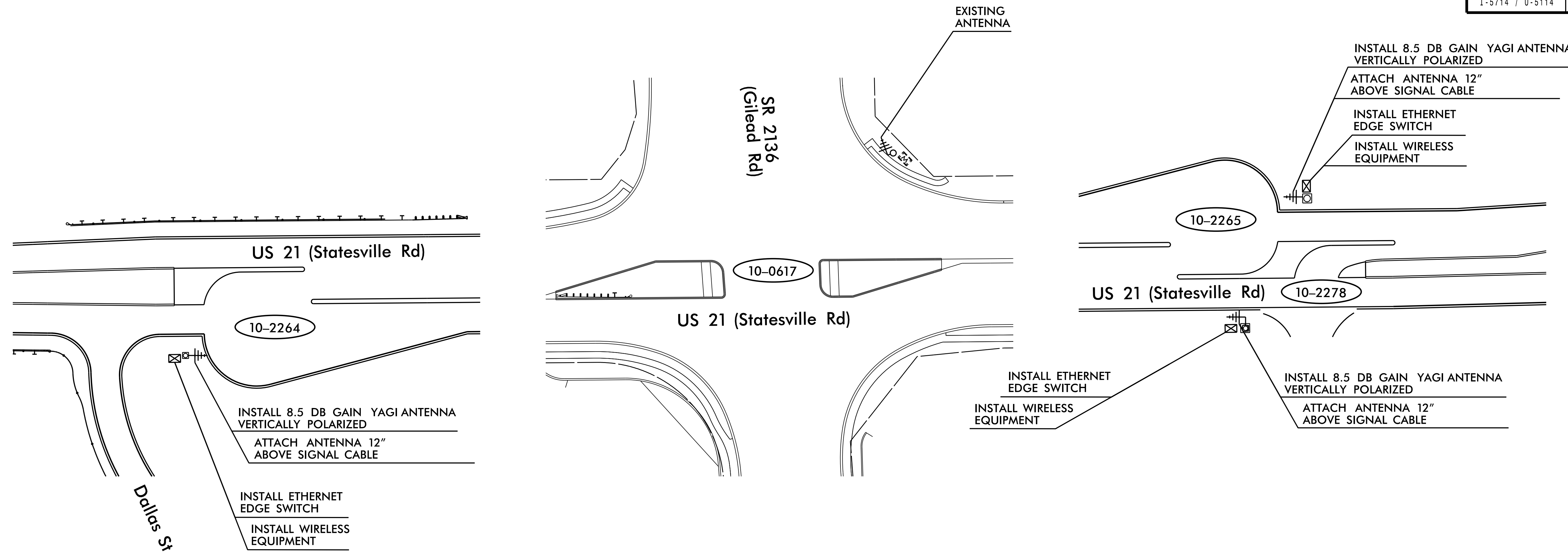
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NC License No: C-1554  
(919) 546-8997

**TEMPORARY PLAN 1**

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

 Plans Prepared for:  250 N. Greenfield Place, Garner, NC 27529	<b>SR 2136 (GILEAD RD)</b> <b>WIRELESS COMMUNICATIONS PLANS</b>		 SEAL NORTH CAROLINA PROFESSIONAL ENGINEER 031464 NATASHA R. SIMMONS
	Division 10 Mecklenburg Co. Huntersville PLAN DATE: December 2017 REVIEWED BY: T.R. Terrell PREPARED BY: J.A. Wagner REVIEWED BY: N.R. Simmons	REVISIONS INIT. DATE	

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Natasha R. Simmons/23/2018  
PRD489234644  
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**NOTES FOR EXISTING COMMUNICATIONS CABLE:**  
 1. REMOVE ALL EXISTING COMMUNICATIONS CABLE FROM INSIDE THE CONTROLLER CABINET AND THE RISER ASSEMBLY. LEAVE RISER ASSEMBLY IN PLACE.

**NOTES FOR WIRELESS COMMUNICATIONS:**  
 1. INSTALL COAXIAL CABLE:  
 A. ON WOOD POLES, REQUIRING A NEW RIGID GALVANIZED STEEL RISER, INSTALL A 2" RISER WITH WEATHERHEAD AND ROUTE THE COAXIAL CABLE TO THE ANTENNA.  
 B. ON METAL POLES WITH MAST ARMS, RUN COAXIAL CABLE UP THROUGH THE POLE AND OUT THE MAST ARM; FIELD DRILL A 1/2" HOLE UP THROUGH THE BOTTOM OF MAST ARM FOR INSTALLATION OF THE COAXIAL CABLE TO THE ANTENNA.  
 C. ON METAL STRAIN POLES, RUN COAXIAL CABLE UP THROUGH THE POLE AND OUT THE WEATHERHEAD AND ROUTE THE COAXIAL CABLE TO THE ANTENNA.  
 D. BETWEEN THE POINT OF EXITING THE RISER, METAL POLE, OR MAST ARM AND THE ANTENNA, SECURE THE COAXIAL CABLE TO THE STRUCTURE USING 3/4" STAINLESS STEEL STRAPS EVERY 12".

2. IF AN EXISTING 2" SPARE RIGID GALVANIZED STEEL RISER IS AVAILABLE, INSTALL THE COAXIAL CABLE IN THE SPARE RISER.  
 3. INSTALL WIRELESS ANTENNA ON POLE WITH RF WARNING SIGN.  
 (NOTE: RF WARNING SIGN NOT REQUIRED WHEN ANTENNA IS INSTALLED ON AN NCDOT-OWNED POLE.)  
 4. MAINTAIN PROPER CLEARANCE FROM ALL UTILITIES PER THE NATIONAL ELECTRICAL SAFETY CODE.  
 5. REFERENCE "WIRELESS RADIO ANTENNA TYPICAL DETAILS" IN THE 2018 NCDOT ROADWAY STANDARD DRAWINGS.  
 6. RETURN EXISTING WIRELESS RADIO EQUIPMENT TO THE DIVISION 10 SIGNAL SHOP. THE DIVISION 10 OFFICE CAN BE REACHED AT 704-983-4400.  
 7. FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 10 DEPUTY TRAFFIC ENGINEER, LAURA JEAN, AT (704) 983-4400 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES 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 DEPUTY 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 FUNCTIONAL.

LEGEND	
	YAGI ANTENNA (DOUBLE) FOR REPEATER OPERATION
	YAGI ANTENNA (SINGLE)
	NEW CONTROLLER AND CABINET
	NEW MASTER CONTROLLER AND NEW CABINET
	EXISTING CONTROLLER AND CABINET
	SIGNAL INVENTORY NUMBER
	NEW METAL POLE W/MAST ARM
	EXISTING METAL POLE W/MAST ARM
	NEW METAL STRAIN POLE
	EXISTING METAL STRAIN POLE
	NEW WOOD POLE
	EXISTING WOOD POLE

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**TEMPORARY PLAN 2**

	<p><b>US 21 (STATESVILLE RD) WIRELESS COMMUNICATIONS PLANS</b></p> <p>Division 10 Mecklenburg Co. Huntersville</p> <p>PLAN DATE: December 2017 REVIEWED BY: T.R. Terrell</p> <p>PREPARED BY: J.A. Wagner REVIEWED BY: N.R. Simmons</p>							
<p>250 N. Greenfield Place, Garner, NC 27529</p> <p>0 SCALE 50 1" = 50'</p>	<table border="1"> <thead> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS	INIT.	DATE				<p>DocuSigned by: Natasha R. Simmons/23/2018</p> <p>_____ SIGNATURE DATE</p> <p>CADD File name: I5714_U5114_SCP-3.dgn</p>
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- 1 INSTALL 3-WIRE COPPER SERVICE ENTRANCE CONDUCTORS
- 2 INSTALL 4-WIRE COPPER FEEDER CONDUCTORS
- 3 INSTALL 3-WIRE COPPER FEEDER CONDUCTORS
- 4 INSTALL SMFO CABLE
- 5 INSTALL CAT 5e ETHERNET CABLE
- 6 INSTALL FIBER OPTIC DROP CABLE
- 7 INSTALL TRACER WIRE
- 8 TRENCH
- 9 INSTALL PVC CONDUIT
- 10 INSTALL RIGID, GALVANIZED STEEL CONDUIT
- 11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
- 12 INSTALL RIGID, GALVANIZED STEEL RISER WITH HEAT-SHRINK TUBING
- 13 INSTALL HEAT-SHRINK TUBING RETROFIT KIT
- 14 INSTALL POLYETHYLENE CONDUIT
- 15 DIRECTIONAL DRILL CONDUIT
- 16 BORE AND JACK CONDUIT
- 17 INSTALL CABLE(S) IN EXISTING CONDUIT
- 18 INSTALL CABLE(S) IN NEW CONDUIT
- 19 INSTALL CABLE(S) IN EXISTING RISER
- 20 INSTALL CABLE(S) IN NEW RISER
- 21 INSTALL CABLE(S) IN EXISTING CONDUIT ENTRANCE
- 22 INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUBOUTS WHEN AVAILABLE)
- 23 INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUBOUTS WHEN AVAILABLE)
- 24 INSTALL NEW CONDUIT INTO POLE MOUNTED CABINET
- 25 INSTALL NEW RISER INTO POLE MOUNTED CABINET
- 26 TERMINATE FIBER-OPTIC CABLE ON INTERCONNECT CENTER IN CCTV EQUIPMENT CABINET
- 27 INSTALL NEW ETHERNET EDGE SWITCH IN CABINET
- 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPlice CABLE IN CABINET
- 29 INSTALL UNDERGROUND SPlice ENCLOSURE
- 30 INSTALL AERIAL SPlice ENCLOSURE
- 31 INSTALL SPlice CABINET
- 32 MODIFY EXISTING SPlice ENCLOSURE
- 33 REMOVE EXISTING SPlice CABINET

- 34 INSTALL CABINET FOUNDATION
- 35 REMOVE EXISTING CABINET FOUNDATION
- 36 INSTALL CCTV CAMERA ASSEMBLY
- 37 INSTALL CCTV CAMERA WOOD POLE
- 38 INSTALL CCTV CAMERA METAL POLE AND FOUNDATION
- 39 INSTALL STANDARD (ELECTRICAL) JUNCTION BOX
- 40 INSTALL OVERSIZED JUNCTION BOX
- 41 INSTALL SPECIAL OVERSIZED JUNCTION BOX
- 42 INSTALL WOOD POLE
- 43 REMOVE EXISTING WOOD POLE
- 44 INSTALL AERIAL GUY ASSEMBLY
- 45 INSTALL STANDARD GUY ASSEMBLY
- 46 INSTALL SIDEWALK GUY ASSEMBLY
- 47 INSTALL MESSENGER CABLE
- 48 REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
- 49 REMOVE EXISTING COMMUNICATIONS CABLE
- 50 INSTALL CELL MODEM
- 51 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
- 52 INSTALL DELINEATOR MARKER
- 53 STORE 30 FEET OF COMMUNICATIONS CABLE (EACH CABLE), EXCEPT AS NOTED ON PLANS
- 54 LASH CABLE(S) TO EXISTING MESSENGER CABLE
- 55 LASH CABLE(S) TO EXISTING SIGNAL /COMMUNICATION CABLE
- 56 LASH CABLES TO NEW MESSENGER CABLE
- 57 MODIFY EXISTING ELECTRICAL SERVICE FOR CCTV
- 58 INSTALL NEW ELECTRICAL SERVICE FOR CCTV
- 59 INSTALL NEW POLE MOUNTED CCTV CABINET
- 60 INSTALL 8.5 DB GAIN YAGI ANTENNA
- 61 REMOVE EXISTING ANTENNA, RADIO, AND CABLE
- 62 REMOVE EXISTING JUNCTION BOX
- 63 INSTALL ISOLATION TRANSFORMER
- 64 BOND MESSENGER TO POLE GROUND
- 65 BOND RISER TO POLE GROUND
- 66 BOND TRACER WIRE TO EQUIPMENT GROUND BUS ON ONE END
- 67 INTERCEPT EXISTING JUNCTION BOX
- 68 INSTALL DISCONNECT FOR CCTV

### LEGEND

	FO	NEW FIBER OPTIC COMMUNICATIONS CABLE
	EXI	EXISTING COMMUNICATIONS CABLE
	REM	EXISTING COMMUNICATIONS CABLE TO BE REMOVED
		NEW CONDUIT
		EXISTING CONDUIT
	DD	NEW DIRECTIONAL DRILLED CONDUIT
		NEW GUARDRAIL
		NEW CHAIN LINK FENCE
		EXISTING GUARDRAIL
		EXISTING GUIDERAIL
		EXISTING CONCRETE BARRIER
		EXISTING RIGHT OF WAY
		NEW JUNCTION BOX
		EXISTING JUNCTION BOX
		NEW OVERSIZED HEAVY DUTY JUNCTION BOX WITH SPlice ENCLOSURE
		EXISTING OVERSIZED HEAVY DUTY JUNCTION BOX WITH NEW SPlice ENCLOSURE
		NEW SPECIAL OVERSIZED JUNCTION BOX WITH SPlice ENCLOSURE
		EXISTING SPECIAL OVERSIZED JUNCTION BOX WITH NEW SPlice ENCLOSURE
		EXISTING SPECIAL OVERSIZED JUNCTION BOX WITHOUT SPlice ENCLOSURE
		SNOW SHOE
		NEW WOOD POLE
		EXISTING WOOD POLE
		NEW SPlice ENCLOSURE
		EXISTING SPlice ENCLOSURE
		NEW METAL POLE
		EXISTING METAL POLE
		NEW CCTV CAMERA ASSEMBLY
		EXISTING CCTV CAMERA ASSEMBLY
		NEW STANDARD GUY ASSEMBLY
		EXISTING STANDARD GUY ASSEMBLY
		NEW SIDEWALK GUY ASSEMBLY
		EXISTING MASTER SIGNAL CABINET
		NEW SIGNAL CABINET
		EXISTING SIGNAL CABINET
		NEW FIELD EQUIPMENT CABINET
		EXISTING FIELD EQUIPMENT CABINET
		NEW YAGI ANTENNA (SINGLE)
		2.4 GHZ BROADBAND ETHERNET RADIO
		NEW ELECTRICAL SERVICE
		EXISTING ELECTRICAL SERVICE
		SIGNAL POLE
		EXISTING ITS DEVICE NUMBER
		SIGNAL INVENTORY NUMBER

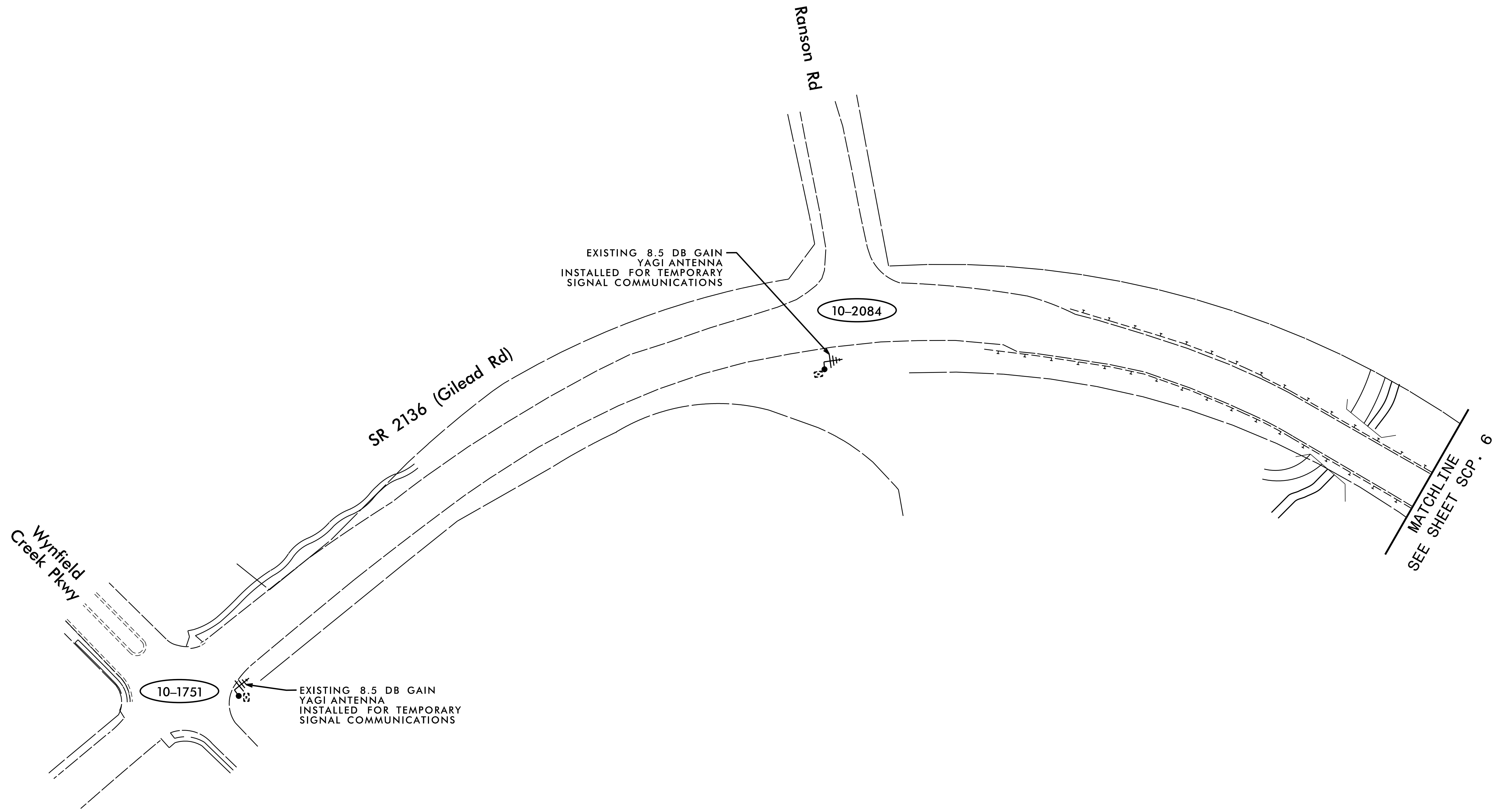
### CONSTRUCTION NOTE SYMBOLOGY KEY

NUMBER OF CABLE(S), LOOPS, ETC.		NUMBER OF FIBERS / TWISTED PAIRS PER CABLE, ETC.
NUMBER OF RISER(S) / CONDUIT(S)		DIAMETER OF RISER(S) / CONDUIT(S) (INCH)
NUMBER OF DEVICES		NUMBER OF FIBERS

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Plans Prepared for:  250 N. Greenfield Place, Garner, NC 27529	<h3 style="margin: 0;">CONSTRUCTION NOTES AND LEGEND</h3> Division 10    Mecklenburg Co.    Huntersville PLAN DATE: December 2017    REVIEWED BY: T.R. Terrell PREPARED BY: J.A. Wagner    REVIEWED BY: N.R. Simmons	SEAL  NATASHA R. SIMMONS ENGINEER								
SCALE NONE	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DESCRIPTION	INIT.	DATE					DocuSigned by: Natasha R. Simmons 12/23/2018 SIGNATURE    DATE CADD File name: I5714_U5114_SCP-4.dgn
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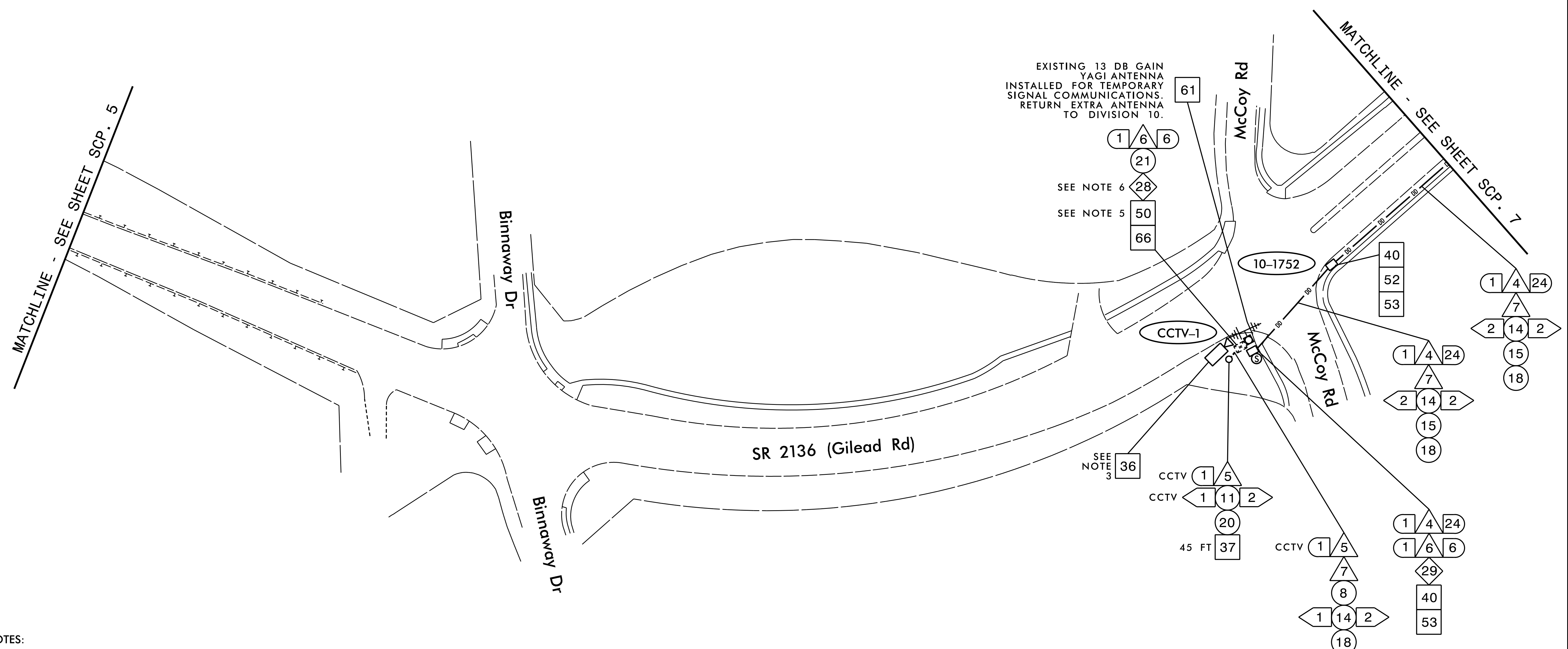
**NOTES:**

1. FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 10 DEPUTY TRAFFIC ENGINEER, LAURA JEAN, AT (704) 983-4400 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES 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 DEPUTY 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 FUNCTIONAL.
2. CONTACT THE DIVISION 10 TRAFFIC ENGINEER AT (704) 983-4400 TO CONFIRM THE LOCATION OF THE CCTV CAMERAS.
3. MOUNT THE CCTV CAMERA 5 FEET BELOW THE TOP OF THE POLE.
4. ETHERNET EDGE SWITCH INSTALLED FOR TEMPORARY SIGNAL COMMUNICATIONS.

**FINAL PLANS**

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 Plans Prepared for: HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609 NC License No: C-1554 (919) 546-8997	SR 2136 (GILEAD RD) CABLE ROUTING PLANS		SEAL  SEAL 031464 ENGINEER NATASHA R. SIMMONS
	Division 10 Mecklenburg Co. Huntersville PLAN DATE: December 2017 REVIEWED BY: T.R. Terrell PREPARED BY: J.A. Wagner REVIEWED BY: N.R. Simmons		
250 N. Greenfield Place, Garner, NC 27529  SCALE 0 50 1" = 50'	REVISIONS INIT. DATE	DocuSigned by: Natasha R. Simmons/23/2018 SIGNATURE DATE CADD File name: I5714_U5114_SCP-5.dgn	



- NOTES:
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  2. CONTACT THE DIVISION 10 TRAFFIC ENGINEER AT (704) 983-4400 TO CONFIRM THE LOCATION OF THE CCTV CAMERAS.
  3. MOUNT THE CCTV CAMERA 5 FEET BELOW THE TOP OF THE POLE.
  4. DO NOT INSTALL CONDUIT OR JUNCTION BOXES UNTIL THE LOCATION OF THE CCTV CAMERA HAS BEEN CONFIRMED BY THE DIVISION 10 TRAFFIC ENGINEER.
  5. NCDOT DIVISION 10 WILL FURNISH & INSTALL THE CCTV CELL MODEM. CONTACT FIVE (5) DAYS PRIOR TO BEGINNING WORK.
  6. ETHERNET EDGE SWITCH INSTALLED FOR TEMPORARY SIGNAL COMMUNICATIONS.
  7. PULL OUT THE EXISTING COMMUNICATIONS CABLE AND PULL IN THE NEW 24-COUNT FIBER OPTIC CABLE.

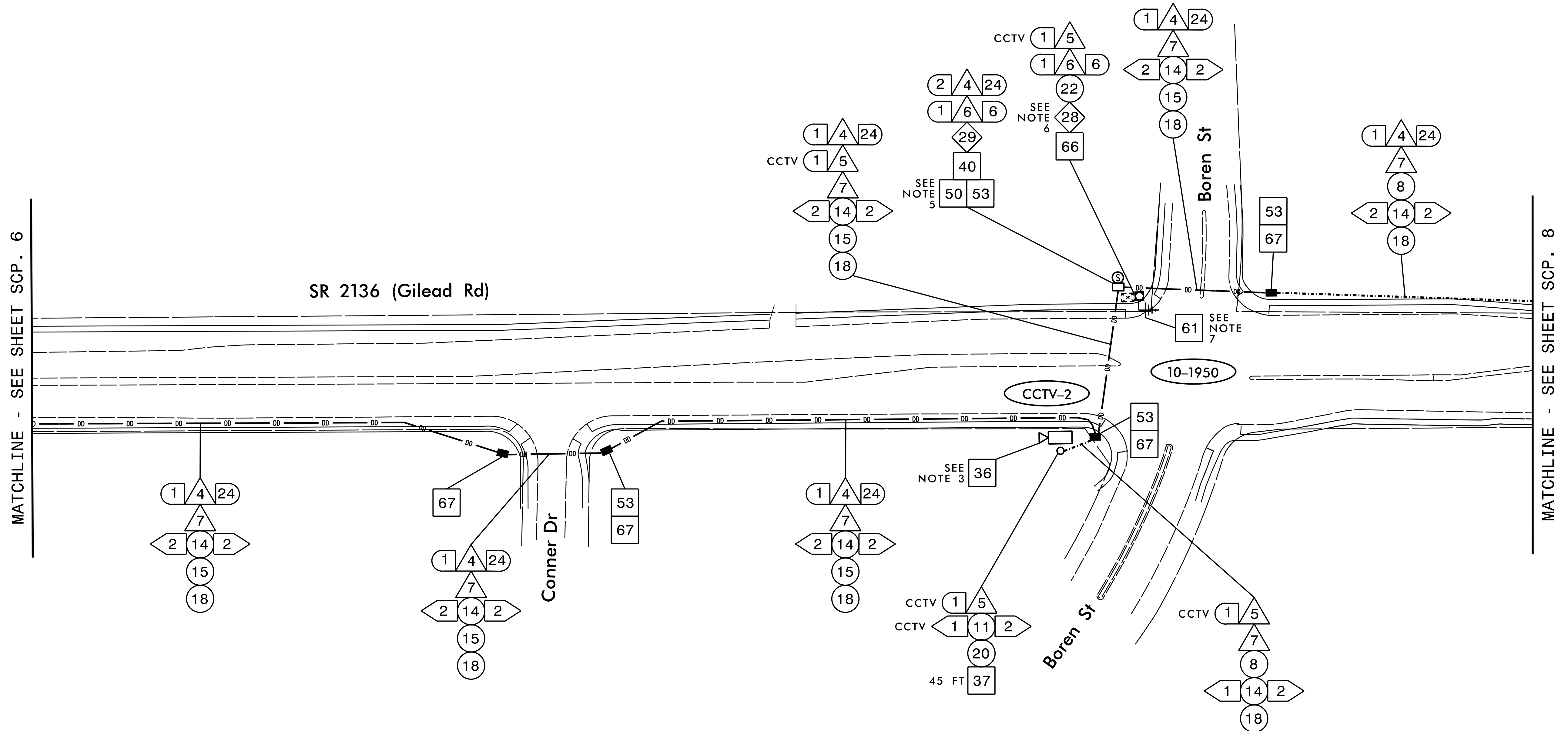
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UNLESS ALL SIGNATURES COMPLETED

	<b>SR 2136 (GILEAD RD) CABLE ROUTING PLANS</b>									
	Division 10 Mecklenburg Co. Huntersville PLAN DATE: December 2017 REVIEWED BY: T.R. Terrell PREPARED BY: J.A. Wagner REVIEWED BY: N.R. Simmons	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	INIT.	DATE			
NO.	DATE	INIT.	DATE							

Scale: 1" = 50'

DocuSigned by: *Natasha R. Simmons* 2/3/2018  
 CADD File Name: I5714\_U5114\_SCP-6.dgn



NOTES:

- FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 10 DEPUTY TRAFFIC ENGINEER, LAURA JEAN, AT (704) 983-4400 TO ARRANGE FOR THE DIVISION TO PROGRAM THE NEW FIELD ETHERNET SWITCHES 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 DEPUTY 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 FUNCTIONAL.
- CONTACT THE DIVISION 10 TRAFFIC ENGINEER AT (704) 983-4400 TO CONFIRM THE LOCATION OF THE CCTV CAMERAS.
- MOUNT THE CCTV CAMERA 5 FEET BELOW THE TOP OF THE POLE.
- DO NOT INSTALL CONDUIT OR JUNCTION BOXES UNTIL THE LOCATION OF THE CCTV CAMERA HAS BEEN CONFIRMED BY THE DIVISION 10 TRAFFIC ENGINEER.
- NCDOT DIVISION 10 WILL FURNISH & INSTALL THE CCTV CELL MODEM. CONTACT FIVE (5) DAYS PRIOR TO BEGINNING WORK.
- ETHERNET EDGE SWITCH INSTALLED FOR TEMPORARY SIGNAL COMMUNICATIONS.
- AFTER THE FIBER OPTIC CABLE CONSTRUCTION IS COMPLETE AND TRAFFIC IS IN THE FINAL PATTERN, REMOVE THE EXISTING WIRELESS ASSEMBLY AND DELIVER TO DIVISION 10 TRAFFIC SERVICES.
- PULL OUT THE EXISTING COMMUNICATIONS CABLE AND PULL IN THE NEW 24-COUNT FIBER OPTIC CABLE.

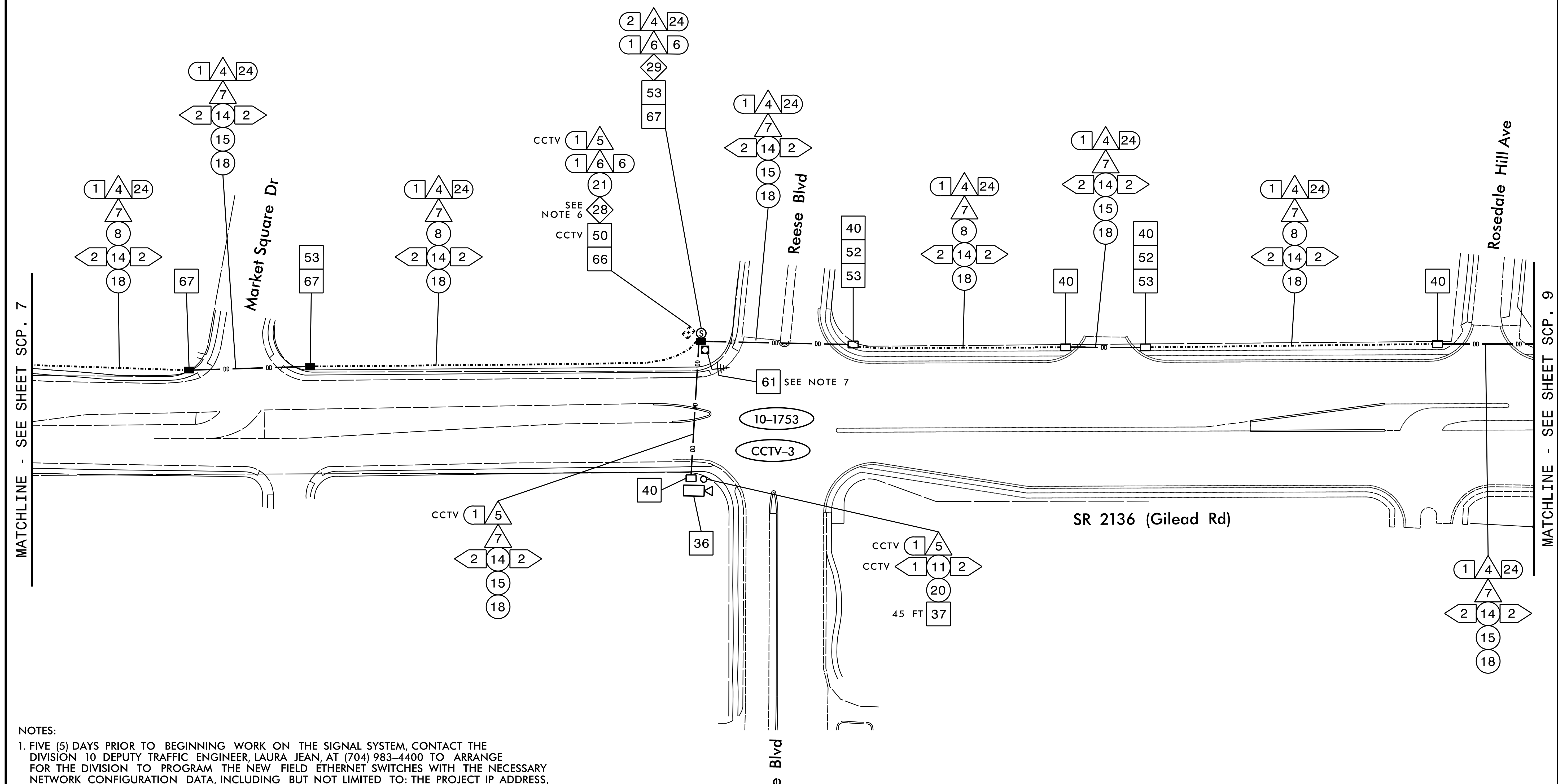
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 Raleigh, North Carolina 27609  
 NC License No: C-1554  
 (919) 546-8997

FINAL PLANS

DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED

	Plans Prepared for: SR 2136 (GILEAD RD) CABLE ROUTING PLANS		
	Division 10 Mecklenburg Co. Huntersville	PLAN DATE: December 2017 REVIEWED BY: T.R. Terrell	
250 N. Greenfield Place, Garner, NC 27529	PREPARED BY: J.A. Wagner	REVIEWED BY: N.R. Simmons	Digitally signed by: <i>Natasha R. Simmons</i> / 23/2018 SIGNATURE DATE
SCALE 0 50 1" = 50'	REVISIONS	INIT. DATE	CADD File name: I5714_U5114_SCP-7.dgn





NOTES:

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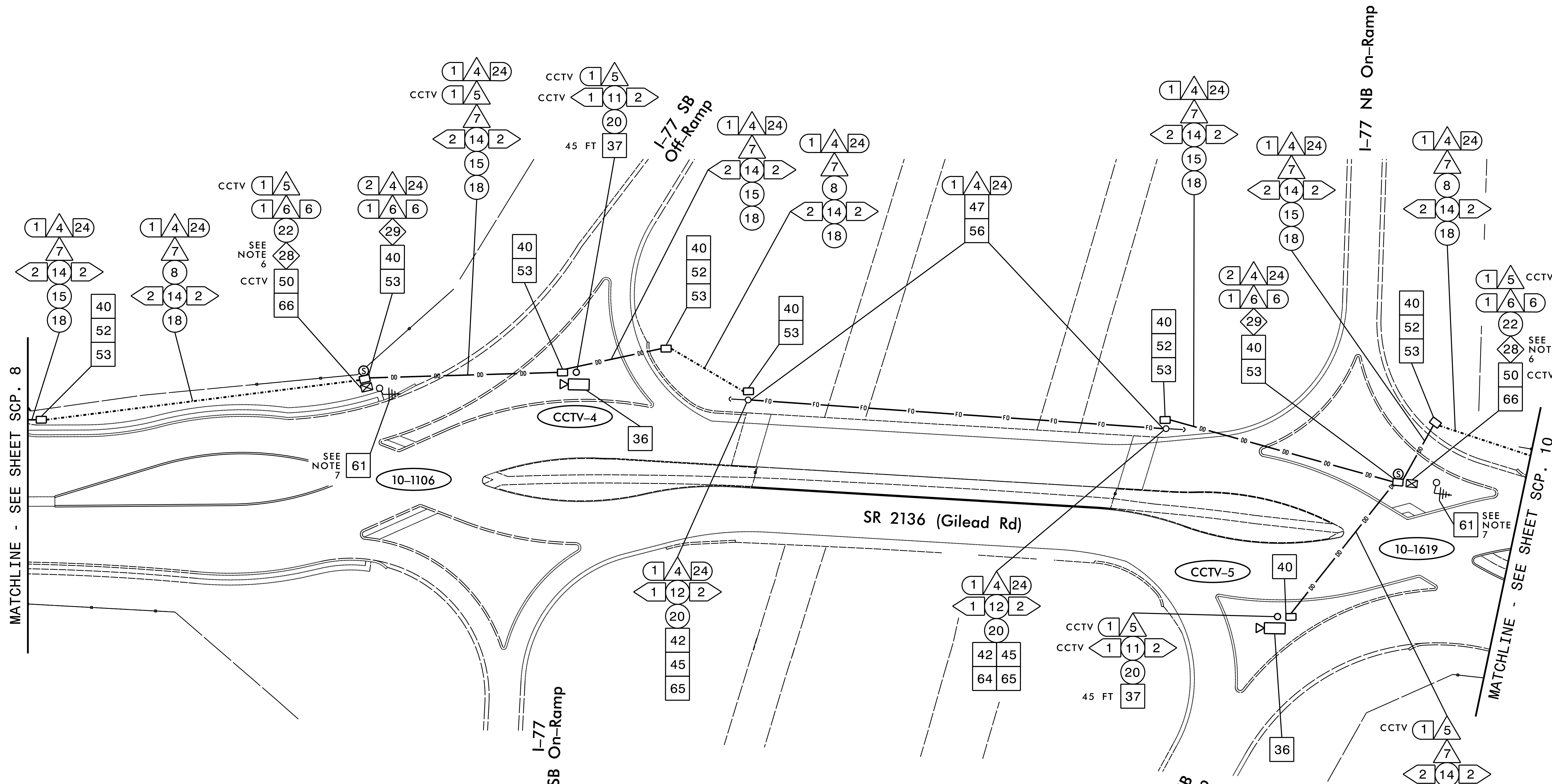
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	SR 2136 (GILEAD RD) CABLE ROUTING PLANS		
	Division 10 Mecklenburg Co. Huntersville	PLAN DATE: December 2017	
259 N. Greenfield Pkwy., Garner, NC 27529	PREPARED BY: J.A. Wagner	REVIEWED BY: N.R. Simmons	DocuSigned by: Natasha R. Simmons 2/23/2018
	REVISIONS	INIT. DATE	SIGNATURE DATE

CADD File name: I5714\_U5114\_SCP-8.dgn



- NOTES:
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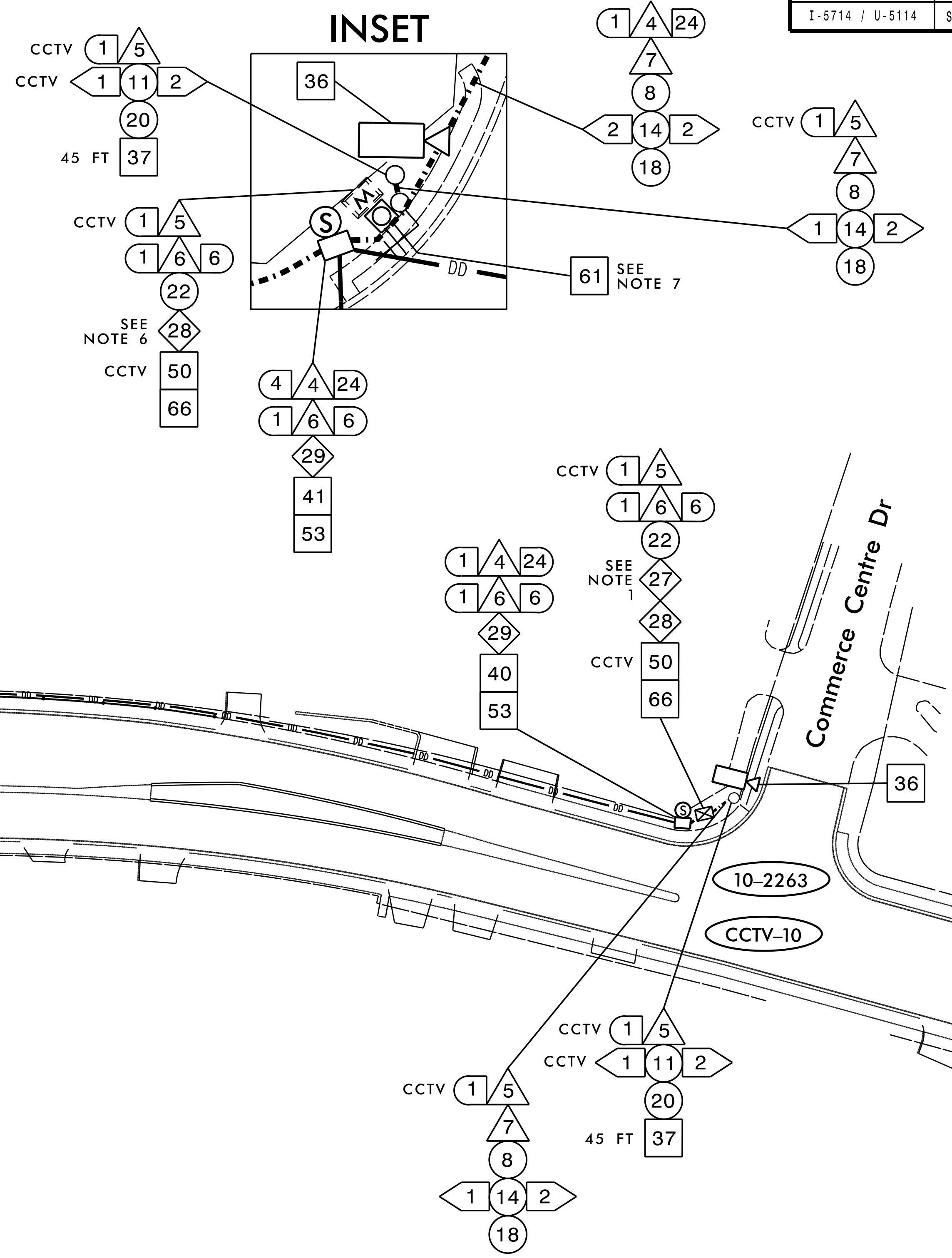
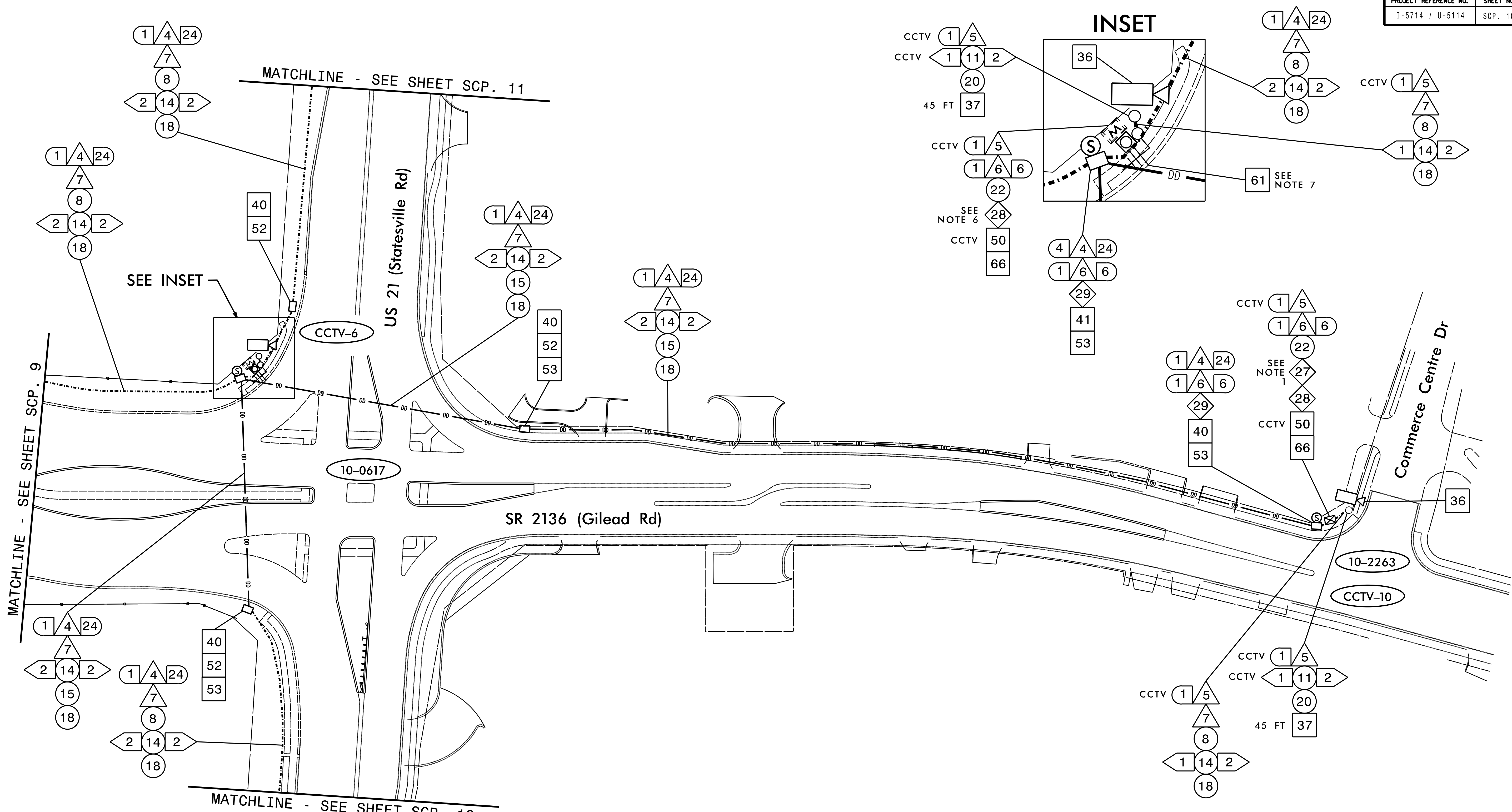
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	SR 2136 (GILEAD RD) CABLE ROUTING PLANS		
	Division 10 Mecklenburg Co. Huntersville	PLAN DATE: December 2017	
PREPARED BY: J.A. Wagner	REVIEWED BY: N.R. Simmons	REVISIONS	DATE

0 SCALE 50  
1" = 50'

DocuSigned by: *Natasha R. Simmons* 23/2018  
 SIGNATURE DATE  
 CADD File name: I5714\_U5114\_SCP-9.dgn



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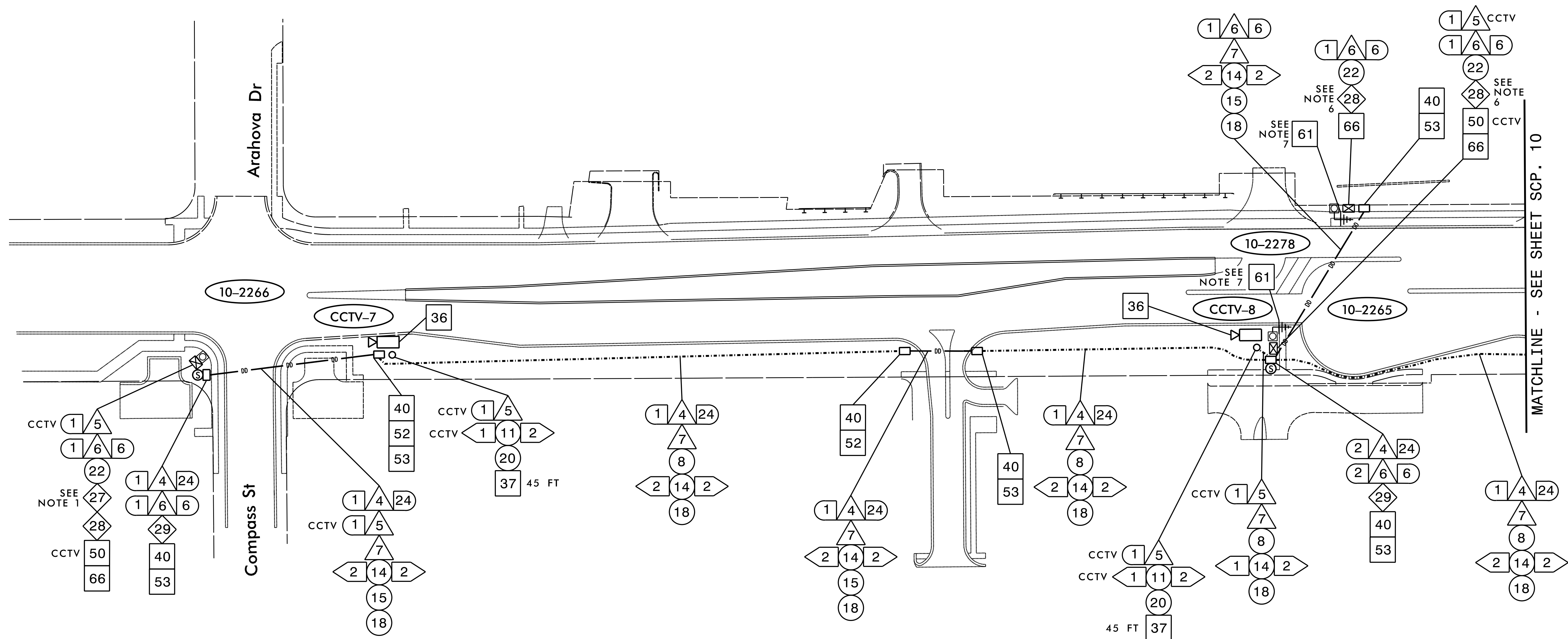
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 <small>250 N. Greenfield Place, Garner, NC 27529</small>	SR 2136 (GILEAD RD) CABLE ROUTING PLANS		 <small>DocuSigned by:          Natasha R. Simmons/23/2018</small>
	Division 10 Mecklenburg Co. Huntersville PLAN DATE: December 2017 REVIEWED BY: T.R. Terrell PREPARED BY: J.A. Wagner REVIEWED BY: N.R. Simmons	REVISIONS INIT. DATE	

SCALE 0 50  
1" = 50'

CADD File name: I5714\_U5114\_SCP-10.dgn



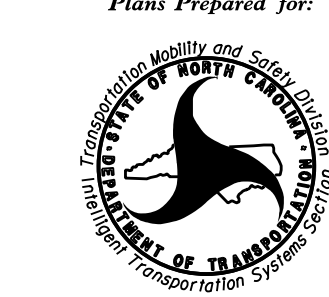

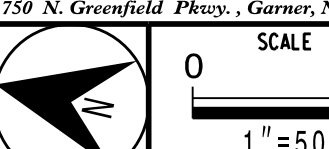
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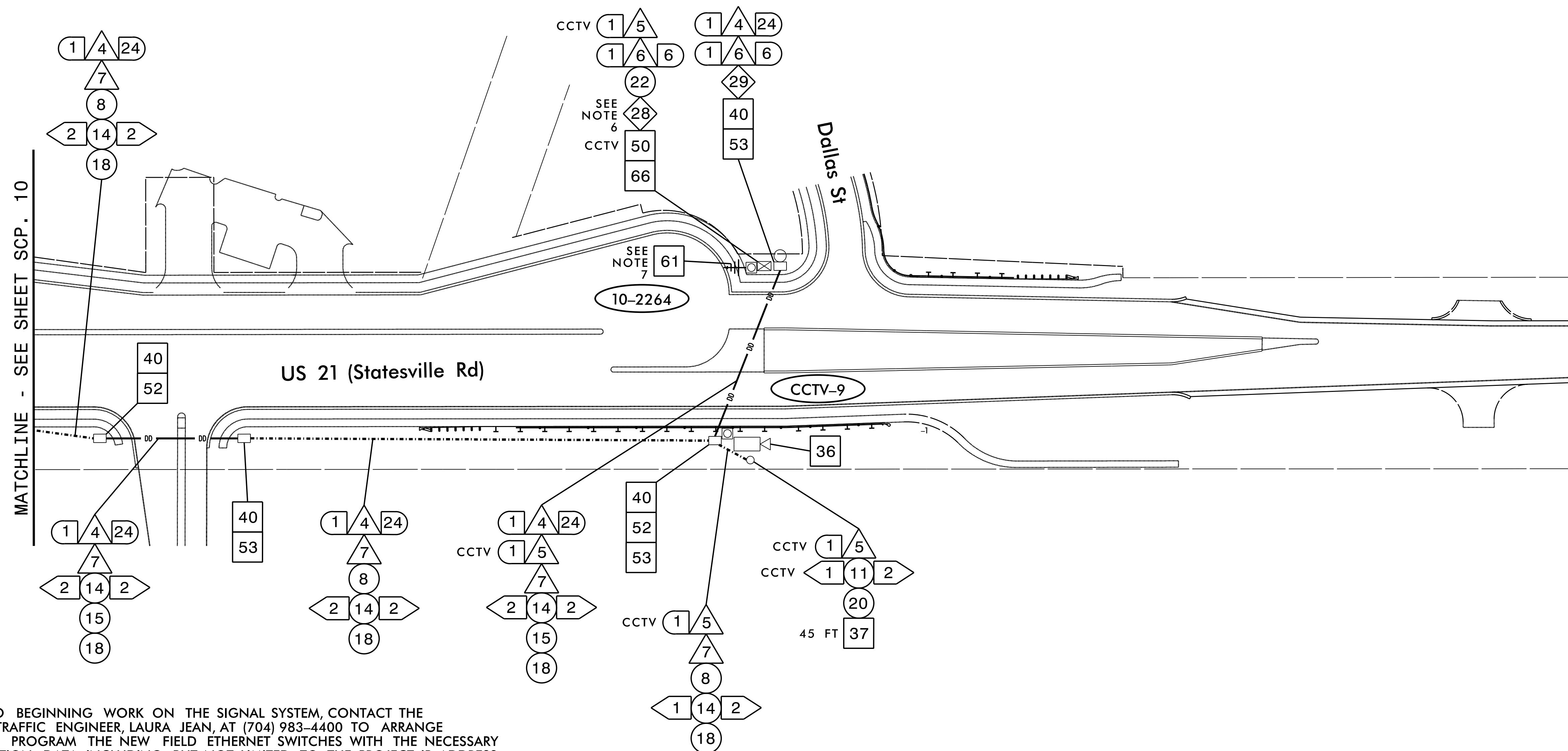
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**FINAL PLANS**

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

 Plans Prepared for: HNTB NORTH CAROLINA, P.C. 343 E. Six Forks Road, Suite 200 Raleigh, North Carolina 27609 NC License No: C-1554 (919) 546-8997	<p><b>SR 2136 (GILEAD RD)</b> <b>CABLE ROUTING PLANS</b></p> <p>Division 10    Mecklenburg Co.    Huntersville</p> <p>PLAN DATE: December 2017    REVIEWED BY: T.R. Terrell</p> <p>PREPARED BY: J.A. Wagner    REVIEWED BY: N.R. Simmons</p>	<p>SEAL</p>  SEAL 031464 NATASHA R. SIMMONS ENGINEER
 250 N. Greenfield Place, Garner, NC 27529	<p>SCALE 50 1" = 50'</p>	<p>DocuSigned by: Natasha R. Simmons/23/2018</p> <p>_____ SIGNATURE    DATE</p> <p>CADD File name: I5714_U5114_SCP-11.dgn</p>



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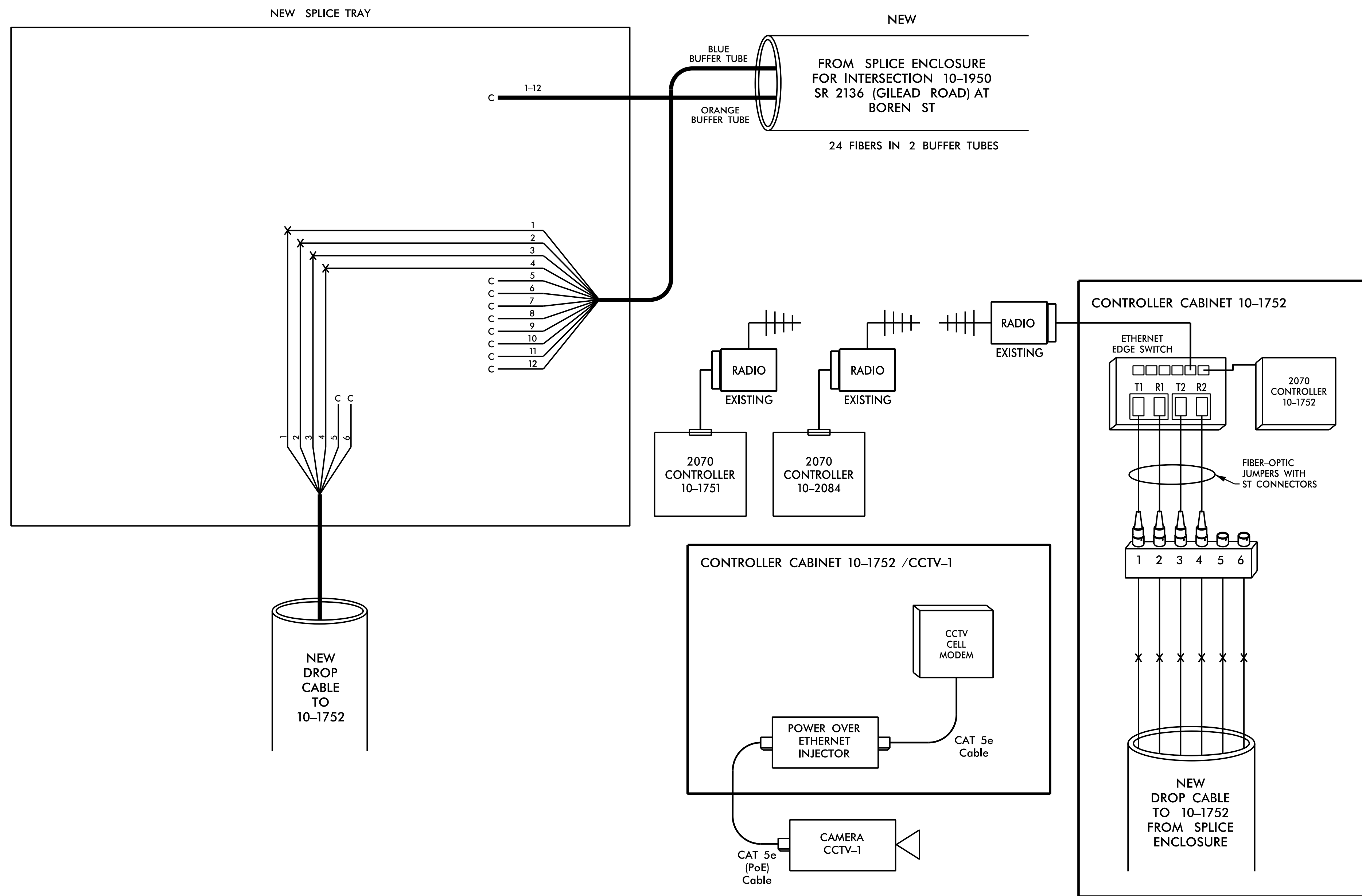
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 Plans Prepared for: SR 2136 (GILEAD RD) CABLE ROUTING PLANS	Division 10 Mecklenburg Co. Huntersville PLAN DATE: December 2017 REVIEWED BY: T.R. Terrell PREPARED BY: J.A. Wagner REVIEWED BY: N.R. Simmons		 SEAL NORTH CAROLINA PROFESSIONAL ENGINEER NATASHA R. SIMMONS
	REVISIONS _____ _____ _____	INIT. _____ _____ _____	
0 SCALE 50 1" = 50'			Digitally signed by: Natasha R. Simmons / 23/2018 _____ SIGNATURE DATE CADD File name: I5714_U5114_SCP-12.dgn

10-1752  
SR 2136 (GILEAD RD) AT  
MCCOY RD

COLOR CODE TIA/EIA 598-C			LEGEND	
(1) BLUE	(7) RED	X =	NEW FUSION SPLICE INDIVIDUAL FIBER	
(2) ORANGE	(8) BLACK	● =	EXISTING FUSION SPLICE	
(3) GREEN	(9) YELLOW	C =	CAP AND SEAL	
(4) BROWN	(10) VIOLET	EXPRESS	EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING	
(5) SLATE	(11) ROSE	BUFFER SPLICE	SPLICE ALL FIBERS IN BUFFER TUBE COLOR TO COLOR	
(6) WHITE	(12) AQUA			



NOTES:

1. UNUSED FIBERS LEFT COILED AND STORED IN SPLICE TRAY.
2. UNUSED BUFFER TUBES LEFT COILED AND STORED IN SPLICE TRAY.
3. TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING /ENSURING PROPER TERMINATION.
4. INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING: REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"

- (1) SPLICE
- (2) DATE
- (3) COMPANY NAME
- (4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

PRIOR TO INSTALLING THE COVER ON THE SPLICE TRAY, TAKE A DIGITAL PHOTOGRAPH SHOWING THE SPLICE TRAY AND INFORMATION SHOWN ABOVE (1-4) AND SUBMIT PHOTOGRAPH ALONG WITH OTDR TEST RESULTS.

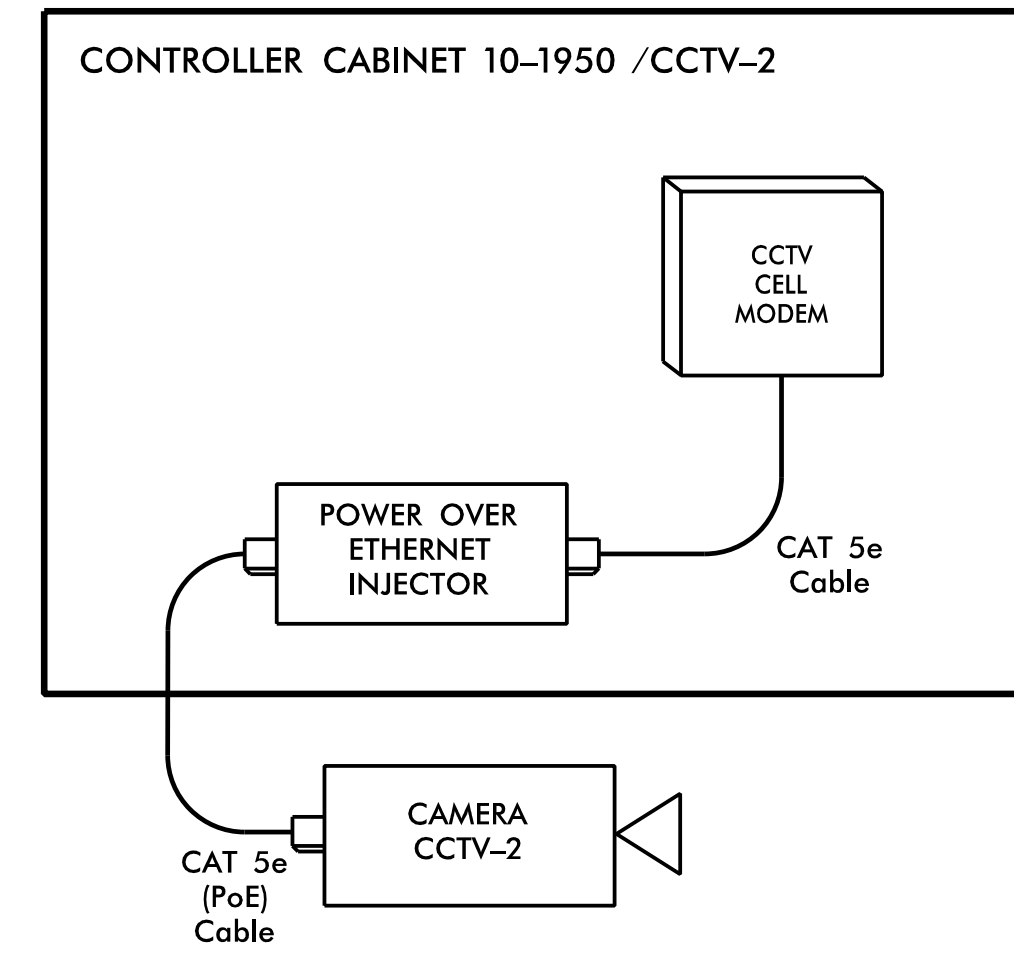
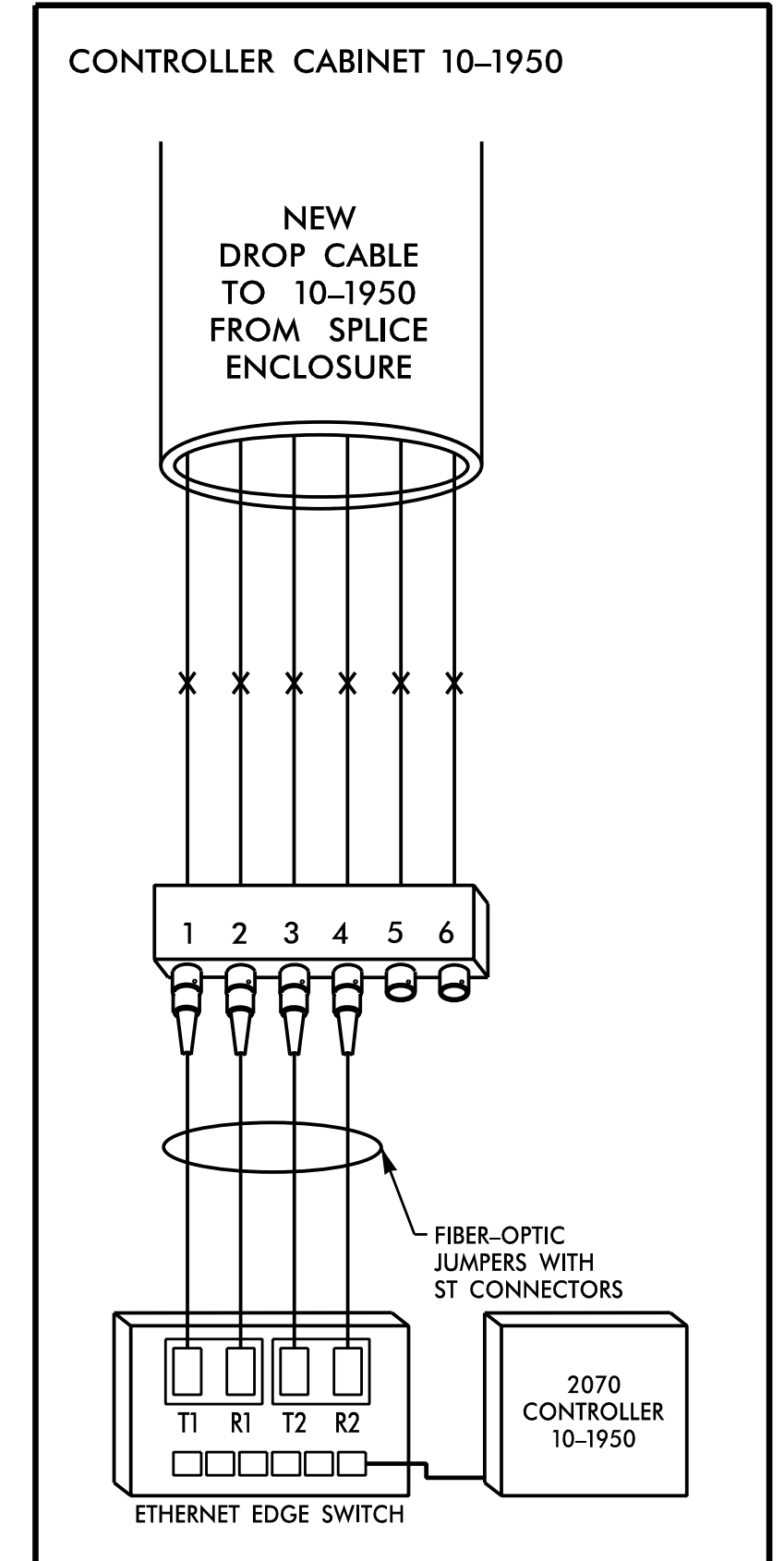
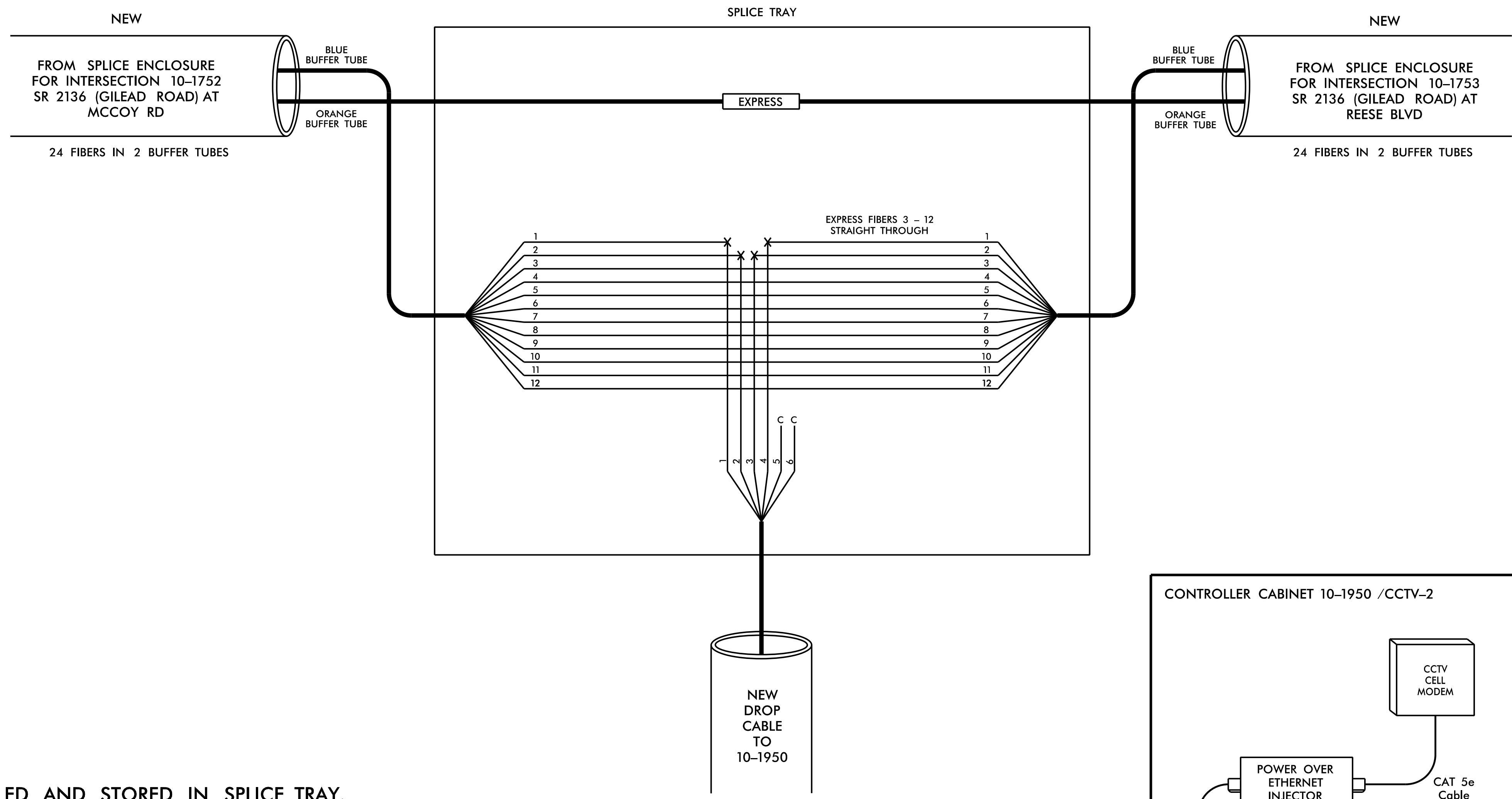
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<p>Plans Prepared for:</p> <p>250 N. Greenfield Place, Garner, NC 27529</p>	<p><b>SPLICE DETAILS</b></p>		
	<p>Division 10 Mecklenburg Co. Huntersville</p> <p>PLAN DATE: January 2018 REVIEWED BY: A.D. Klinksiek</p> <p>PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons</p>	<p>SCALE: NONE</p>	

10-1950  
SR 2136 (GILEAD RD) AT  
BOREN ST

COLOR CODE TIA/EIA 598-C		LEGEND	
(1) BLUE	(7) RED	X = NEW FUSION SPLICE INDIVIDUAL FIBER	
(2) ORANGE	(8) BLACK	● = EXISTING FUSION SPLICE	
(3) GREEN	(9) YELLOW	C = CAP AND SEAL	
(4) BROWN	(10) VIOLET	EXPRESS = EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING	
(5) SLATE	(11) ROSE	BUFFER SPLICE = SPLICE ALL FIBERS IN BUFFER TUBE COLOR TO COLOR	
(6) WHITE	(12) AQUA		



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- (1) SPLICE
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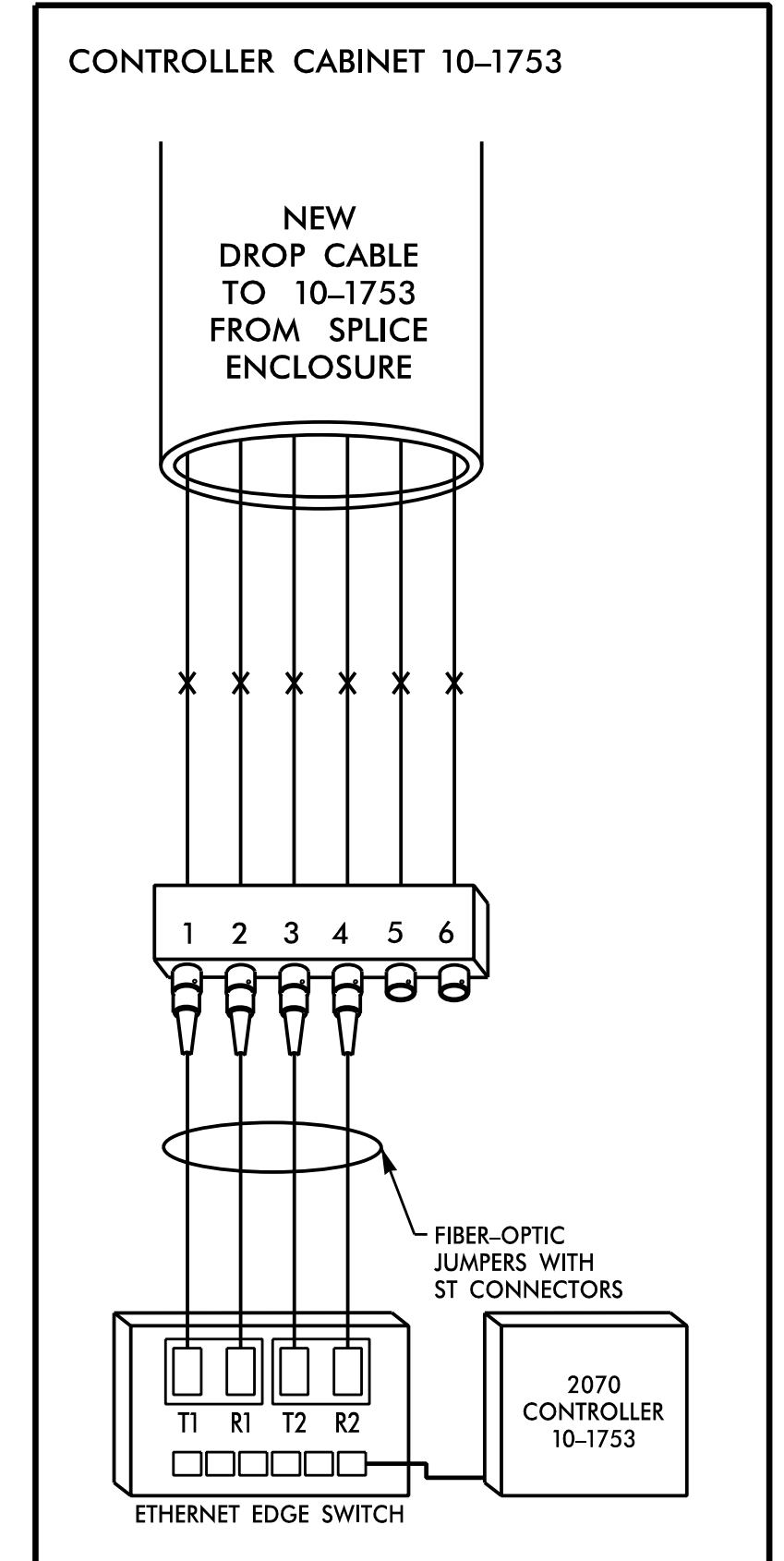
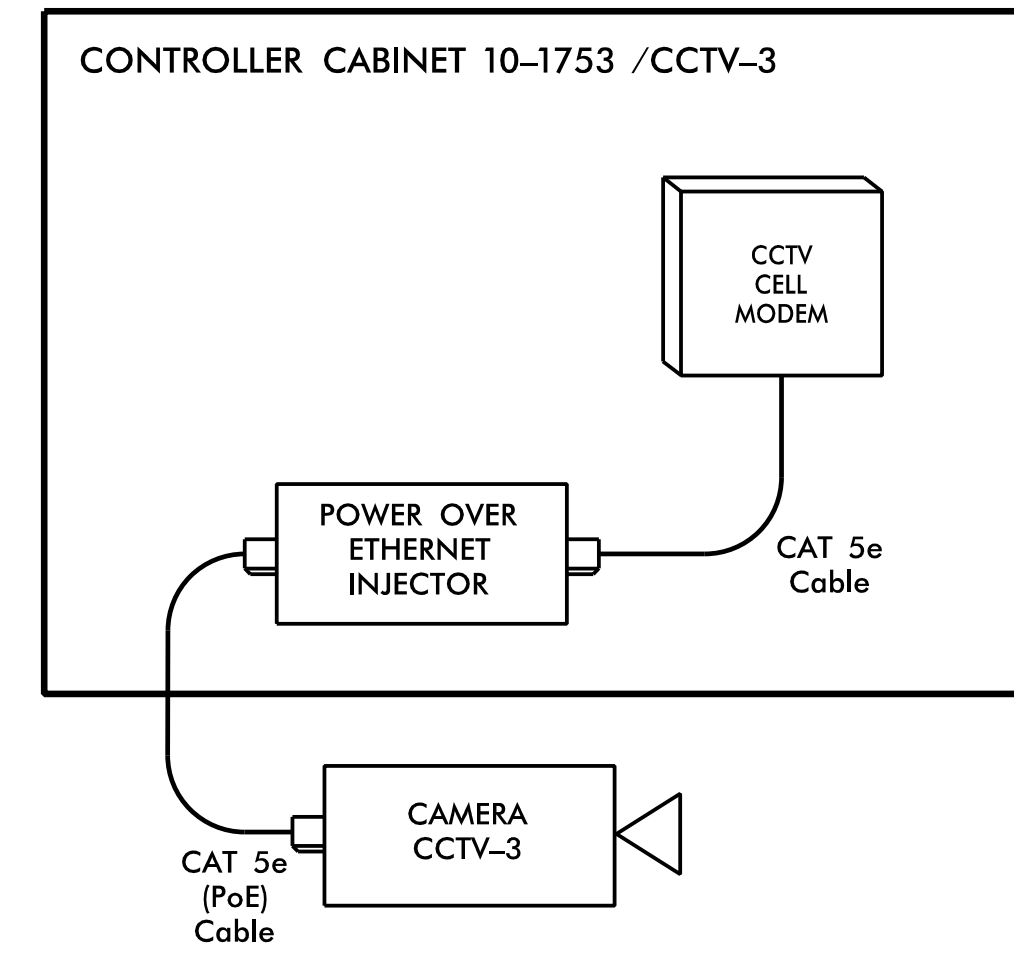
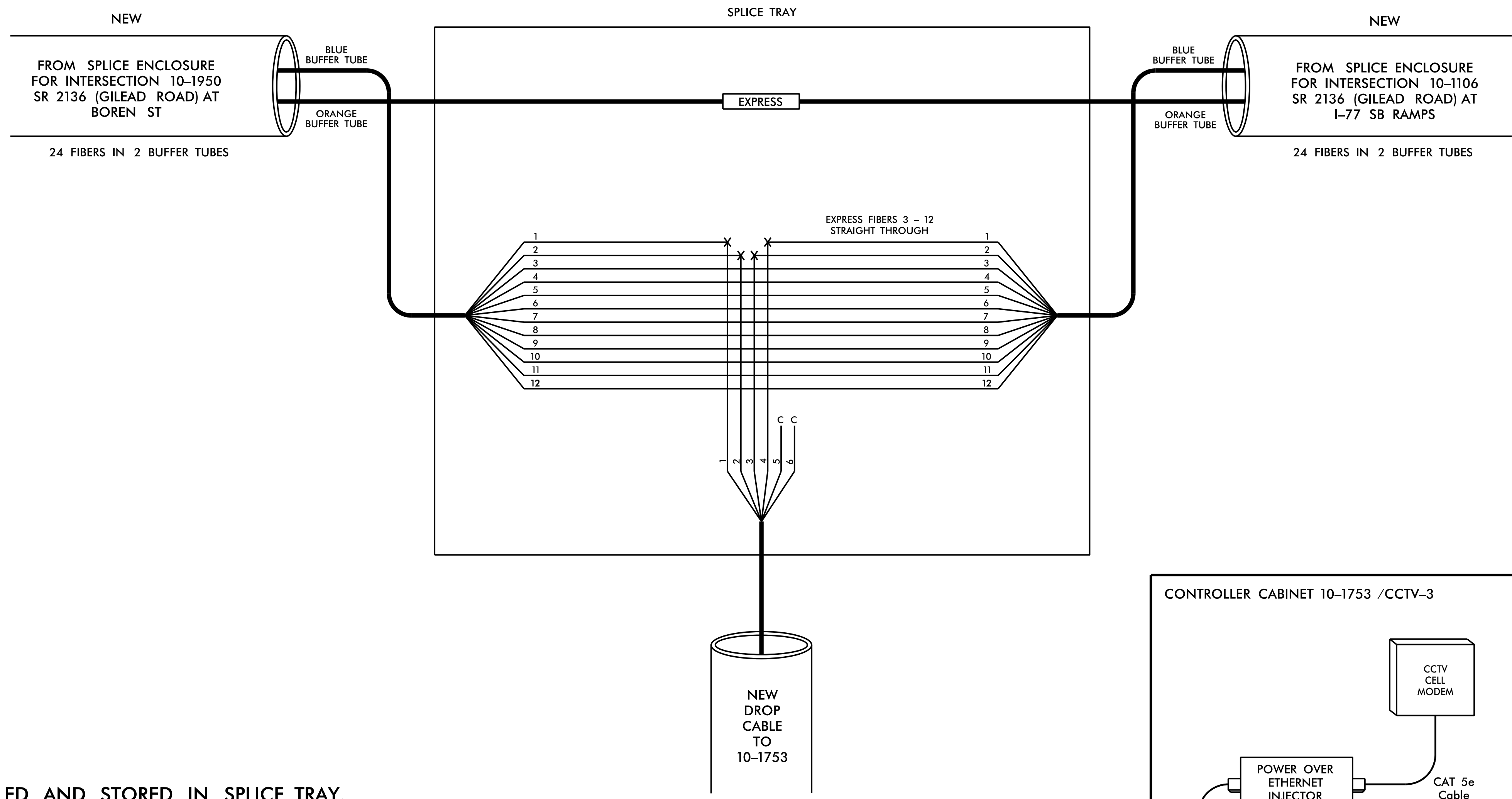
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	<p>Plans Prepared for:</p> <p><b>SPLICE DETAILS</b></p>		
	<p>Division 10 Mecklenburg Co. Huntersville</p> <p>PLAN DATE: January 2018 REVIEWED BY: A.D. Klinksiek</p> <p>PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons</p>		
<p>SCALE</p> <p>NONE</p>	<p>REVISIONS</p>	<p>INIT.</p>	<p>DATE</p>

DocuSigned by:  
Natasha R. Simmons 2/3/2018  
PRDAMR03240484  
SIGNATURE DATE  
CADD File name: I5714\_U5114\_SCP-14.dgn

10-1753  
SR 2136 (GILEAD RD) AT  
REESE BLVD

COLOR CODE TIA/EIA 598-C		LEGEND	
(1) BLUE	(7) RED	X = NEW FUSION SPLICE INDIVIDUAL FIBER	
(2) ORANGE	(8) BLACK	● = EXISTING FUSION SPLICE	
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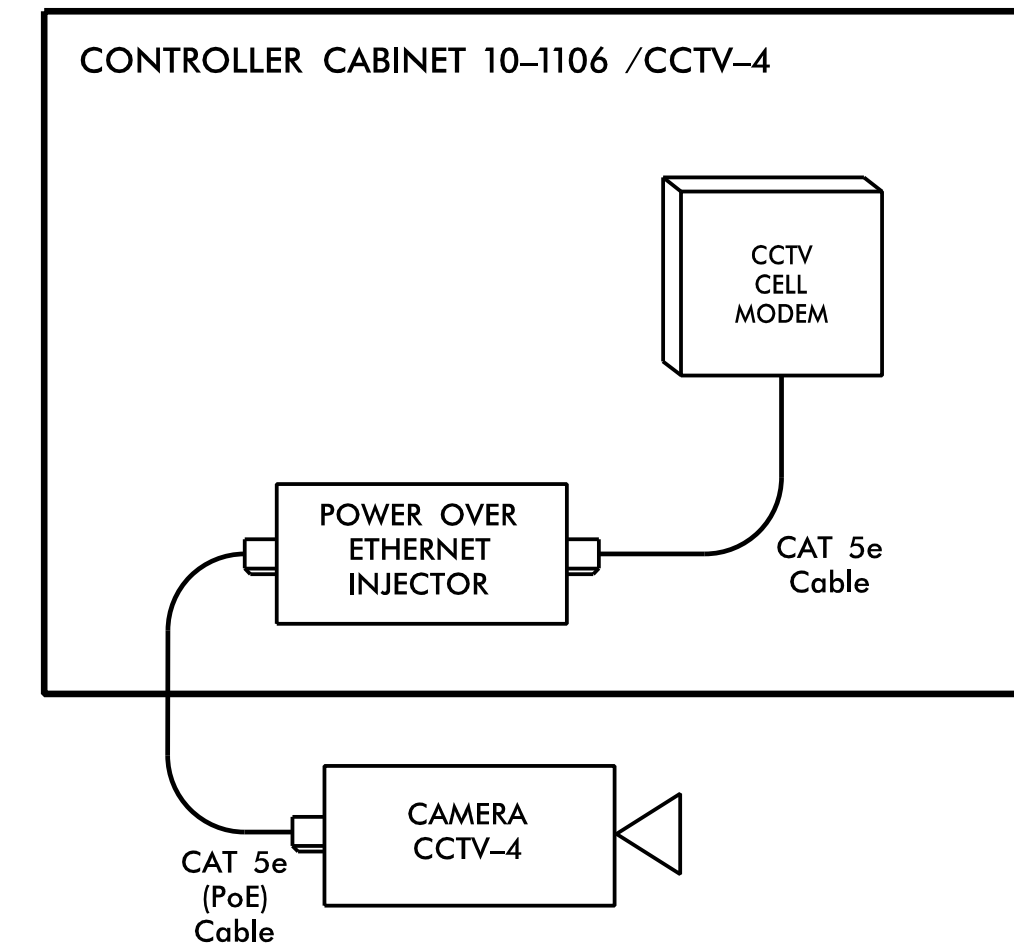
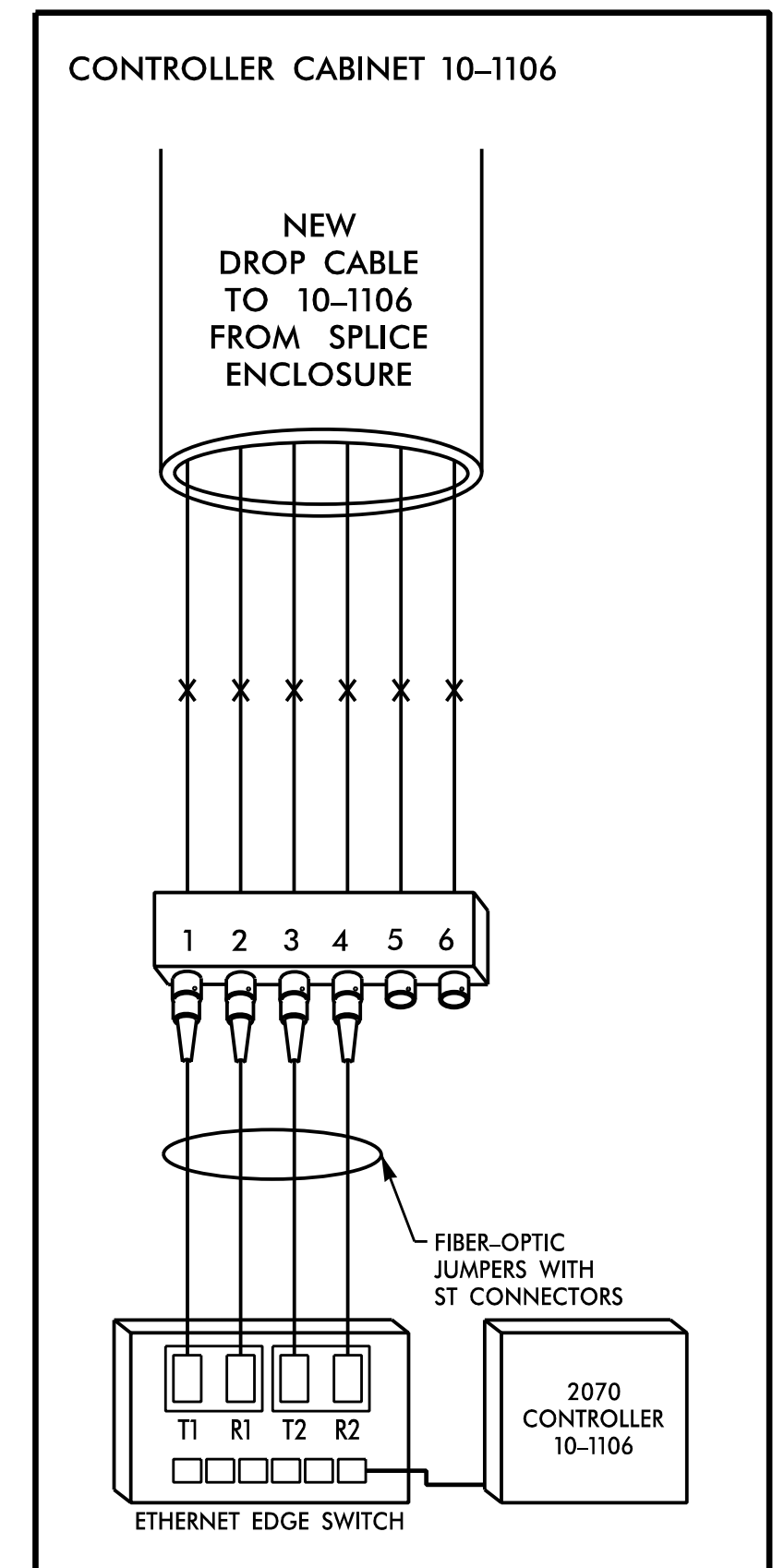
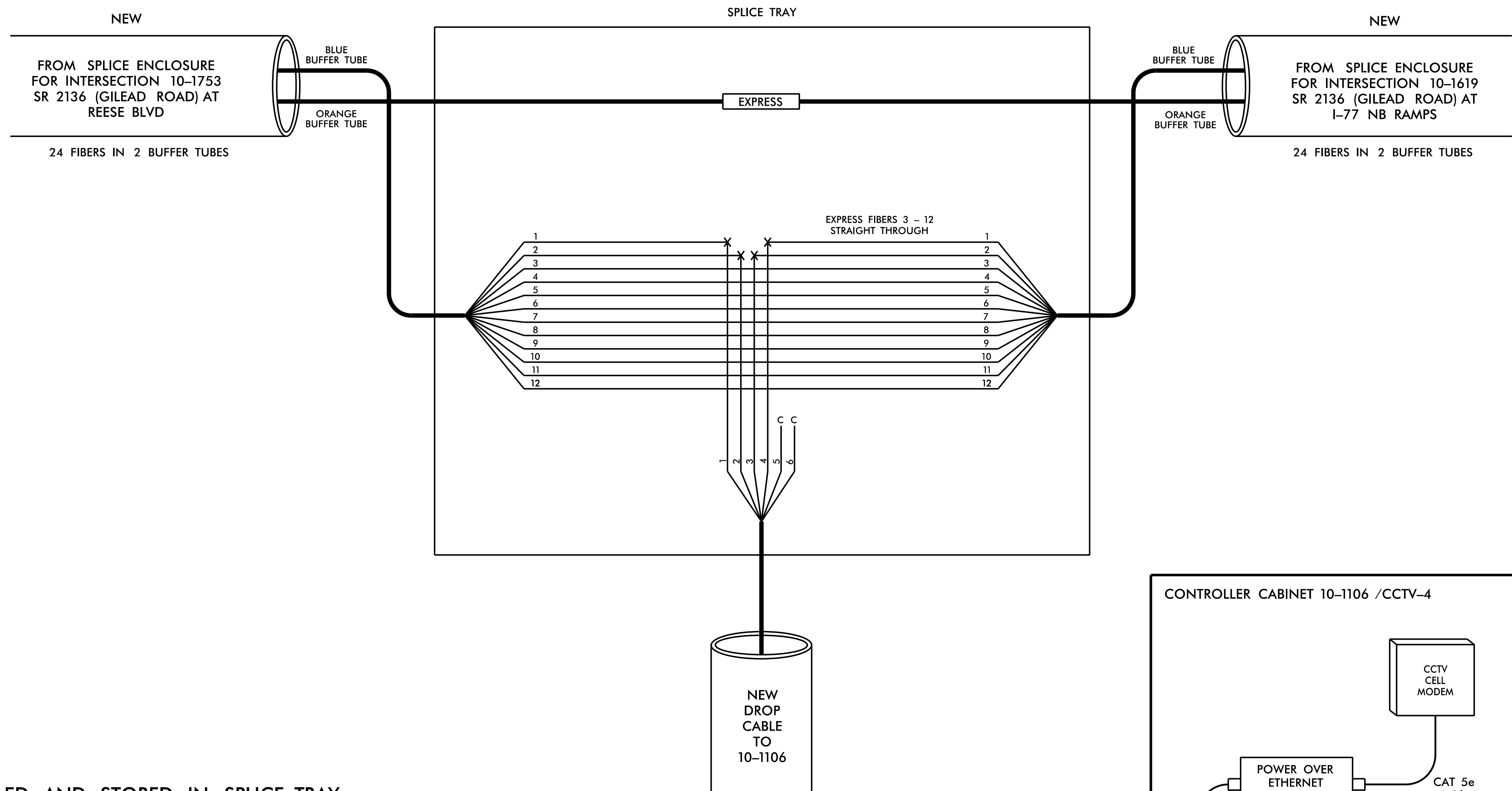
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<p>Plans Prepared for:</p>	<p><b>SPLICE DETAILS</b></p>										
	<p>Division 10 Mecklenburg Co. Huntersville</p> <p>PLAN DATE: January 2018 REVIEWED BY: A.D. Klinksiek</p> <p>PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons</p>	<p>Documented by: <i>Natasha R. Simmons</i> / 23/2018</p> <p>_____ SIGNATURE DATE</p>									
<p>SCALE</p> <p>NONE</p>	<p>REVISIONS</p> <table border="1"> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>INIT.</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DESCRIPTION	INIT.	DATE					<p>CADD File name: I5714_U5114_SCP-15.dgn</p>	
NO.	DESCRIPTION	INIT.	DATE								



10-1106  
SR 2136 (GILEAD RD) AT  
I-77 SB RAMPS

COLOR CODE TIA/EIA 598-C		LEGEND	
(1) BLUE	(7) RED	X = NEW FUSION SPLICE INDIVIDUAL FIBER	
(2) ORANGE	(8) BLACK	● = EXISTING FUSION SPLICE	
(3) GREEN	(9) YELLOW	C = CAP AND SEAL	
(4) BROWN	(10) VIOLET	EXPRESS = EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING	
(5) SLATE	(11) ROSE	BUFFER SPLICE = SPLICE ALL FIBERS IN BUFFER TUBE COLOR TO COLOR	
(6) WHITE	(12) AQUA		



NOTES:

1. UNUSED FIBERS LEFT COILED AND STORED IN SPLICE TRAY.
2. UNUSED BUFFER TUBES LEFT COILED AND STORED IN SPLICE TRAY.
3. TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING /ENSURING PROPER TERMINATION.
4. INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING: REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"

- (1) SPLICE
- (2) DATE
- (3) COMPANY NAME
- (4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

PRIOR TO INSTALLING THE COVER ON THE SPLICE TRAY, TAKE A DIGITAL PHOTOGRAPH SHOWING THE SPLICE TRAY AND INFORMATION SHOWN ABOVE (1-4) AND SUBMIT PHOTOGRAPH ALONG WITH OTDR TEST RESULTS.

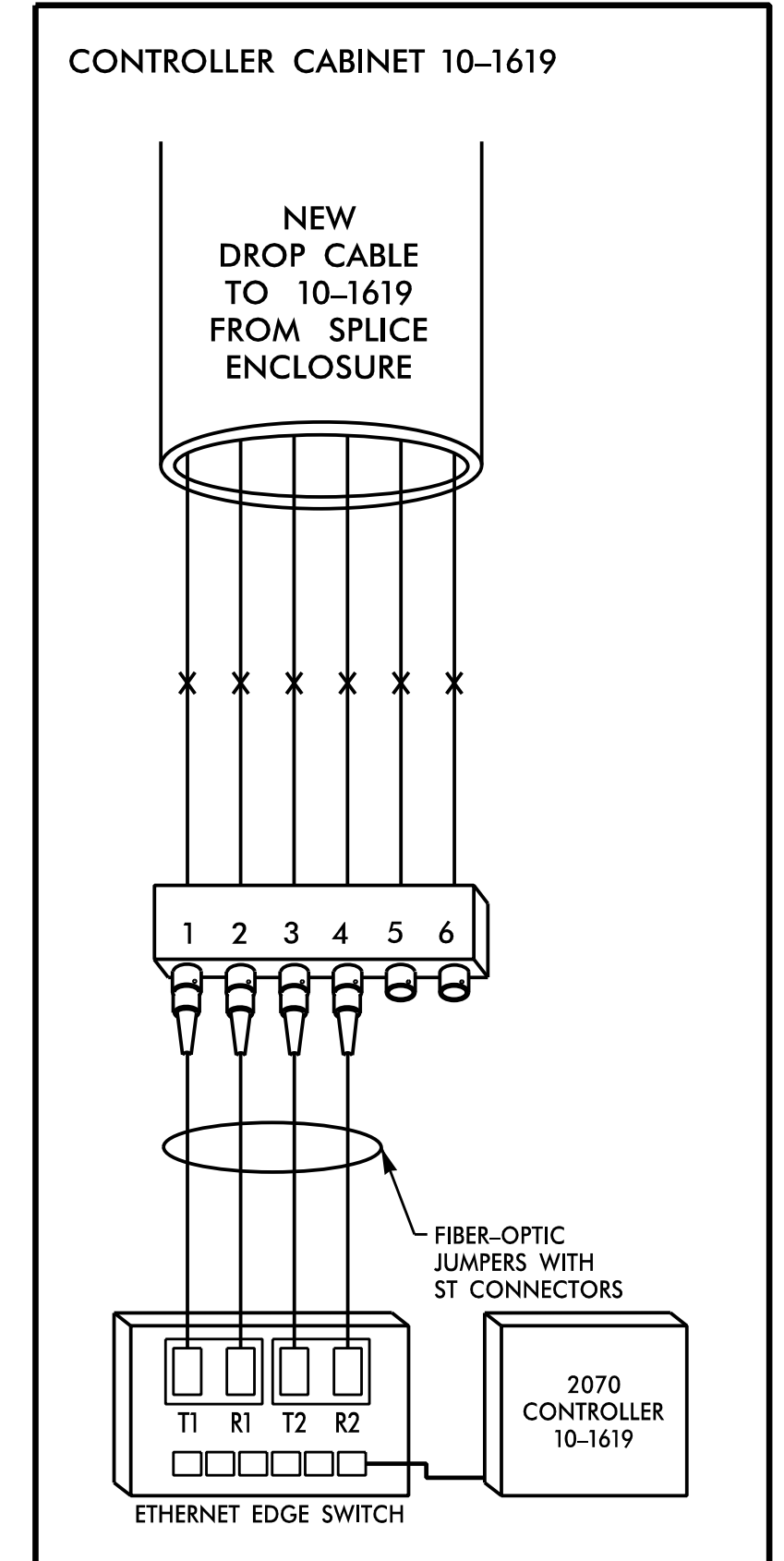
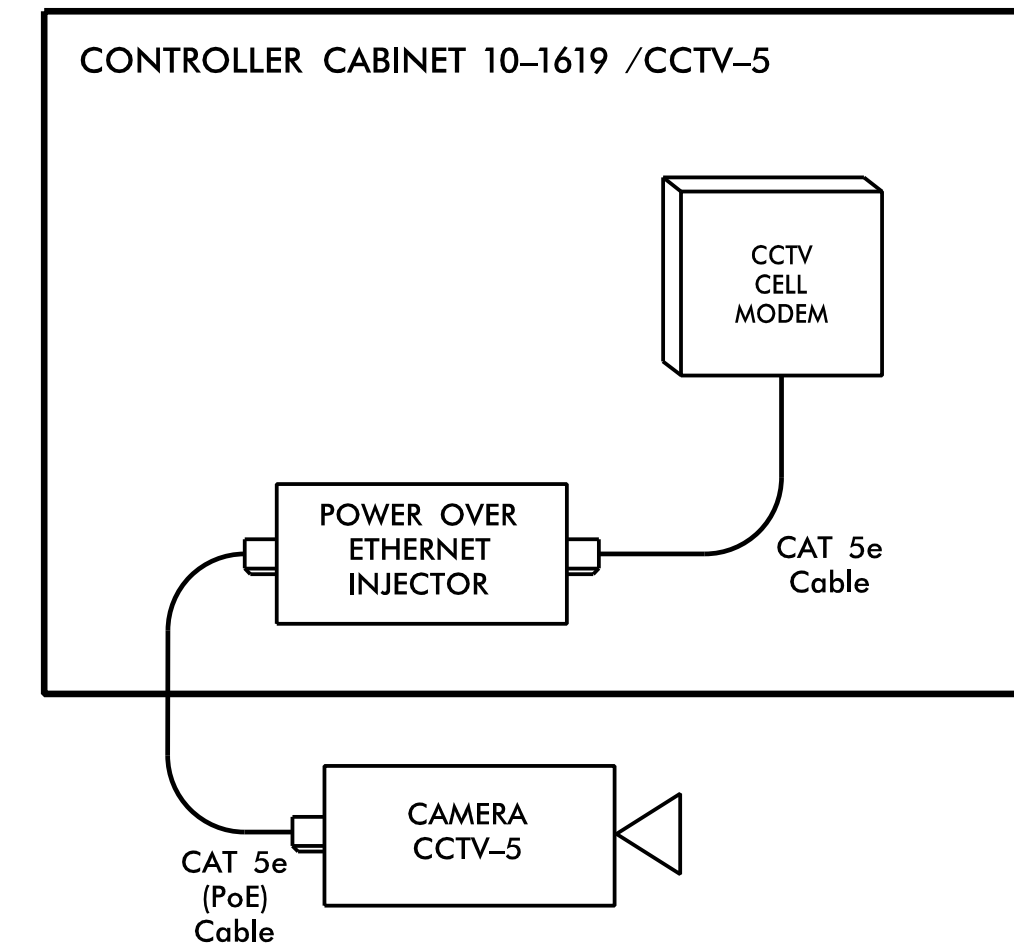
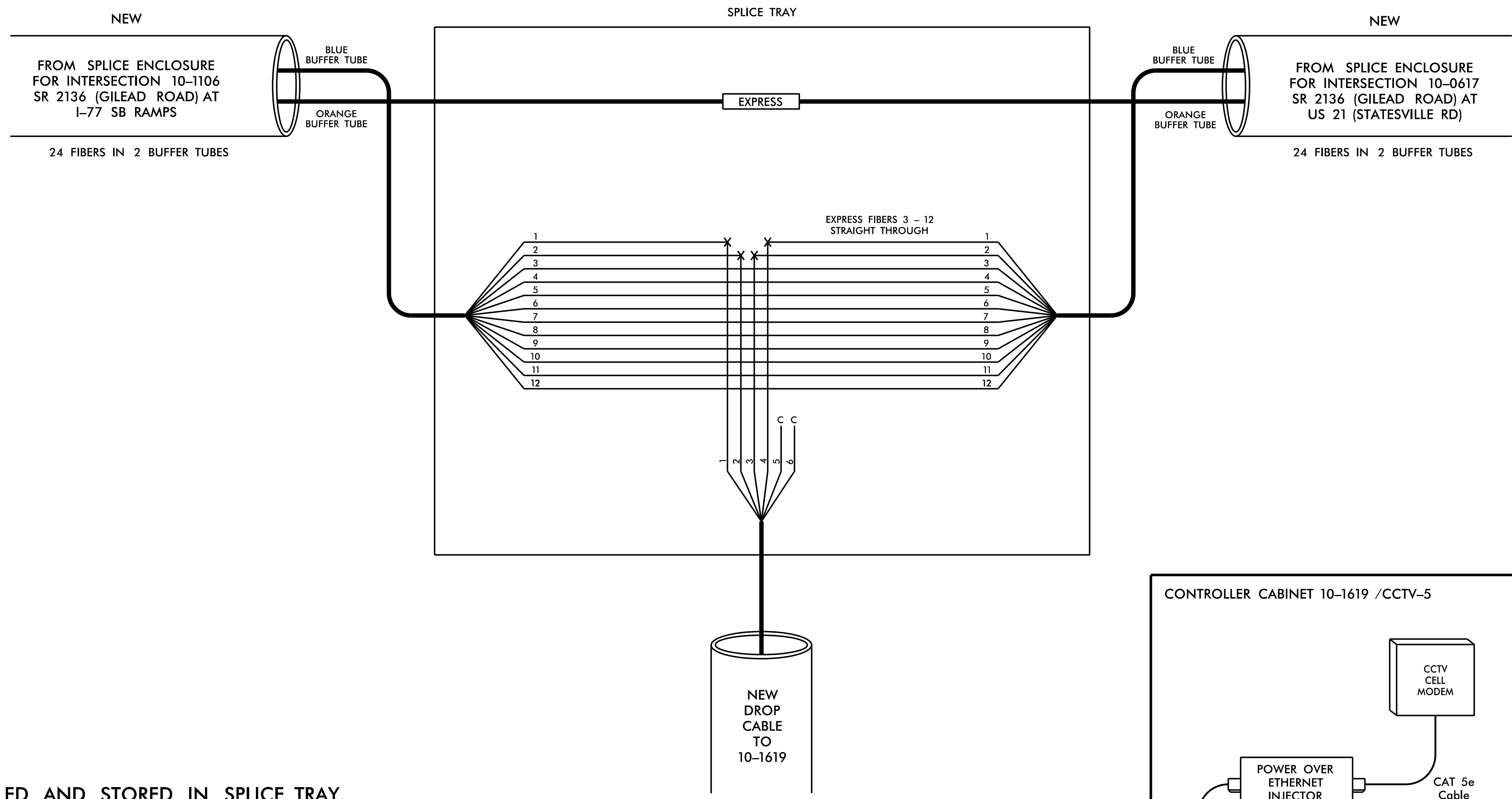
DOCUMENT NOT CONSIDERED FINAL  
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(919) 548-8997

<p>Plans Prepared for:</p> <p>250 N. Greenfield Place, Garner, NC 27529</p>	<p><b>SPLICE DETAILS</b></p>		<p>Division 10 Mecklenburg Co. Huntersville</p> <p>PLAN DATE: January 2018 REVIEWED BY: A.D. Klinksiek</p> <p>PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons</p>	
	<p>SCALE</p> <p>NONE</p>	<p>REVISIONS</p>		
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10-1619  
SR 2136 (GILEAD RD) AT  
I-77 NB RAMP

COLOR CODE TIA/EIA 598-C		LEGEND	
(1) BLUE	(7) RED	X = NEW FUSION SPLICE INDIVIDUAL FIBER	
(2) ORANGE	(8) BLACK	● = EXISTING FUSION SPLICE	
(3) GREEN	(9) YELLOW	C = CAP AND SEAL	
(4) BROWN	(10) VIOLET	EXPRESS = EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING	
(5) SLATE	(11) ROSE	BUFFER SPLICE = SPLICE ALL FIBERS IN BUFFER TUBE COLOR TO COLOR	
(6) WHITE	(12) AQUA		



NOTES:

1. UNUSED FIBERS LEFT COILED AND STORED IN SPLICE TRAY.
2. UNUSED BUFFER TUBES LEFT COILED AND STORED IN SPLICE TRAY.
3. TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING / ENSURING PROPER TERMINATION.
4. INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING: REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"

- (1) SPLICE
- (2) DATE
- (3) COMPANY NAME
- (4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

PRIOR TO INSTALLING THE COVER ON THE SPLICE TRAY, TAKE A DIGITAL PHOTOGRAPH SHOWING THE SPLICE TRAY AND INFORMATION SHOWN ABOVE (1-4) AND SUBMIT PHOTOGRAPH ALONG WITH OTDR TEST RESULTS.

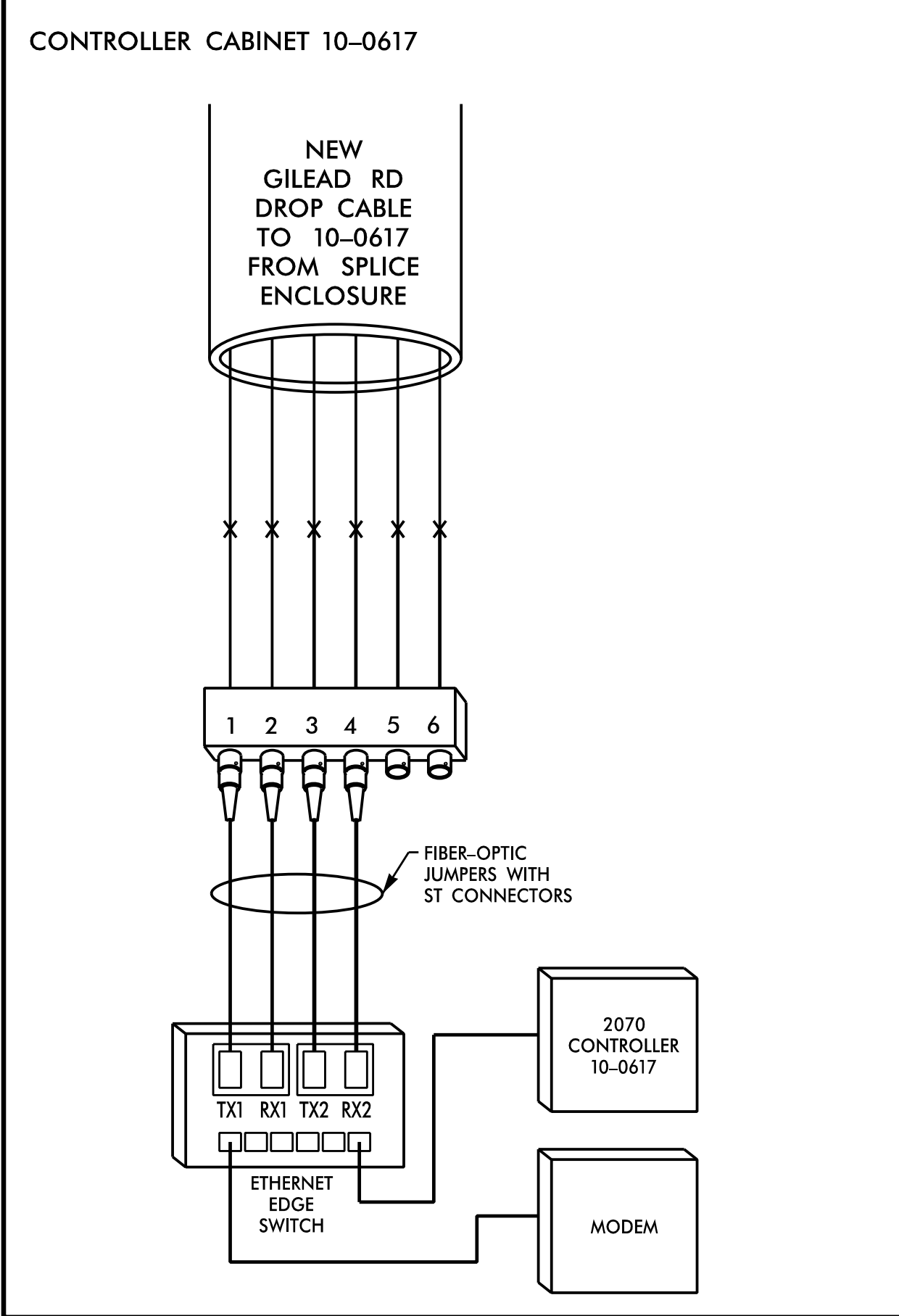
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 <small>250 N. Greenfield Place, Garner, NC 27529</small>	<p>Plans Prepared for:</p> <p><b>SPLICE DETAILS</b></p>		 <small>DocuSigned by: Natasha R. Simmons/23/2018</small>							
	<p>Division 10 Mecklenburg Co. Huntersville</p> <p>PLAN DATE: January 2018 REVIEWED BY: A.D. Klinksiek</p> <p>PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons</p>	<p>SCALE</p> <p>NONE</p>		<p>REVISIONS</p> <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>INIT.</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DATE	INIT.	DATE		
NO.	DATE	INIT.	DATE							

CADD File name: I5714\_U5114\_SCP-17.dgn

10-0617  
SR 2136 (GILEAD ROAD) AT  
US 21 (STATESVILLE ROAD)



**LEGEND**

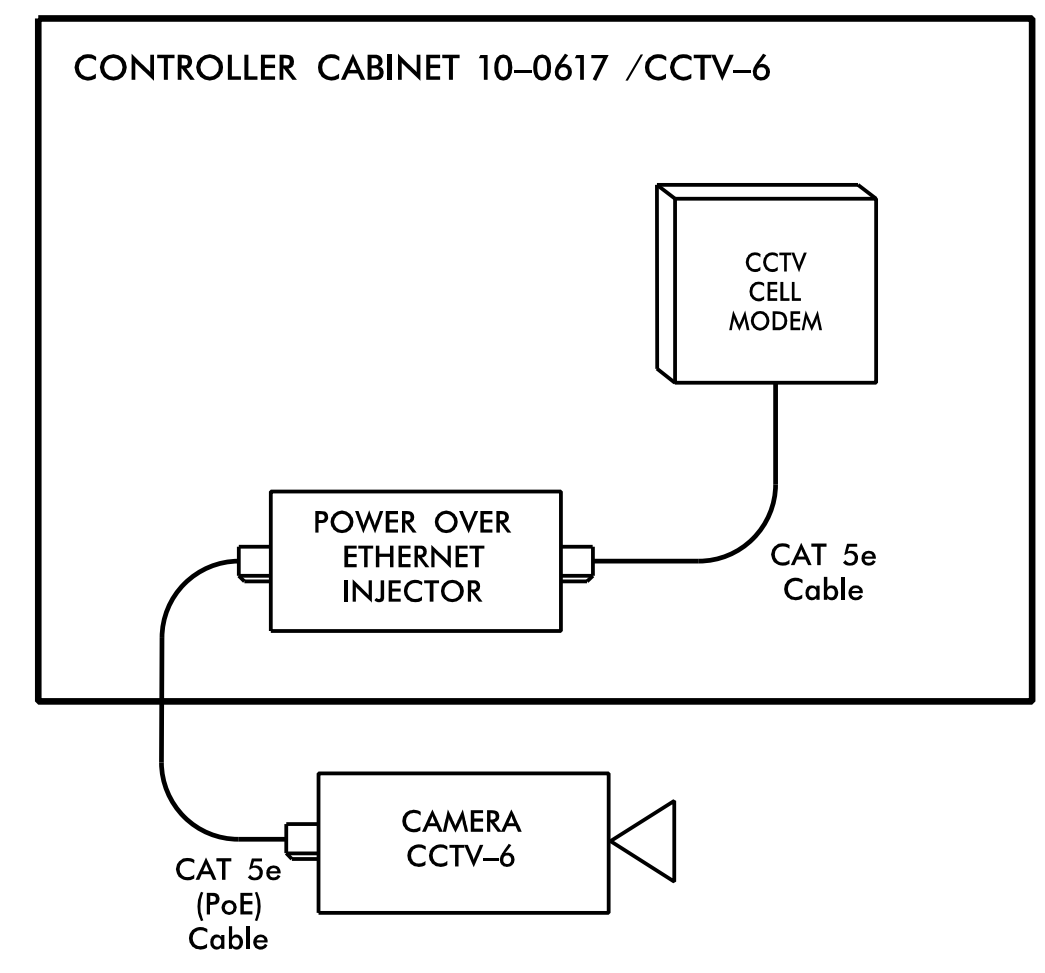
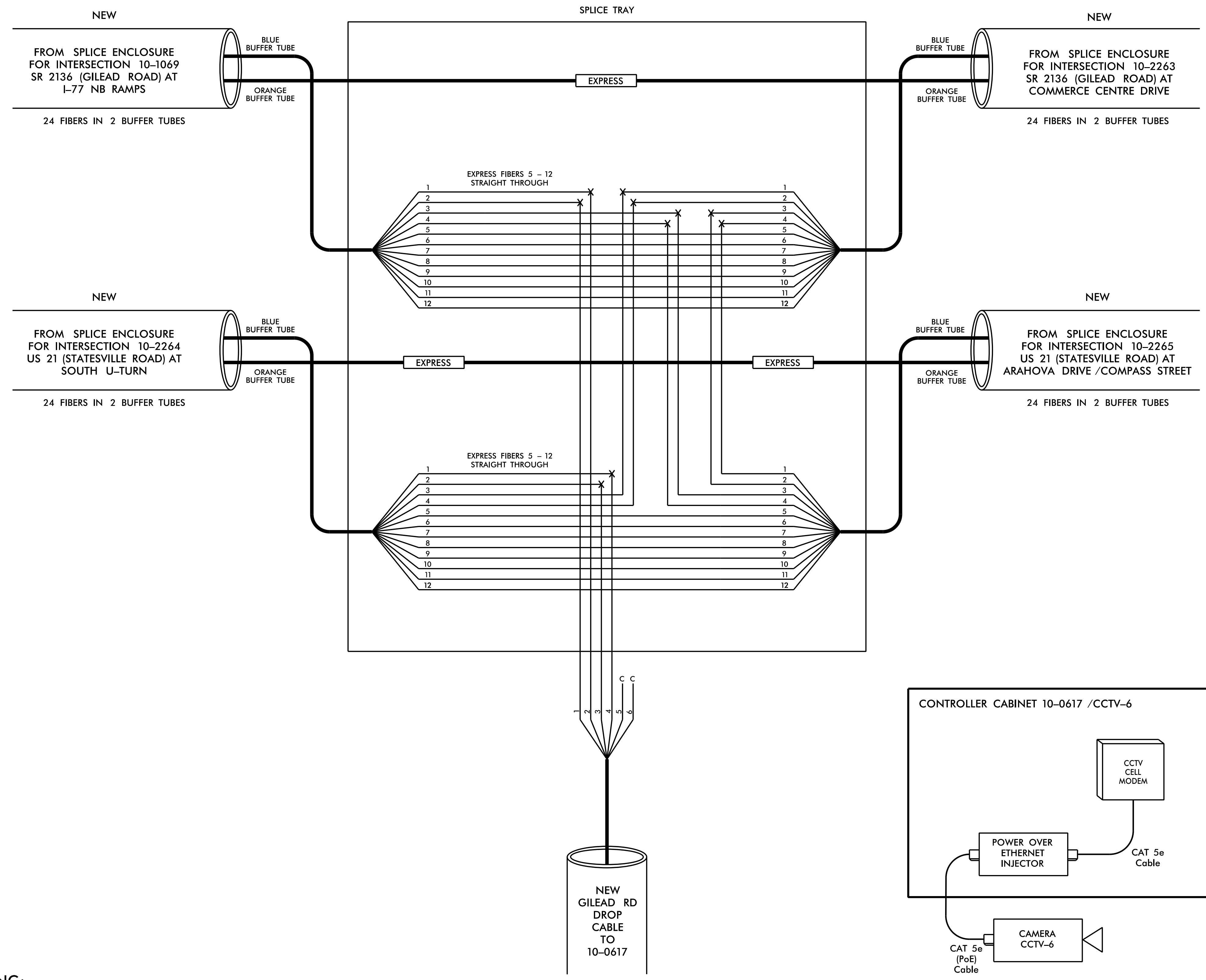
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(1) BLUE	(7) RED	X = NEW FUSION SPLICE INDIVIDUAL FIBER
(2) ORANGE	(8) BLACK	• = EXISTING FUSION SPLICE
(3) GREEN	(9) YELLOW	C = CAP AND SEAL
(4) BROWN	(10) VIOLET	EXPRESS = EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING
(5) SLATE	(11) ROSE	BUFFER SPLICE = SPLICE ALL FIBERS IN BUFFER TUBE COLOR TO COLOR
(6) WHITE	(12) AQUA	

**NOTES:**

1. UNUSED FIBERS LEFT COILED AND STORED IN SPLICE TRAY.
2. UNUSED BUFFER TUBES LEFT COILED AND STORED IN SPLICE TRAY.
3. TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING / ENSURING PROPER TERMINATION.
4. INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING: REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"

- (1) SPLICE
- (2) DATE
- (3) COMPANY NAME
- (4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

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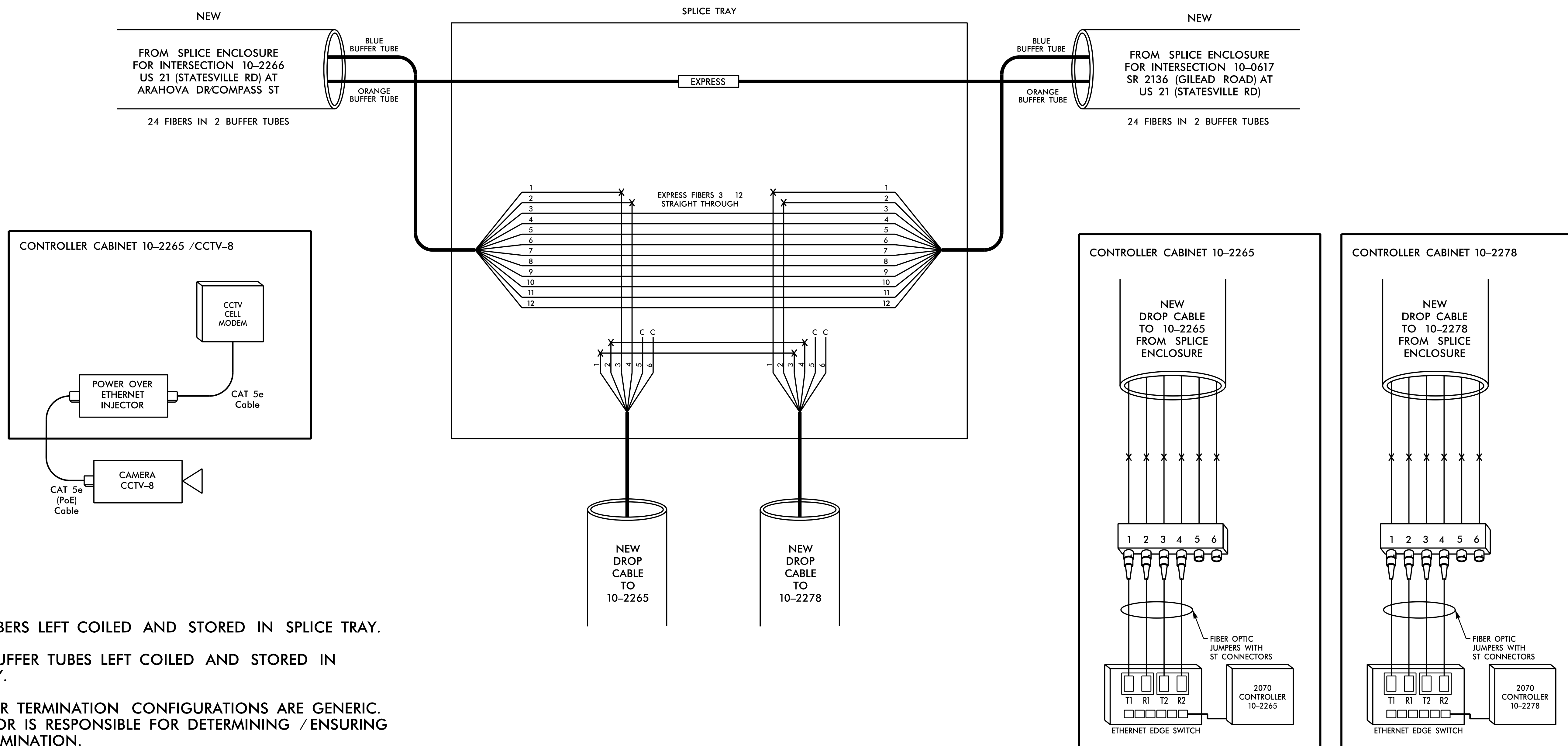
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<p>Plans Prepared for:</p> <p>250 N. Greenfield Place, Garner, NC 27529</p>	<p><b>SPLICE DETAILS</b></p> <p>Division 10 Mecklenburg Co. Huntersville</p> <p>PLAN DATE: January 2018 REVIEWED BY: A.D. Klinksiek</p> <p>PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons</p>		<p>SEAL</p> <p>DocuSigned by: Natasha R. Simmons 2/3/2018</p> <p>SIGNATURE DATE</p>							
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NO.	DESCRIPTION	INIT.	DATE							

10-2265 /10-2278  
 US 21 (STATESVILLE RD) AT  
 U-TURN BULB-OUT NORTH OF  
 SR 2136 (GILEAD RD) &  
 SHOPPING CENTER DRIVEWAY

COLOR CODE TIA/EIA 598-C			LEGEND	
(1) BLUE	(7) RED	X = NEW FUSION SPLICE INDIVIDUAL FIBER		
(2) ORANGE	(8) BLACK	● = EXISTING FUSION SPLICE		
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(6) WHITE	(12) AQUA			



**NOTES:**

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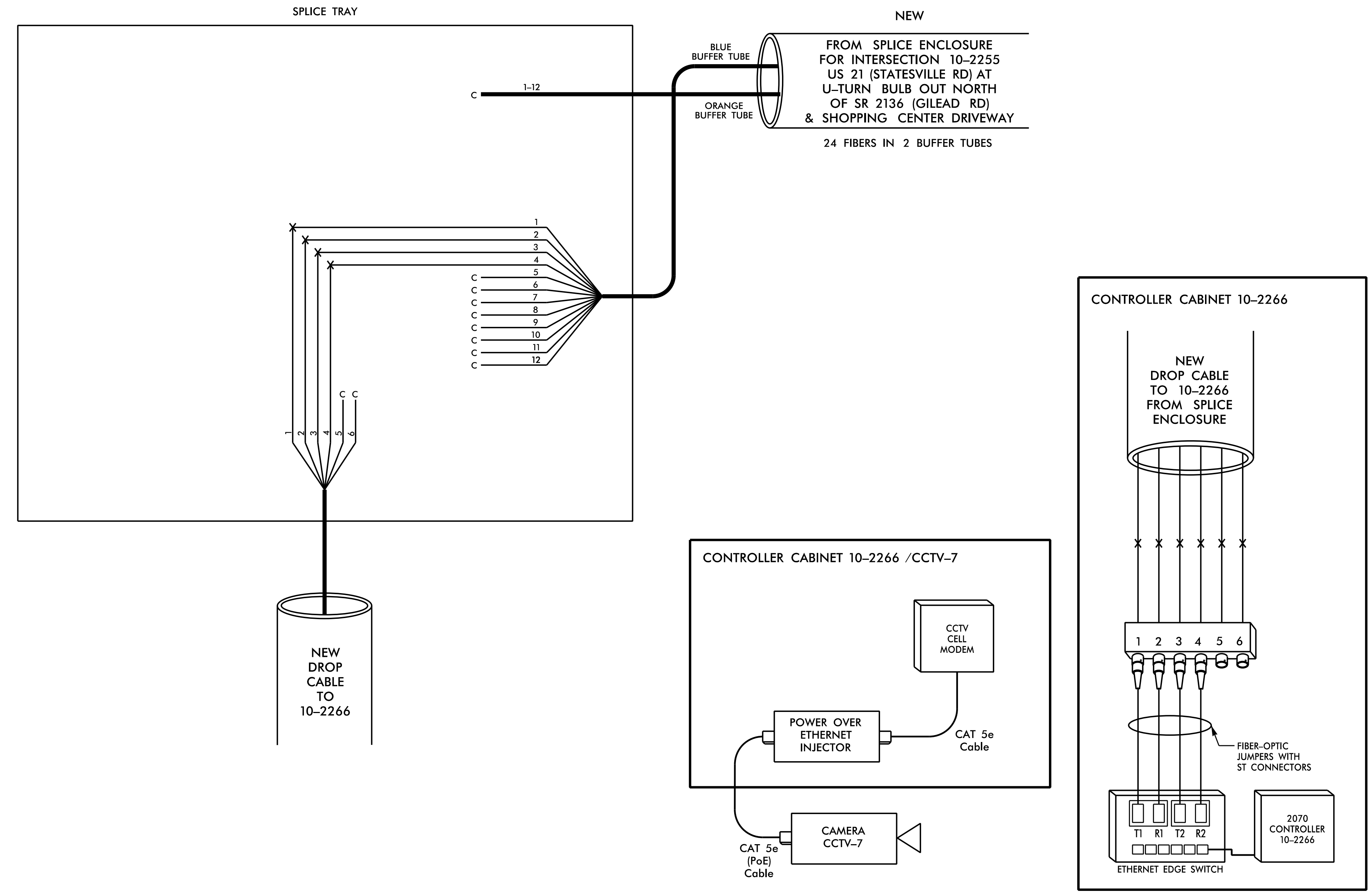
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 (919) 548-8997

<p>Plans Prepared for:</p> <p>250 N. Greenfield Place, Garner, NC 27529</p>	<p><b>SPLICE DETAILS</b></p>		
	<p>Division 10 Mecklenburg Co. Huntersville</p> <p>PLAN DATE: January 2018 REVIEWED BY: A.D. Klinksiek</p> <p>PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons</p>	<p>DocuSigned by:                  Natasha R. Simmons 2/3/2018</p>	
<p>SCALE</p> <p>NONE</p>	<p>REVISIONS</p>	<p>INIT. DATE</p>	<p>CADD File name: I5714_U5114_SCP-19.dgn</p>

10-2266  
 US 21 (STATESVILLE RD) AT  
 ARAHOVA DR/COMPASS ST

COLOR CODE TIA/EIA 598-C		LEGEND	
(1) BLUE	(7) RED	X = NEW FUSION SPLICE INDIVIDUAL FIBER	
(2) ORANGE	(8) BLACK	● = EXISTING FUSION SPLICE	
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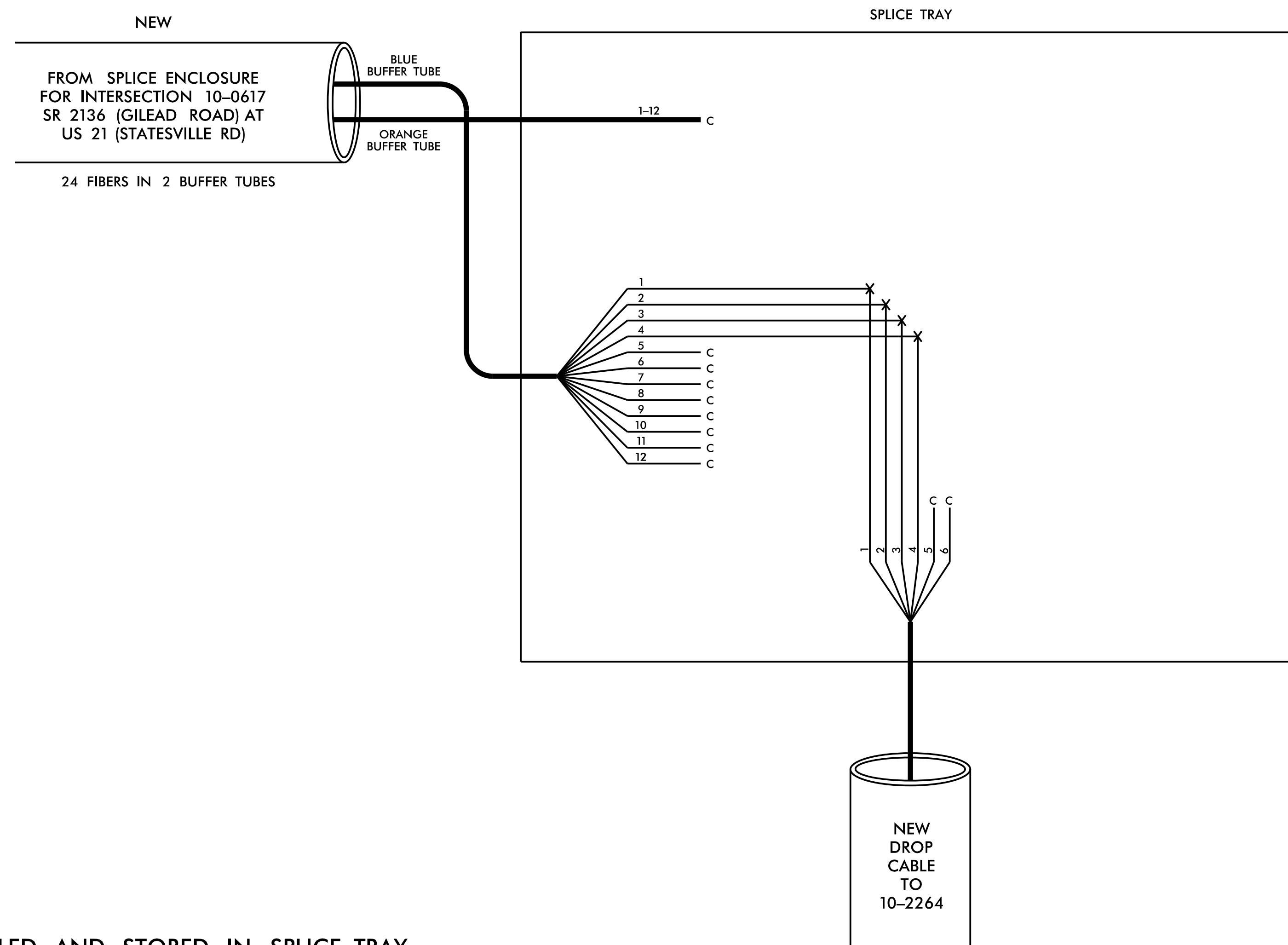
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<p>Plans Prepared for:</p> <p>250 N. Greenfield Place, Garner, NC 27529</p>	<p><b>SPLICE DETAILS</b></p>		<p>Division 10 Mecklenburg Co. Huntersville</p> <p>PLAN DATE: January 2018 REVIEWED BY: A.D. Klinksiek</p> <p>PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons</p>	<p>SEAL</p>
	<p>SCALE</p> <p>NONE</p>	<p>REVISIONS</p>		

DocuSigned by:  
 Natasha R. Simmons 2/3/2018  
 SIGNATURE DATE  
 CADD File name: I5714\_U5114\_SCP-20.dgn

10-2264  
 US 21 (STATESVILLE RD) AT  
 U-TURN BULB-OUT SOUTH OF  
 SR 2136 (GILEAD RD)

COLOR CODE TIA/EIA 598-C		LEGEND	
(1) BLUE	(7) RED	X = NEW FUSION SPLICE INDIVIDUAL FIBER	
(2) ORANGE	(8) BLACK	● = EXISTING FUSION SPLICE	
(3) GREEN	(9) YELLOW	C = CAP AND SEAL	
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(6) WHITE	(12) AQUA		

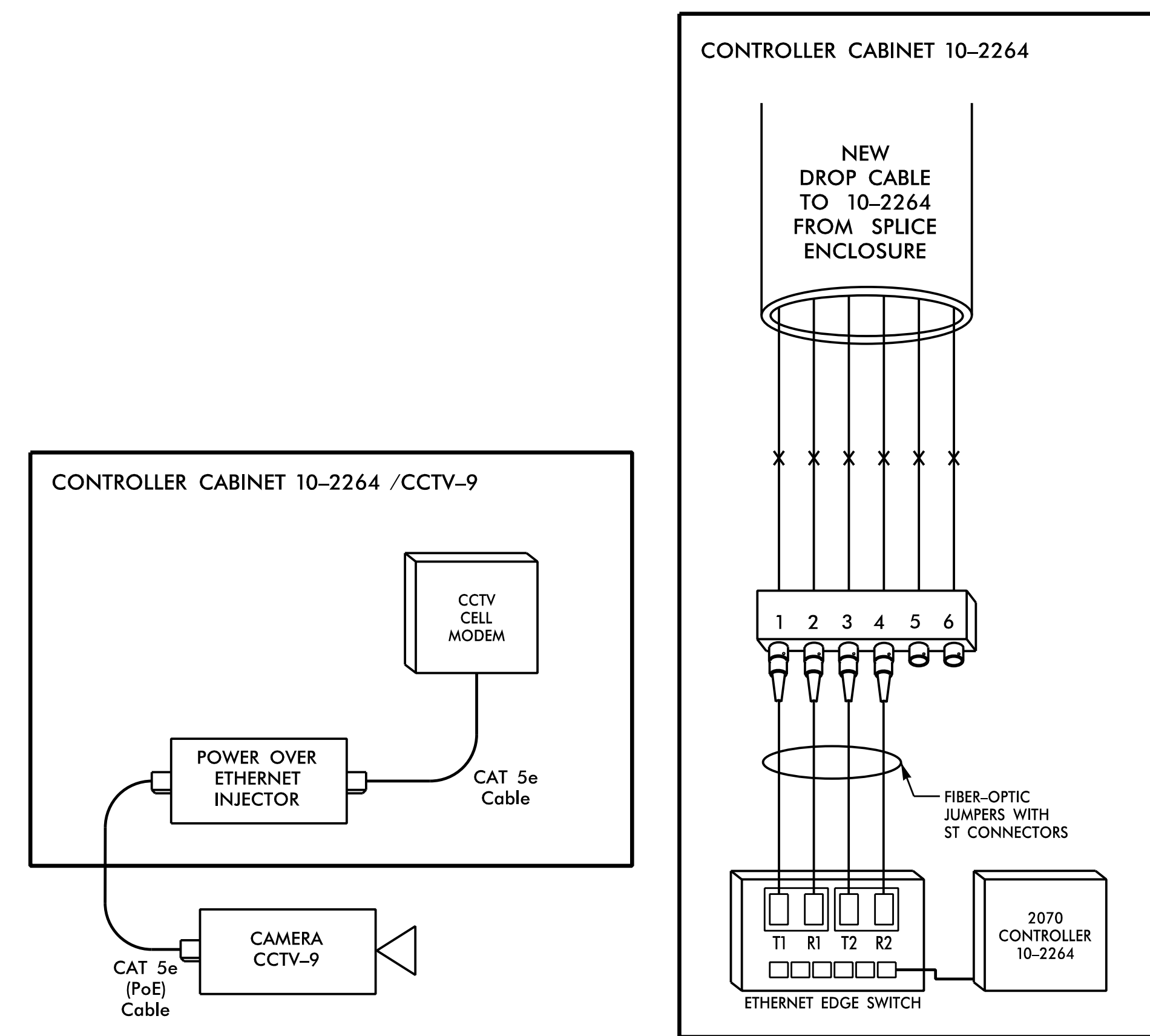


NOTES:

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- (1) SPLICE
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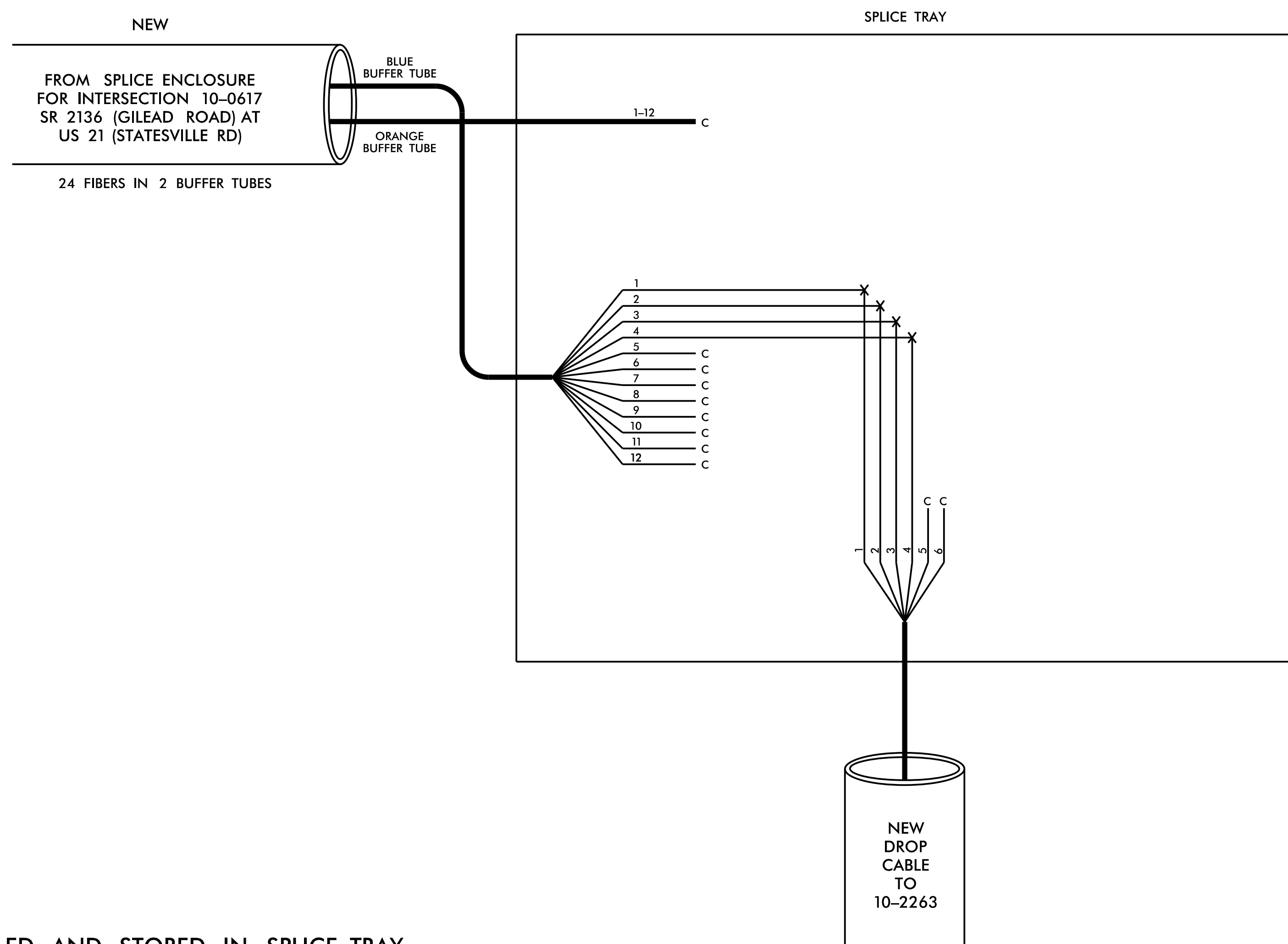
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 (919) 548-8997

Plans Prepared for:  250 N. Greenfield Place, Garner, NC 27529	<b>SPLICE DETAILS</b>		
	Division 10 Mecklenburg Co. Huntersville PLAN DATE: January 2018 REVIEWED BY: A.D. Klinksiek PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons	Documented by: Natasha R. Simmons 2/23/2018 SIGNATURE DATE	
SCALE NONE	REVISIONS	INIT. DATE	CADD File name: I5714_U5114_SCP-21.dgn

10-2263  
SR 2136 (GILEAD RD) AT  
COMMERCE CENTER DR

COLOR CODE TIA/EIA 598-C			LEGEND	
(1) BLUE	(7) RED	X = NEW FUSION SPLICE INDIVIDUAL FIBER		
(2) ORANGE	(8) BLACK	● = EXISTING FUSION SPLICE		
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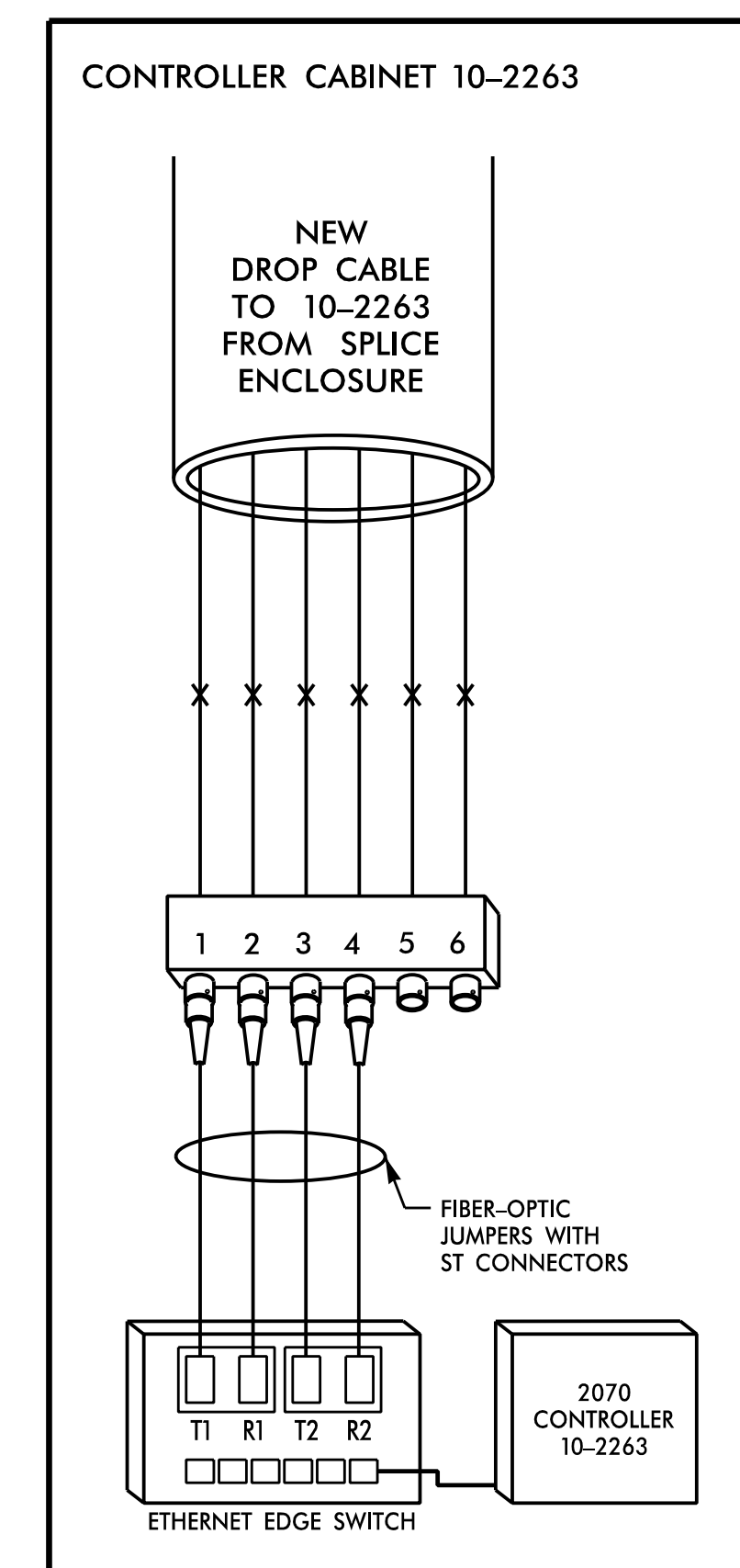
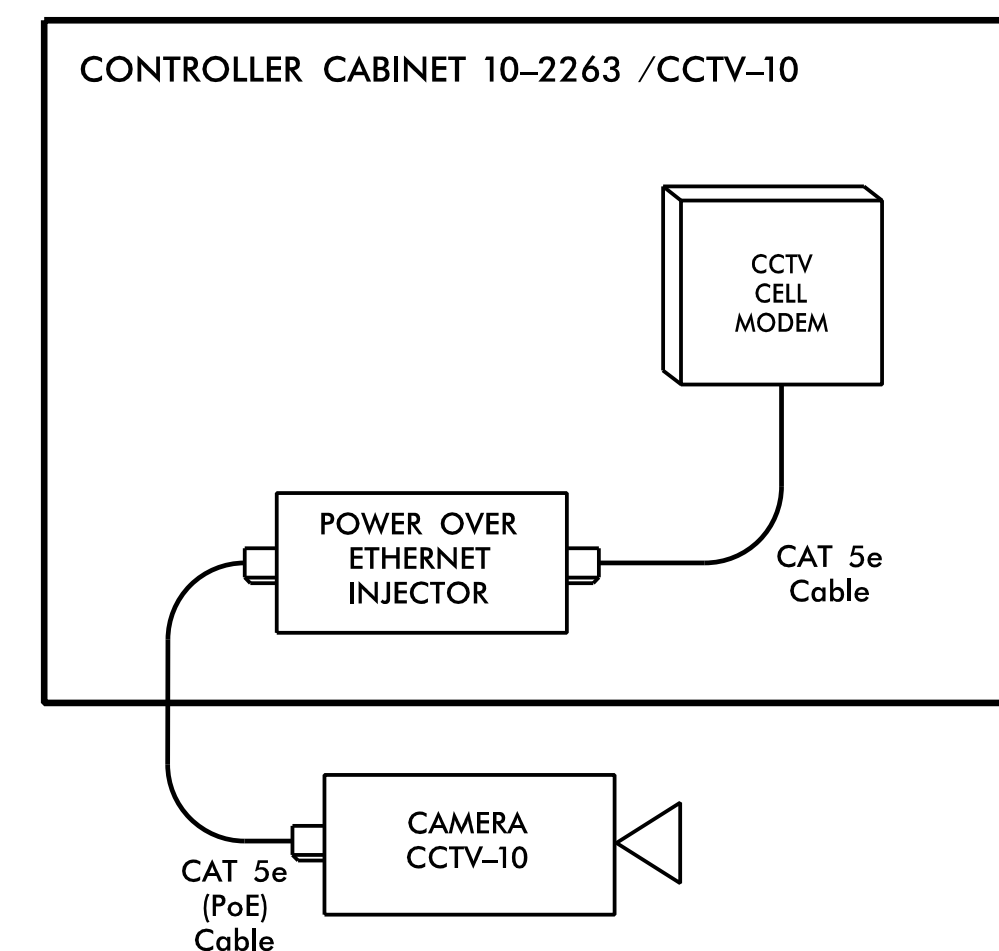


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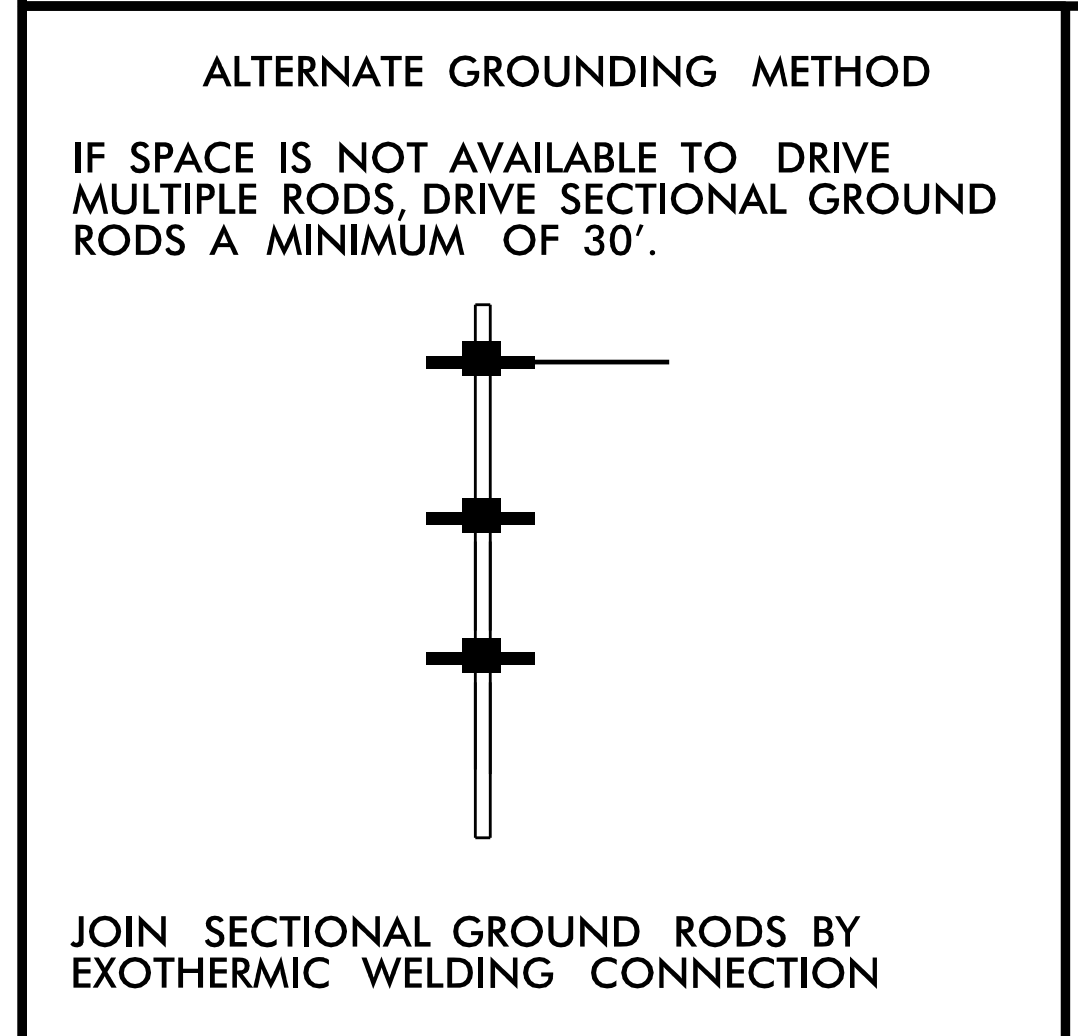
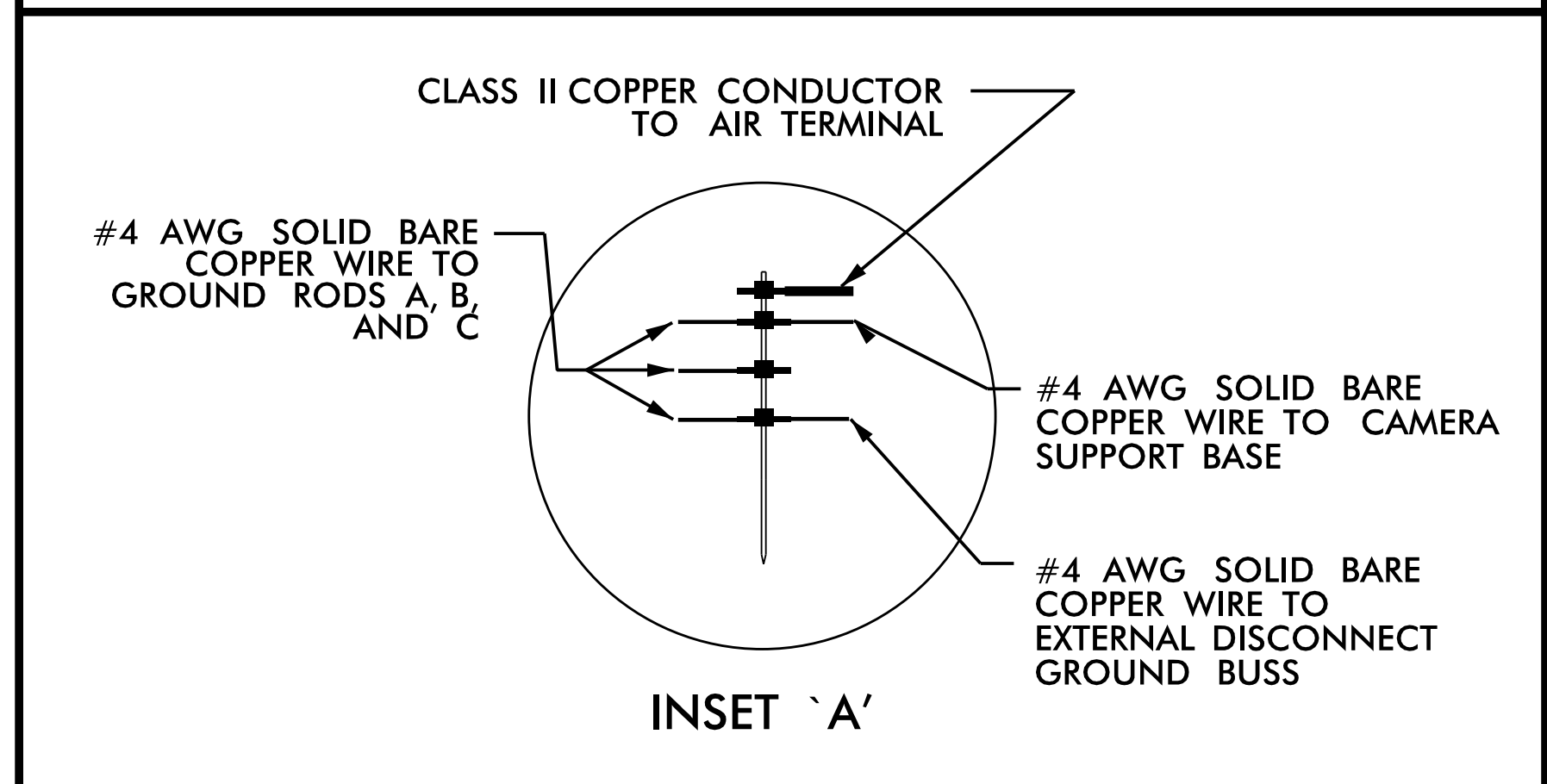
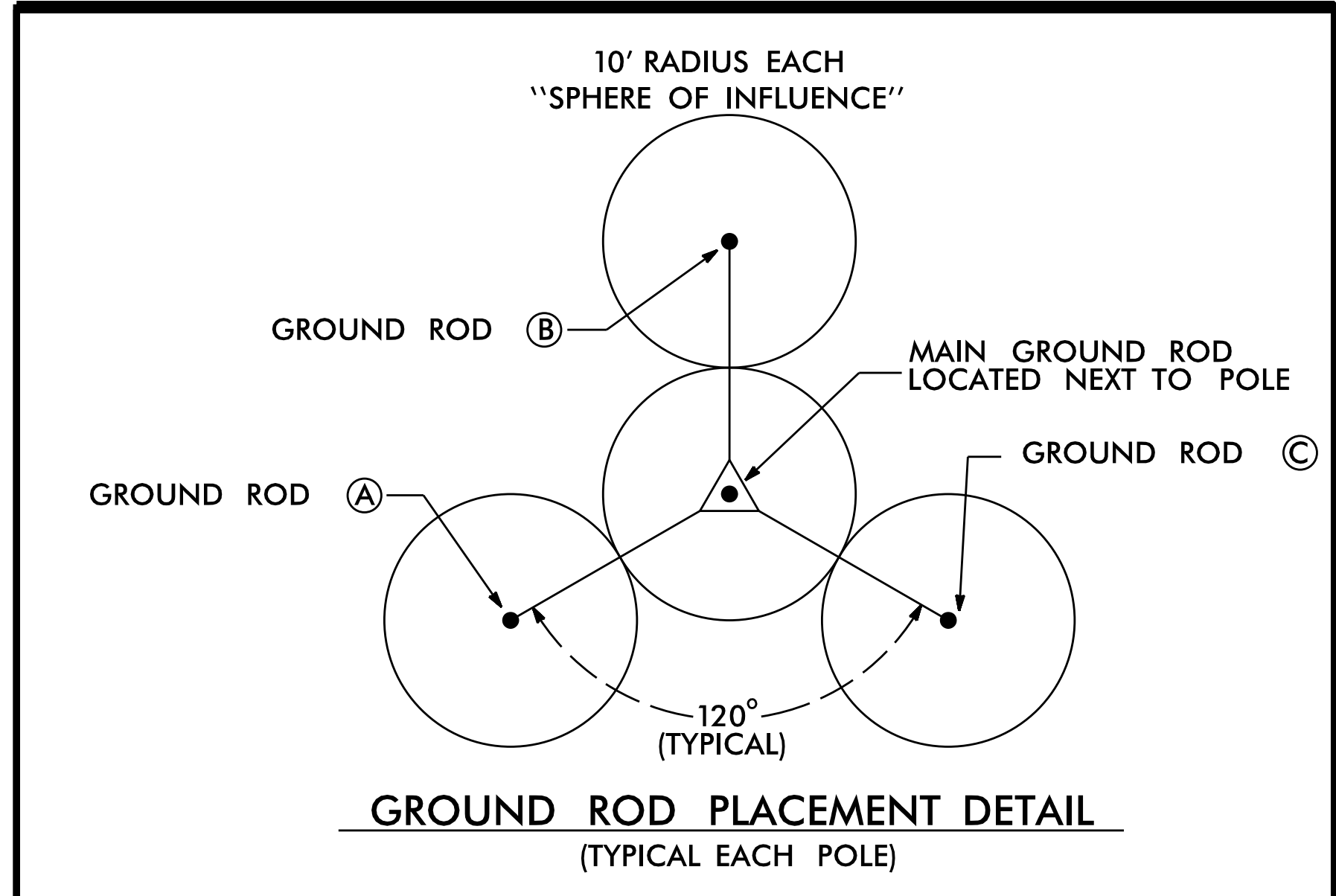
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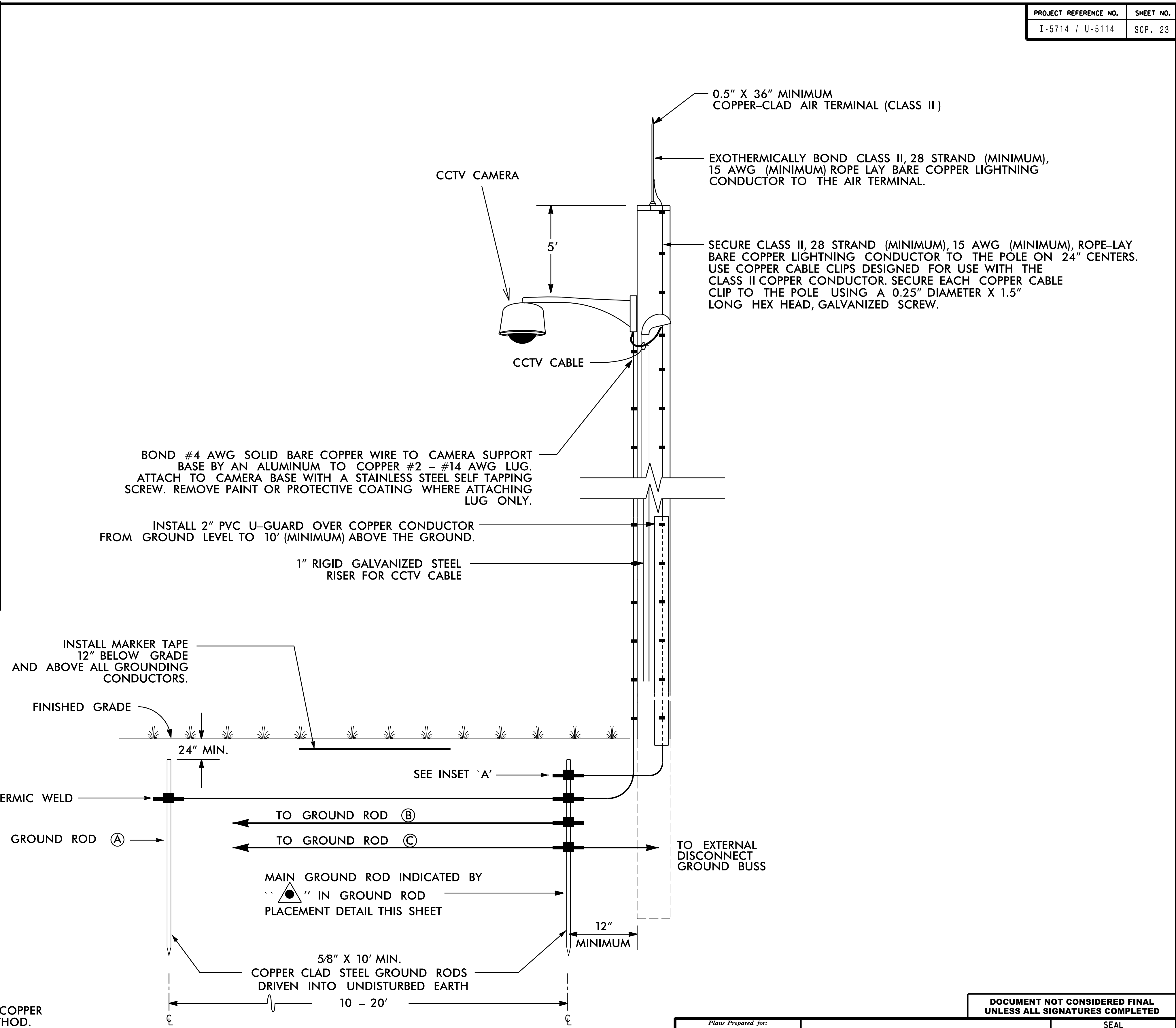
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<p>Plans Prepared for:</p> <p>250 N. Greenfield Place, Garner, NC 27529</p>	<p><b>SPLICE DETAILS</b></p>		<p>SEAL</p>							
	<p>Division 10 Mecklenburg Co. Huntersville</p> <p>PLAN DATE: January 2018 REVIEWED BY: A.D. Klinksiek</p> <p>PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons</p>	<p>SCALE</p> <p>NONE</p>		<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>NO.</th> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	REVISIONS	INIT.	DATE		
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<p>DocuSigned by: Natasha R. Simmons 2/23/2018</p> <p>_____ SIGNATURE DATE</p> <p>CADD File name: I5714_U5114_SCP-22.dgn</p>			<p>2070 CONTROLLER 10-2263</p>							



- NOTES:
- BOND CLASS II, 28 STRAND (MINIMUM), 15 AWG (MINIMUM) ROPE-LAY BARE COPPER CONDUCTOR TO THE MAIN GROUND ROD BY AN EXOTHERMIC WELD METHOD. MAINTAIN MAXIMUM HORIZONTAL SEPARATION BETWEEN COPPER CONDUCTOR AND RISER.
  - EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
  - THE CONTRACTOR MAY, UPON APPROVAL OF THE ENGINEER, INSTALL A 30' SECTIONAL GROUND ROD FOR INSTANCES WHEN CONDITIONS WILL NOT ALLOW FOR THE INSTALLATION OF THE 3 - RADIAL GROUND RODS.
  - INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12".



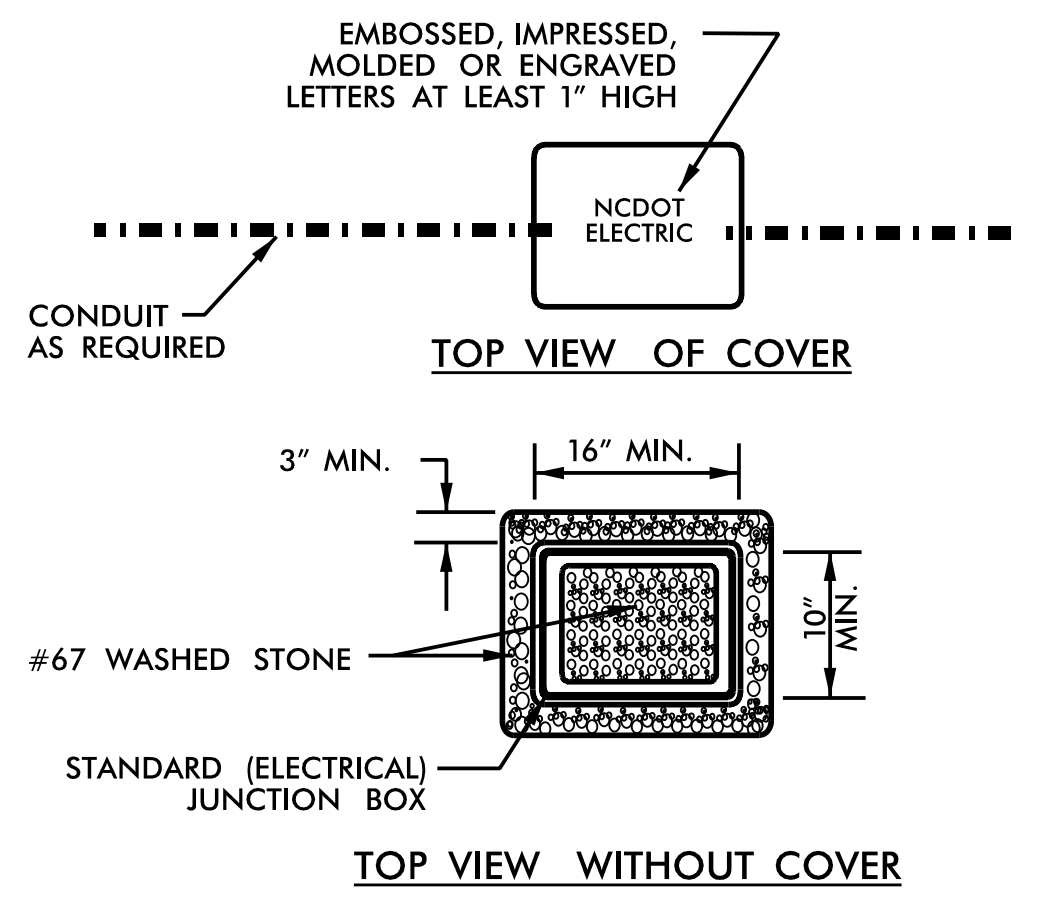
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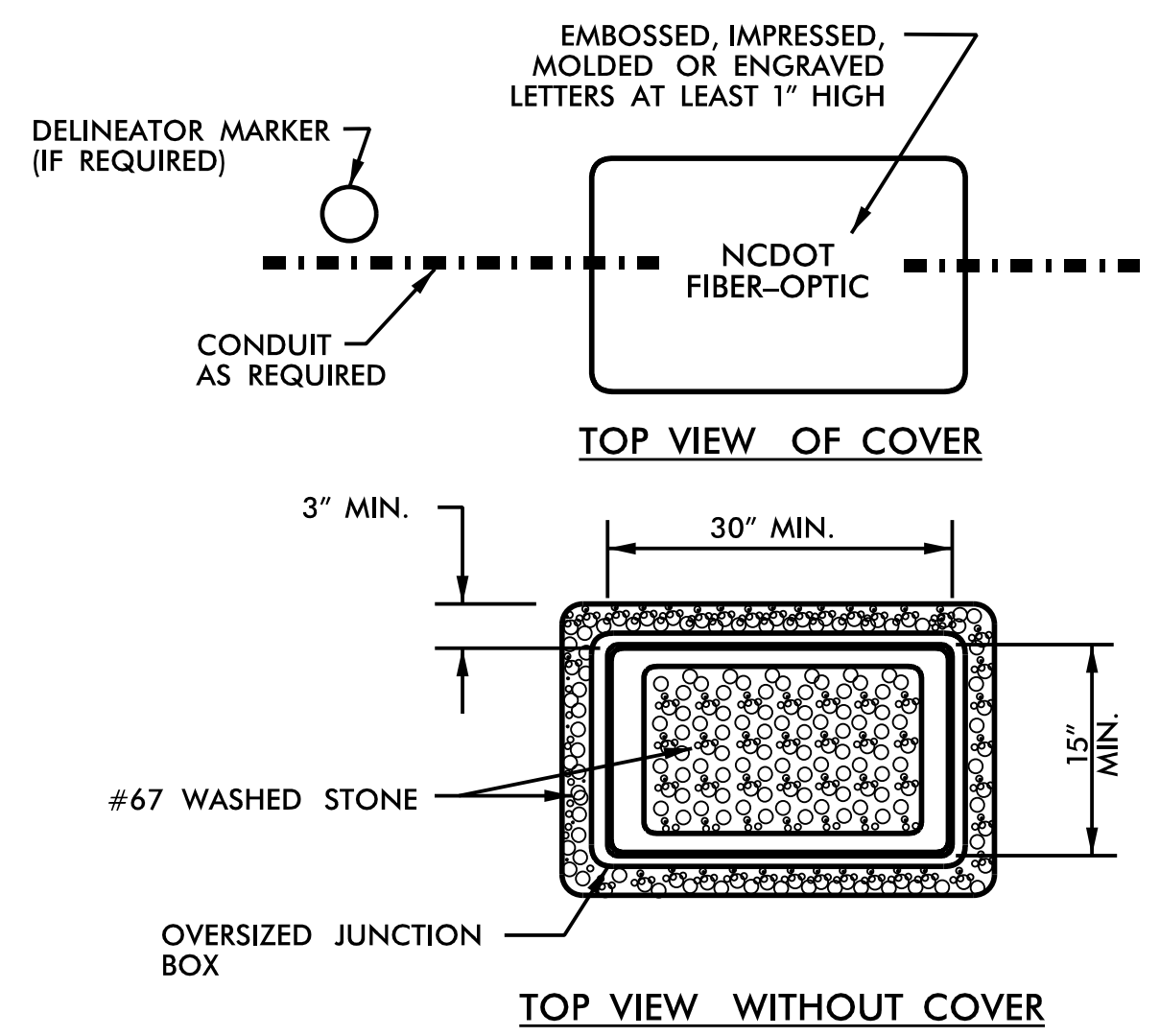
Plans Prepared for:		<b>DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED</b>	
	<b>CCTV CAMERA AND CABINET ON WOOD POLE</b>		
	Division 10 Mecklenburg Co. Huntersville PLAN DATE: December 2017 REVIEWED BY: T.R. Terrell PREPARED BY: J.A. Wagner REVIEWED BY: N.R. Simmons		
SCALE	REVISIONS	INIT.	DATE
NONE			
250 N. Greenfield Place, Garner, NC 27529		Documented by: <i>Natasha R. Simmons</i> 2/23/2018 SIGNATURE DATE CADD File name: I5714_U5114_SCP-23.dgn	



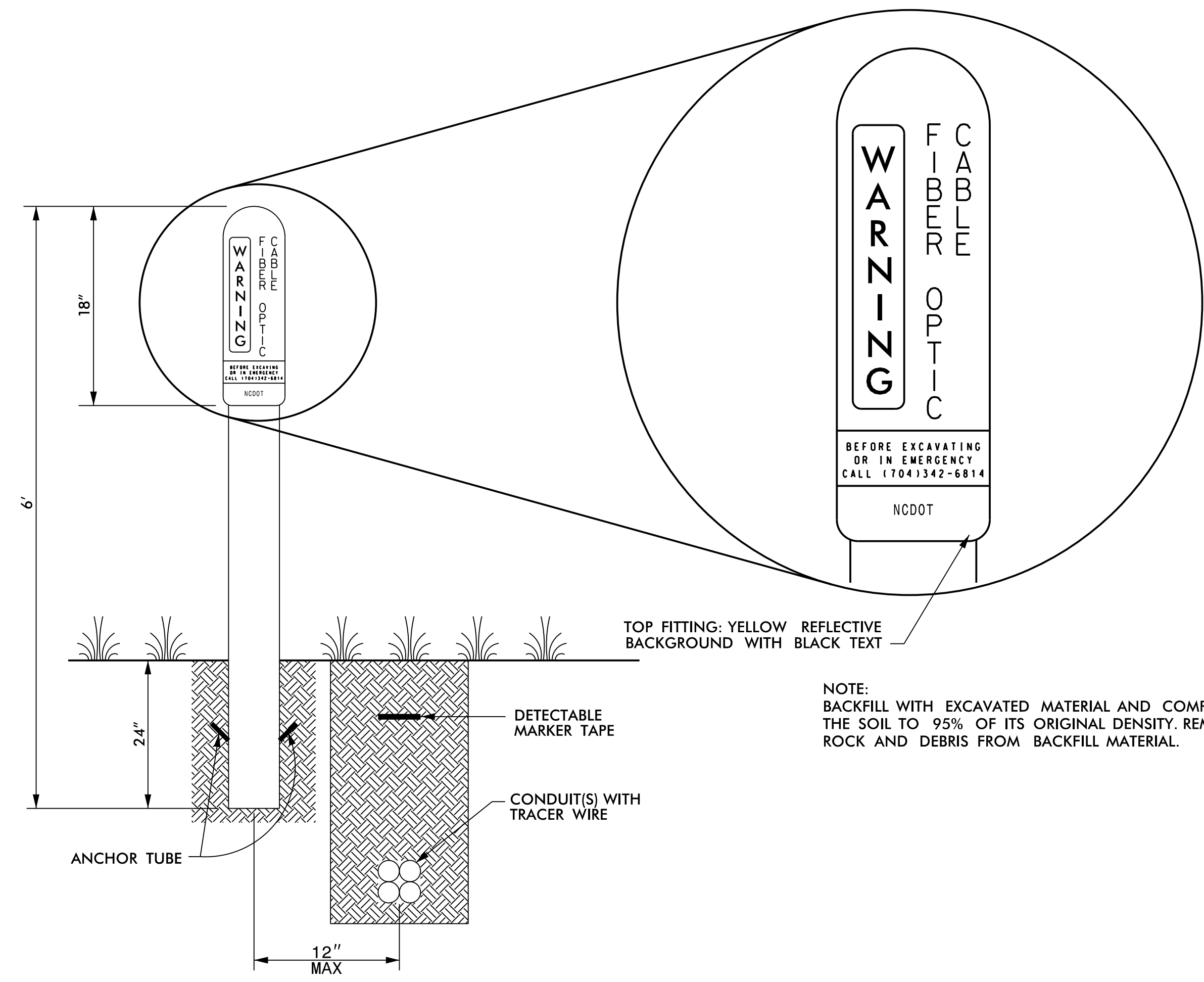
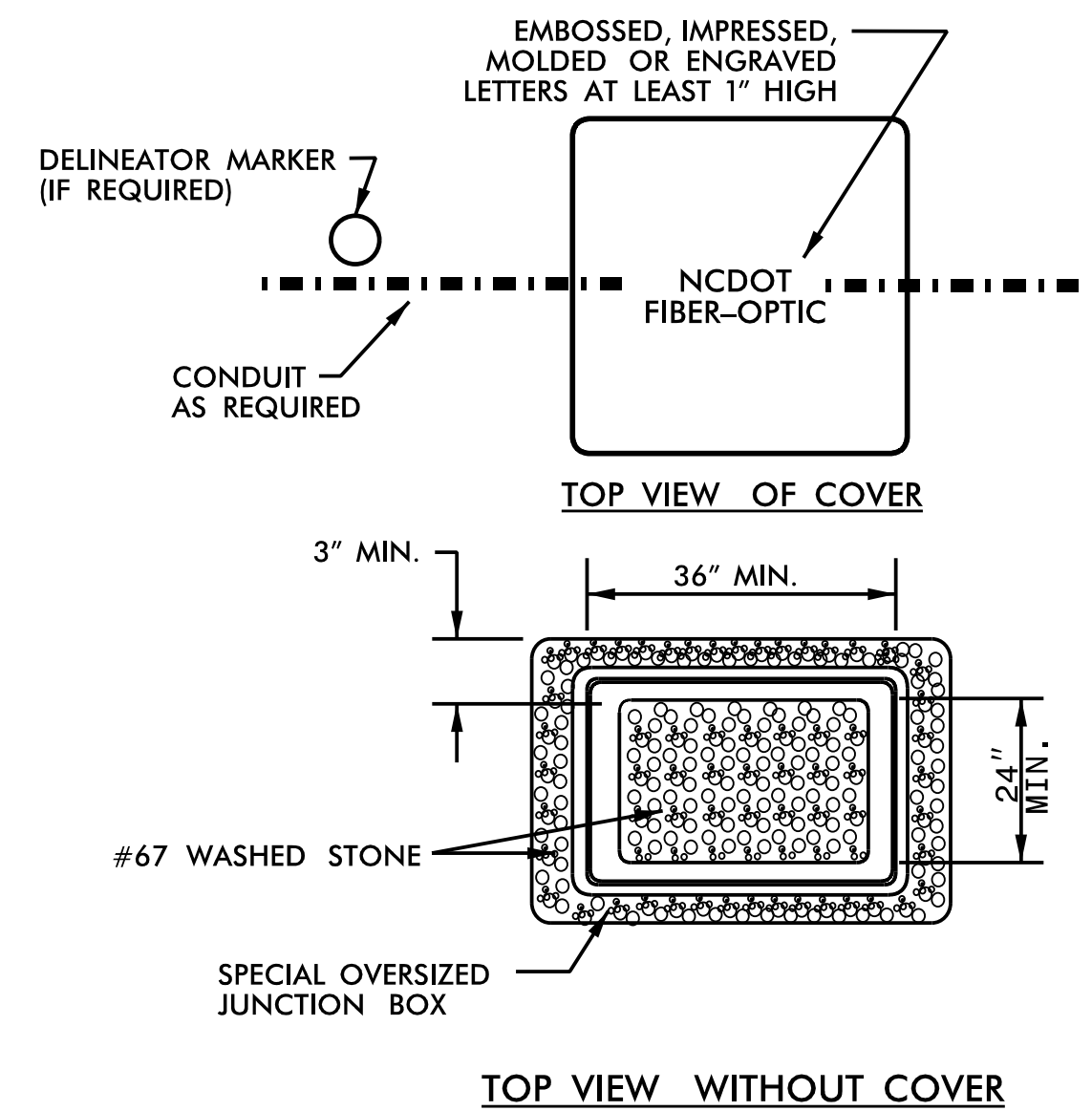
**STANDARD (ELECTRICAL)  
JUNCTION BOX**



**OVERSIZED HEAVY DUTY  
JUNCTION BOX**



**SPECIAL OVERSIZED HEAVY DUTY  
JUNCTION BOX**



NOTE:  
BACKFILL WITH EXCAVATED MATERIAL AND COMPACT THE SOIL TO 95% OF ITS ORIGINAL DENSITY. REMOVE ROCK AND DEBRIS FROM BACKFILL MATERIAL.

**PVC POST-MOUNTED DELINEATOR MARKER**

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**HNTB** HNTB NORTH CAROLINA, P.C.  
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Raleigh, North Carolina 27609  
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(919) 546-8997

<p>250 N. Greenfield Place, Garner, NC 27529</p>	<p>Plans Prepared for:</p> <p><b>TYPICAL DETAILS</b></p>									
	<p>Division 10 Mecklenburg Co. Huntersville</p> <p>PLAN DATE: December 2017 REVIEWED BY: T.R. Terrell</p> <p>PREPARED BY: J.A. Wagner REVIEWED BY: N.R. Simmons</p>	<p>SCALE</p> <p>NONE</p>		<p>REVISIONS</p> <table border="1"> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>INIT.</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DESCRIPTION	INIT.	DATE		
NO.	DESCRIPTION	INIT.	DATE							
<p>DocuSigned by: <i>Natasha R. Simmons</i> 2/23/2018</p> <p>_____ SIGNATURE DATE</p>			<p>CADD File name: I5714_U5114_SCP-24.dgn</p>							