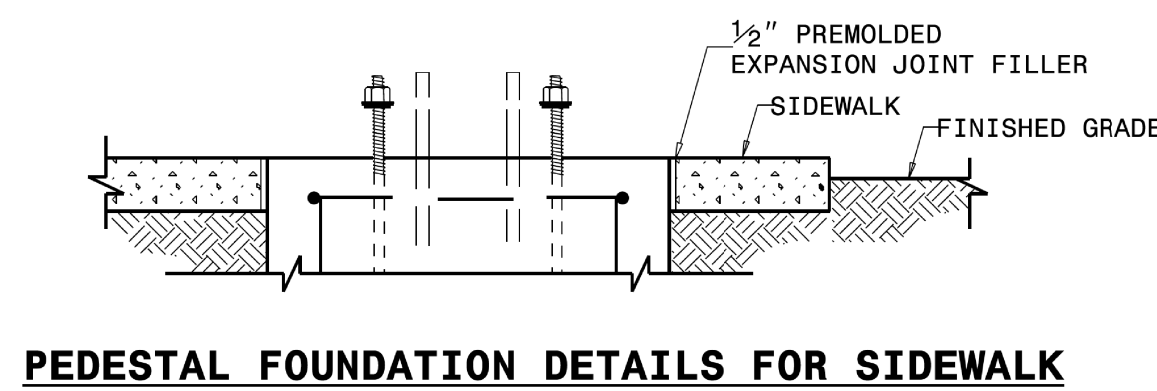
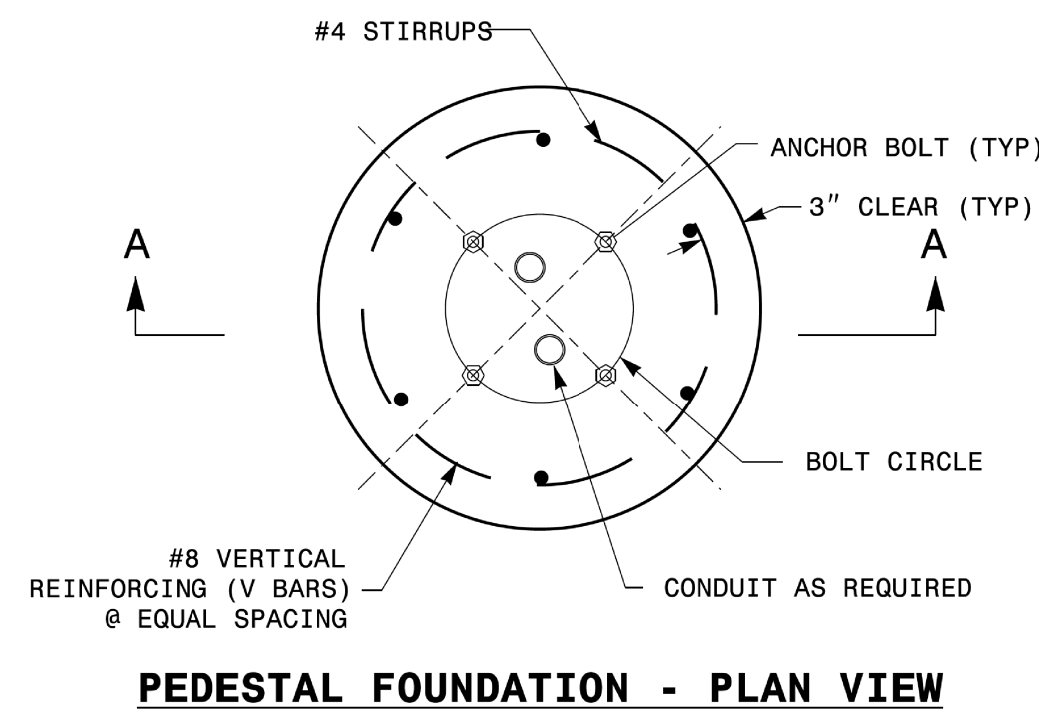


**This electronic collection of documents is provided
for the convenience of the user
and is Not a Certified Document –**

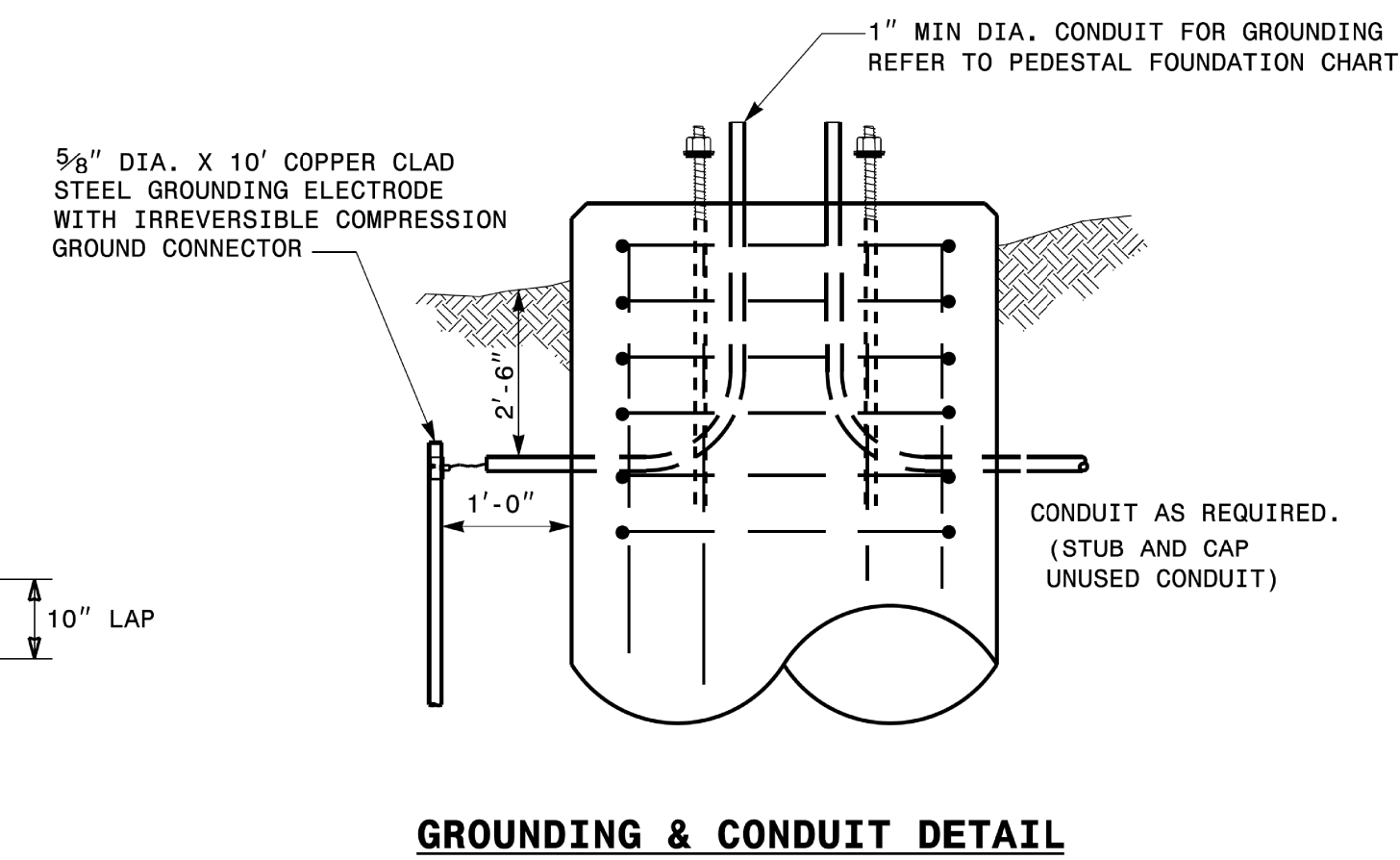
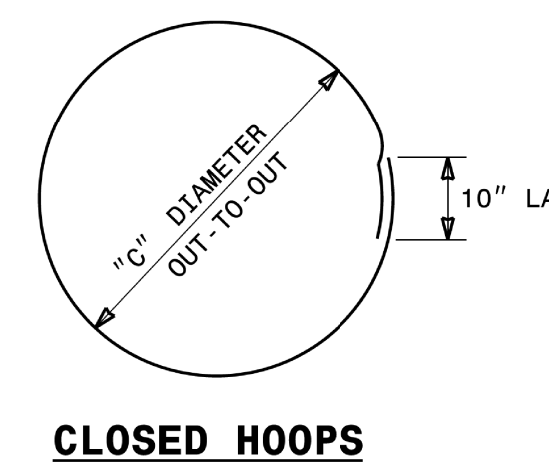
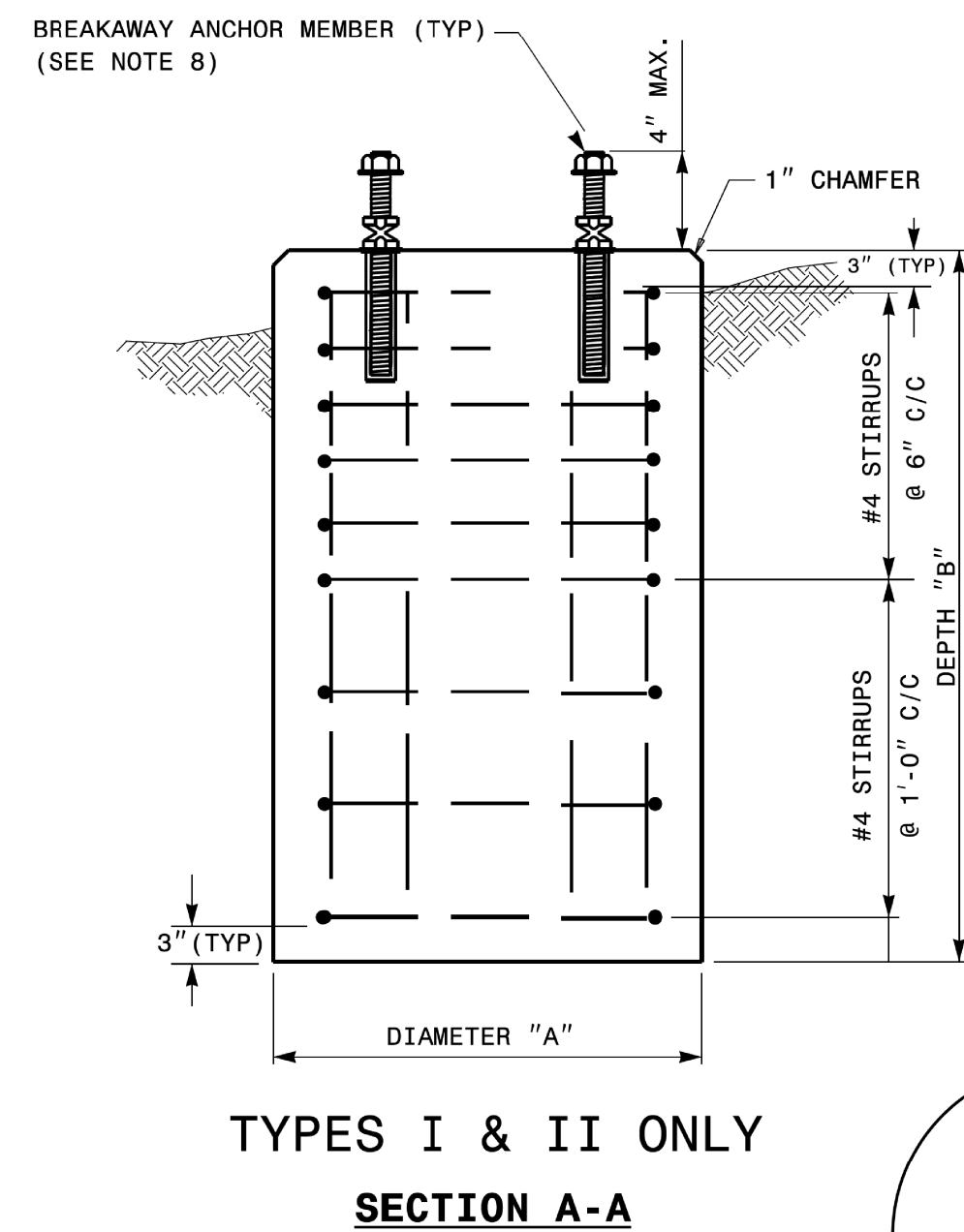
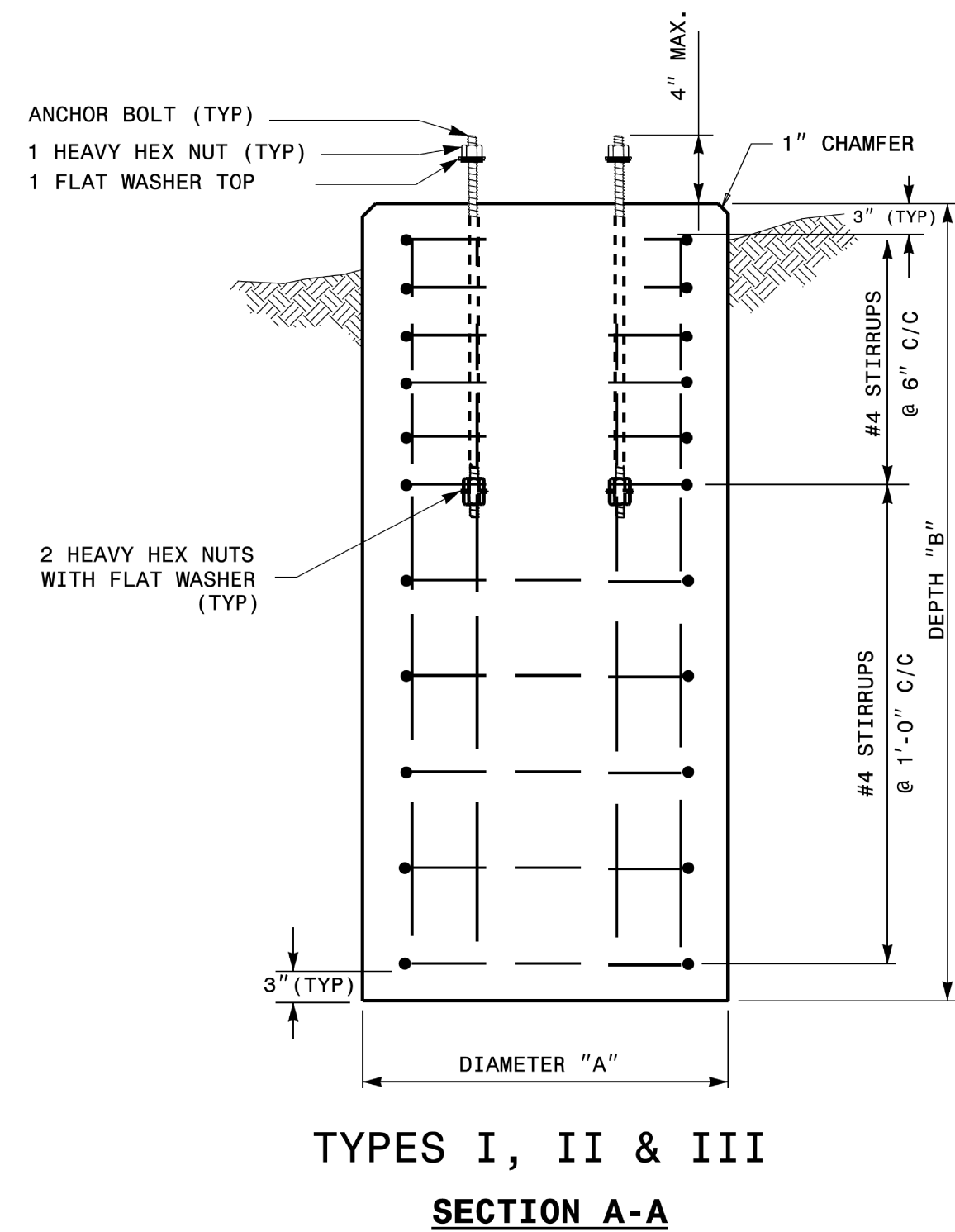
**The documents contained herein were originally issued
and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
with their signature on that page.**

**This file or an individual page
shall not be considered a certified document.**



NOTES:

- CAST FOUNDATION AGAINST UNDISTURBED SOIL WHEREVER CONDITIONS PERMIT. IN UNSTABLE SOIL, CAST-IN-PLACE TUBE FORMS ARE ALLOWED WITH APPROVAL.
- COMPLY WITH APPLICABLE PROVISIONS OF SECTION 825 FOR CONCRETE CONSTRUCTION.
- USE CLASS "A" CONCRETE THAT MEETS THE REQUIREMENTS OF SECTION 1000 WITH A COMPRESSION STRENGTH AT 28 DAYS OF $F'c = 3000$ PSI (MIN.).
- USE ASTM GRADE 60 DEFORMED BARS FOR ALL REINFORCING STEEL.
- GRADE IS ASSUMED TO BE (8H:1V) OR FLATTER. FOUNDATION SIZE AND DEPTHS ARE BASED ON THE FOLLOWING SOIL DESIGN PARAMETERS:
 - SANDY TYPE SOIL
 - NO GROUND WATER WITHIN 5'-0" OF SURFACE ELEVATION
 - WIND SPEED NOT TO EXCEED 140 MPH
 IF ACTUAL CONDITIONS VARY SUBSTANTIALLY FROM THOSE ASSUMED, THE FOUNDATION DEPTH MAY BE ADJUSTED. IN THIS CASE, CONTACT THE ENGINEER.
- MAINTAIN AT LEAST 3" COVER ON ALL REINFORCEMENT.
- ORIENT CONDUIT AS REQUIRED BY THE DESIGN OR AS DICTATED BY FIELD CONDITIONS.
- USE ADHESIVE ANCHOR FOR THREADED COUPLING INSERT. FOR TYPE I MINIMUM DEPTH NECESSARY IS 0'-4 $\frac{1}{2}$ " AND FOR TYPE II MINIMUM DEPTH NECESSARY IS 0'-6 $\frac{5}{8}$ ". FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.



PEDESTAL FOUNDATION TYPE AND SIZE							
TYPE	PEDESTAL DESCRIPTION	SIZE			ANCHOR BOLT		INSTALL GROUNDING SYSTEM (YES/NO)
		DIAMETER "A" FT	DEPTH "B" FT	CONCRETE VOLUME CY	DIAMETER (MIN.) IN	LENGTH FT-IN	
I	PEDESTRIAN PUSHBUTTON	2'-0"	3'-6"	.41	1/2	1'-6"	NO
II	NORMAL-DUTY	2'-0"	5'-0"	.58	3/4	2'-0"	YES
III	HEAVY-DUTY	2'-6"	7'-0"	1.27	1	4'-0"	YES

REINFORCING STEEL SCHEDULE													
TYPE	V-BAR				STIRRUP								
	SIZE #	QTY	LENGTH	WEIGHT LBS	SIZE #	QUANTITY			LENGTH	DIAMETER "C" FT	OVERLAP MIN.	WEIGHT LBS	TOTAL STEEL WEIGHT LBS
						ON 6" CENTERS	ON 12" CENTERS	TOTAL					
I	8	6	3'-0"	56	4	0	4	4	5'-7"	1'-6"	0'-10"	15	71
II	8	6	4'-6"	86	4	5	3	8	5'-7"	1'-6"	0'-10"	30	116
III	8	6	6'-6"	122	4	7	4	11	7'-2"	2'-0"	0'-10"	53	175

SHEET 1 OF 1
1743D01

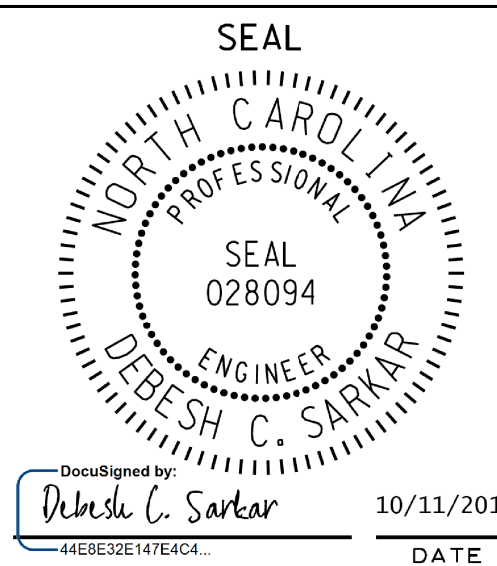
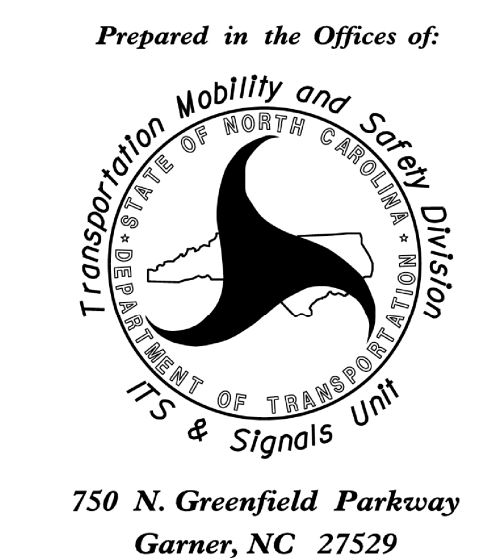
STATE OF NORTH CAROLINA
 DEPT. OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
PEDESTALS
 FOUNDATIONS

11-0CT-2017, 09:03
 I:\2018 STD Drawings\Plate Sheets\2018_Plate Sheet - dgn
 r.wrough

DOCUMENT NOT CONSIDERED
FINAL UNLESS ALL
SIGNATURES COMPLETED

See Plate for Title



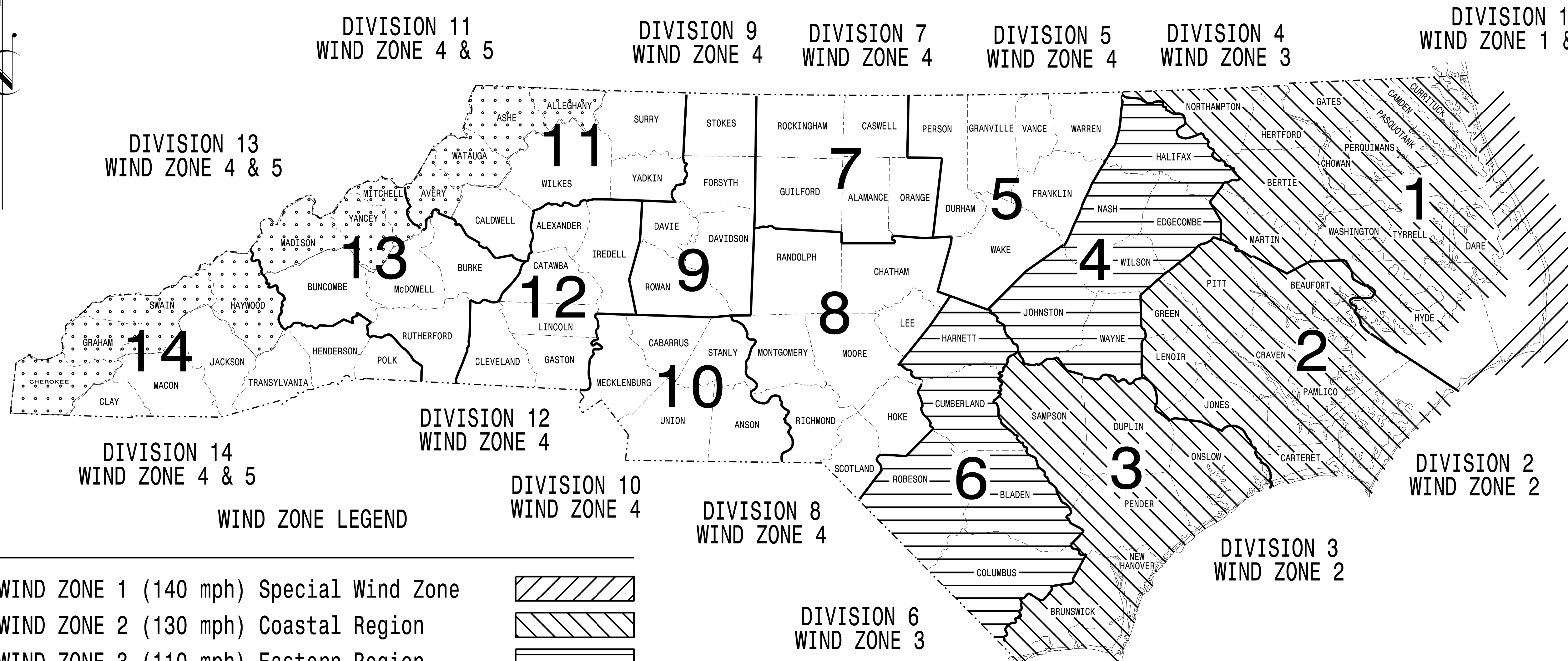
DocuSigned by:
Debesh C. Sarkar
10/11/2017
DATE

NCDOT METAL POLE STANDARDS

**STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS**

PROJECT I.D. NO.	SHEET NO.
I-4400C	Sig.M1

STANDARD DRAWINGS FOR ALL METAL POLES



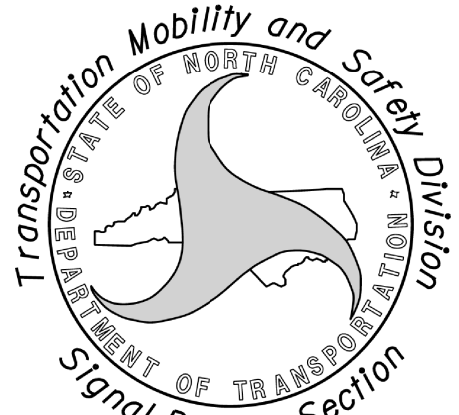
DIVISION 14
WIND ZONE 4 & 5

WIND ZONE LEGEND

WIND ZONE 1 (140 mph) Special Wind Zone	
WIND ZONE 2 (130 mph) Coastal Region	
WIND ZONE 3 (110 mph) Eastern Region	
WIND ZONE 4 (90 mph) Central & Mtn. Region	
WIND ZONE 5 (120 mph) Special Wind Zone	

<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

INDEX OF PLANS

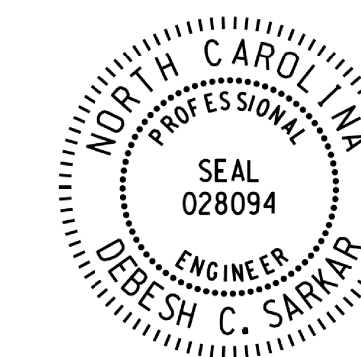
DRAWING NUMBER	DESCRIPTION
Sig. M 1	Statewide Wind Zone Map
Sig. M 2	Typical Fabrication Details-All Metal Poles
Sig. M 3	Typical Fabrication Details-Strain Poles
Sig. M 4	Typical Fabrication Details-Mast Arm Poles
Sig. M 5	Typical Fabrication Details-Mast Arm Connection
Sig. M 6	Typical Fabrication 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

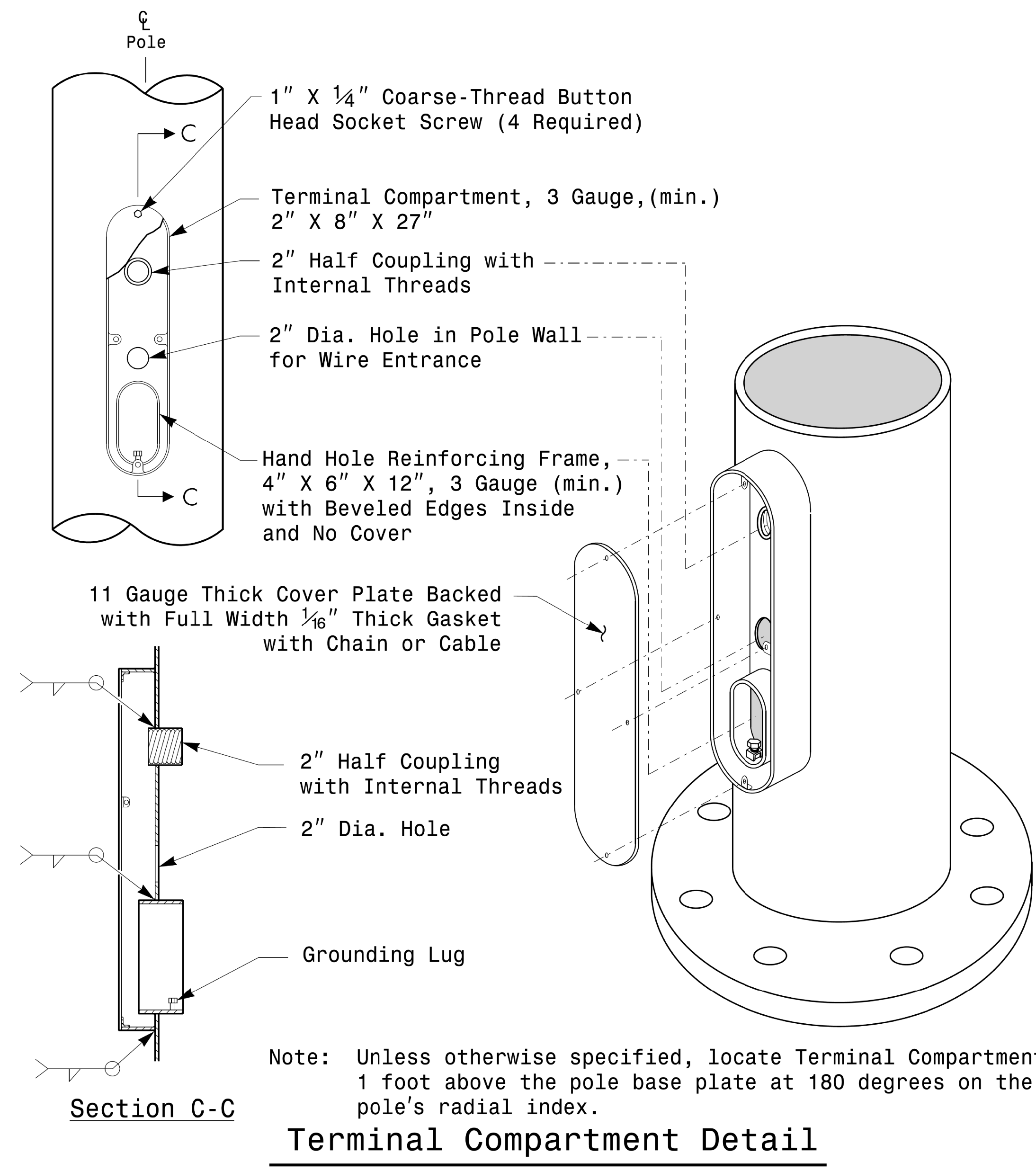
- M.M. MCDIARMID, P.E. - STATE ITS AND SIGNALS ENGINEER
- J. P. GALLOWAY, P.E. - STATE SIGNALS ENGINEER
- D.C. SARKAR, P.E. - ITS AND SIGNALS SENIOR STRUCTURAL ENGINEER

SEAL



Signature: Debesh C. Sarkar Date: 10/11/2017

PROJECT ID. NO.	SHEET NO.
I-4400C	Sig.M2



Section C-C
Terminal Compartment Detail

MFG _____	MFG. DATE: MM/YY _____
SHAFT D/T/L/Y _____	_____
ARM-A D/T/L/Y _____	_____
ARM-B D/T/L/Y _____	_____
A.B. DIA./B.C./L/Y _____	_____
NCDOT SIG. INV. NO. _____	_____
NCDOT POLE NO. _____	_____

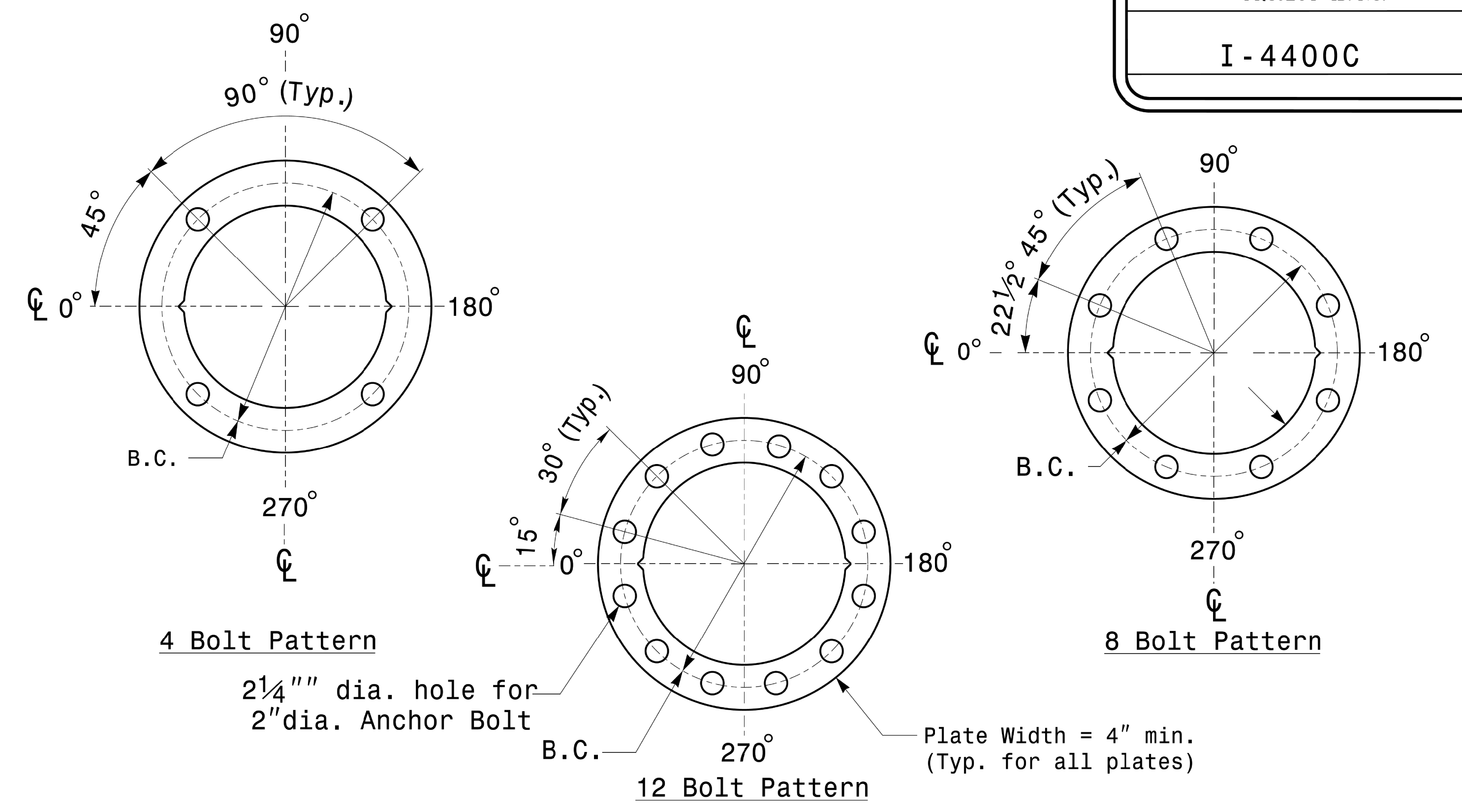
Shaft I.D. Tag
(Provide on Shaft of Strain Poles and Mast Arm Poles Shaft)

- 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

MFG _____	MFG. DATE:MM/YY _____
SECTION D/T/L/Y _____	_____
NCDOT SIG. INV. NO. _____	_____
NCDOT POLE NO. _____	_____

Arm I.D. Tag
(Provide on each section of a multi-section mast arm.)

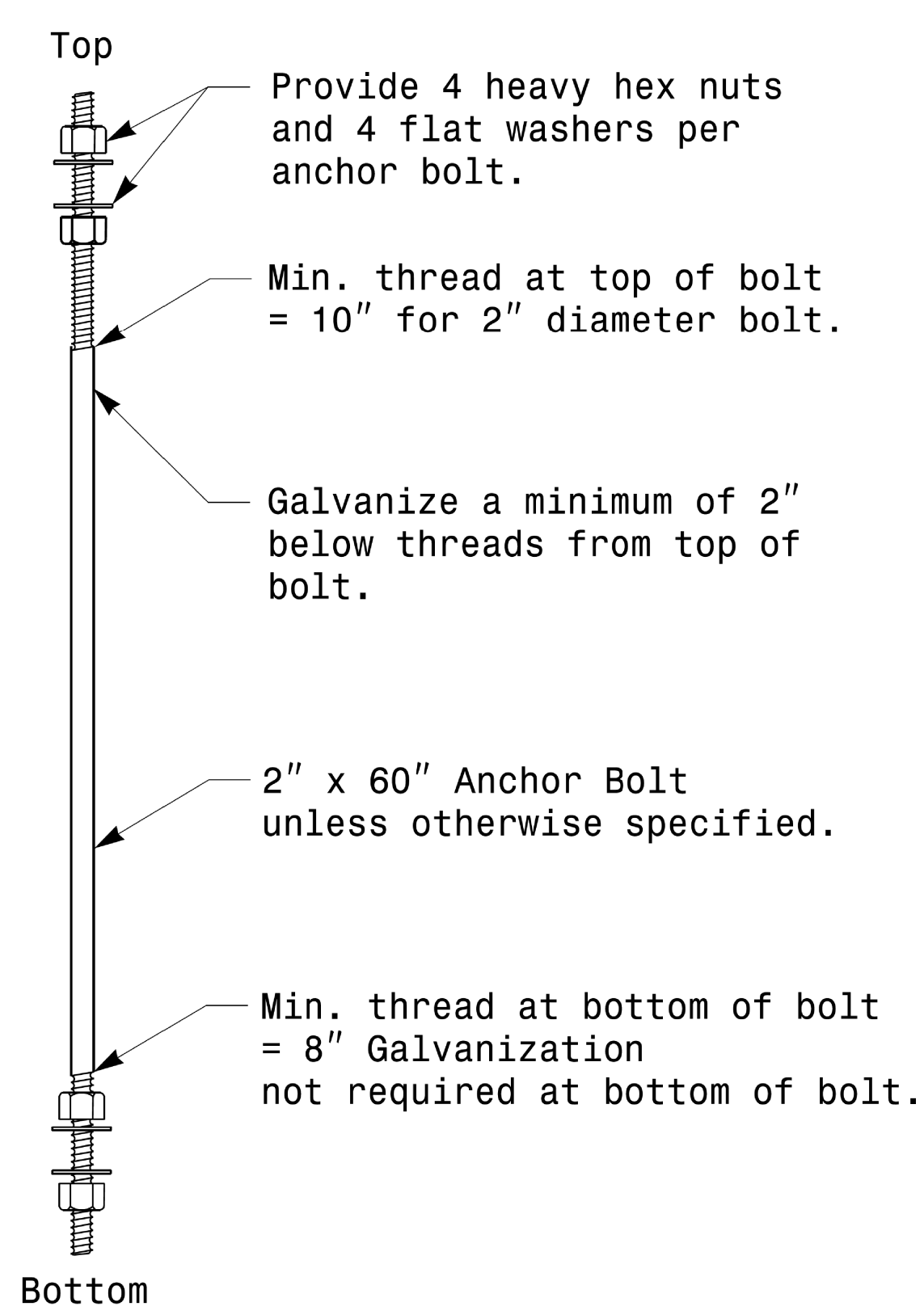


4 Bolt Pattern

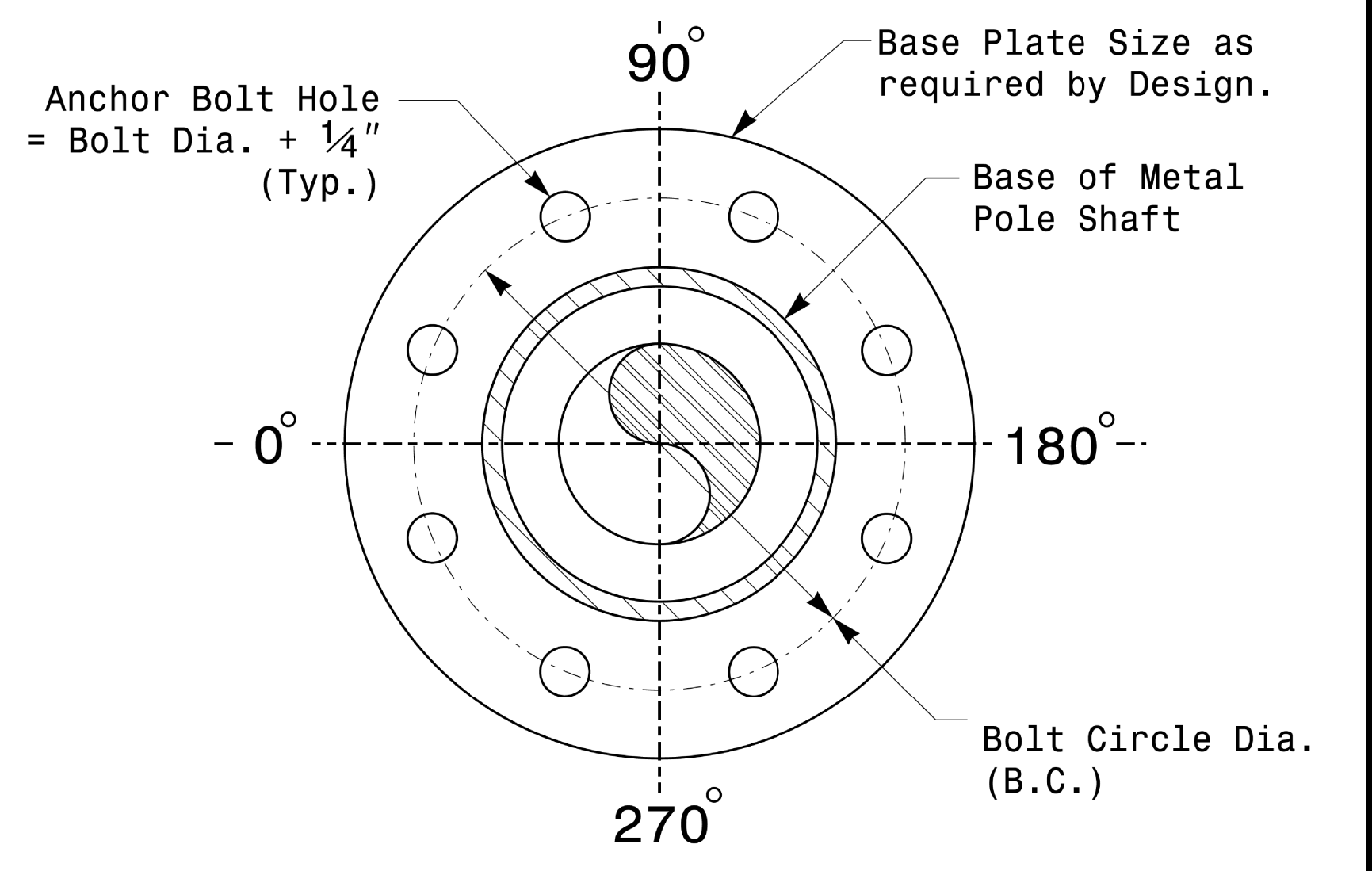
8 Bolt Pattern

12 Bolt Pattern

Construct Templates and Plates from 1/4 inch min. thick Steel. Galvanizing is not required.
Base Plate Template and Anchor Bolt Lock Plate Details



Anchor Bolt Detail



Note: Base plate may be circular, octagonal, square or rectangular in shape.

Typical Base Plate Detail

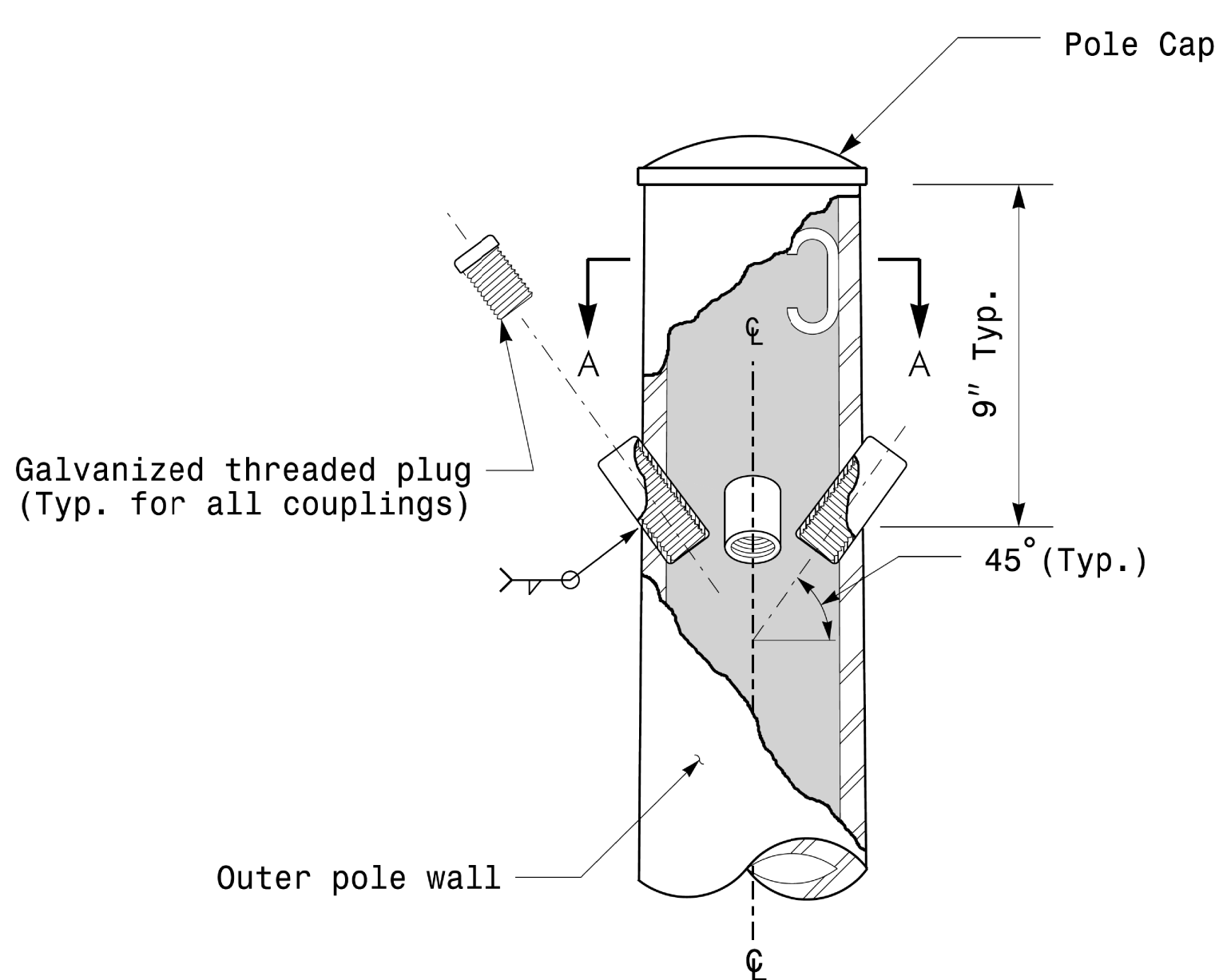
Prepared in the Offices of:
TRANSFORMING MOBILITY AND SAFETY
SIGNAL DESIGN SECTION
750 N. Greenfield Pkwy, Garner, NC 27529

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

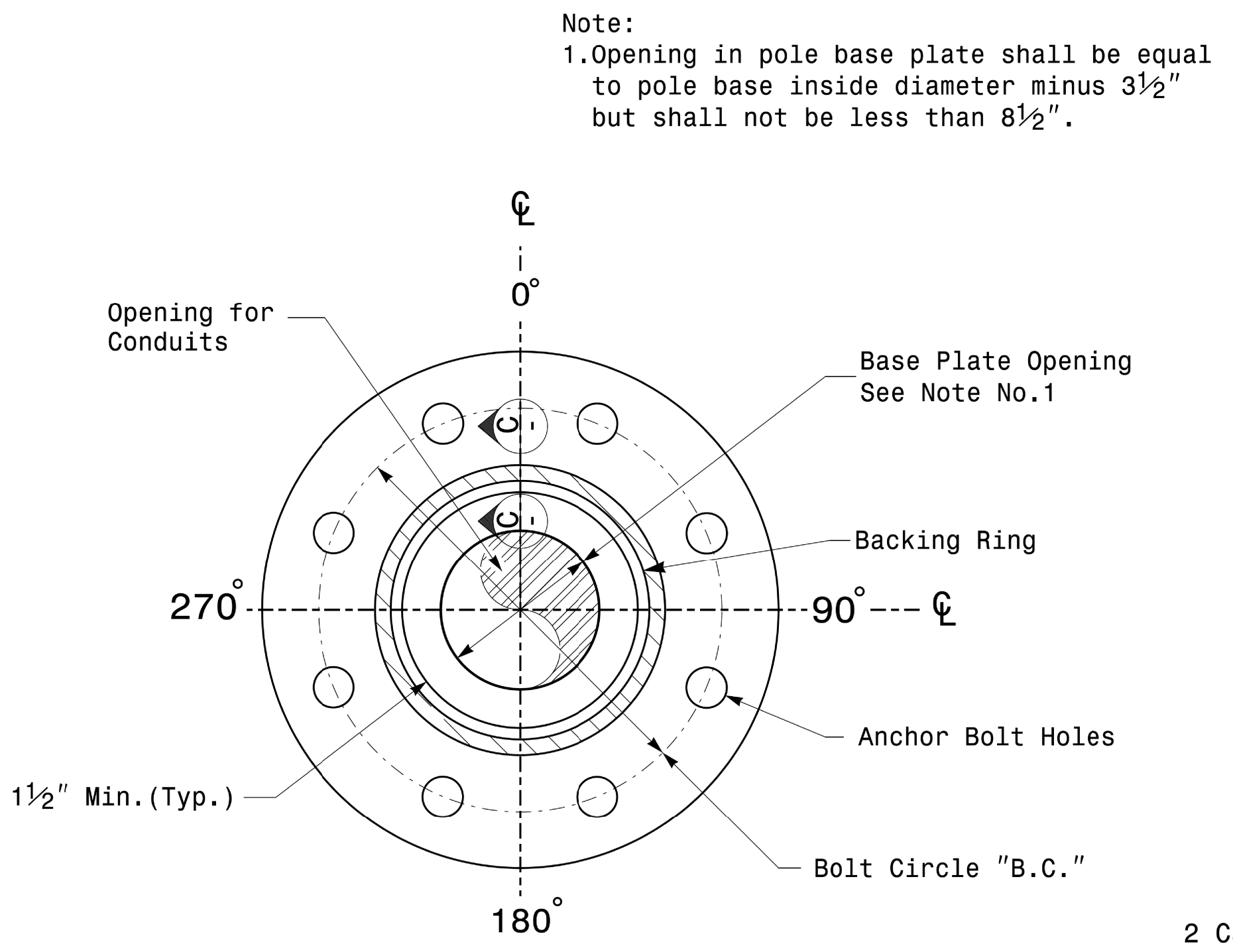
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
SEAL 028094
DEBESH C. SARKAR
DocuSigned by:
Debash C. Sarkar
10/11/2017 DATE

Fabrication Details – All Metal Poles

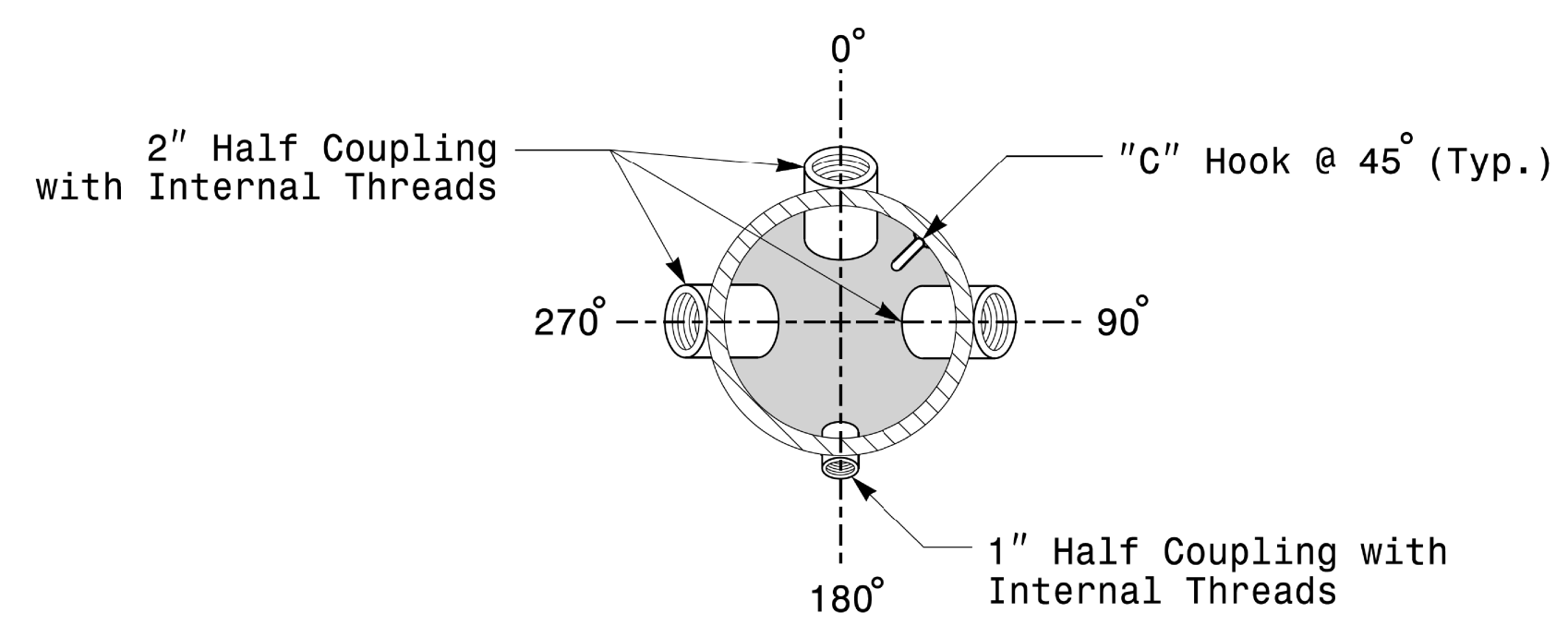
PROJECT ID. NO.	SHEET NO.
I - 4400C	Sig.M3



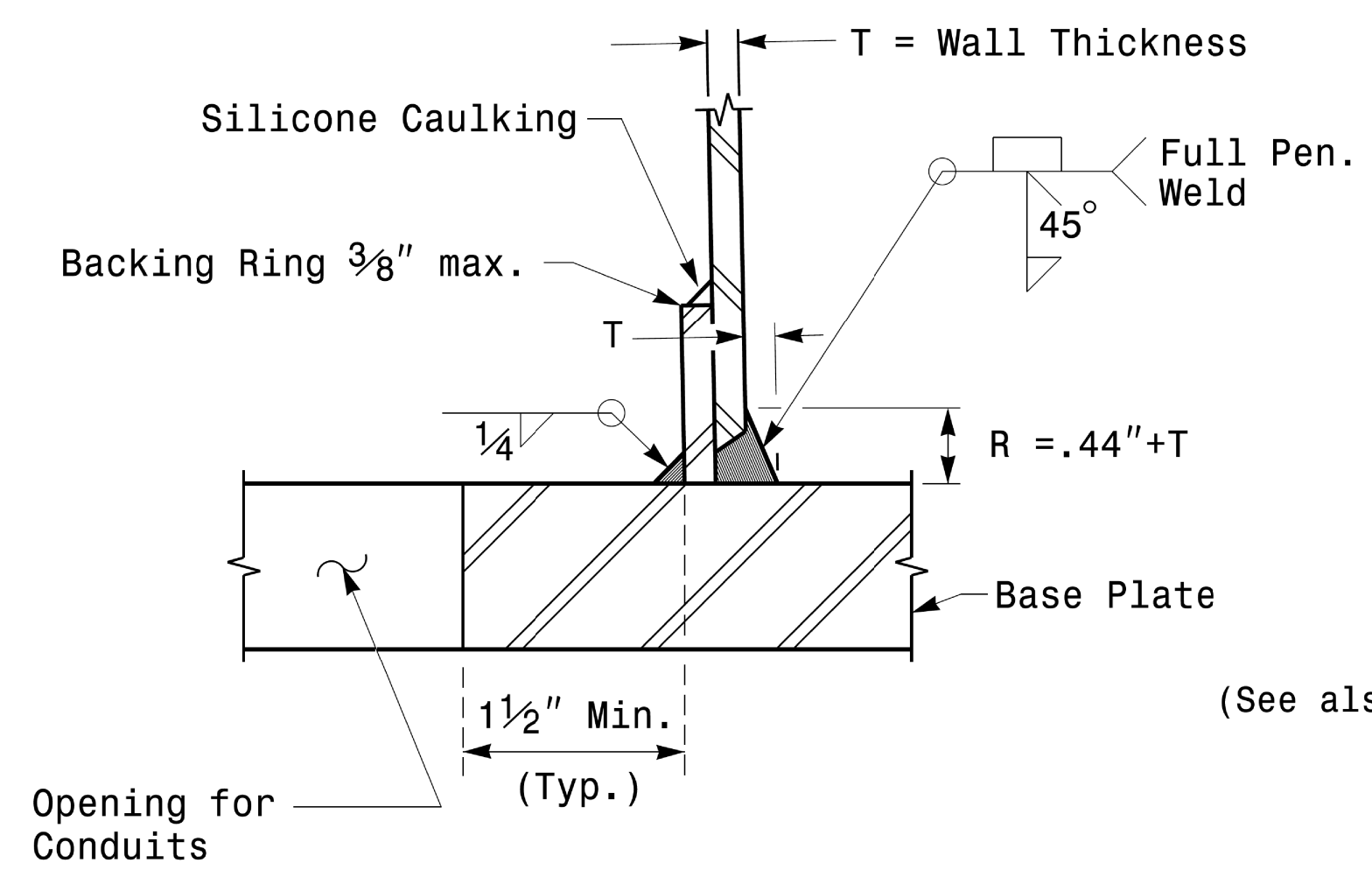
Cable Entrances at Top of Pole



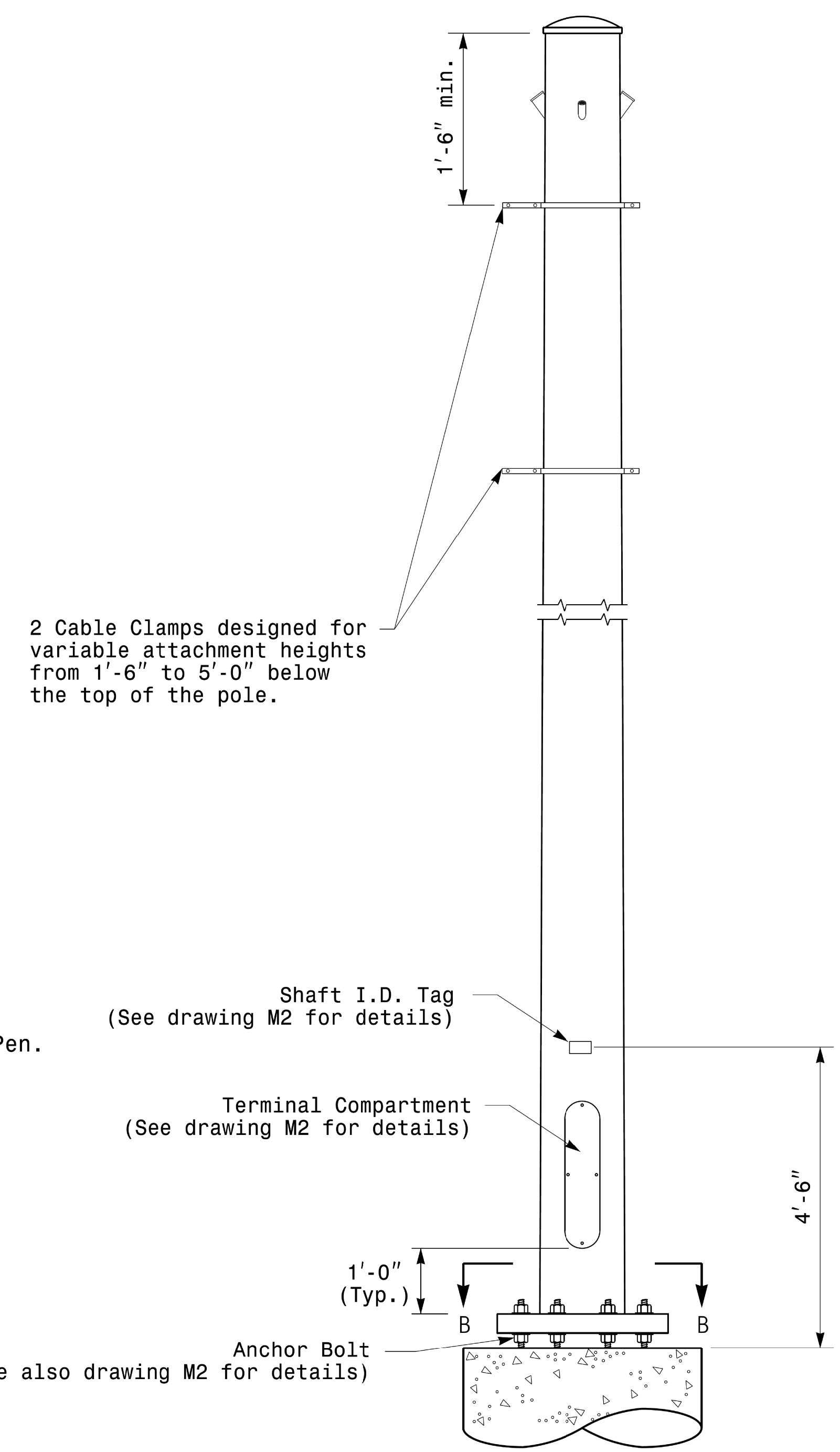
**Section B-B
Pole Base Plate Details
(8 and 12 Bolt Pattern)**



**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

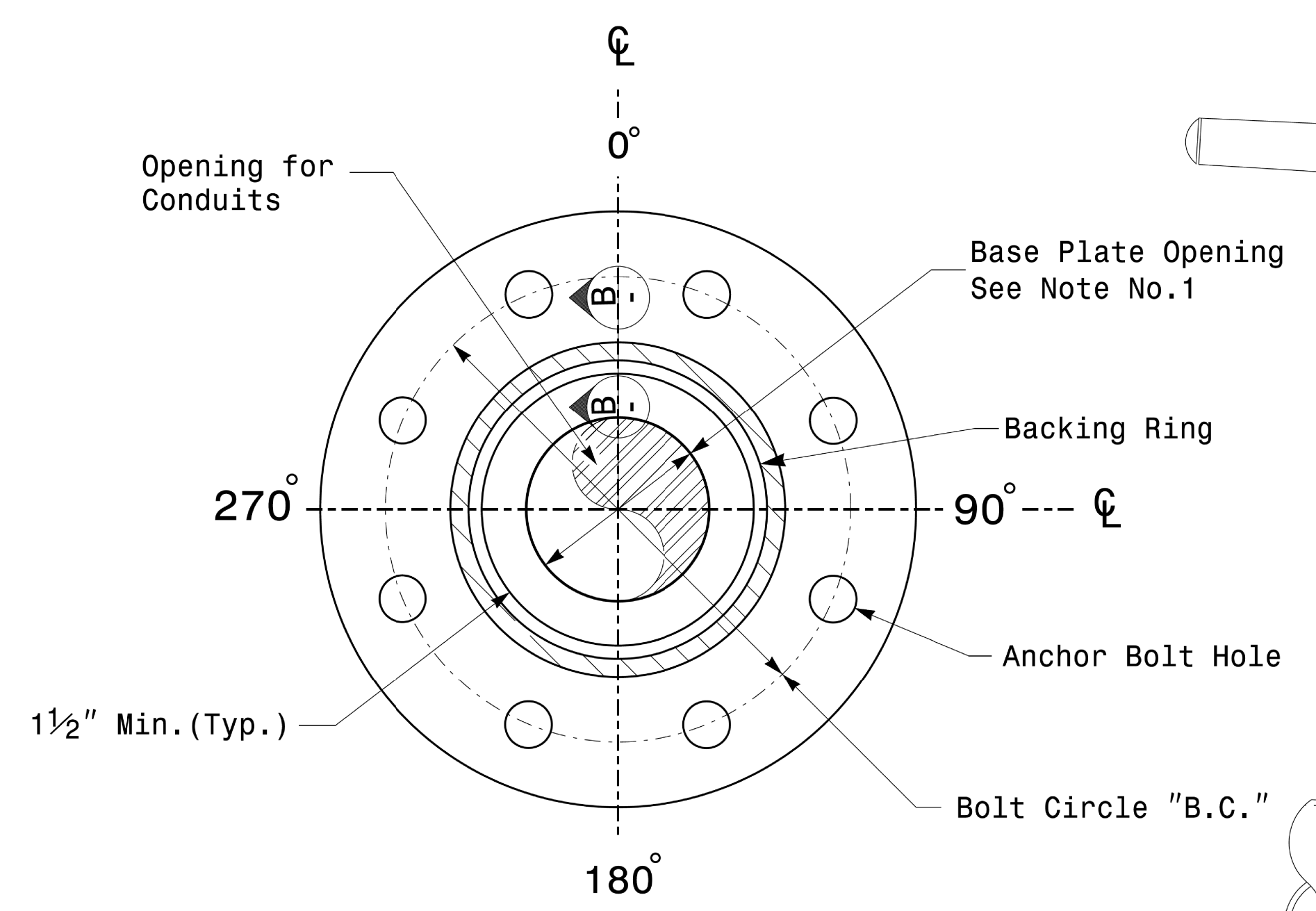
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<p>750 N. Greenfield Pkwy, Garner, NC 27529</p>	<p>Prepared in the Offices of:</p> <p>Typical Fabrication Details For Strain Poles</p>		<p>SEAL</p> <p>DocuSigned by: Dinesh C. Sarkar</p>					
	<p>PLAN DATE: OCTOBER 2017</p> <p>DESIGNED BY: K.C. DURIGON</p> <p>PREPARED BY: N. BITTING</p> <p>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						

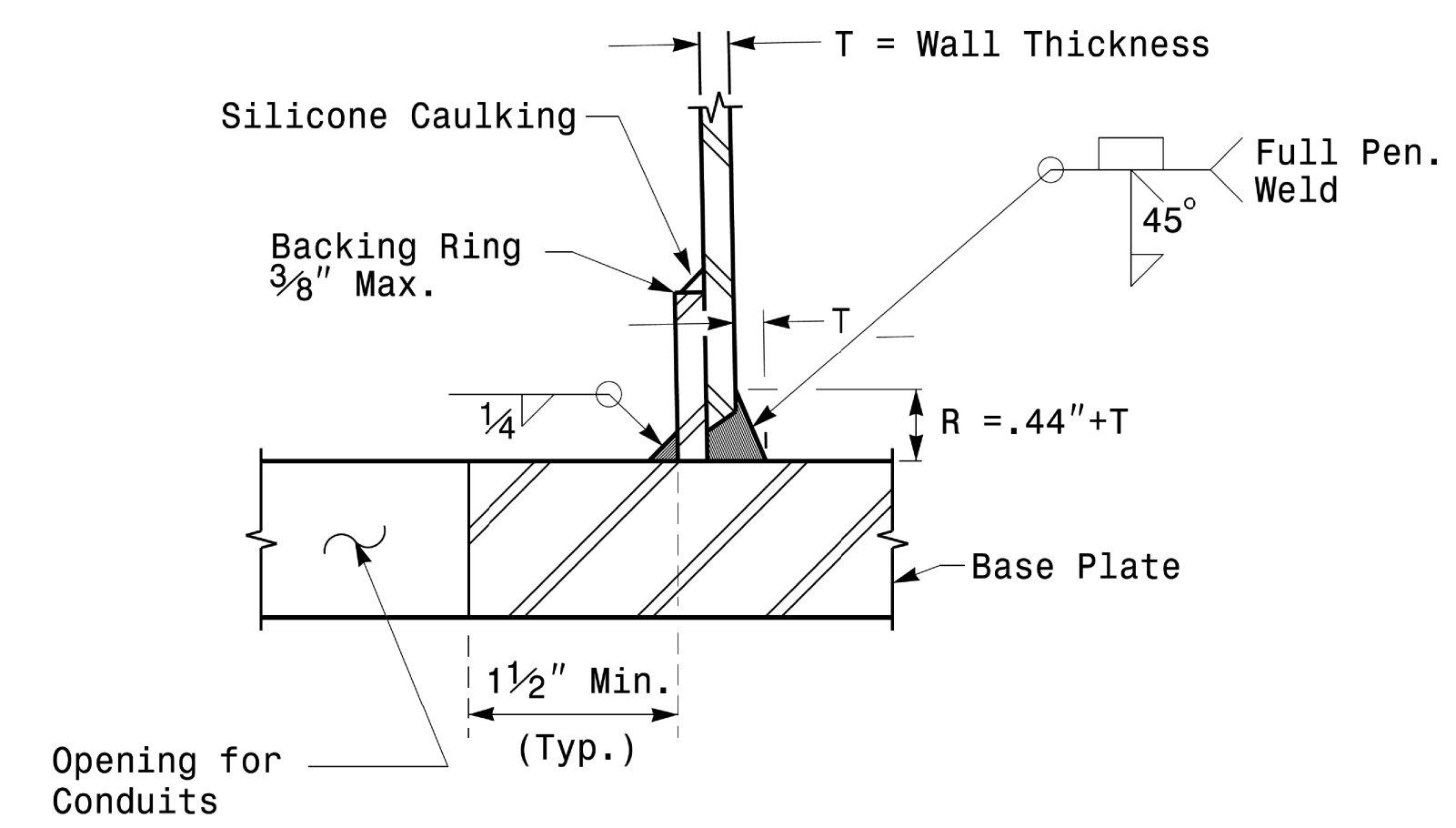
10/11/2017

PROJECT ID. NO.	SHEET NO.
I - 4400C	Sig.M4

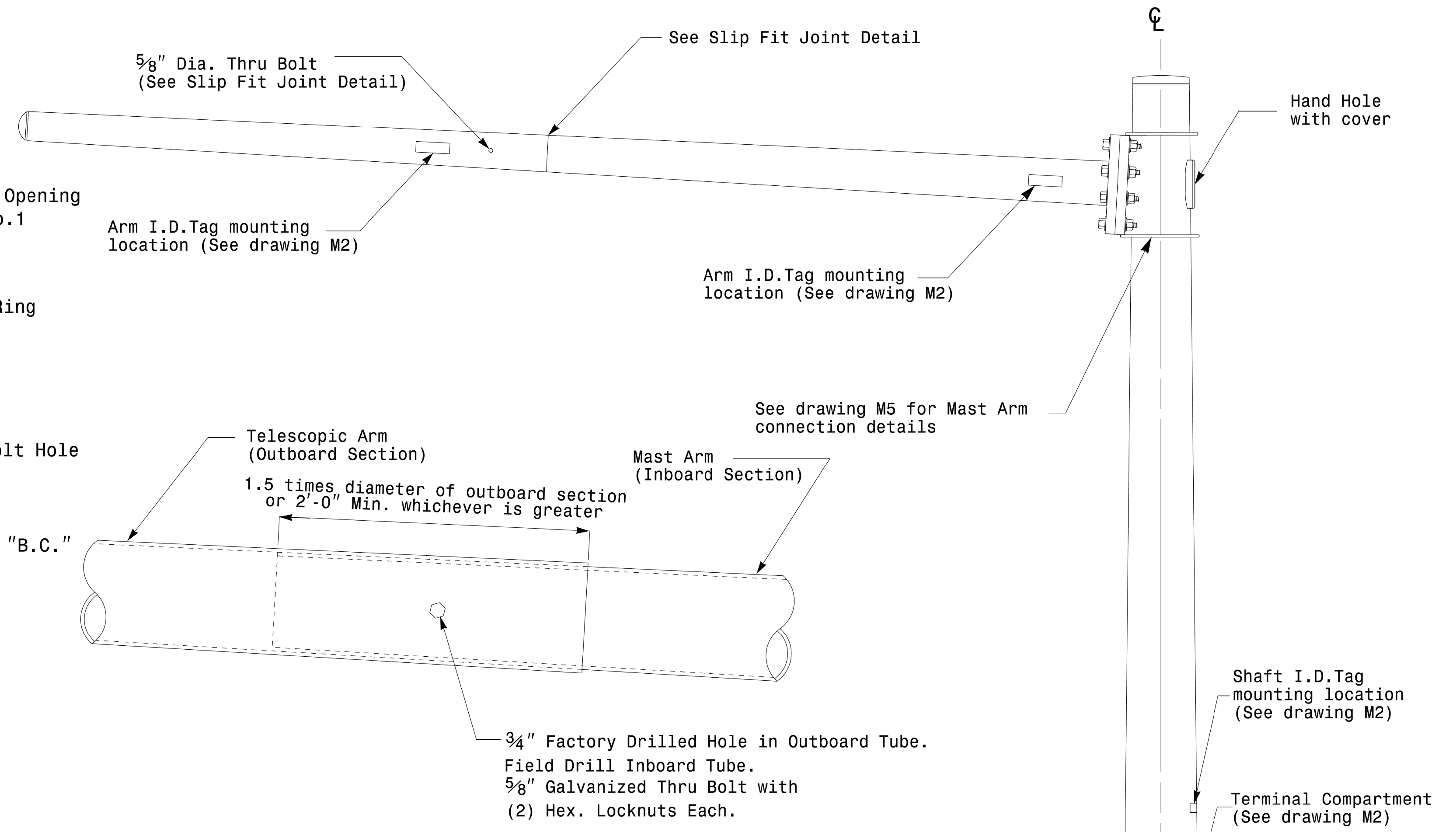
Note:
 1. Opening in pole base plate shall be equal to pole base inside diameter minus 3 1/2" but shall not be less than 8 1/2".



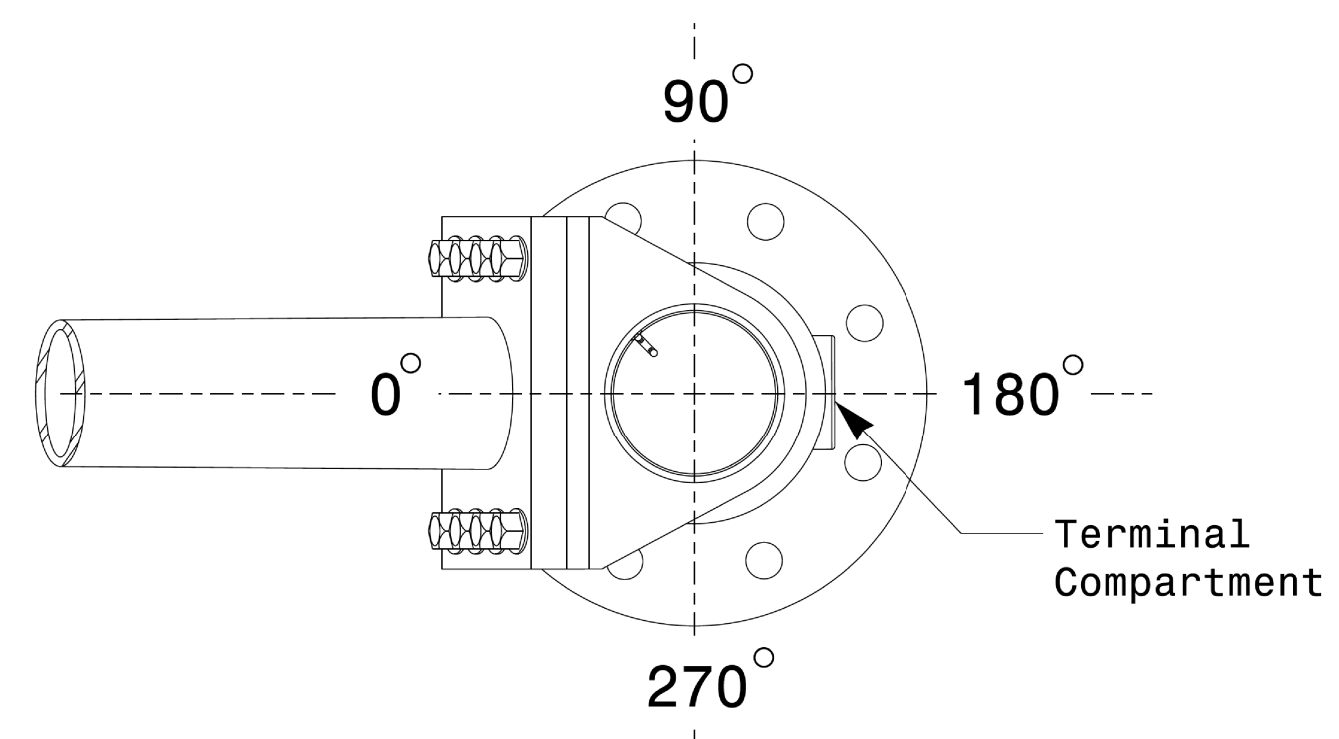
Section A-A
Pole Base Plate Details



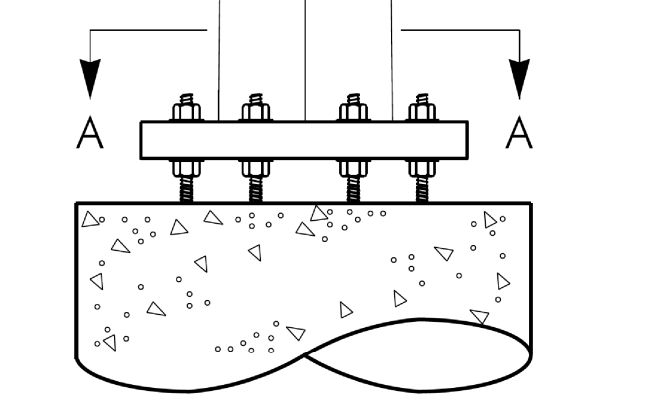
Section B-B
 (Pole Attachment to Base Plate)
Full-Penetration Groove Weld Detail



Slip Fit Joint Detail for Mast Arm



Mast Arm Radial Orientation



Mast Arm Pole

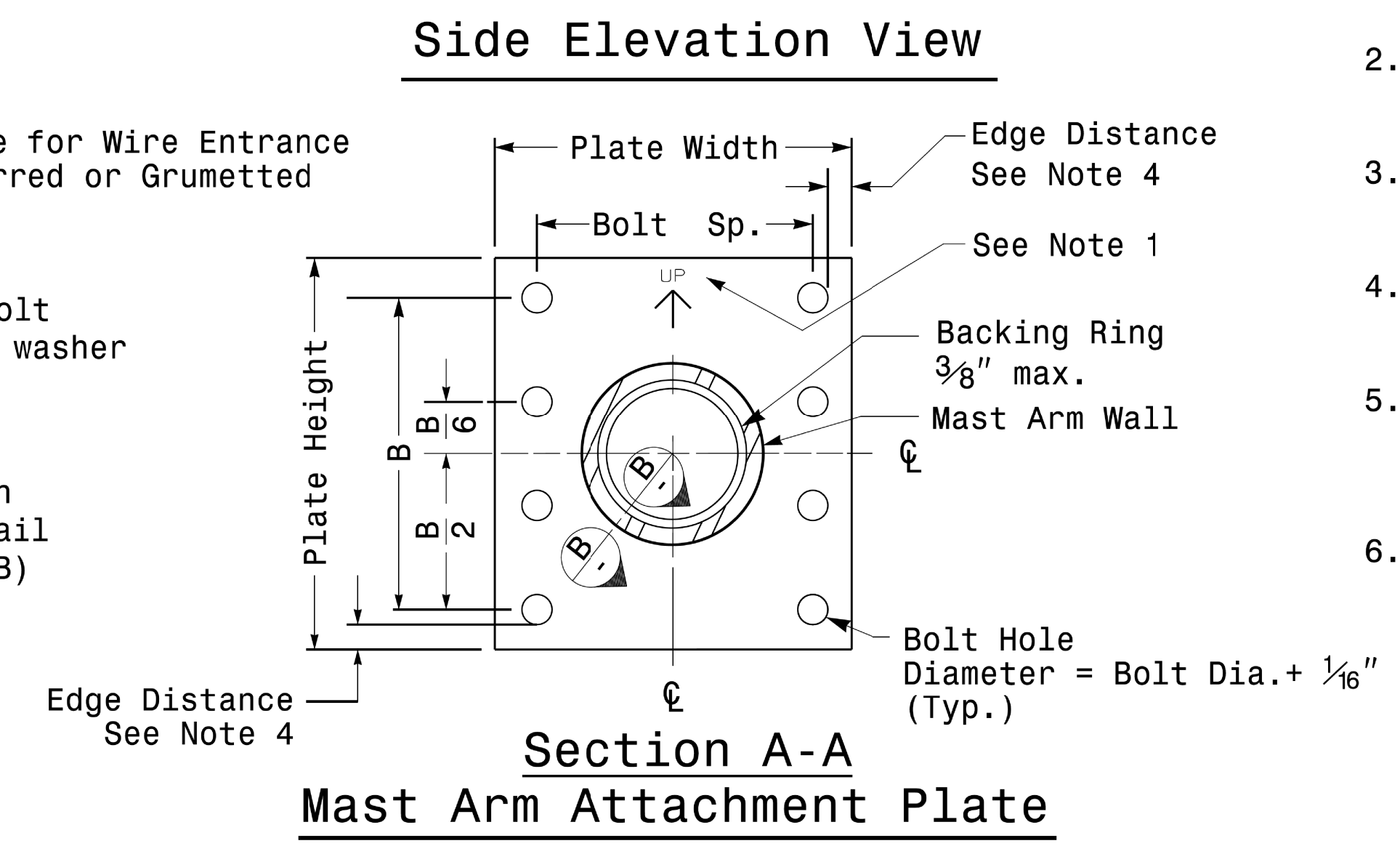
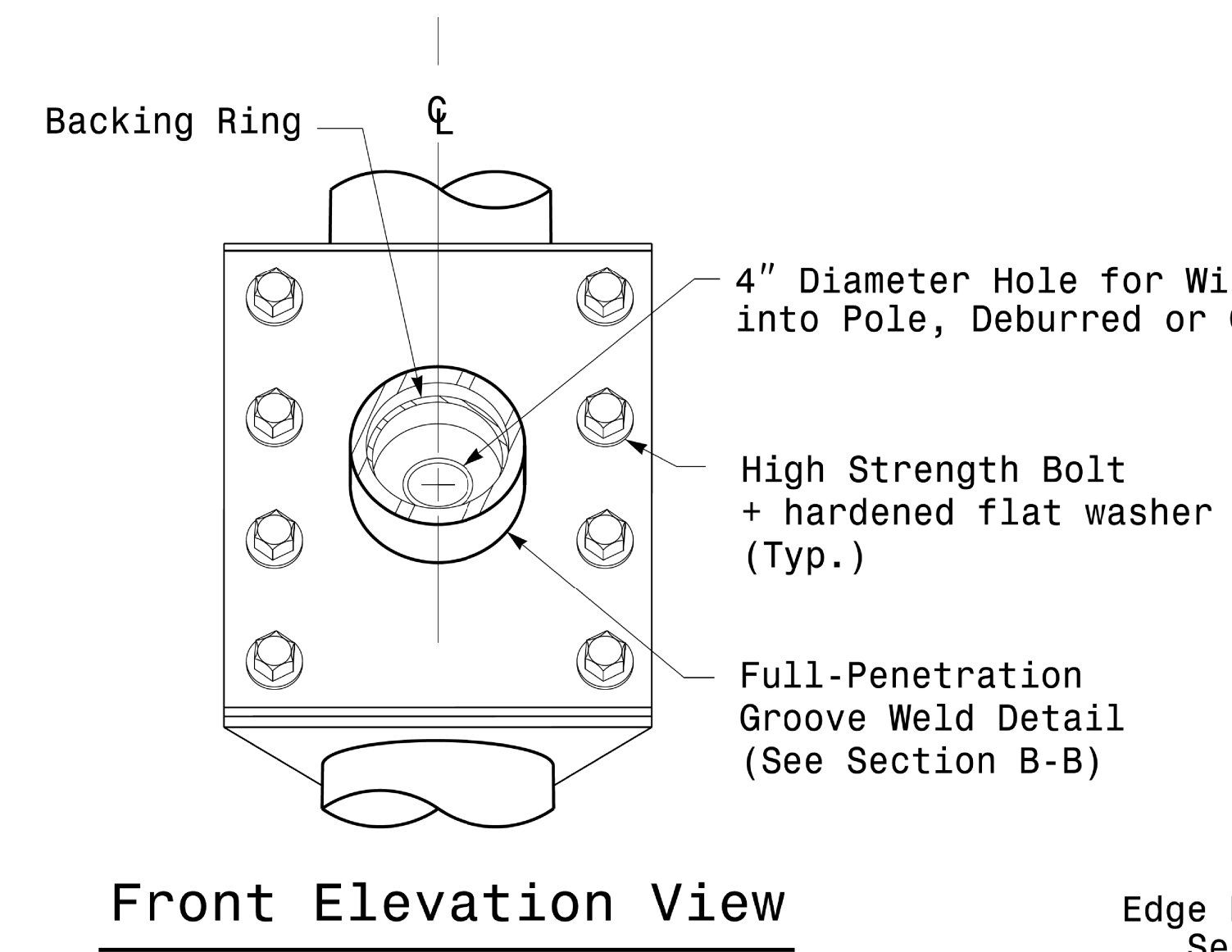
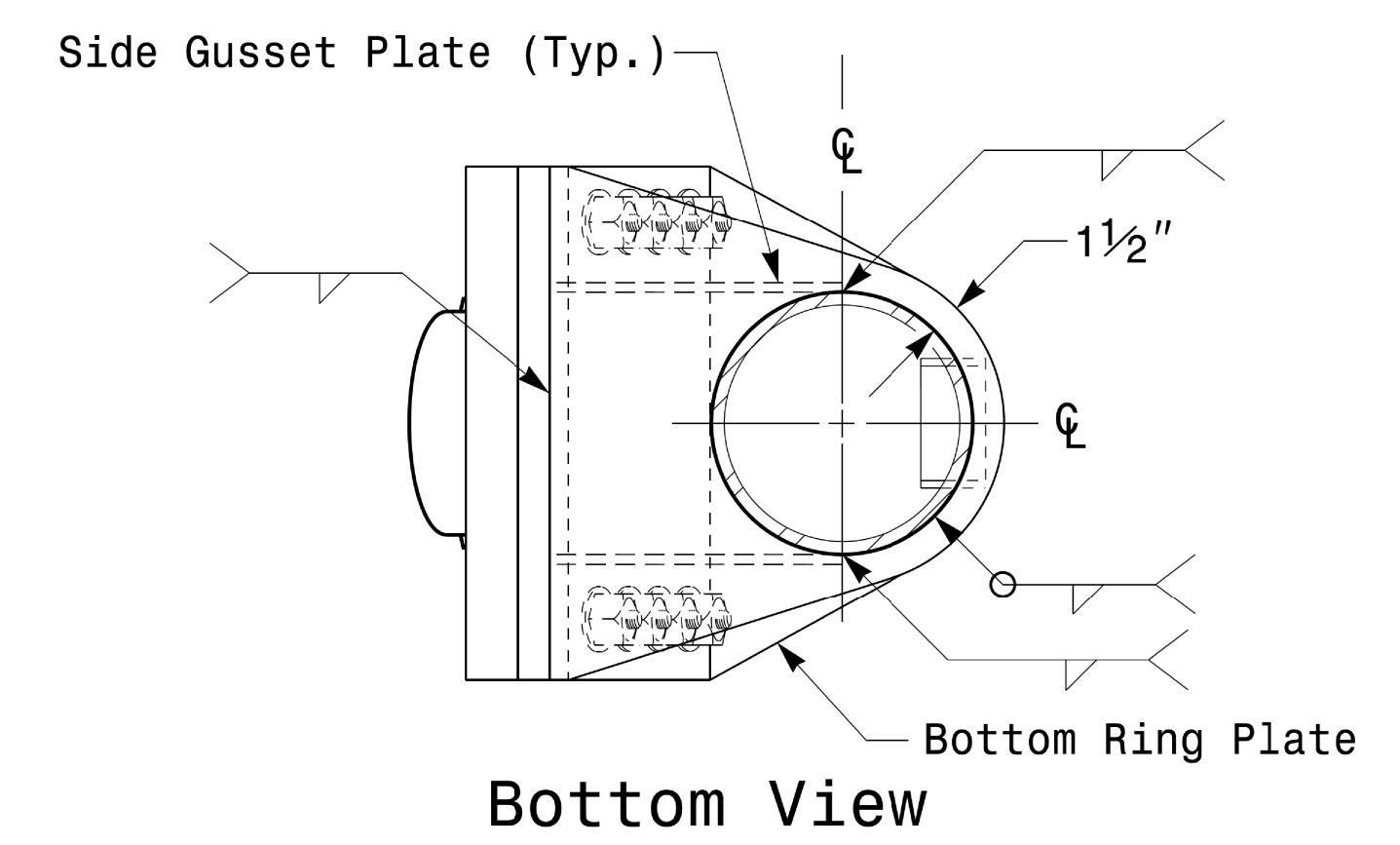
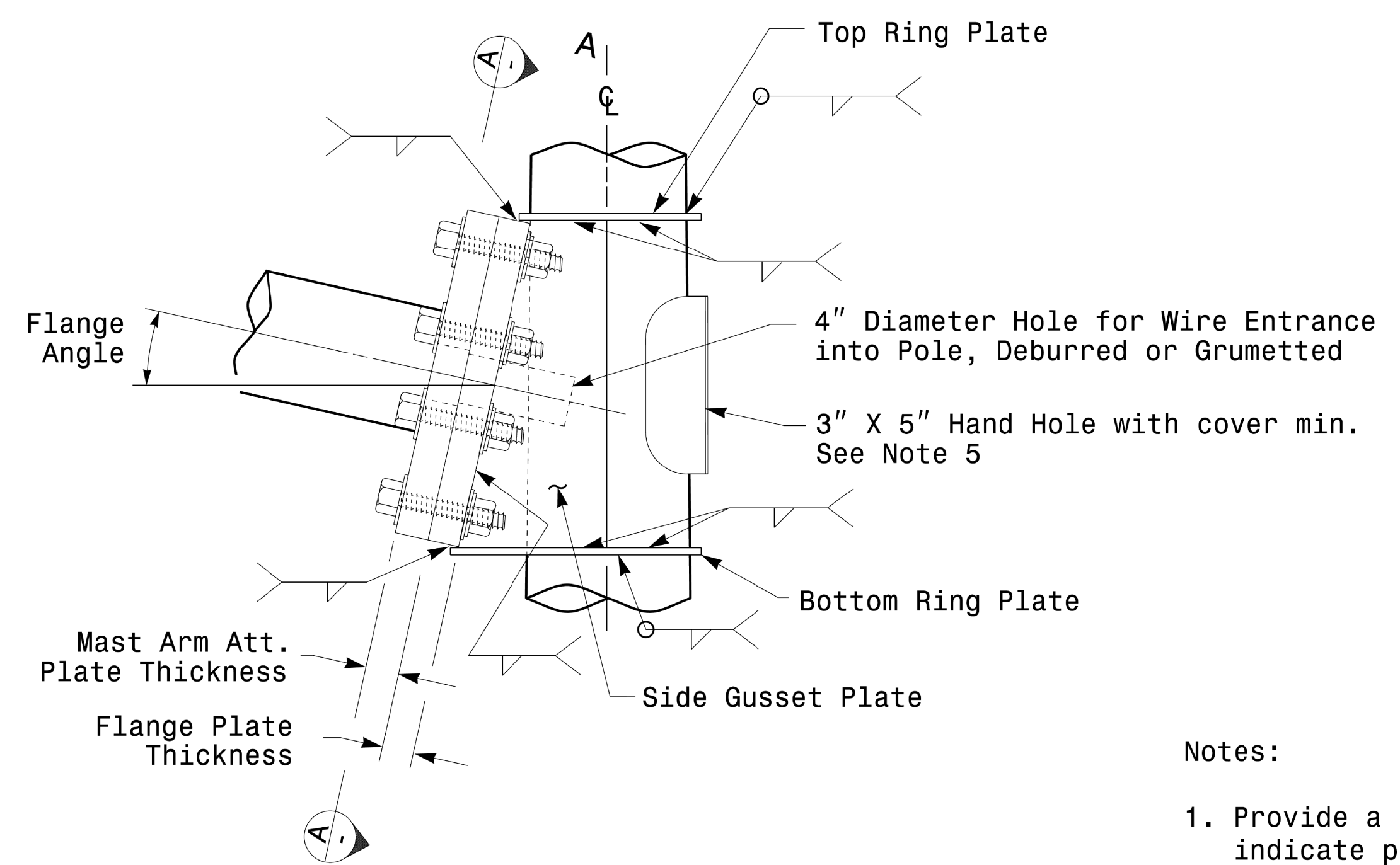
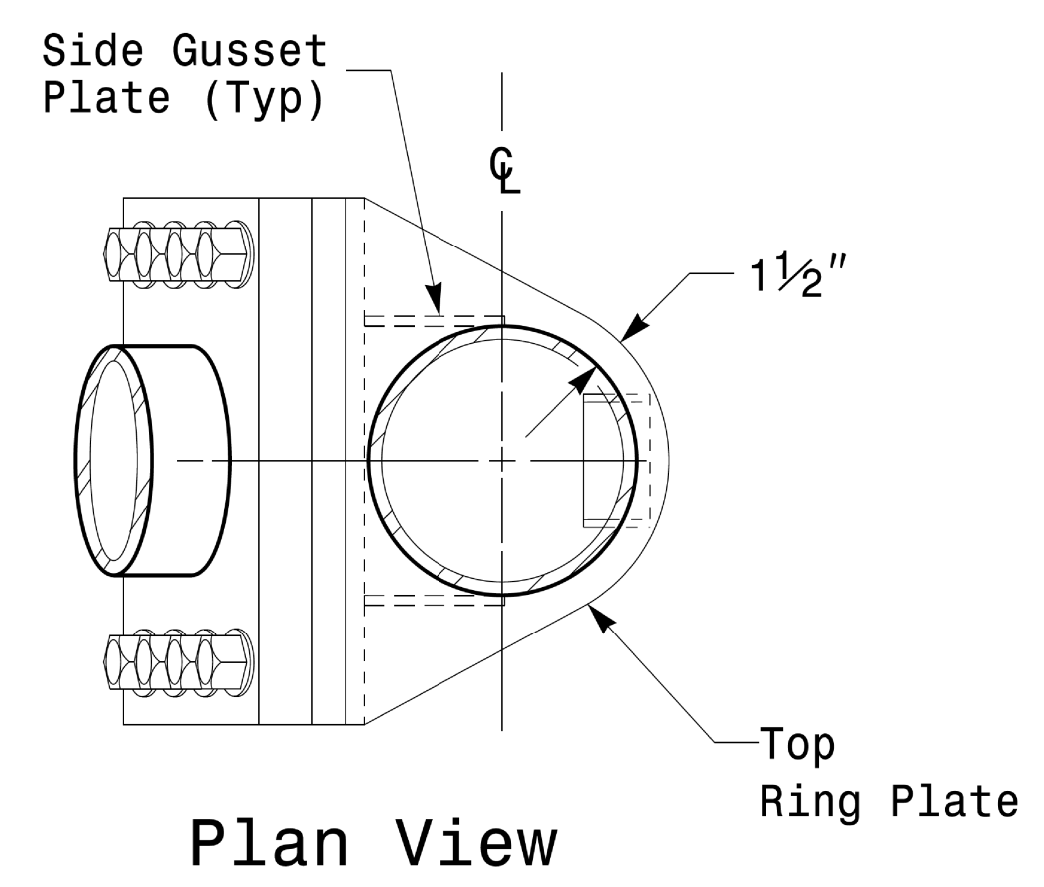
Fabrication Details - Mast Arm Poles

11-OCT-2017 08:33 S:\MIS\SUM\TIS\SIGNAL\SIGNAL Design Section\Eastern Region\MM Sheets\2016\2014 Sig.M4 Std. Fabrication Detail\Mast Arm Poles.dgn

	Typical Fabrication Details For Mast Arm Poles		SEAL
	PLAN DATE: OCTOBER 2017 PREPARED BY: N. BITTING	DESIGNED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR	
SCALE: 0 NA NONE	DATE: 10/11/2017		DATE:

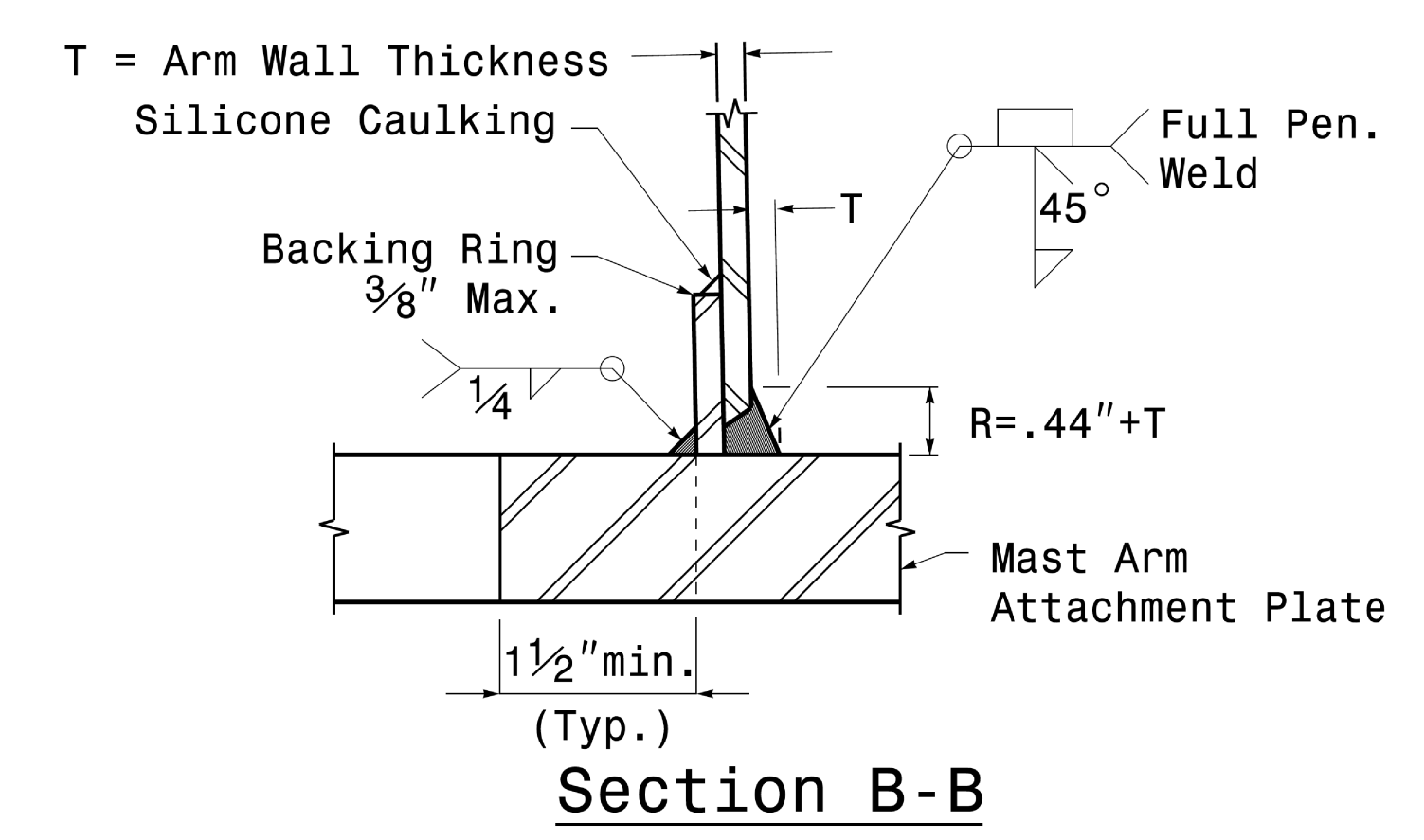
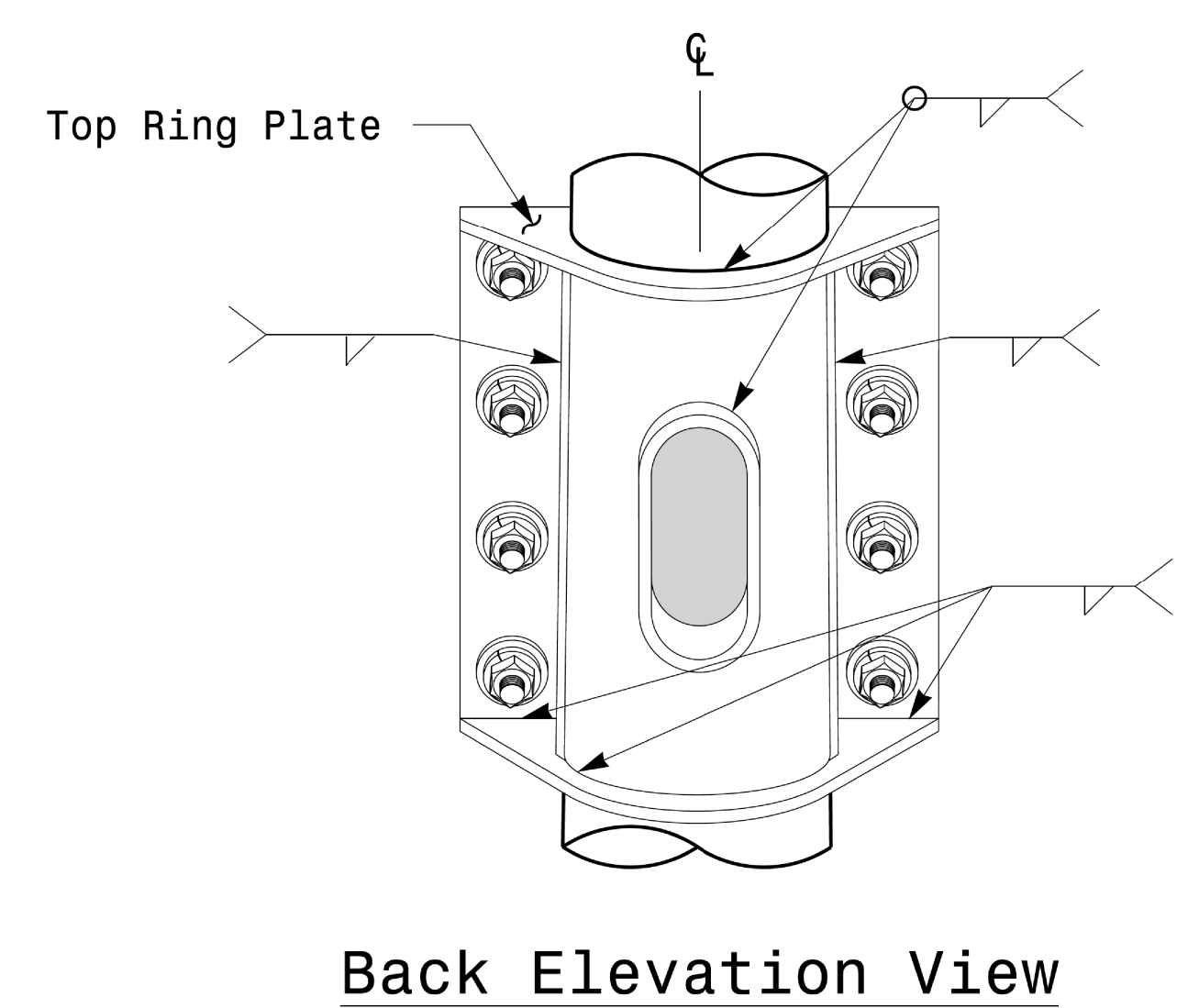
Welded Ring Stiffened Mast Arm Connection

PROJECT ID. NO.	SHEET NO.
I - 4400C	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.

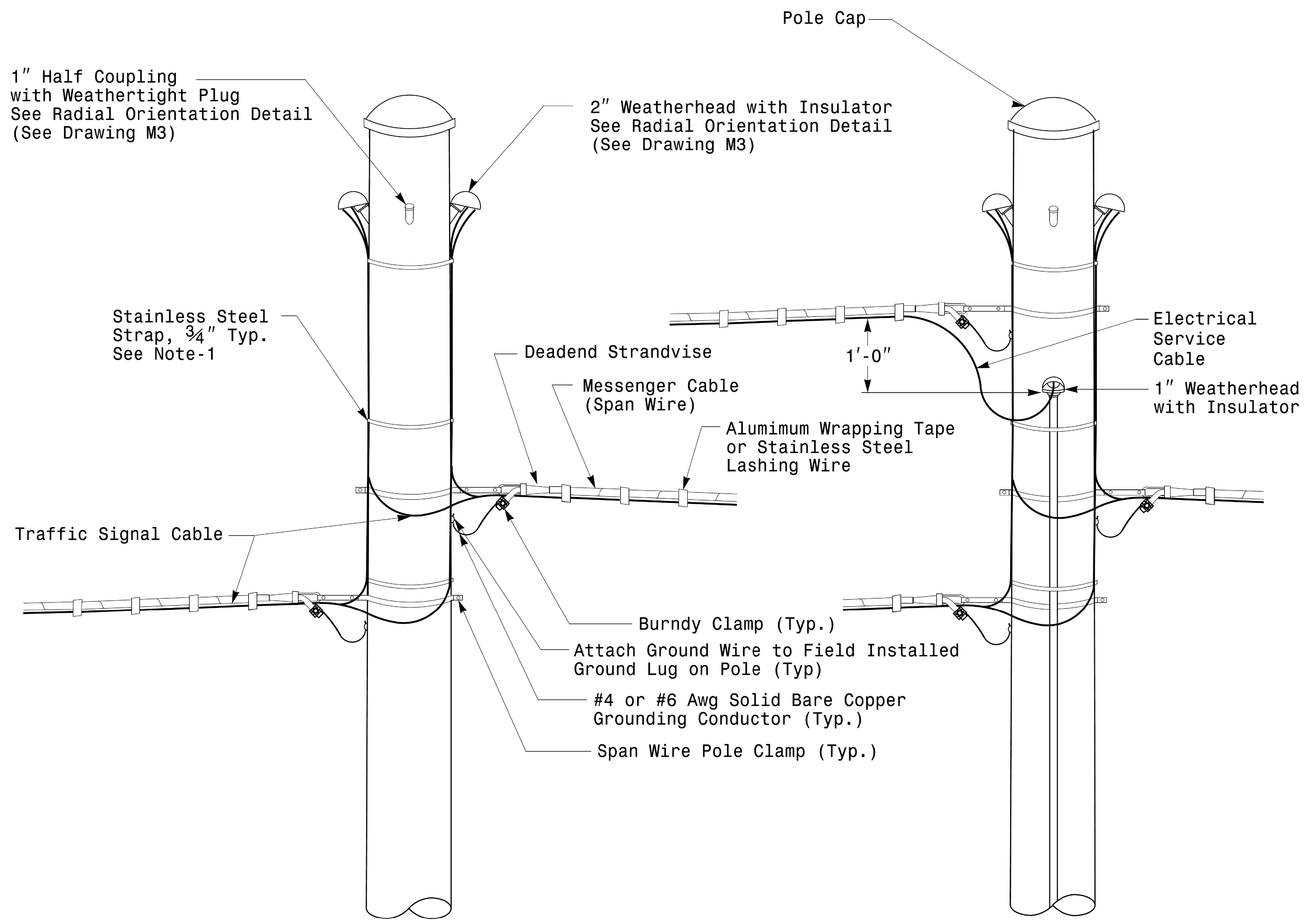


Fabrication Details - Mast Arm Connection

11-OCT-2017 08:35 S:\IT&S\UM\IS\Sig\sig\sig\15-Mast Arm Poles.dgn

	Prepared in the Office 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. DATE
SCALE: 0 NA NONE		10/11/2017		DATE

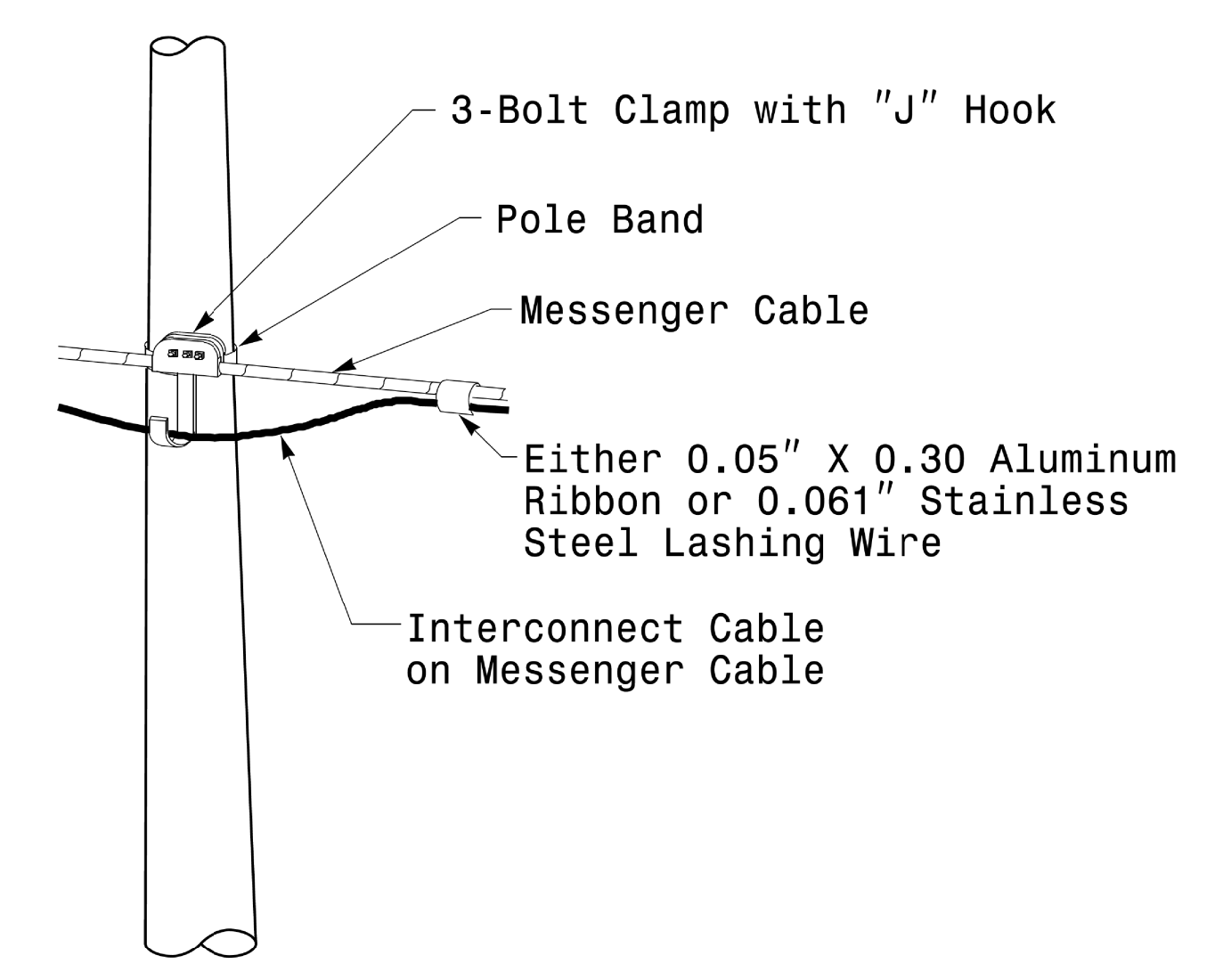
PROJECT ID. NO.	SHEET NO.
I - 4400C	Sig.M6



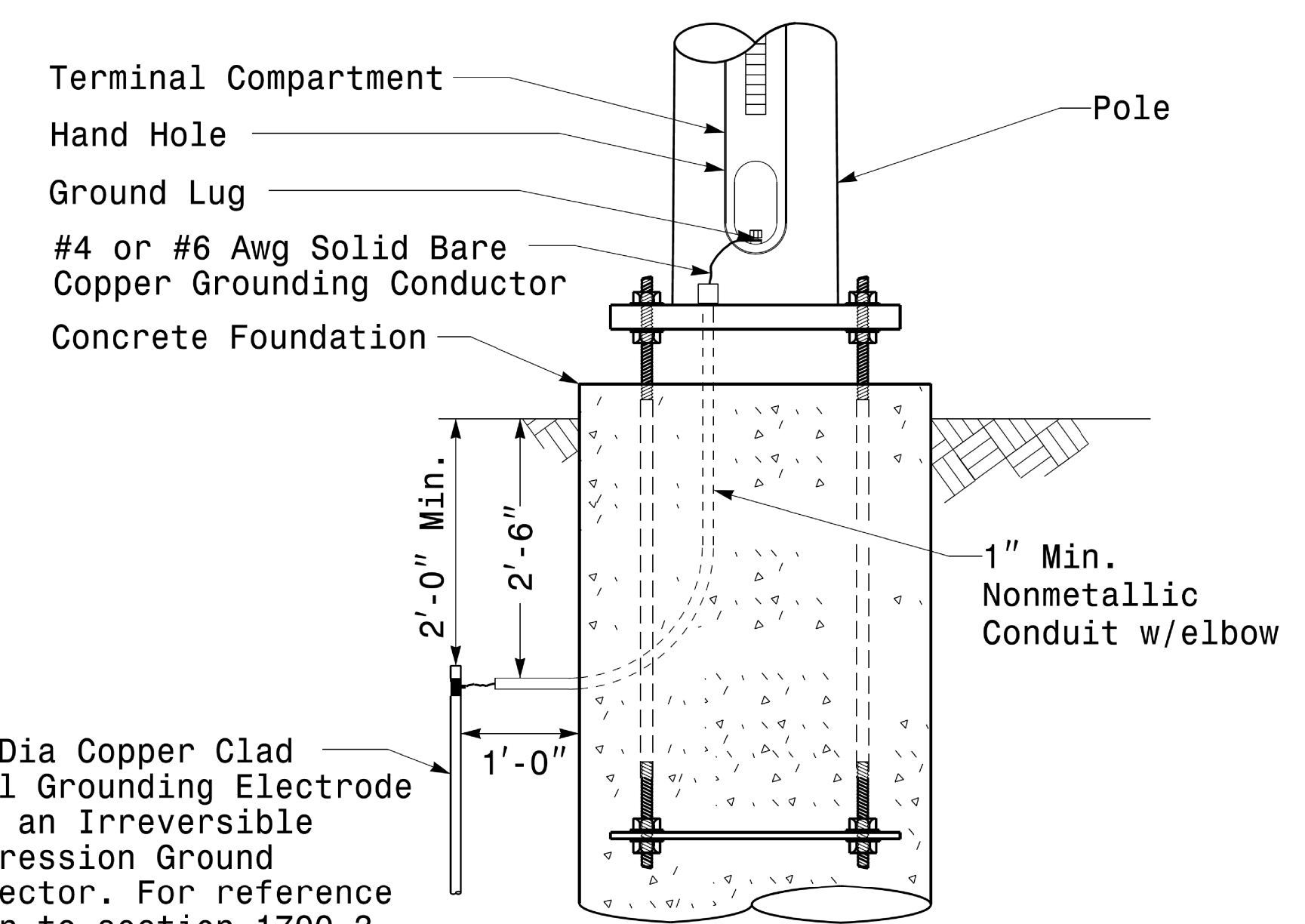
Strain Pole Attachments

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



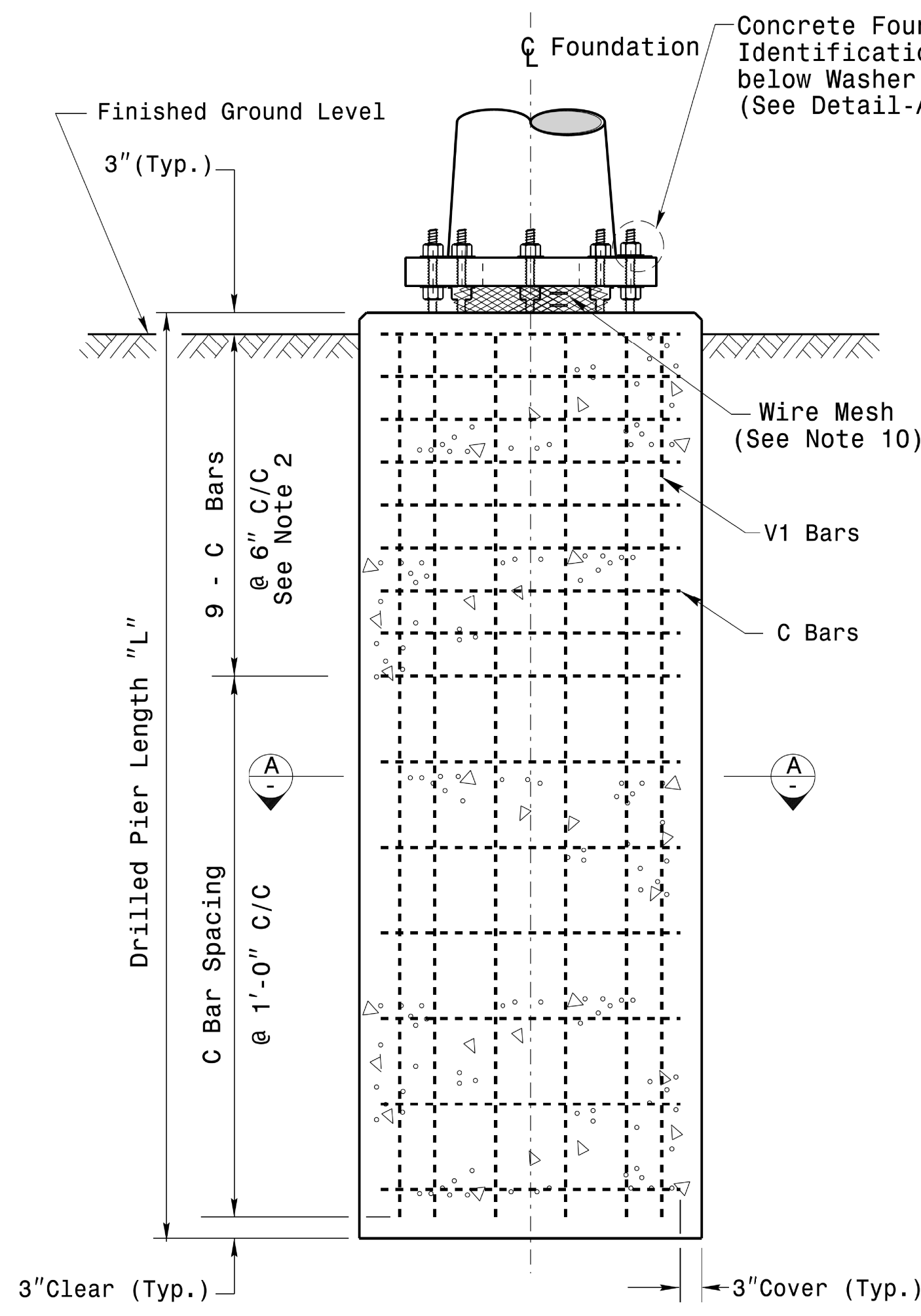
5/8" Dia Copper Clad Steel Grounding Electrode with an Irreversible Compression Ground Connector. For reference refer to section 1700-3 K and L for electrical grounding and bonding requirements, See Note 4.

Metal Pole Grounding Detail For Strain Pole and Mast Arm

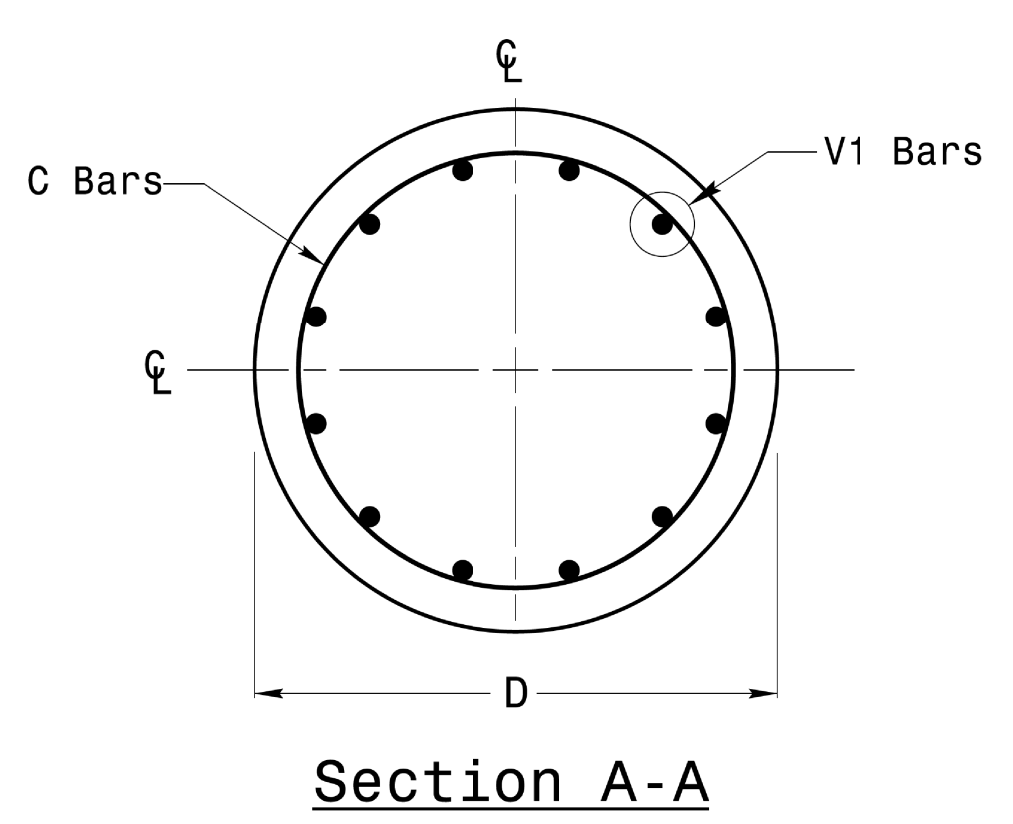
Fabrication Details - Strain Pole Attachments

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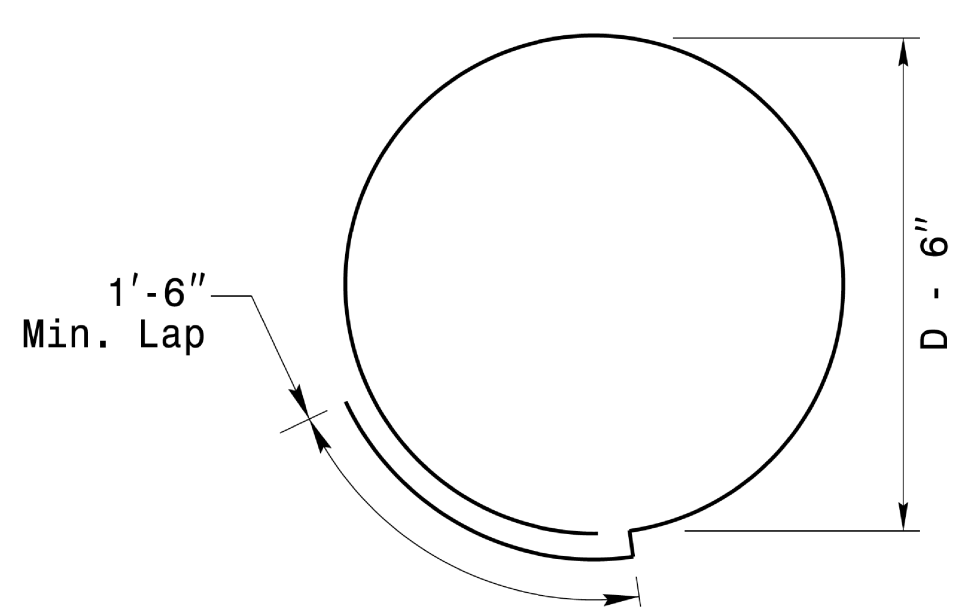
<p>750 N. Greenfield Pkwy, Garner, NC 27529</p>	<p>Typical Fabrication Details For Strain Pole Attachments</p>		<p>SEAL</p> <p>Designed by: <i>Debesh C. Sarkar</i></p>
	<p>PLAN DATE: OCTOBER 2017</p> <p>DESIGNED BY: C.F. ANDREWS</p> <p>PREPARED BY: N. BITTING</p> <p>REVIEWED BY: D.C. SARKAR</p>	<p>REVISIONS</p> <p>INIT. DATE</p>	



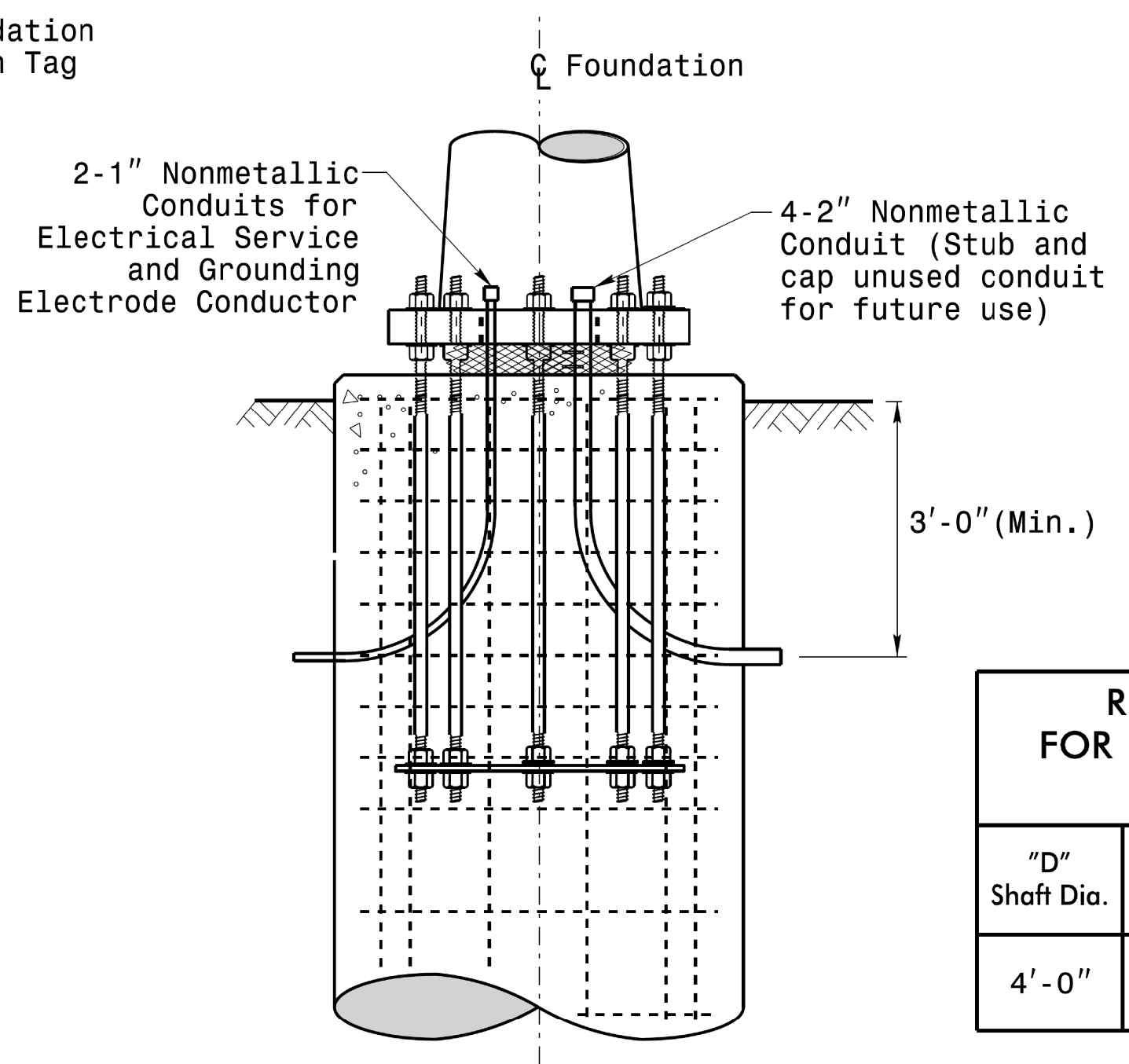
Concrete Shaft Elevation



Section A-A



Typical "C" Bar Detail



Typical Foundation Conduit Details

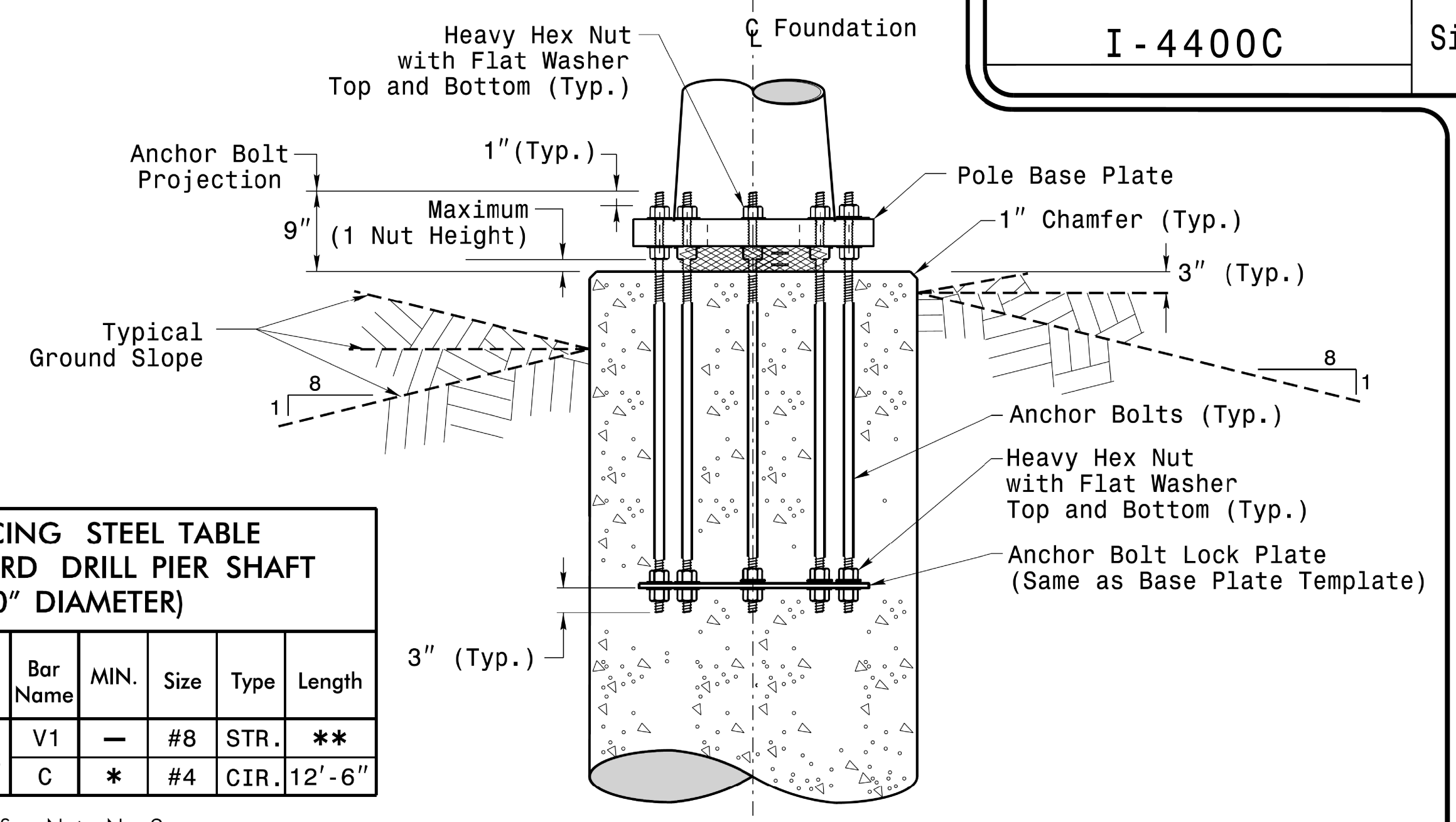
REINFORCING STEEL TABLE FOR STANDARD DRILL PIER SHAFT (4'-0" DIAMETER)

"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"

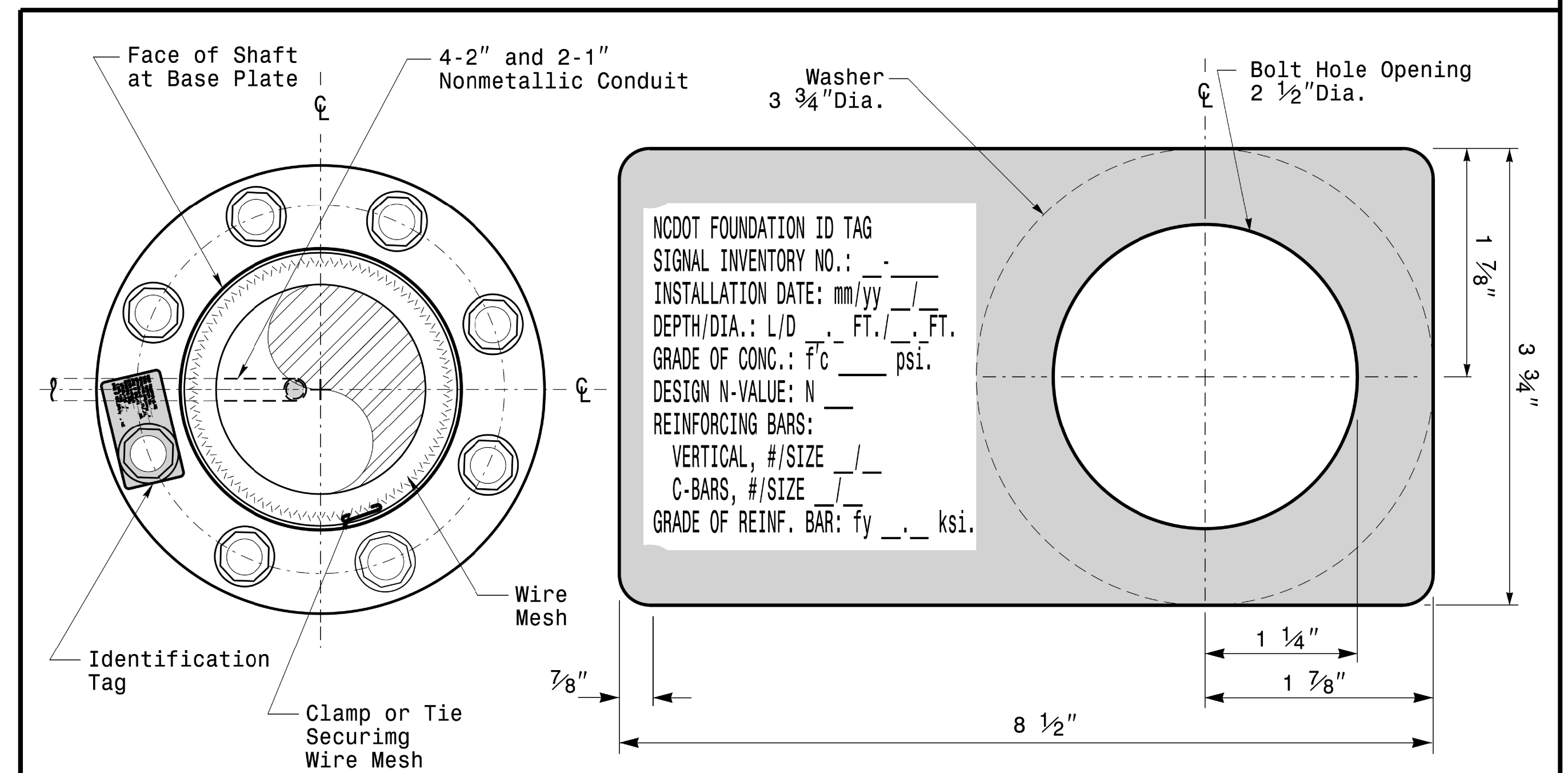
* See Note No. 2
** See Note No. 3

General Notes:

1. If actual subsurface conditions differ significantly from boring data contact the Engineer before excavating or placing concrete.
2. 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.
3. 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.
4. Provide 2" to 5" foundation projection above ground level depending on the ground slope.
5. 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.
6. 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)
7. Use air entrained AA concrete mix with a compression strength of f'c=4500 psi. (min.) after 28 days.
8. Use ASTM A615 grade 60 deformed bars for all reinforcing steel. Maintain at least 3" cover on all reinforcement.
9. Locate the Identification Tag on the top of the base plate, directly above the conduit's entry point.
10. 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.
11. Preferred location for the I.D. Tag is as shown in Detail-A;



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



Concrete Foundation Identification Tag Details

Detail-A

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

<p>Prepared in the Offices of:</p> <p>750 N. Greenfield Pkwy, Garner, NC 27529</p>	<p>Construction Details For Foundations</p>		<p>SEAL</p> <p>DocuSigned by: Dinesh C. Sarkar</p>
	<p>PLAN DATE: OCTOBER 2018</p> <p>DESIGNED BY: C.B. COGDILL</p> <p>PREPARED BY: N. BITTING</p> <p>REVIEWED BY: D.C. SARKAR</p>	<p>REV. NO. 1</p> <p>COMMENTS: Revised Foundation Tag Details</p> <p>INIT. N.B.</p> <p>DATE: 5/11/2015</p>	

Construction Details - Foundations

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SOIL CONDITION

PROJECT ID. NO.	SHEET NO.
I - 4400C	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

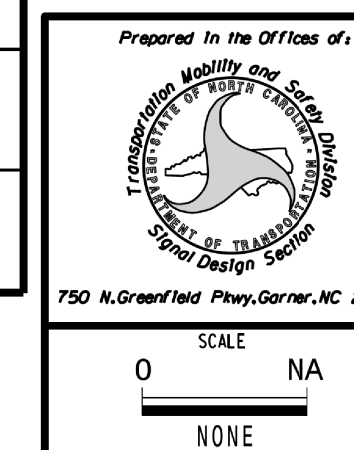
General Notes:

- 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.
- Use chairs and spacers to maintain proper clearance.
- For foundation, always use air-entrain concrete mix.

Foundation Selection:

- Perform a standard penetration test at each proposed foundation site to determine "N" value.
- Select the appropriate wind zone from M 1 drawing.
- Select the soil type (Clay or Sand) that best describes the soil characteristics.
- Get the appropriate standard pole case number from the plans or from the Engineer.
- Select the appropriate column under "Standard Foundations" based on soil type and "N" value. Select the appropriate row based on the pole load case.
- The foundation depth is the value shown in the "Standard Foundations" category where the column and the row intersect.
- 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 Spec. Exp.	N.B. 7/12/2015

SEAL

DocuSigned by: D. C. SARKAR
10/11/2017

Standard Strain Pole Foundation-All Soil Condition

- 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 CCTV CABLE
- 5a INSTALL COAX 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 NEW 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 REMOVE EXISTING DMS, CABINET AND STRUCTURE
- 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 CELL MODEM
- 43 REMOVE EXISTING METAL POLE AND FOUNDATION
- 44 INSTALL AERIAL GUY ASSEMBLY
- 45 INSTALL STANDARD GUY ASSEMBLY
- 46 INSTALL SIDEWALK GUY ASSEMBLY
- 47 INSTALL MESSENGER CABLE
- 48 REMOVE EXISTING COMMUNICATIONS CABLE
- 49 EXISTING SIGNAL CABINET
- 50 CONDUITS INSTALLED IN BRIDGE STRUCTURE (SEE ROADWAY PLANS)
- 51 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
- 52 INSTALL DELINEATOR MARKERS
- 52a INSTALL JUNCTION BOX MARKER
- 53 STORE 20 FEET OF COMMUNICATIONS CABLE (EACH CABLE), EXCEPT AS NOTED ON PLANS
- 54 REMOVE EXISTING CABINET
- 55 LASH CABLE(S) TO EXISTING SIGNAL /COMMUNICATION CABLE
- 56 LASH CABLES TO NEW MESSENGER CABLE
- 57 BOND TRACER WIRE TO EQUIPMENT GROUND BUS ON ONE END
- 58 BOND MESSENGER TO POLE GROUND
- 59 BOND RISER TO POLE GROUND
- 59a BOND RISER AND MESSENGER TO POLE GROUND
- 60 BACK PULL EXISTING COMMUNICATIONS CABLE
- 61 ABANDON EXISTING CONDUIT
- 62 INTERCEPT EXISTING JUNCTION BOX
- 63 REMOVE EXISTING ANTENNA, RADIO, AND CABLE

LEGEND

	FD	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
		EXISTING GUARDRAIL
		NEW GUARDRAIL
		NEW CHAIN LINK FENCE
		EXISTING METAL POLE WITH MASTARM
		NEW METAL POLE WITH MASTARM
		EXISTING RIGHT OF WAY
		NEW OVERSIZED HEAVY DUTY 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 HEAVY DUTY JUNCTION BOX WITH SPLICE ENCLOSURE
		EXISTING SPECIAL OVERSIZED JUNCTION BOX WITH NEW SPLICE ENCLOSURE
		EXISTING SPECIAL OVERSIZED JUNCTION BOX WITHOUT SPLICE ENCLOSURE
		NEW WOOD POLE
		EXISTING WOOD POLE
		NEW AERIAL SPLICE
		EXISTING AERIAL SPLICE
		NEW SPLICE ENCLOSURE
		EXISTING SPLICE ENCLOSURE
		NEW METAL POLE
		EXISTING METAL POLE
		NEW STANDARD GUY ASSEMBLY
		EXISTING STANDARD GUY ASSEMBLY
		NEW SIGNAL CABINET
		EXISTING SIGNAL CABINET
	SP	SIGNAL POLE
	XX-XXXX	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
NUMBER OF CABLES		REMOVE OR MODIFY CABLE

ATTACHMENT POINT:

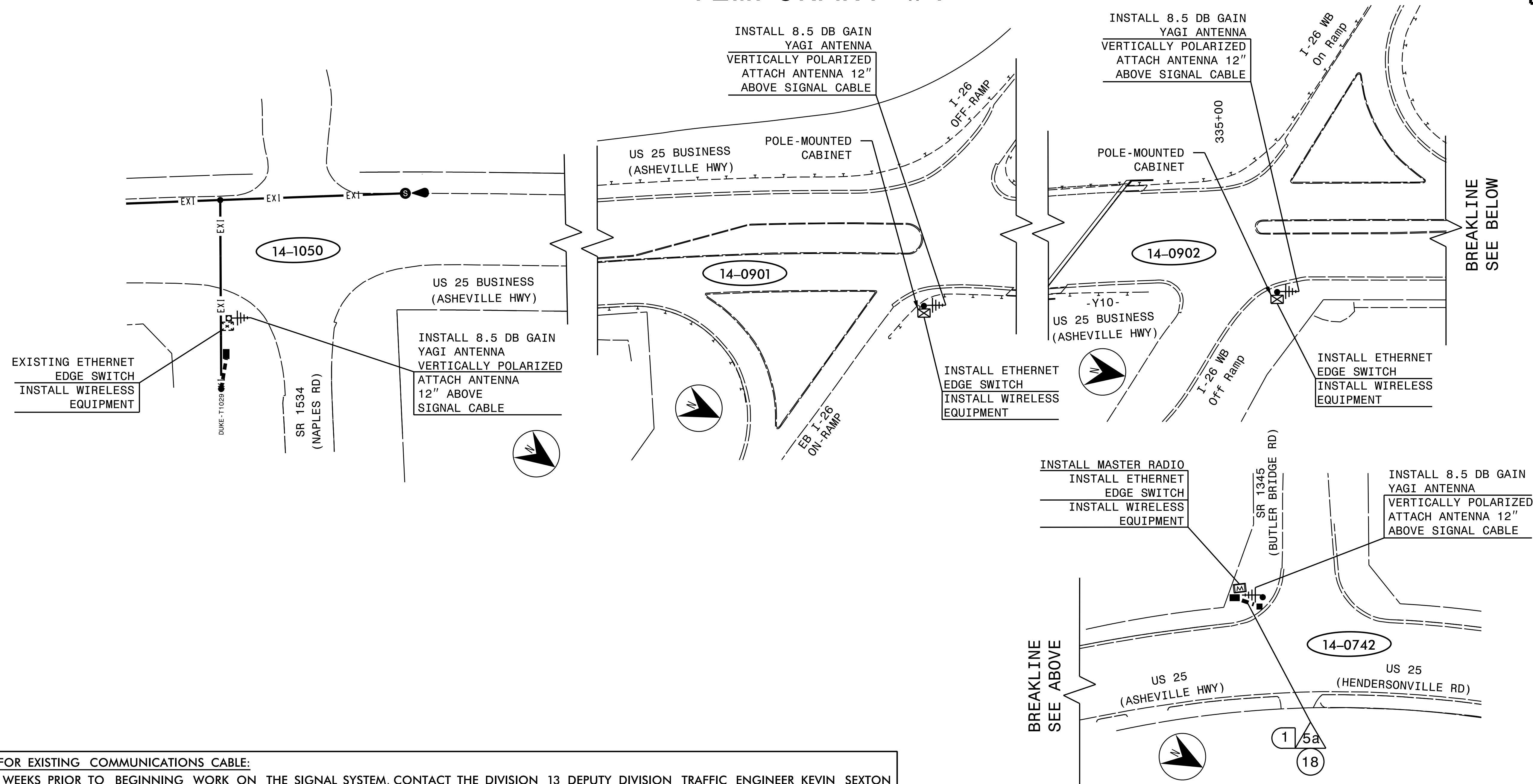
	DISTANCE ABOVE INCHES REFERENCE POINT
	REFERENCE POINT DISTANCE BELOW INCHES

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Plans Prepared for: 	I-4400C		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031464 NATASHA R. SIMMONS
	US 25 (ASHEVILLE HIGHWAY)		
CONSTRUCTION NOTES AND LEGEND		Division 14 Henderson Co. Hendersonville PLAN DATE: December 2018 REVIEWED BY: T.R. Terrell PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons	
SCALE	REVISIONS	INIT.	DATE
NONE			
DocuSigned by: Natasha R Simmons 4/26/2019 FIDAR002340454 SIGNATURE DATE			CADD File name: I4400C_US25_SCP-01.dgn

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NOTES FOR EXISTING COMMUNICATIONS CABLE:

- SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 13 DEPUTY DIVISION TRAFFIC ENGINEER KEVIN SEXTON AT (828) 298-0094. 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.

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 13 SIGNAL SHOP. THE DIVISION 13 OFFICE IS LOCATED AT 112 OLD CHARLOTTE HWY, ASHEVILLE NC, 28803 AND CAN BE REACHED AT (828) 298-0094.
- SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 13 DEPUTY TRAFFIC ENGINEER, KEVIN SEXTON, AT (828) 298-0094 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.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ELECTRICAL SERVICE FOR REPEATER WITH DUKE ENGERY AND DIVISION 13.

LEGEND

- YAGI ANTENNA (SINGLE)
- NEW MASTER RADIO
- NEW CONTROLLER AND CABINET
- EXISTING CONTROLLER AND CABINET
- SIGNAL INVENTORY NUMBER
- NEW WOOD POLE
- EXISTING WOOD POLE

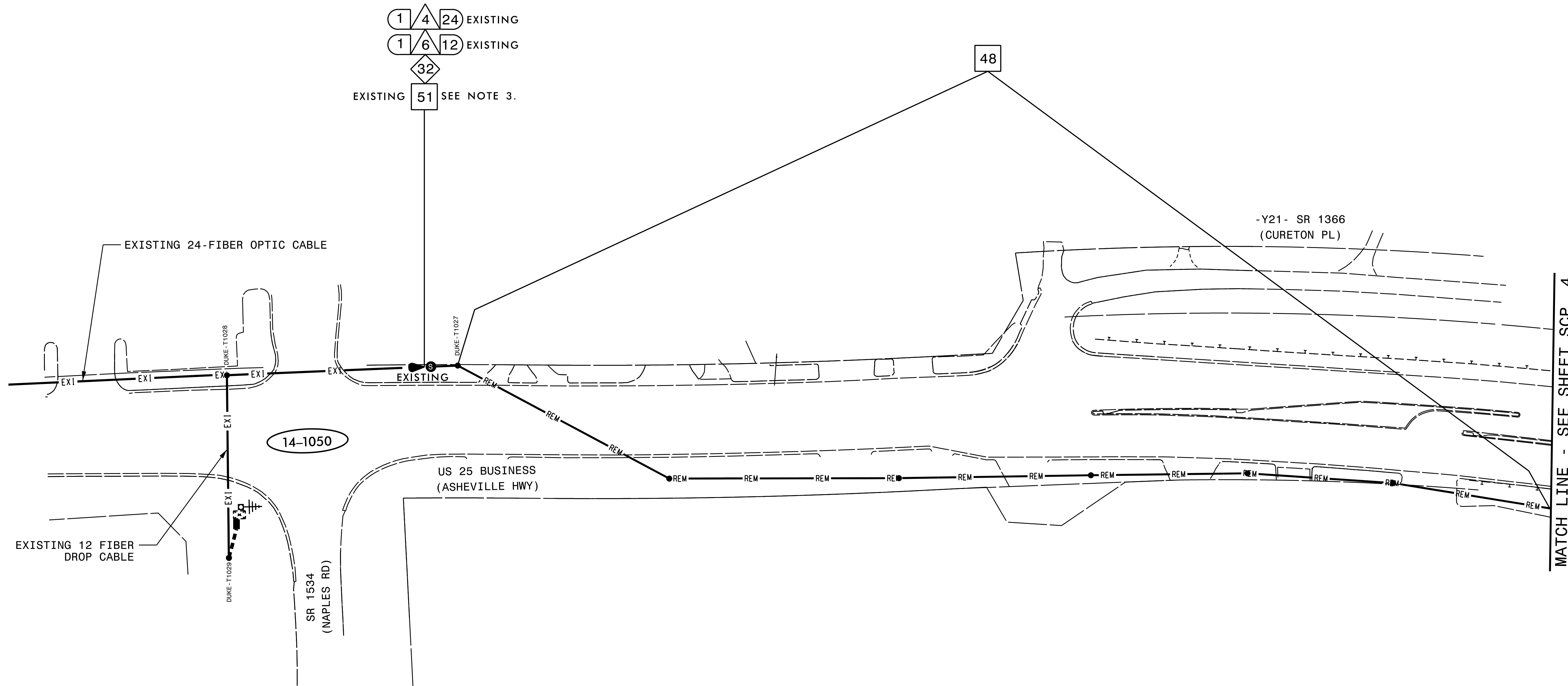
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 250 N. Greenfield Place, Garner, NC 27529	I-4400C US 25 (ASHEVILLE HIGHWAY) CABLE ROUTING PLAN		SEAL NATASHA R. SIMMONS ENGINEER SEAL 031464
	Division 14 Henderson Co. Hendersonville PLAN DATE: December 2018 REVIEWED BY: T.R. Terrell PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons		
SCALE 0 50 1"=50'	REVISIONS _____ _____ _____	INIT. DATE _____ _____ _____	DocuSigned by: Natasha R. Simmons 4/26/2019 FIDAR00234454 SIGNATURE DATE CADD File name: I-4400C_US25_SCP-02.dgn

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NOTES:

- SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 13 DEPUTY DIVISION TRAFFIC ENGINEER KEVIN SEXTON AT (828) 298-0094. 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.
- SEAL ALL CONDUIT ENTRANCES WITH DUCT AND CONDUIT SEALER AT ALL JUNCTION BOX /CABINET ENTRANCES.
- CUT EXISTING 24-FIBER OPTIC CABLE NORTH OF EXISTING SPLICE ENCLOSURE LOCATED NEAR SIGNAL 14-1050 AND STORE 100 FEET OF EXISTING 24-FIBER ON EXISTING SNOWSHOE.

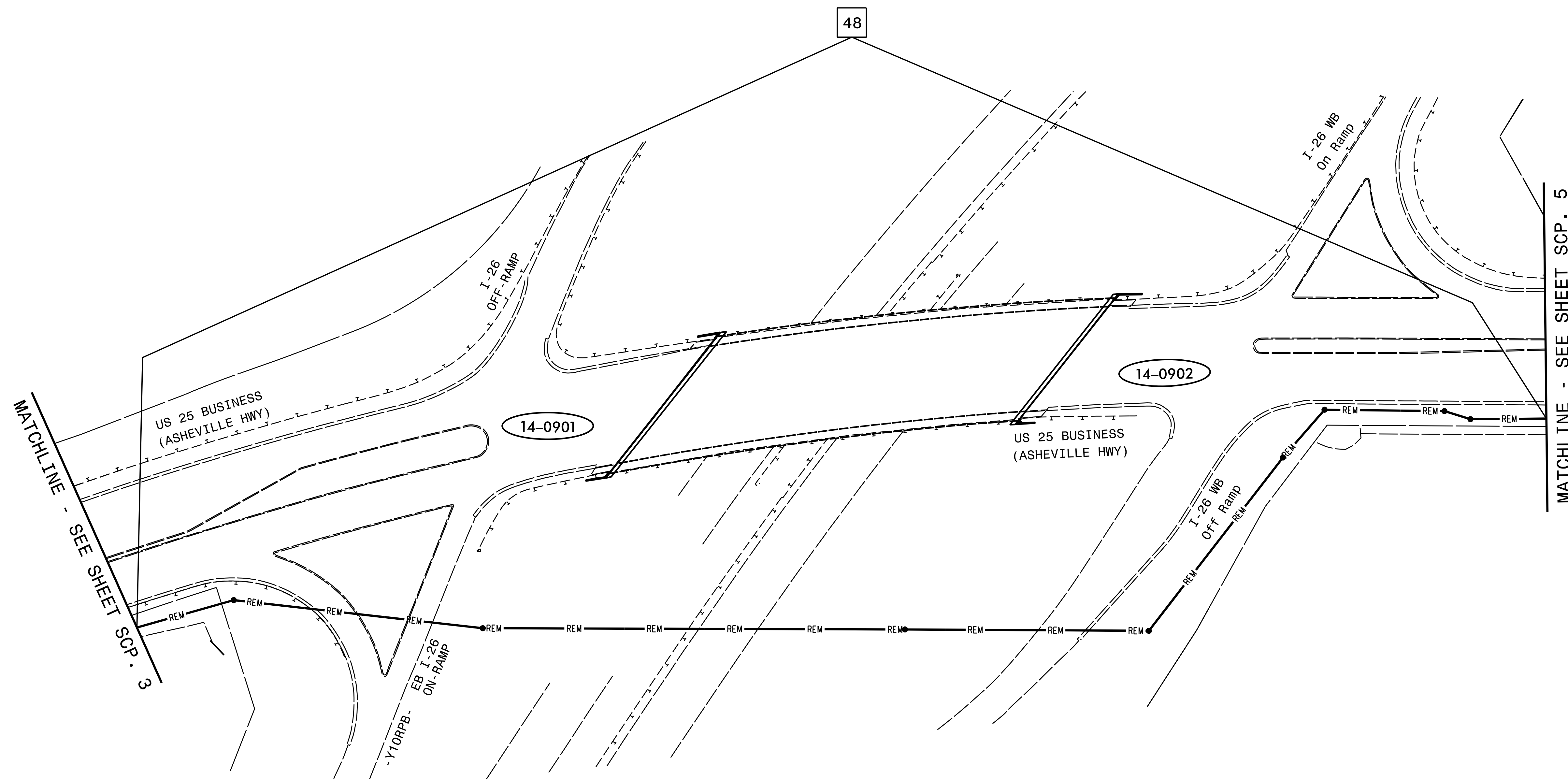
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	I-4400C US 25 (ASHEVILLE HIGHWAY) CABLE ROUTING PLAN		
	Division 14 Henderson Co. Hendersonville PLAN DATE: December 2018 REVIEWED BY: T.R. Terrell PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons		
250 N. Greenfield Place, Garner, NC 27529 SCALE 0 50 1"=50'	REVISIONS INIT. DATE	DocuSigned by: Natasha R. Simmons 4/26/2019 SIGNATURE DATE	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 031464 NATASHA R. SIMMONS

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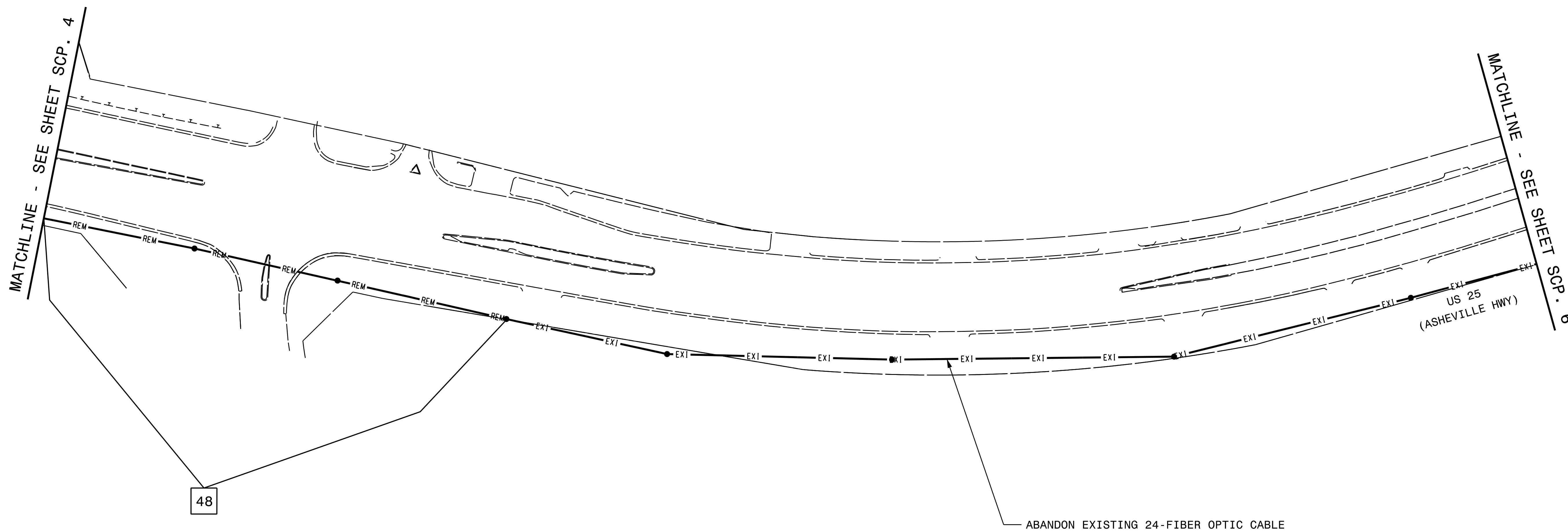
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 Plans Prepared for: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	I-4400C US 25 (ASHEVILLE HIGHWAY) CABLE ROUTING PLAN		SEAL  SEAL 031464 ENGINEER NATASHA R. SIMMONS
	Division 14 Henderson Co. Hendersonville PLAN DATE: December 2018 REVIEWED BY: T.R. Terrell PREPARED BY: N.K. Vlanich 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 4/26/2019 SIGNATURE DATE CADD File name: I-4400C US25 SCP-04.dgn

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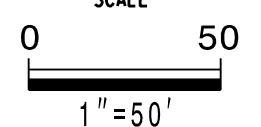

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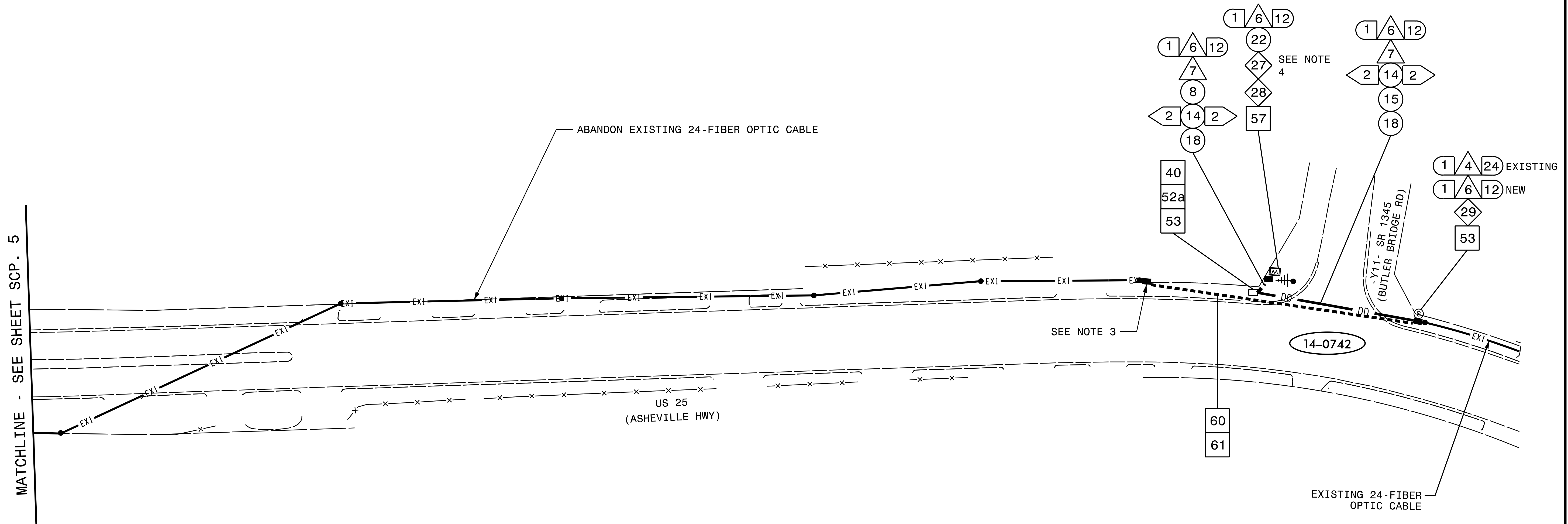
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 <small>250 N. Greenfield Place, Garner, NC 27529</small>	I-4400C US 25 (ASHEVILLE HIGHWAY) CABLE ROUTING PLAN		 <small>SEAL NATASHA R. SIMMONS ENGINEER 031464</small>												
	<small>Division 14 Henderson Co. Hendersonville</small> <small>PLAN DATE: December 2018 REVIEWED BY: T.R. Terrell</small> <small>PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons</small>														
	<small>SCALE</small>  <small>1"=50'</small>	<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> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISIONS	INIT.	DATE										<small>DocuSigned by:</small>  <small>Natasha R. Simmons 4/26/2019</small> <small>SIGNATURE DATE</small> <small>CADD File Name: I-4400C_US25_SCP-05.dgn</small>
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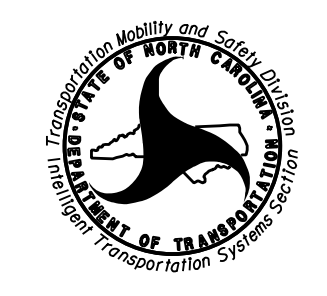
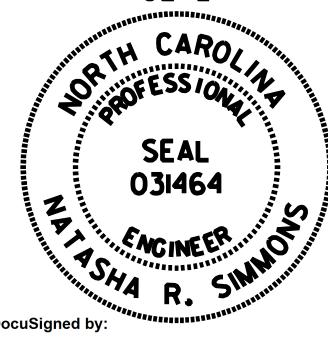
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- SEAL ALL CONDUIT ENTRANCES WITH DUCT AND CONDUIT SEALER AT ALL JUNCTION BOX /CABINET ENTRANCES.
- CUT EXISTING FIBER OPTIC CABLE AT SIGNAL 14-0742 FROM JUNCTION BOX IN SOUTHWEST QUADRANT AND BACK PULL REMAINING 24 FIBER CABLE TO EXISTING JUNCTION BOX IN NORTHWEST QUADRANT FOR SPLICE ENCLOSURE AND INSTALL UNDERGROUND.
- ETHERNET EDGE SWITCHES INSTALLED FOR TEMPORARY AND FINAL SIGNAL COMMUNICATIONS.

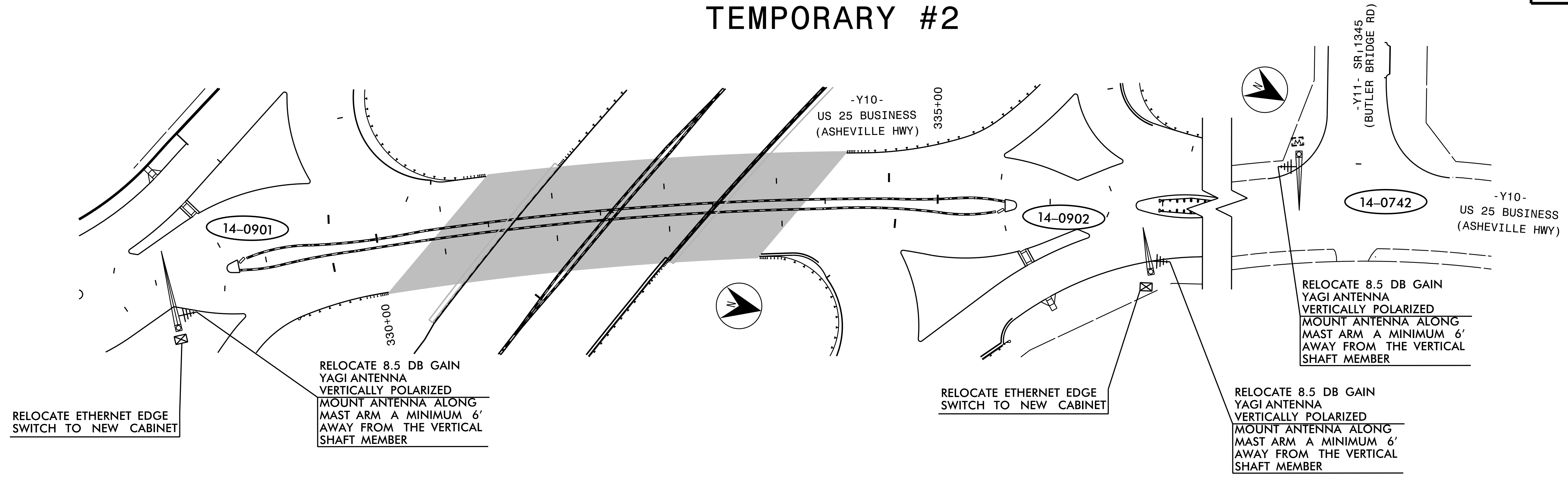
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 Plans Prepared for: I-4400C US 25 (ASHEVILLE HIGHWAY) CABLE ROUTING PLAN	Division 14 Henderson Co. Hendersonville PLAN DATE: December 2018 REVIEWED BY: T.R. Terrell PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons	 SEAL NORTH CAROLINA PROFESSIONAL ENGINEER NATASHA R. SIMMONS 031464
	REVISIONS INIT. DATE _____ _____ _____	

TEMPORARY #2



RELOCATE ETHERNET EDGE SWITCH TO NEW CABINET

RELOCATE 8.5 DB GAIN YAGI ANTENNA VERTICALLY POLARIZED MOUNT ANTENNA ALONG MAST ARM A MINIMUM 6' AWAY FROM THE VERTICAL SHAFT MEMBER

RELOCATE ETHERNET EDGE SWITCH TO NEW CABINET

RELOCATE 8.5 DB GAIN YAGI ANTENNA VERTICALLY POLARIZED MOUNT ANTENNA ALONG MAST ARM A MINIMUM 6' AWAY FROM THE VERTICAL SHAFT MEMBER

RELOCATE 8.5 DB GAIN YAGI ANTENNA VERTICALLY POLARIZED MOUNT ANTENNA ALONG MAST ARM A MINIMUM 6' AWAY FROM THE VERTICAL SHAFT MEMBER

LEGEND

- YAGI ANTENNA (SINGLE)
- EXISTING MASTER RADIO
- NEW CONTROLLER AND CABINET
- EXISTING CONTROLLER AND CABINET
- SIGNAL INVENTORY NUMBER
- EXISTING METAL POLE W/MAST ARM
- EXISTING WOOD POLE

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 13 SIGNAL SHOP. THE DIVISION 13 OFFICE IS LOCATED AT 112 OLD CHARLOTTE HWY, ASHEVILLE NC, 28803 AND CAN BE REACHED AT (828) 298-0094.
- SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 13 DEPUTY TRAFFIC ENGINEER, KEVIN SEXTON, AT (828) 298-0094 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.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ELECTRICAL SERVICE FOR REPEATER WITH DUKE ENGERY AND DIVISION 13.

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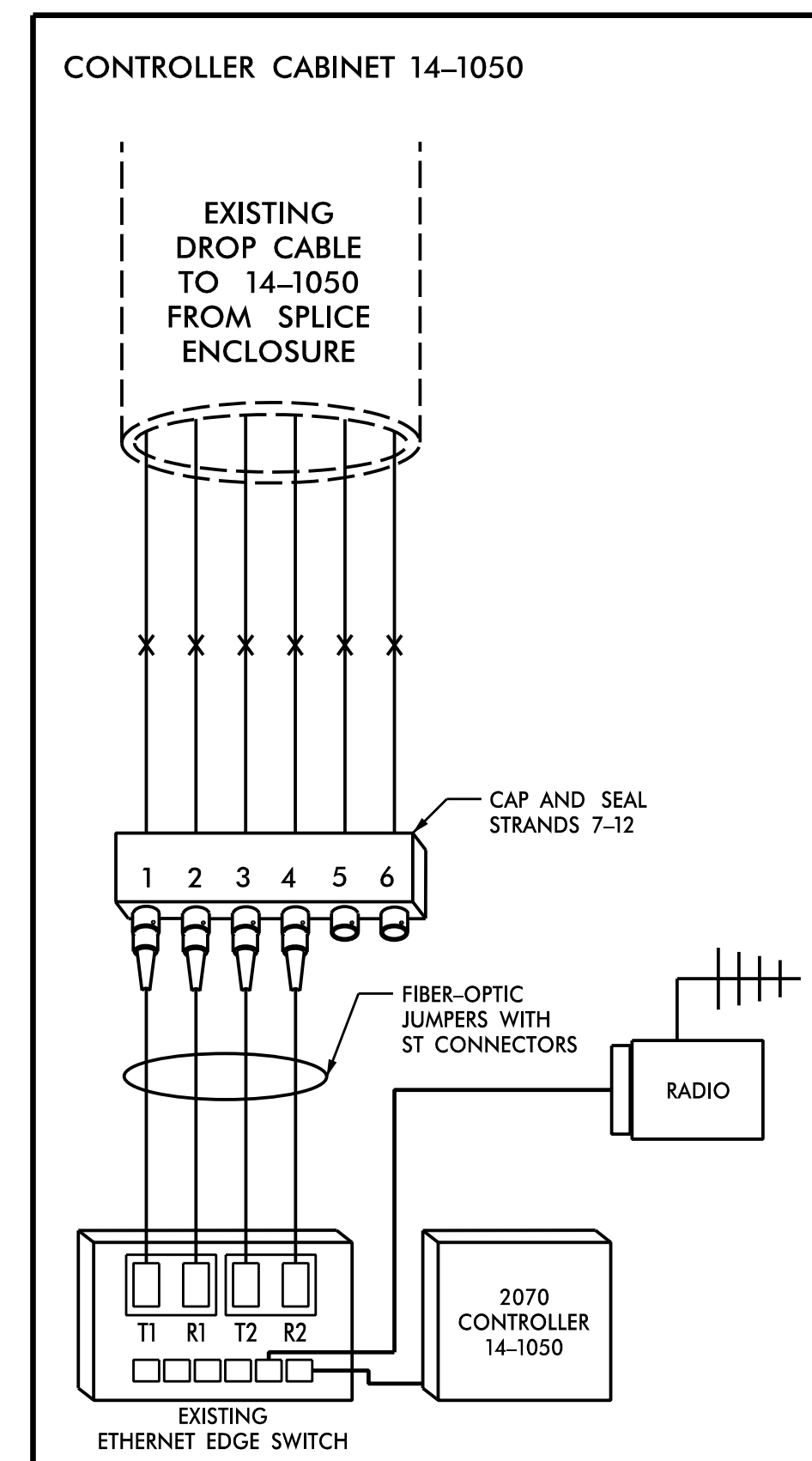
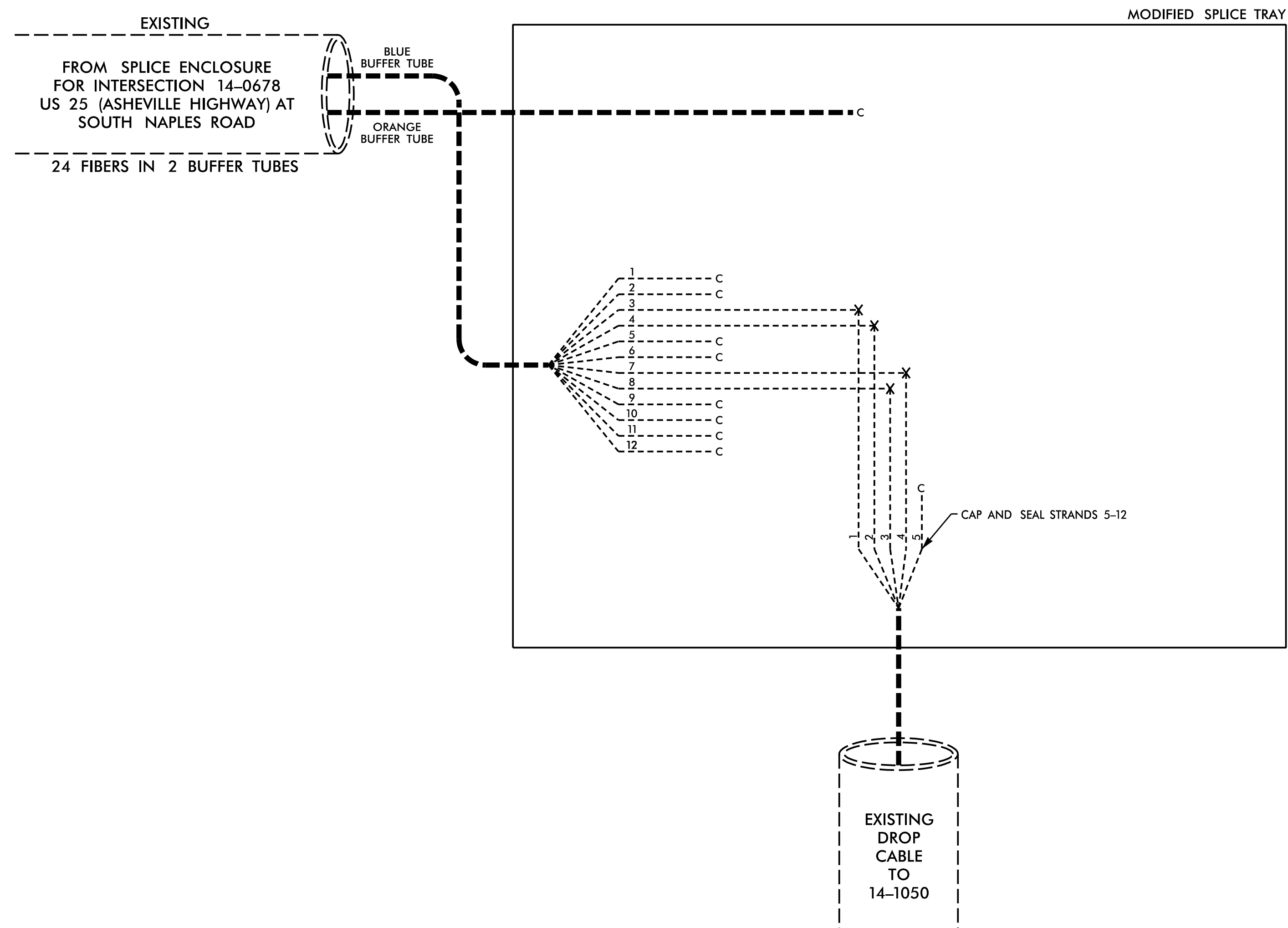
TMP - TEMP 2

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	I-4400C US 25 (ASHEVILLE HIGHWAY) CABLE ROUTING PLAN		
	Division 14 Henderson Co. Hendersonville PLAN DATE: December 2018 REVIEWED BY: T.R. Terrell PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons		
SCALE 0 50 1"=50'	REVISIONS _____ _____ _____	INIT. DATE _____ _____ _____	DocuSigned by: Natasha R. Simmons 4/26/2019 FIDAB0E3AD45A SIGNATURE DATE CADD File name: I-4400C_US25_SCP-07.dgn

TEMPORARY
14-1050
US 25 (ASHEVILLE HIGHWAY)
AT SR 1534 (NAPLES ROAD)/
SKYLAND DRIVE

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. ETHERNET EDGE SWITCH 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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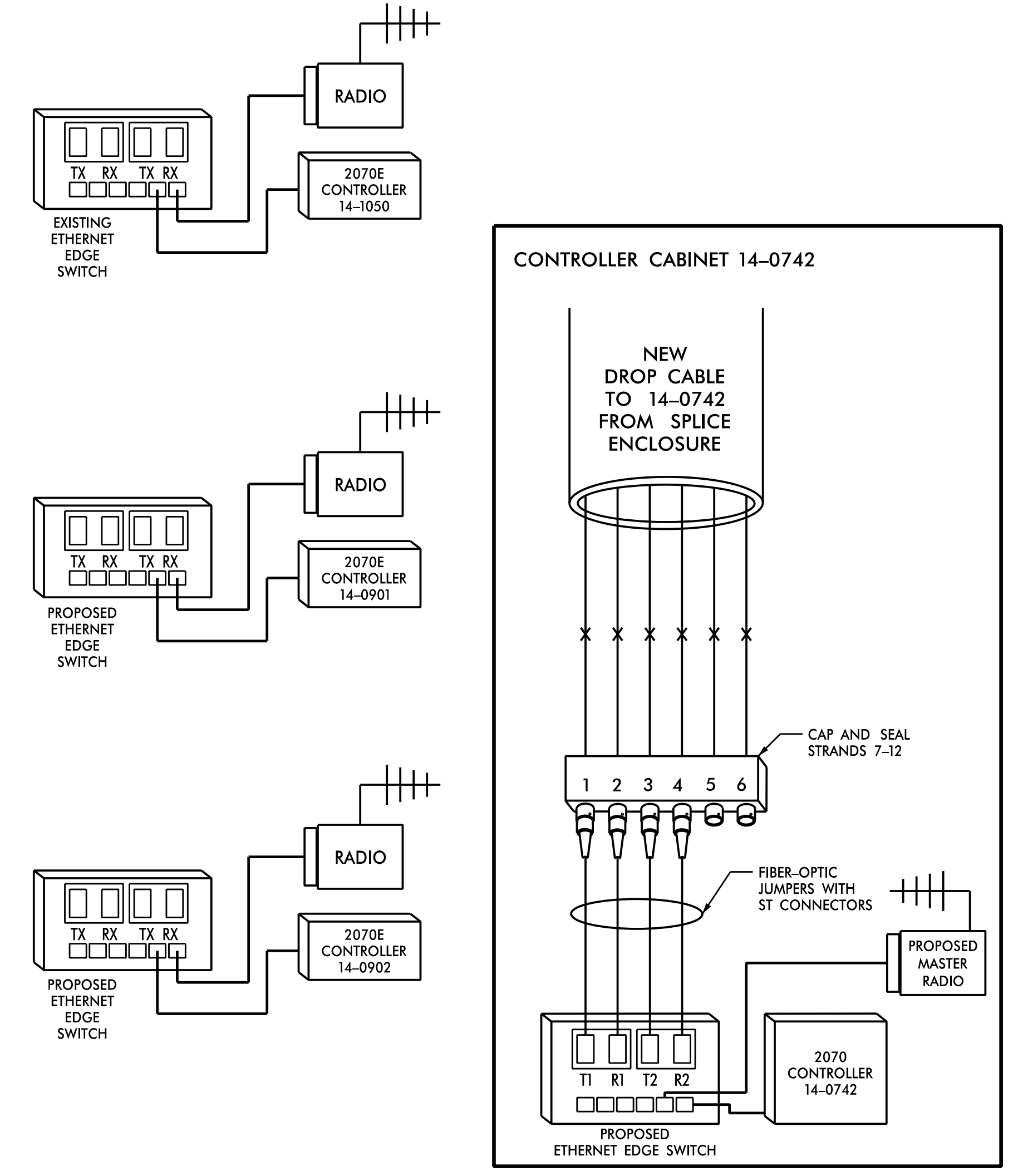
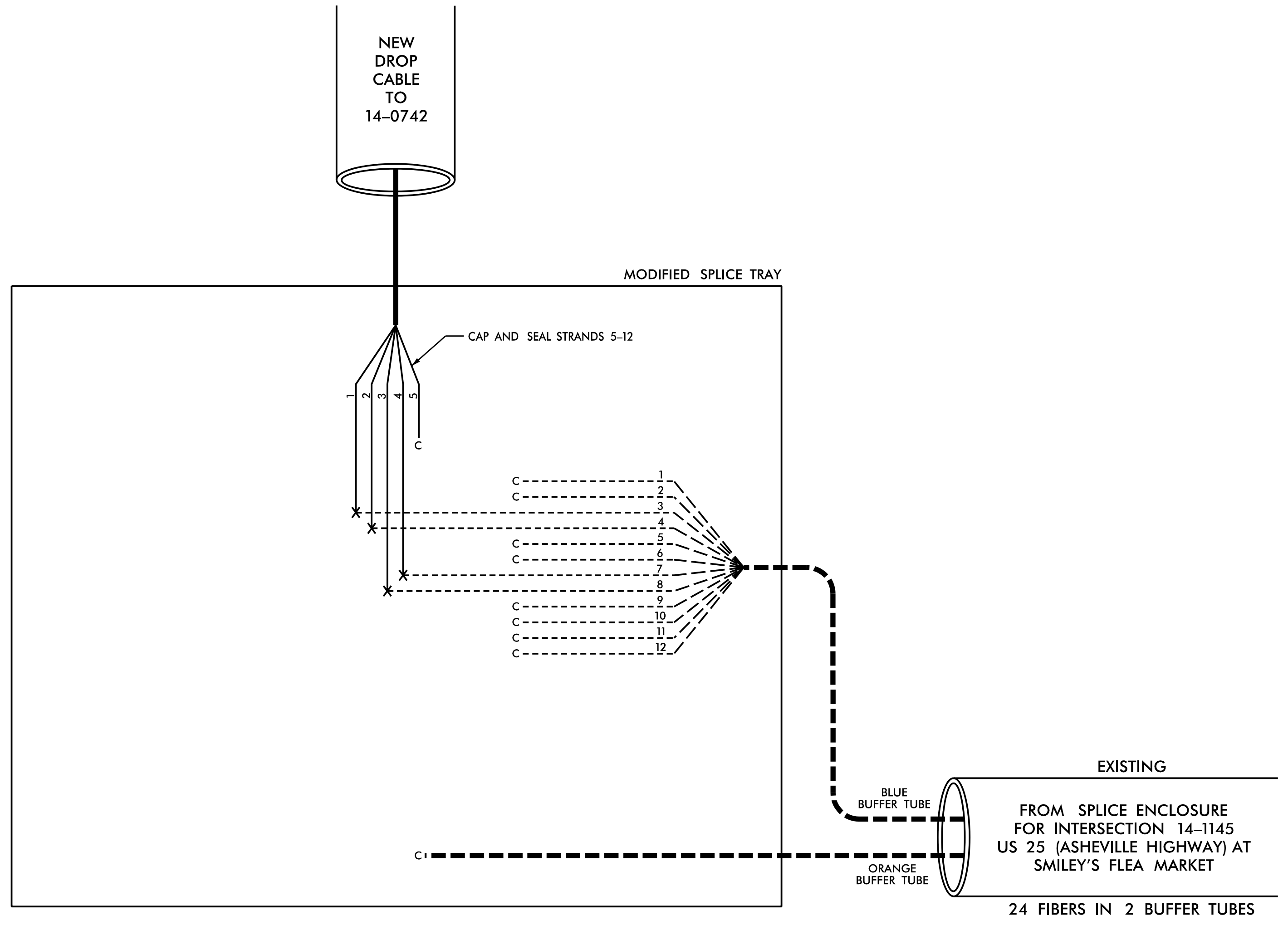
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TEMPORARY CONDITION
14-0742
US 25 (ASHEVILLE HIGHWAY)
AT
SR 1354 (BUTLER BRIDGE ROAD)

COLOR CODE TIA/EIA 598-C		LEGEND	
(1) BLUE	(7) RED	X = NEW FUSION SPLICE INDIVIDUAL FIBER	
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(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:

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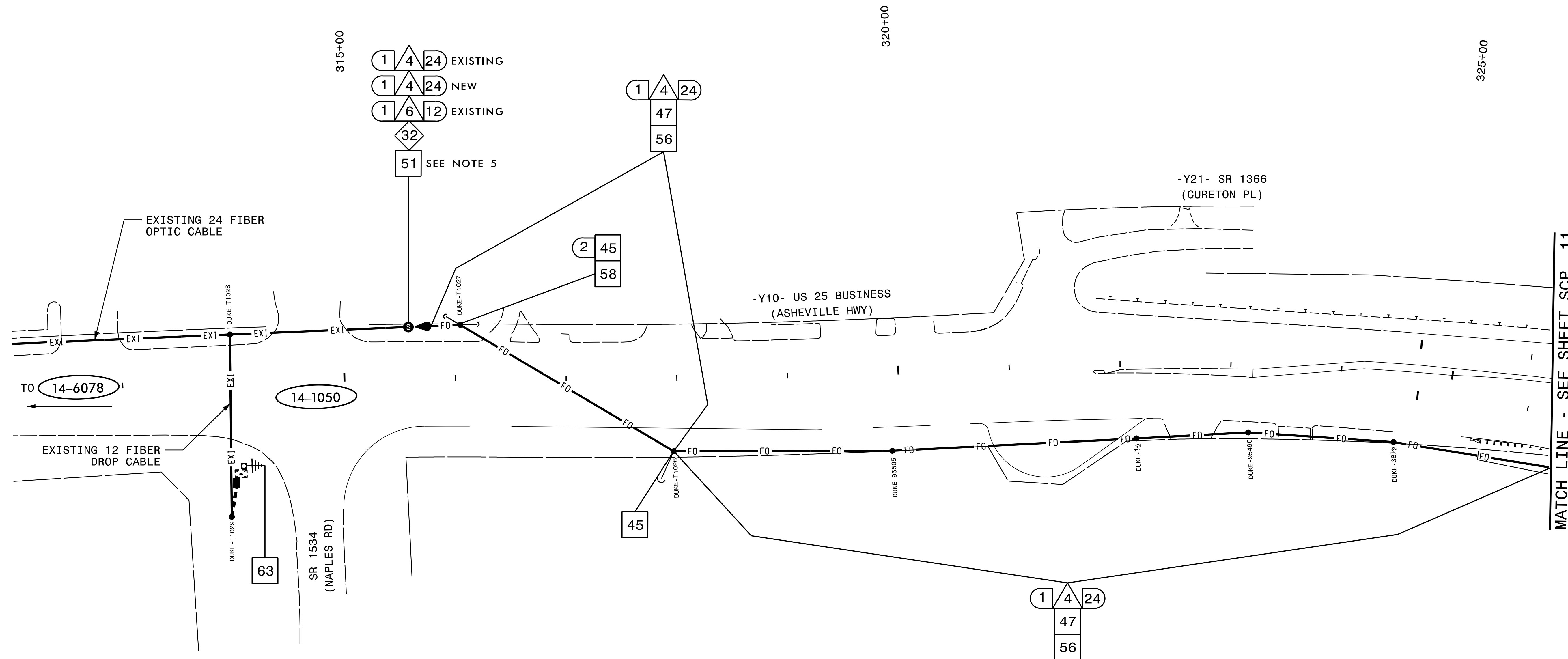
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	I-4400C US 25 (ASHEVILLE HIGHWAY) SPLICE DETAILS		
	Division 14 Henderson Co. Asheville	PLAN DATE: November 2018	
SCALE	PREPARED BY: T.R. Terrell	REVIEWED BY: N.R. Simmons	DocuSigned by: <i>Natasha R Simmons</i> 4/26/2019
NONE	REVISIONS	INIT. DATE	SIGNATURE DATE



NOTES:

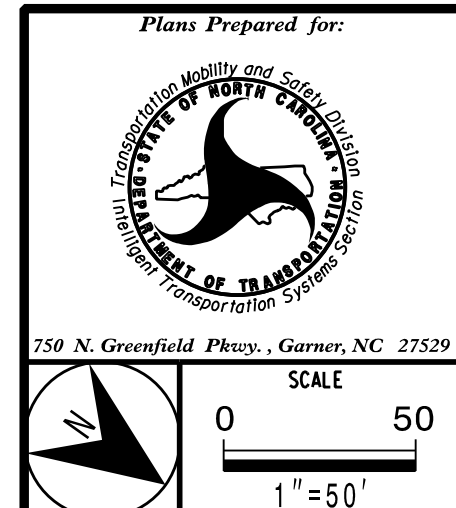
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2. SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 13 DEPUTY DIVISION TRAFFIC ENGINEER KEVIN SEXTON AT (828) 298-0094. NOTIFY THE DEPUTY TRAFFIC ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND FUNCTIONAL.
3. MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE EDGE OF PAVEMENT AND A MINIMUM OF FIVE (5) FEET BEHIND THE MSE WALL WALL WHEN TRENCHING PARALLEL TO THE ROADWAY.
4. SEAL ALL CONDUIT ENTRANCES WITH DUCT AND CONDUIT SEALER AT ALL JUNCTION BOX /CABINET ENTRANCES.
5. INSTALL 100 FEET OF NEW 24-FIBER ON EXISITING SNOWSHOE.

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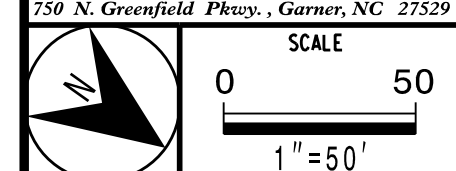


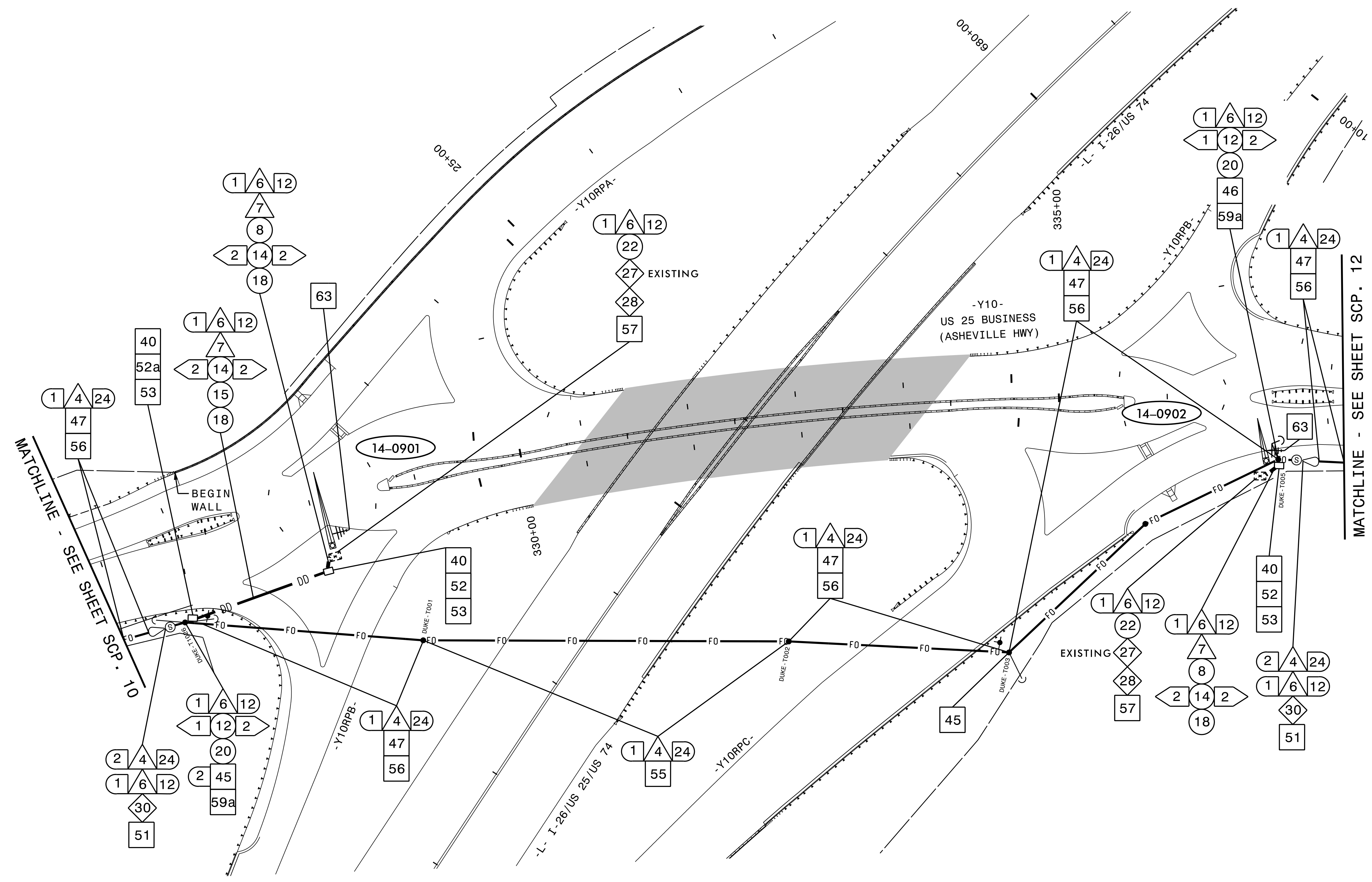
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I-4400C US 25 (ASHEVILLE HIGHWAY) CABLE ROUTING PLAN	
Division 14 Henderson Co. Hendersonville	
PLAN DATE: December 2018	REVIEWED BY: T.R. Terrell
PREPARED BY: N.K. Vlanich	REVIEWED BY: N.R. Simmons
REVISIONS	INIT. DATE

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NORTH CAROLINA
PROFESSIONAL
ENGINEER
SEAL
031464
NATASHA R. SIMMONS
DocuSigned by:
Natasha R. Simmons 4/26/2019
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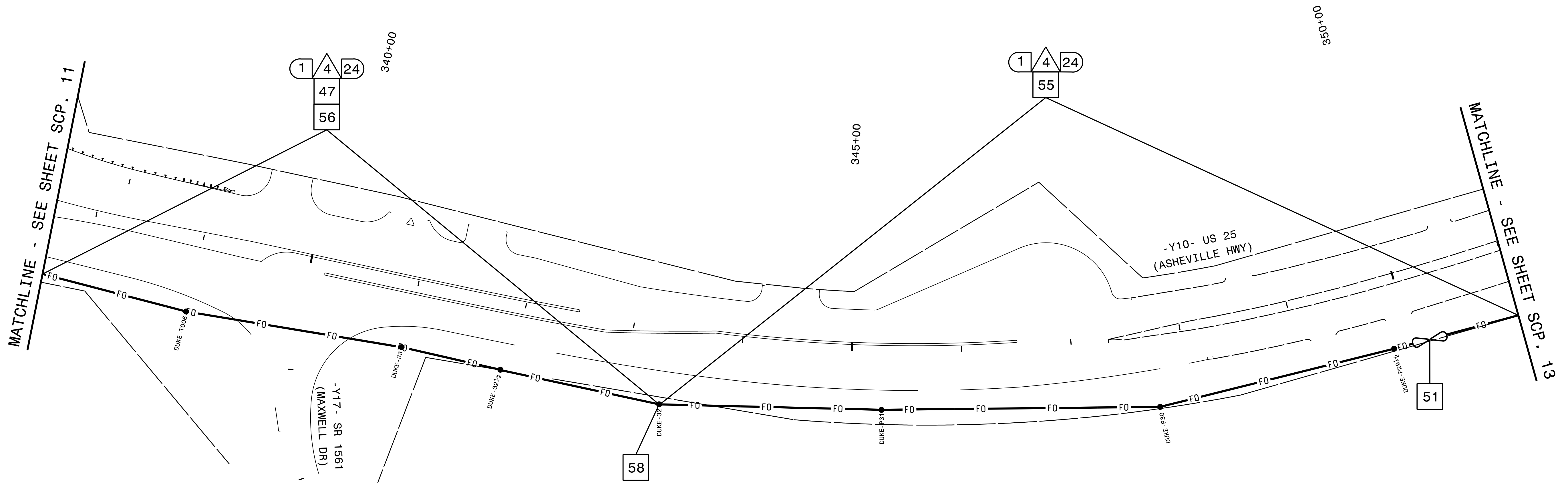
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4. SEAL ALL CONDUIT ENTRANCES WITH DUCT AND CONDUIT SEALER AT ALL JUNCTION BOX /CABINET ENTRANCES.
5. ETHERNET EDGE SWITCHES INSTALLED FOR TEMPORARY AND FINAL SIGNAL COMMUNICATIONS.
6. AFTER THE FIBER OPTIC CABLE CONSTRUCTION IS COMPLETE AND TRAFFIC IS IN THE FINAL PATTERN, REMOVE EXISTING WIRELESS ASSEMBLY AND DELIVER TO DIVISION 13 TRAFFIC SERVICES, 112 OLD CHARLOTTE HWY, ASHEVILLE, NC 28803.

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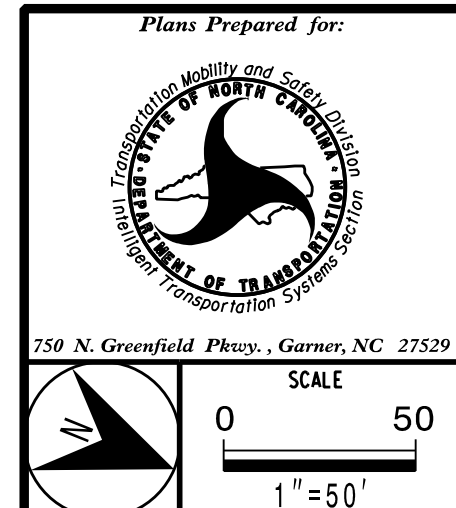
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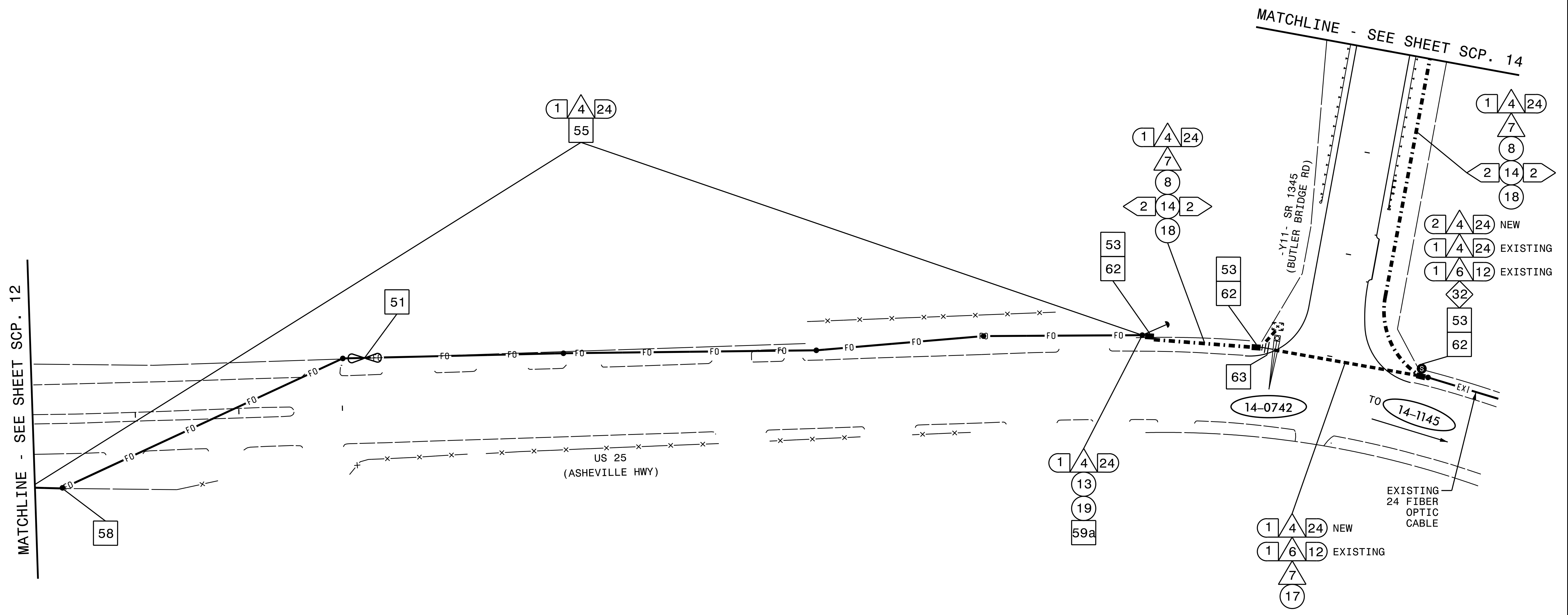
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I-4400C US 25 (ASHEVILLE HIGHWAY) CABLE ROUTING PLAN	
Division 14 Henderson Co. Hendersonville	
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PREPARED BY: N.K. Vlanich	REVIEWED BY: N.R. Simmons
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 PROFESSIONAL
 SEAL
 031464
 ENGINEER
 NATASHA R. SIMMONS

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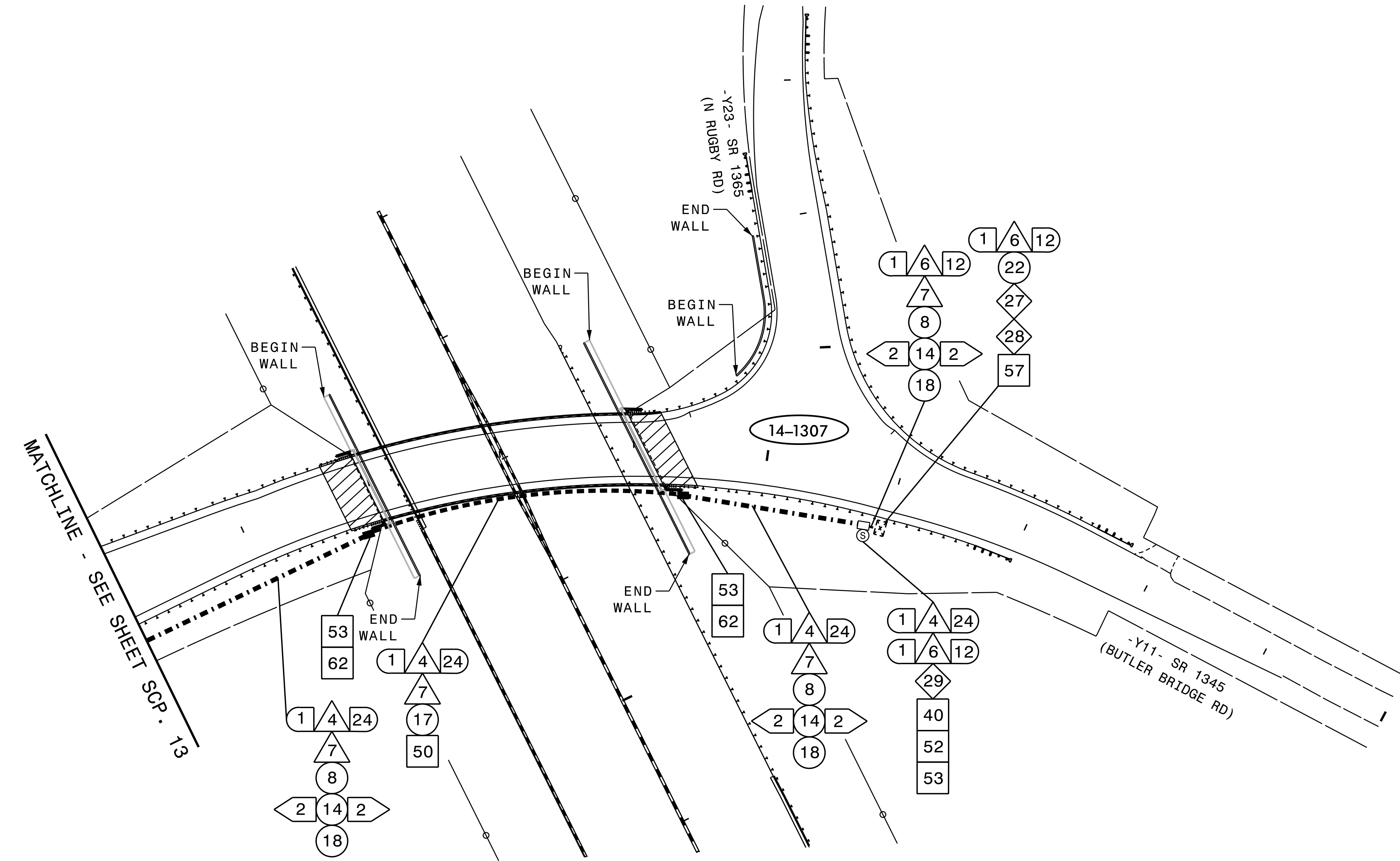
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	Division 14 Henderson Co. Hendersonville PLAN DATE: December 2018 REVIEWED BY: T.R. Terrell PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons								
	SCALE 0 50 1"=50'	<table border="1"> <thead> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS	INIT.	DATE				DocuSigned by: Natasha R. Simmons 4/26/2019 FIDABR0340454 SIGNATURE DATE CADD File name: I-4400C US25 SCP-13.dgn
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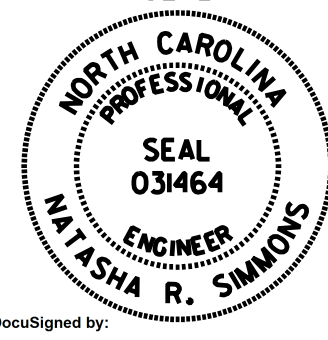
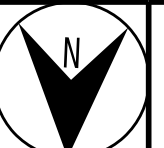

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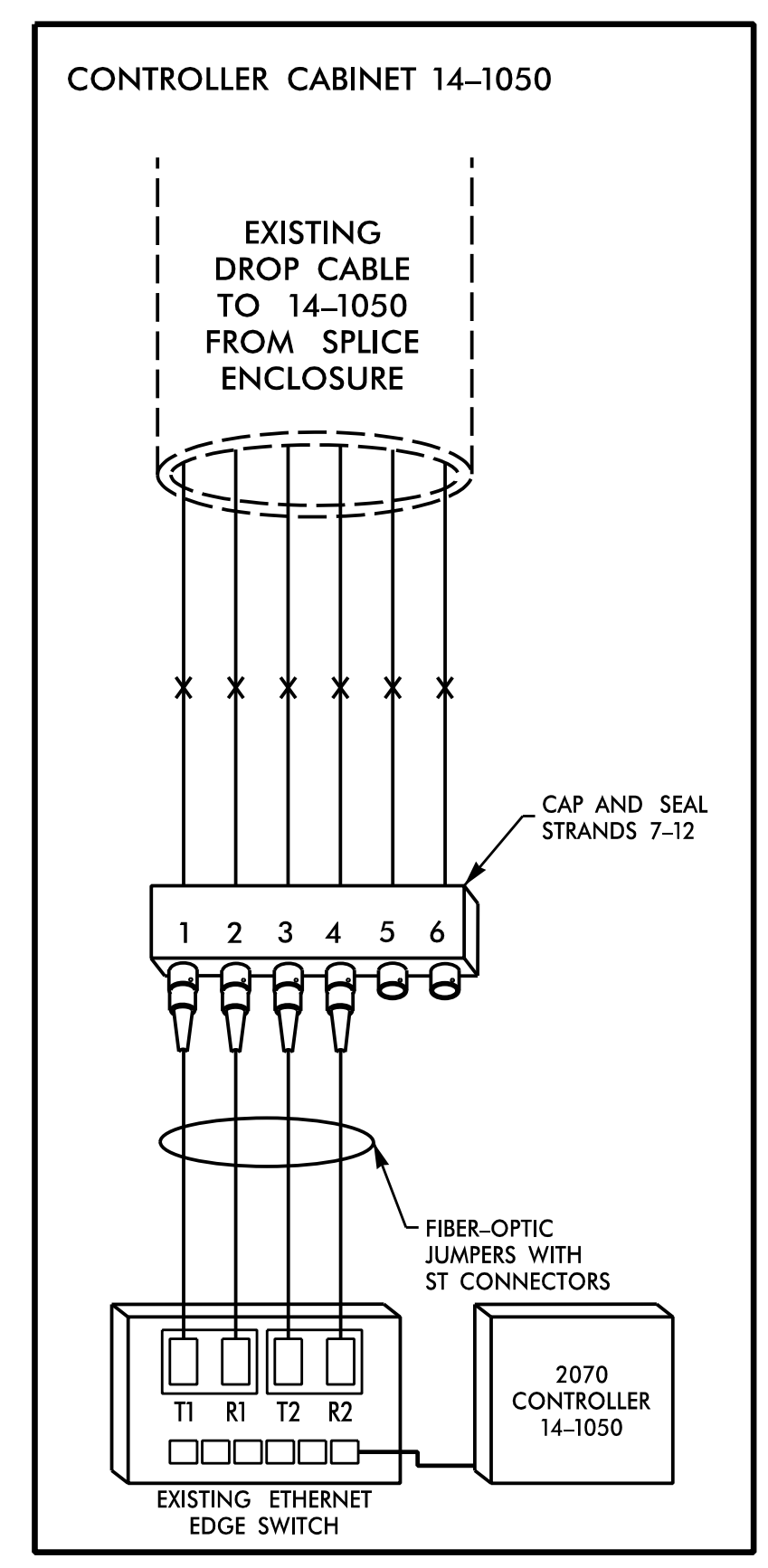
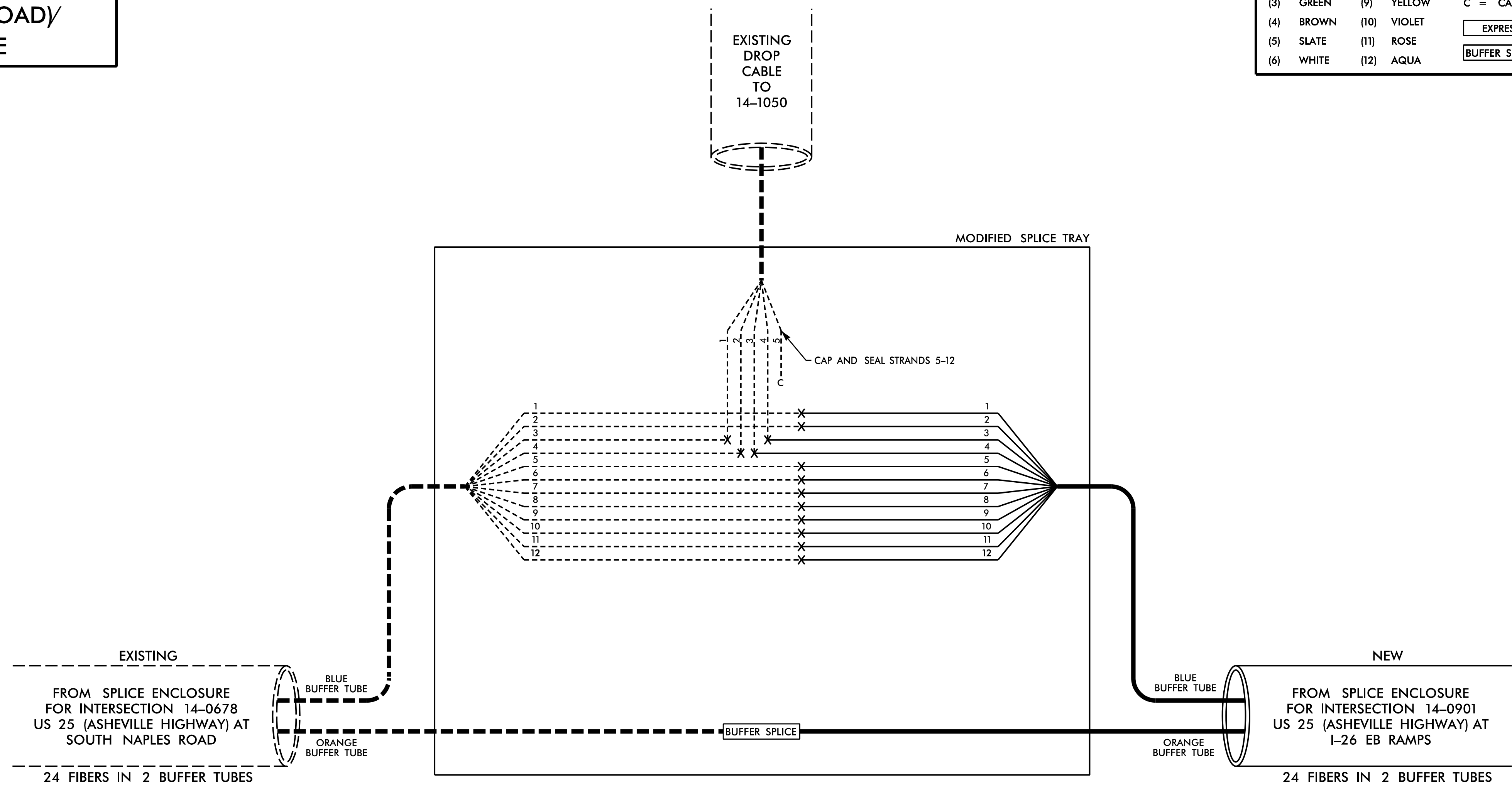
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 <small>250 N. Greenfield Place, Garner, NC 27529</small>	I-4400C US 25 (ASHEVILLE HIGHWAY) CABLE ROUTING PLAN											
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REVISIONS	INIT.	DATE										

14-1050
 US 25 (ASHEVILLE HIGHWAY)
 AT
 SR 1534 (NAPLES ROAD)/
 SKYLAND DRIVE

COLOR CODE TIA/EIA 598-C		LEGEND	
(1) BLUE	(7) RED	X = NEW FUSION SPLICE INDIVIDUAL FIBER	
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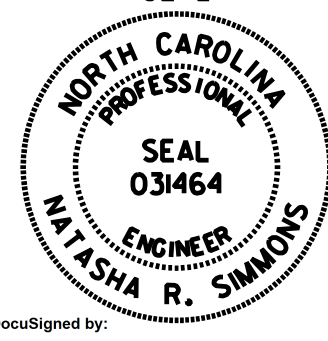
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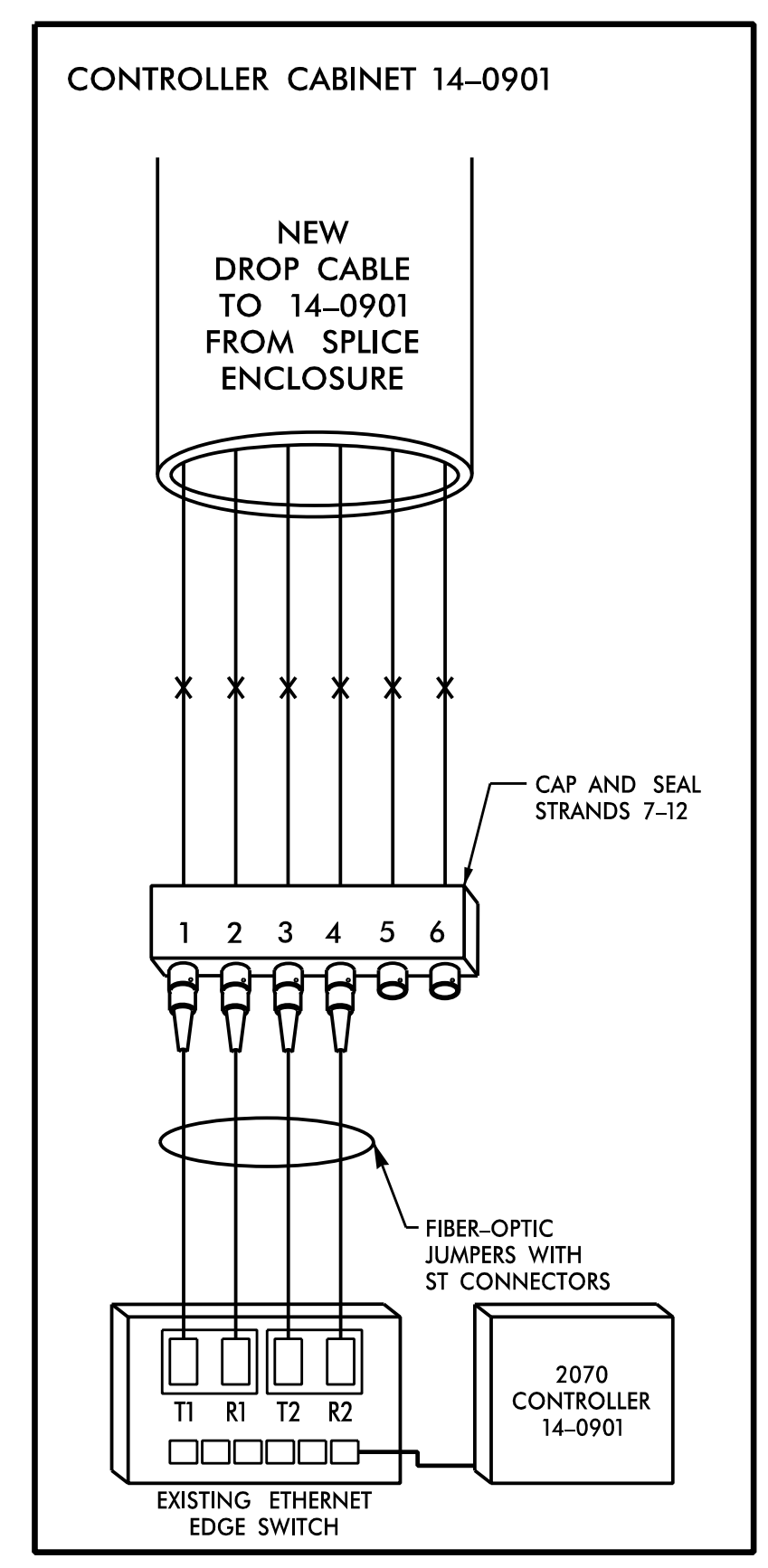
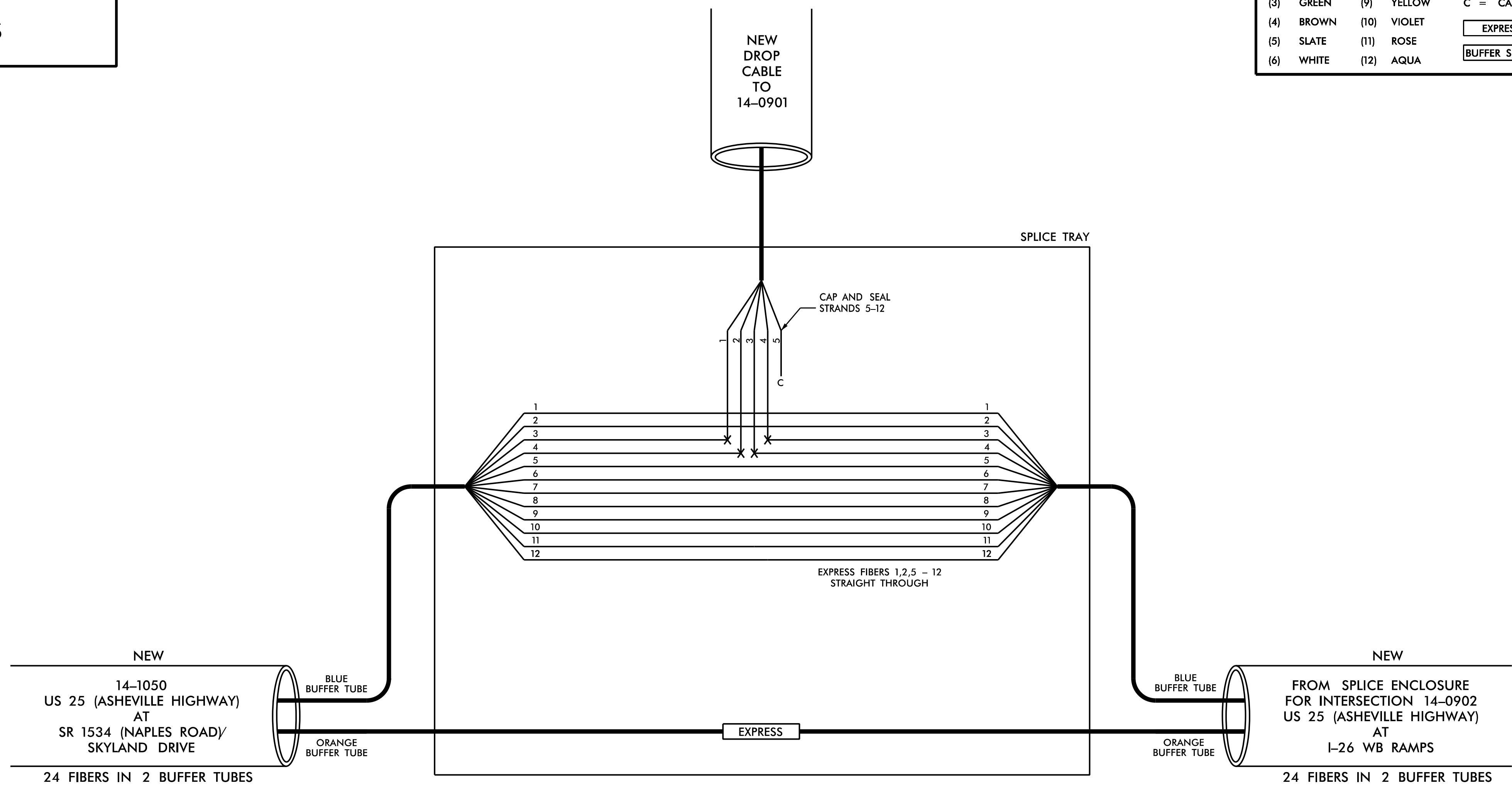
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14-0901
US 25 (ASHEVILLE HIGHWAY)
AT
I-26 EB RAMP

COLOR CODE TIA/EIA 598-C			LEGEND	
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NOTES:

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2. UNUSED BUFFER TUBES LEFT COILED AND STORED IN SPLICE TRAY.
3. ETHERNET EDGE SWITCH 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.

TMP - FINAL

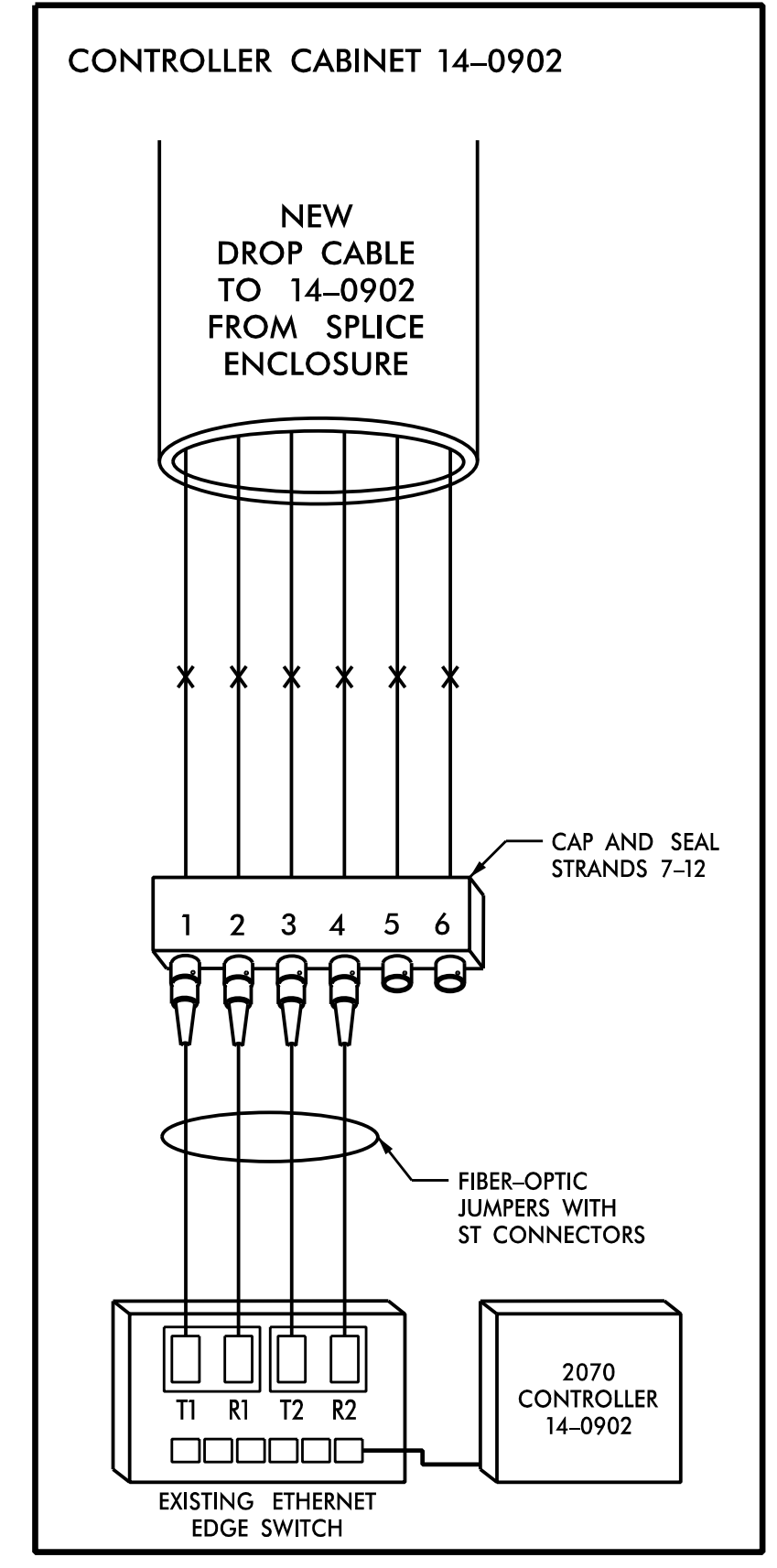
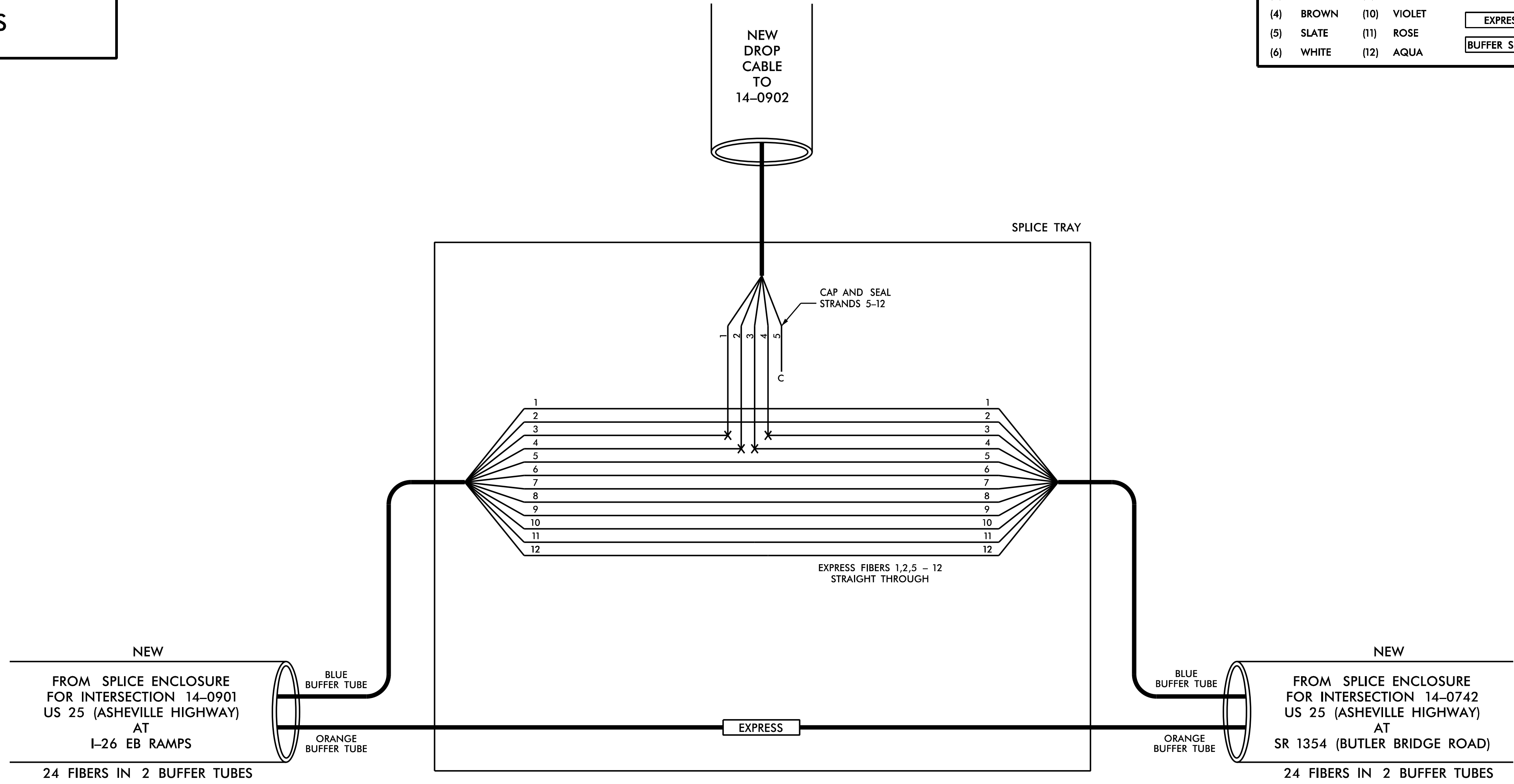
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 343 E. Six Forks Road, Suite 200
 Raleigh, North Carolina 27609
 NC License No: C-1554
 (919) 546-8997

 <small>250 N. Greenfield Place, Garner, NC 27529</small>	I-4400C US 25 (ASHEVILLE HIGHWAY) SPLICE DETAILS		 <small>DocuSigned by: Natasha R. Simmons 4/26/2019</small>
	Division 14 Henderson Co. Asheville PLAN DATE: November 2018 REVIEWED BY: D. Jones PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons	SCALE NONE	

14-0902
US 25 (ASHEVILLE HIGHWAY)
AT
I-26 WB 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		



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TMP - FINAL

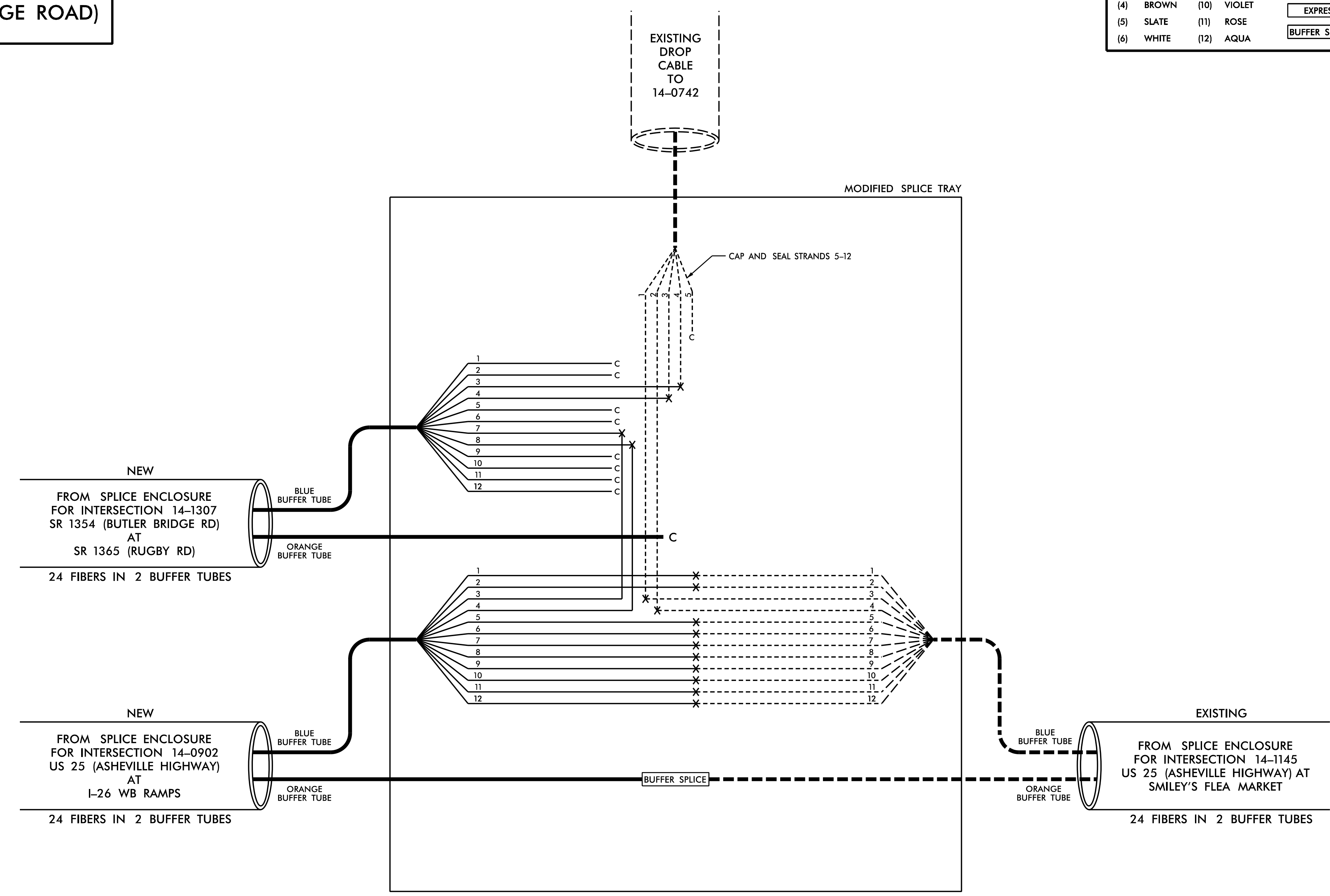
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	Division 14 Henderson Co. Asheville	PLAN DATE: November 2018 REVIEWED BY: D. Jones	
SCALE NONE	REVISIONS	INIT. DATE	DocuSigned by: Natasha R. Simmons 4/26/2019 FIDAR003240454 SIGNATURE DATE CADD File name: I-4400C_US25_SCP-17.dgn

14-0742
 US 25 (ASHEVILLE HIGHWAY)
 AT
 SR 1354 (BUTLER BRIDGE ROAD)

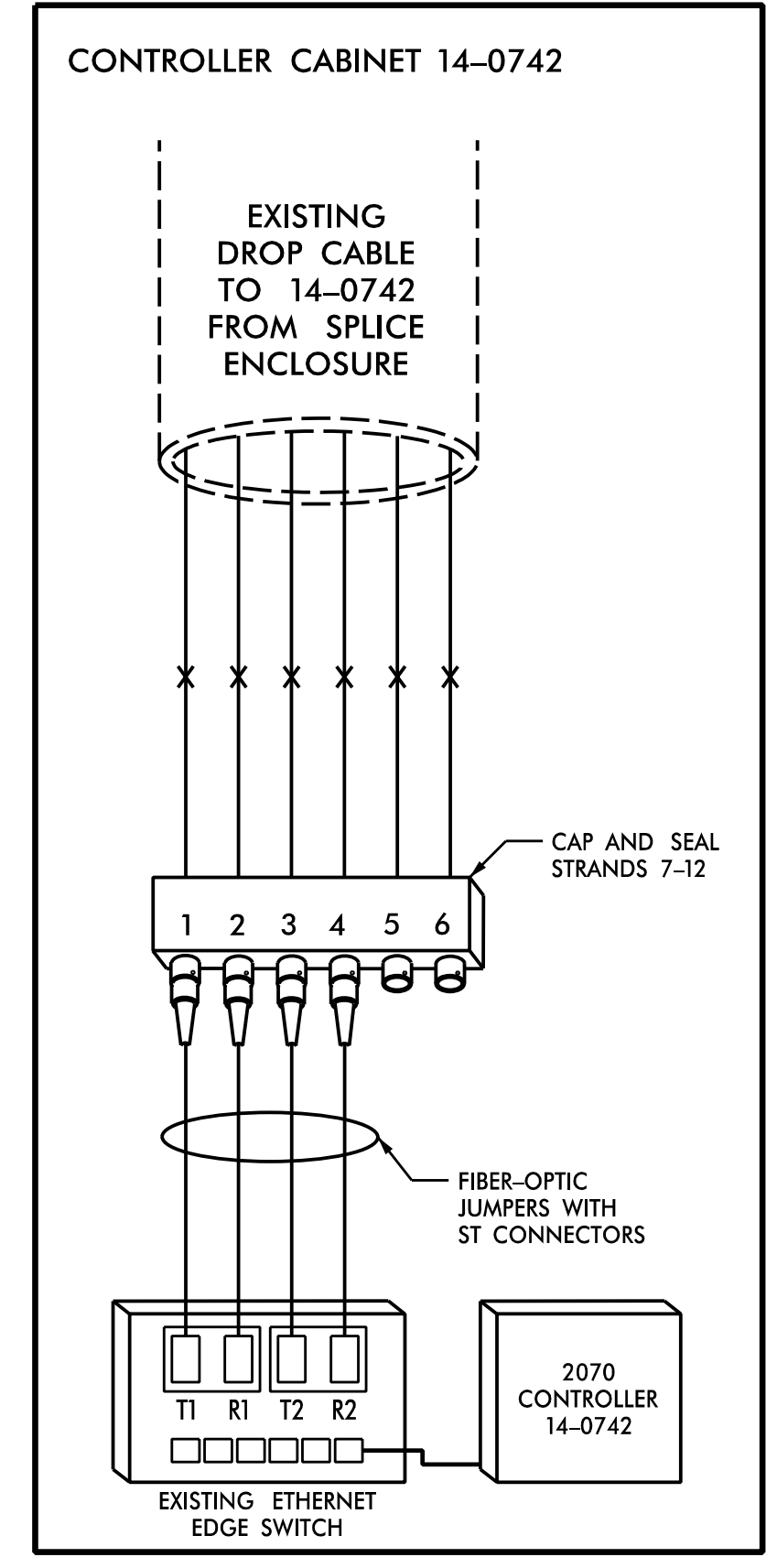
COLOR CODE TIA/EIA 598-C		LEGEND	
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