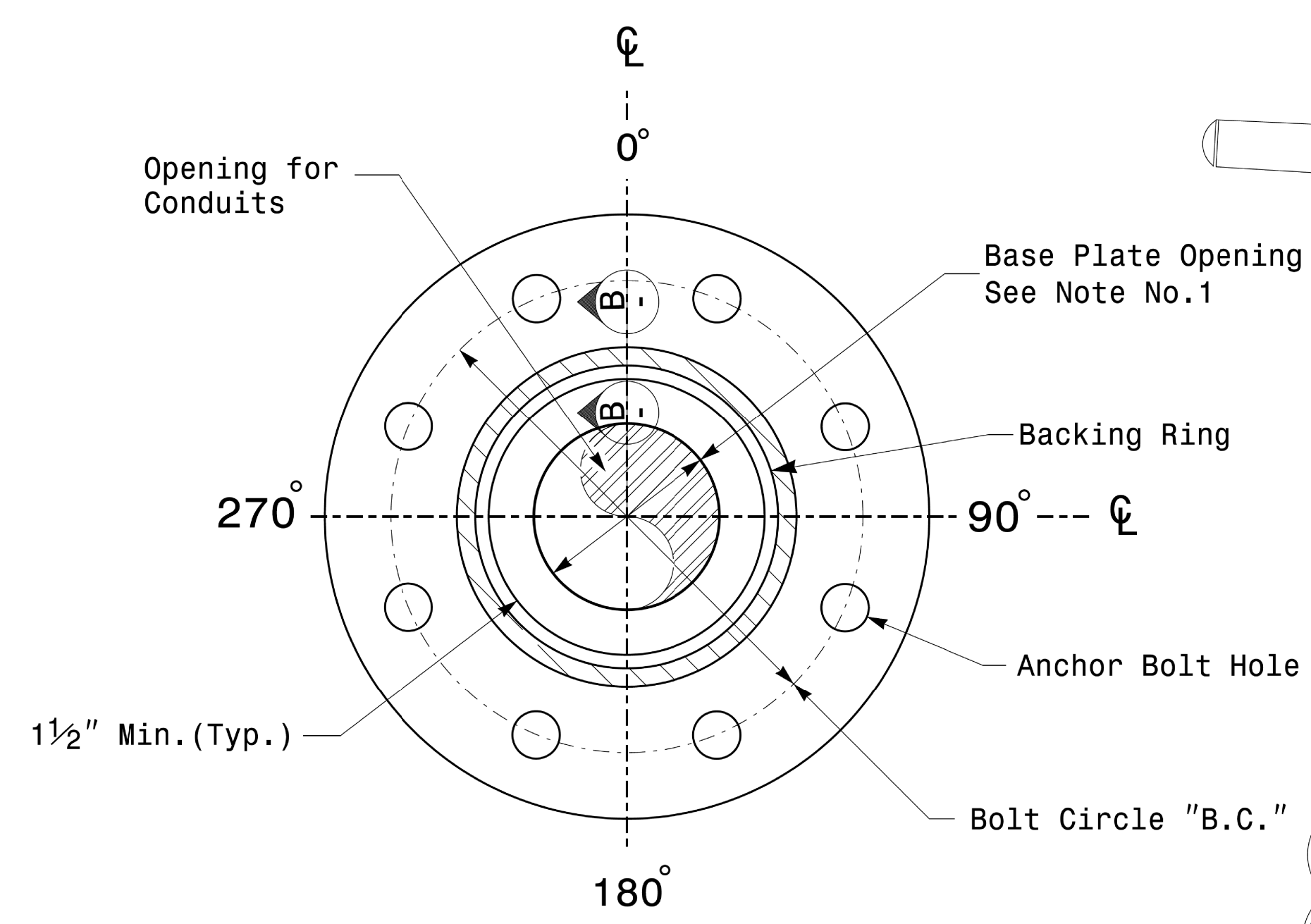
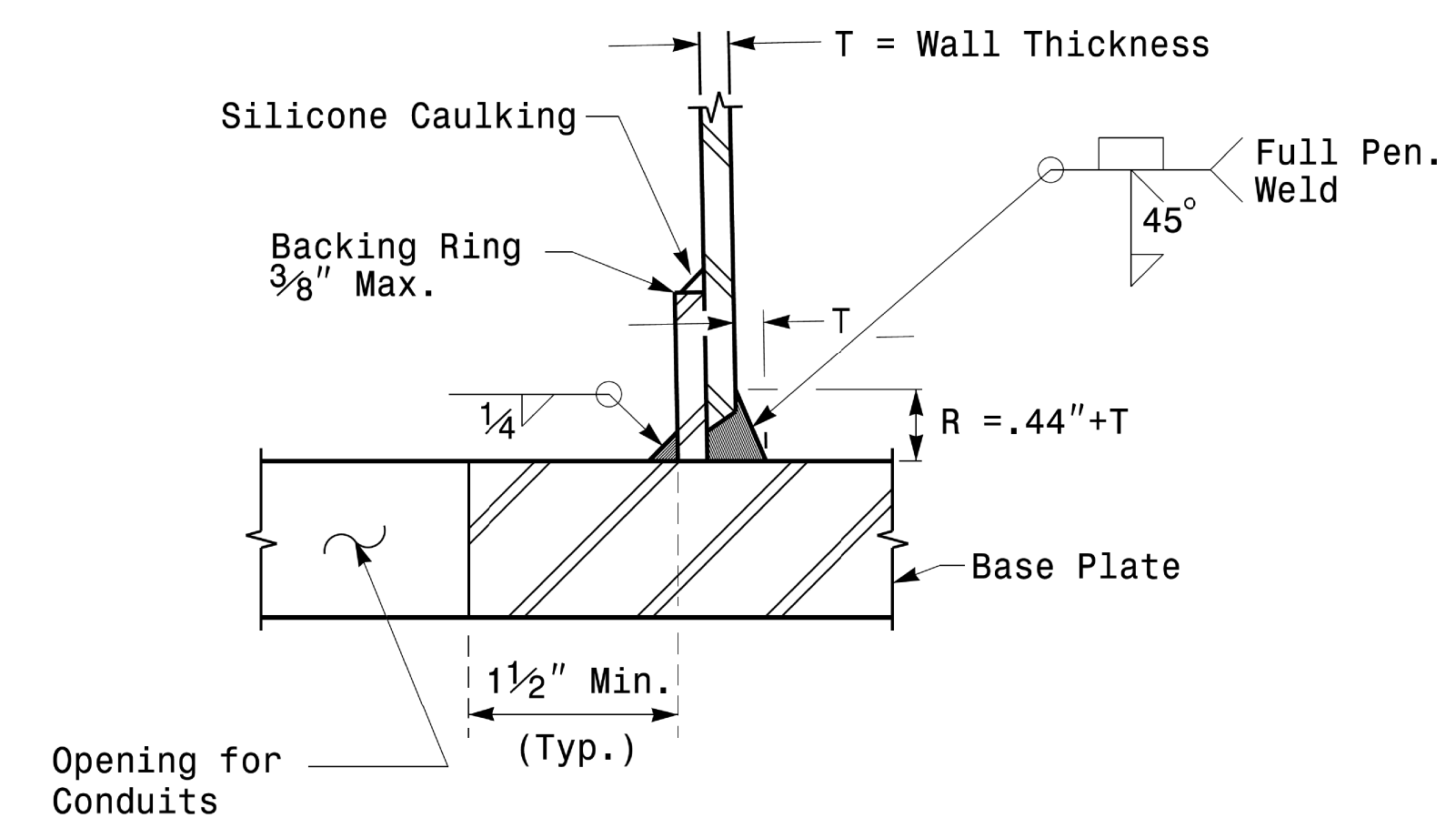


PROJECT ID. NO.	SHEET NO.
R - 5021	Sig.M4

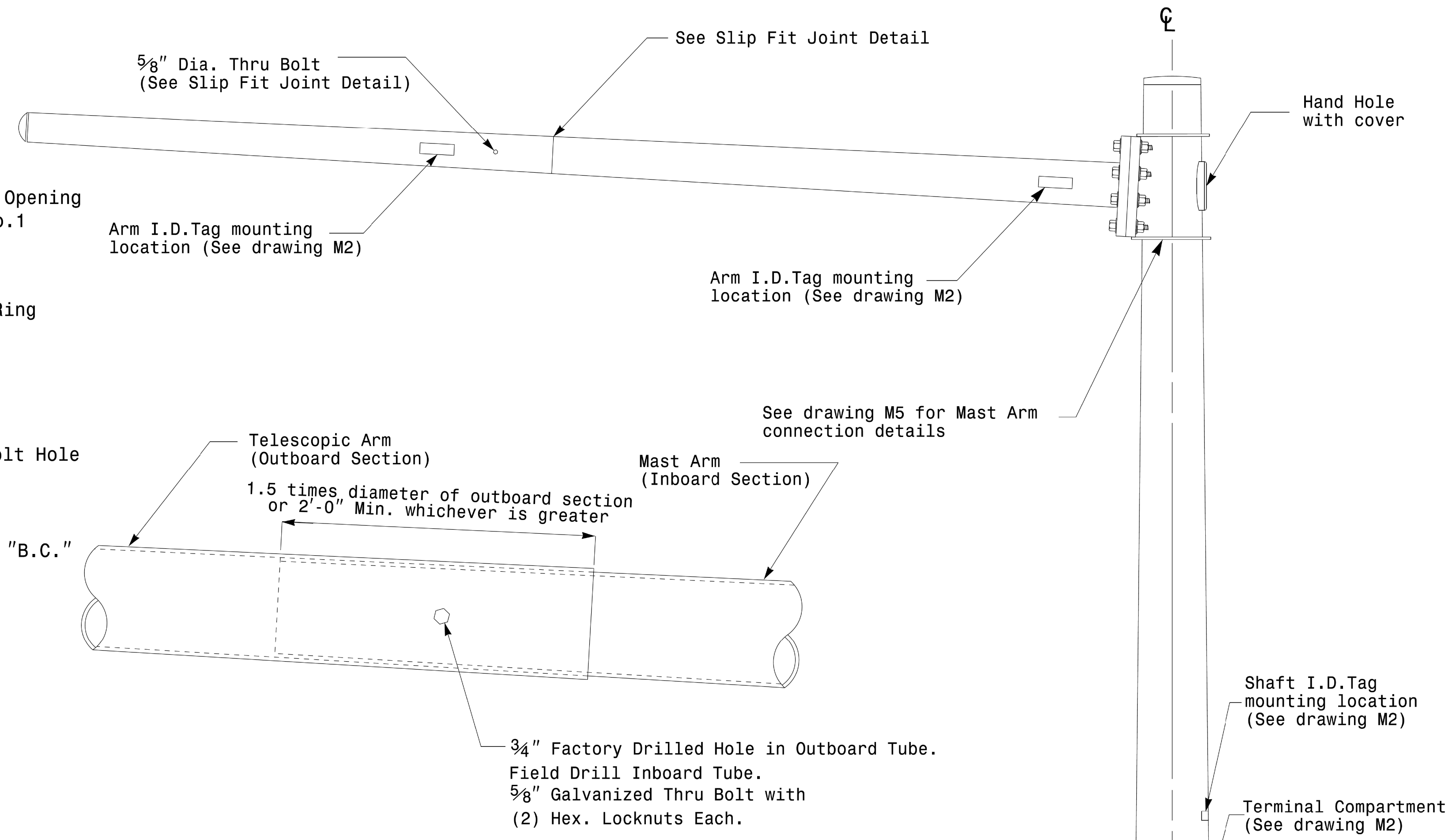
Note:  
 1. Opening in pole base plate shall be equal to pole base inside diameter minus 3 1/2" but shall not be less than 8 1/2".



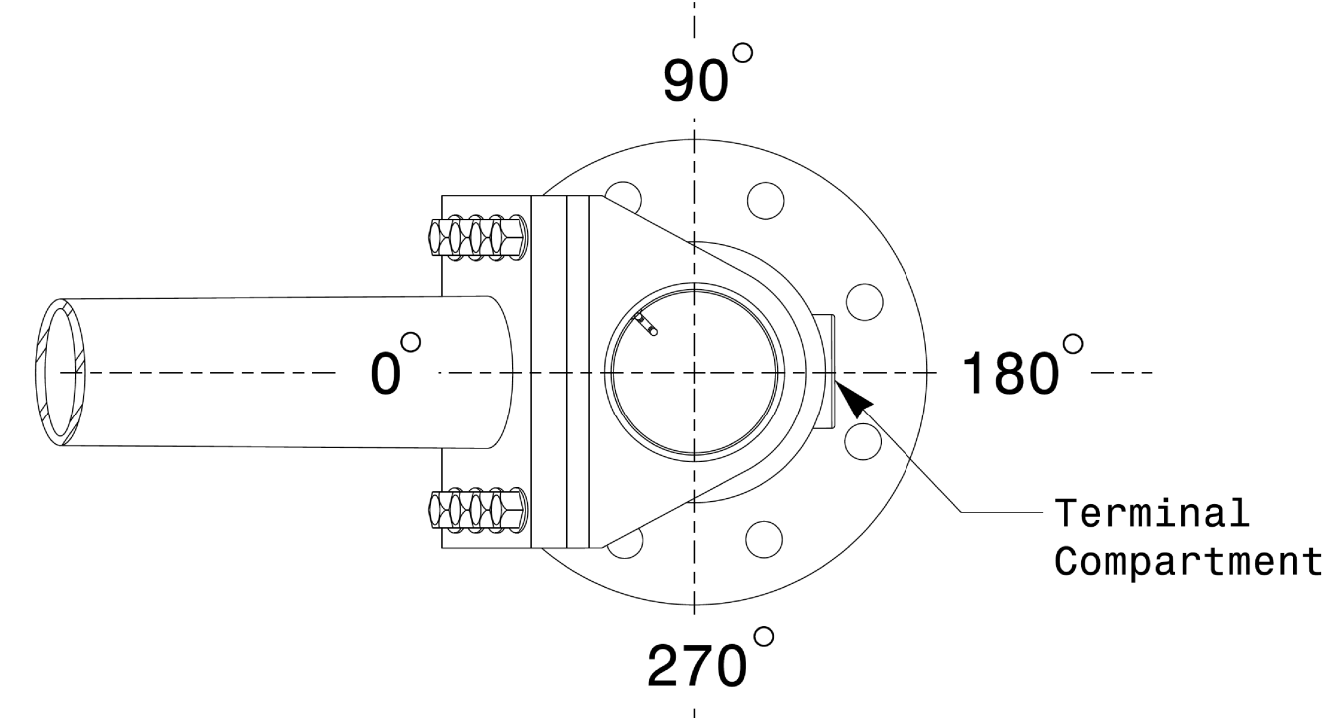
**Section A-A**  
**Pole Base Plate Details**



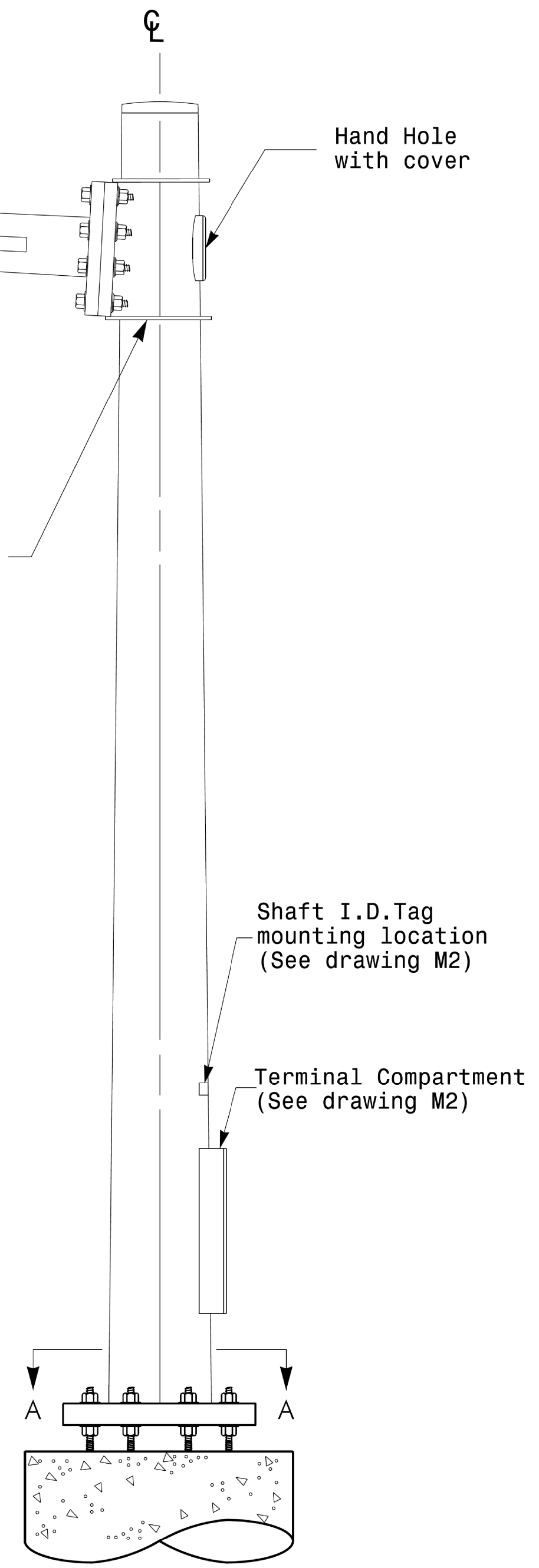
**Section B-B**  
 (Pole Attachment to Base Plate)  
**Full-Penetration Groove Weld Detail**



**Slip Fit Joint Detail for Mast Arm**



**Mast Arm Radial Orientation**



**Mast Arm Pole**

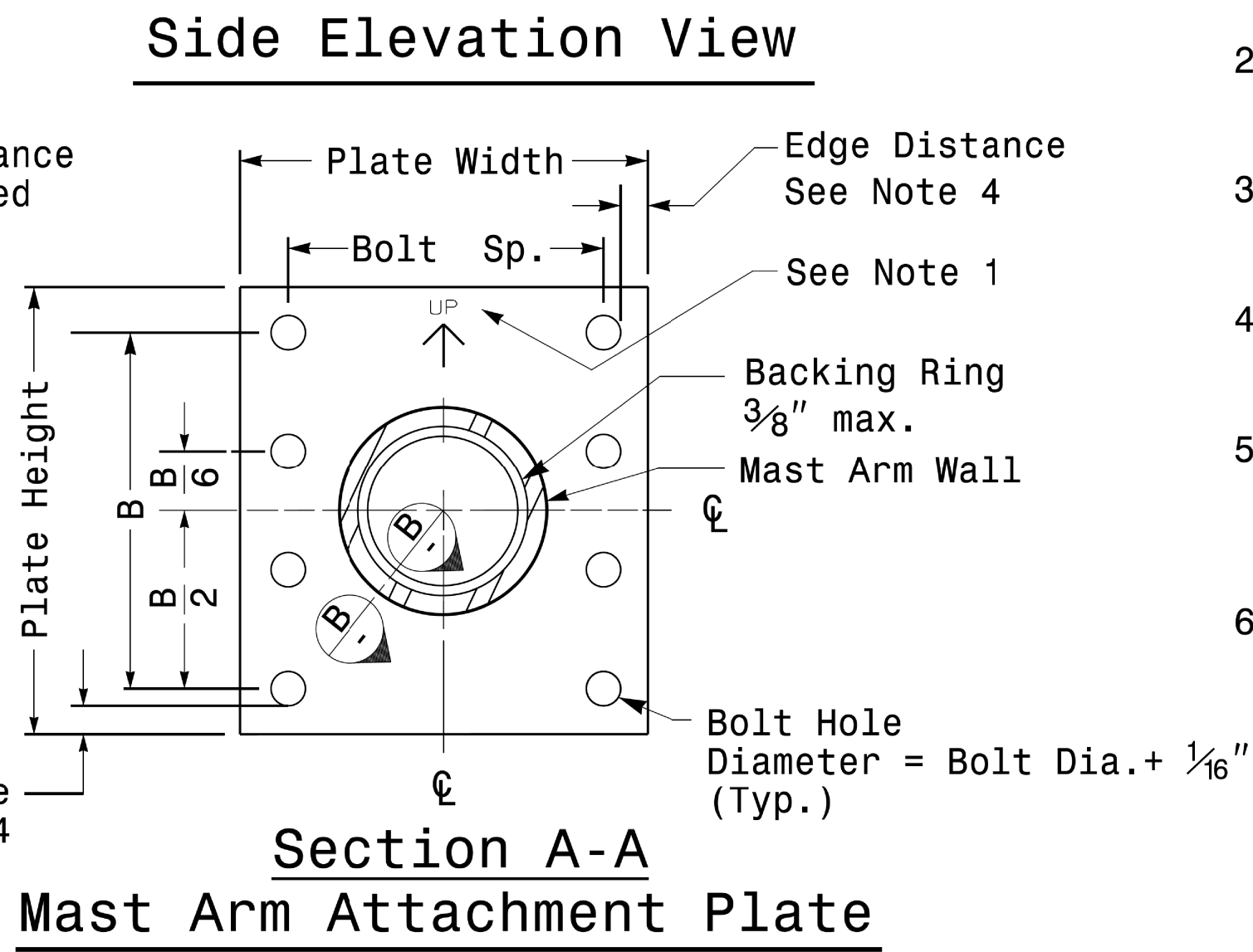
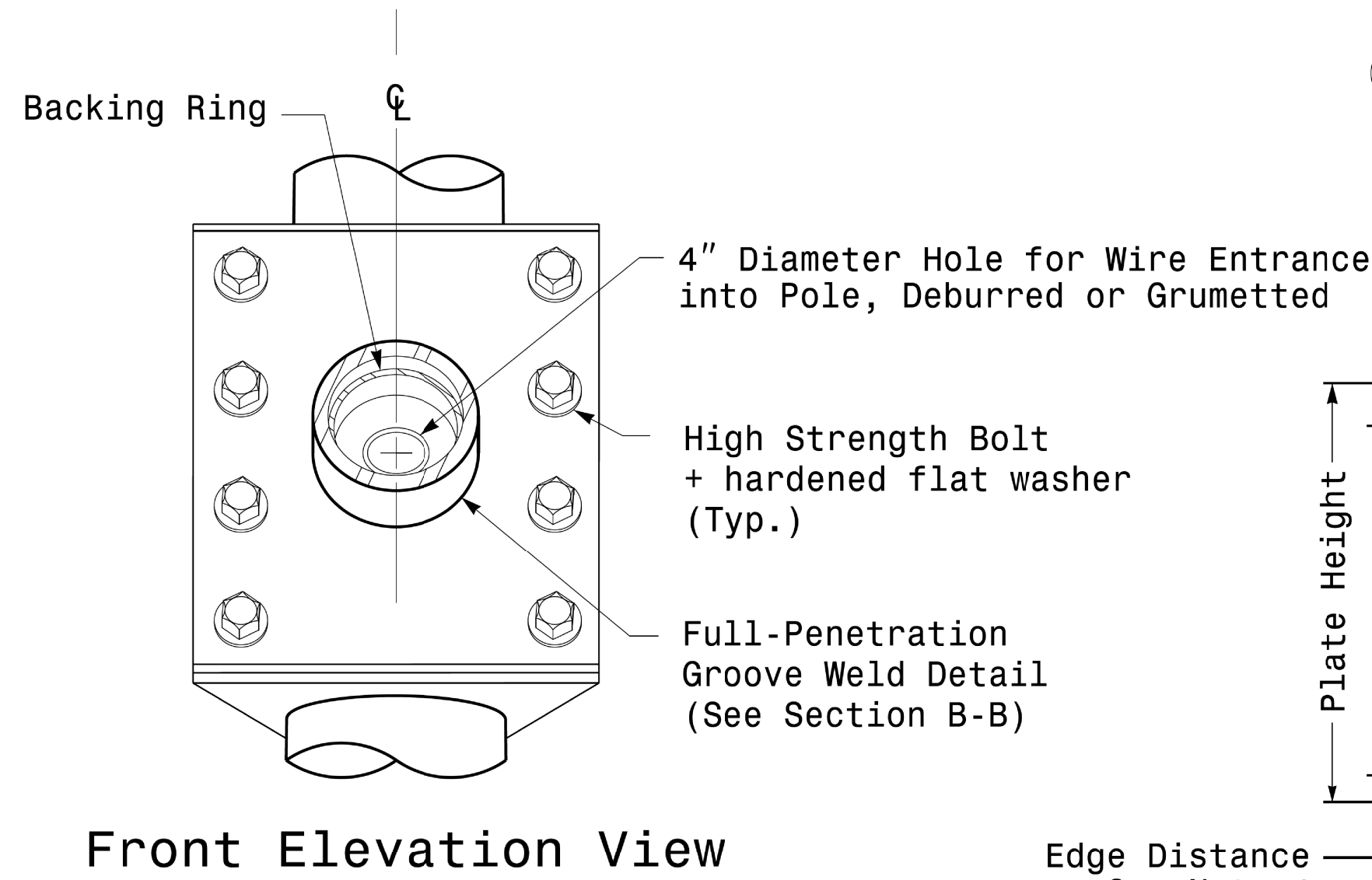
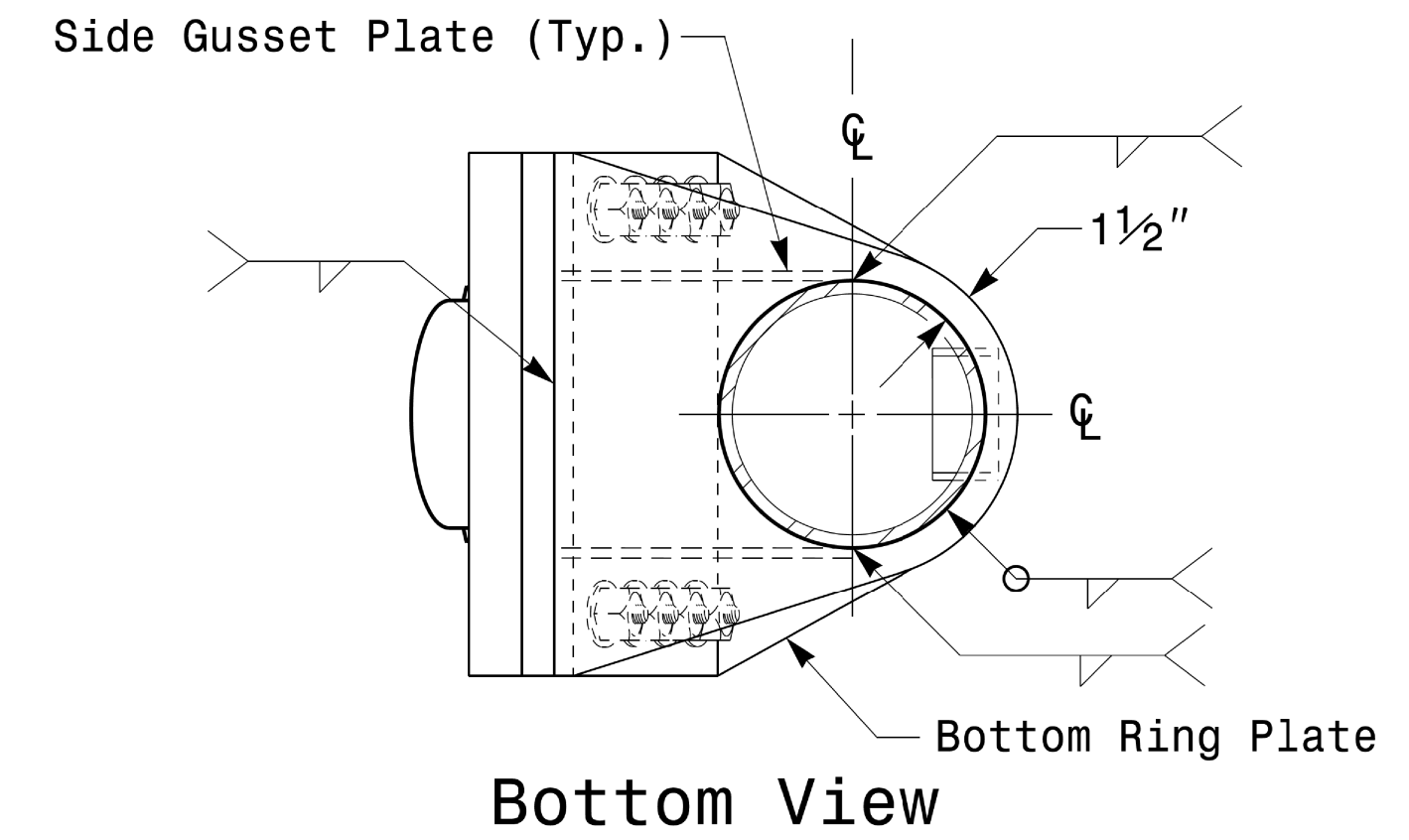
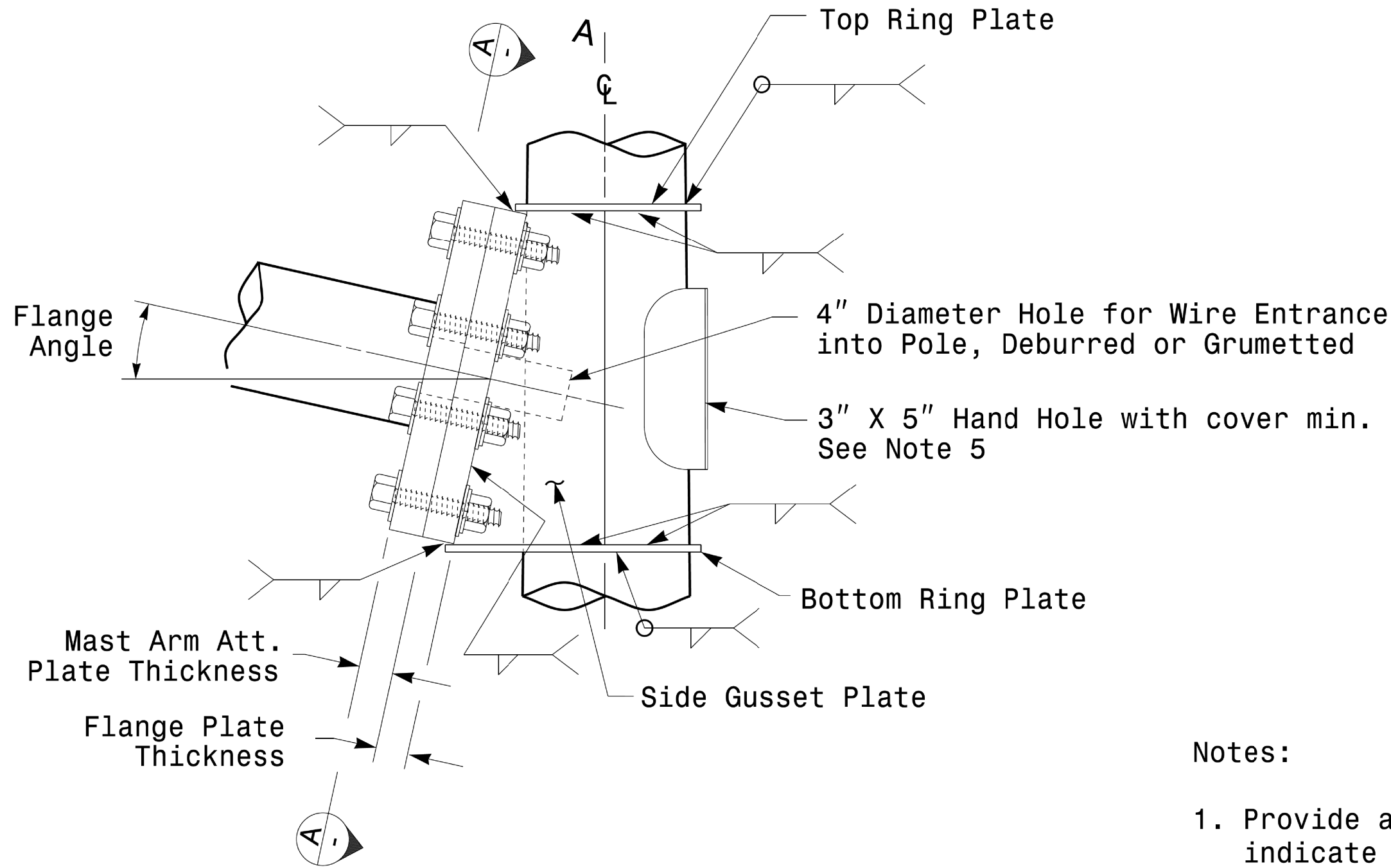
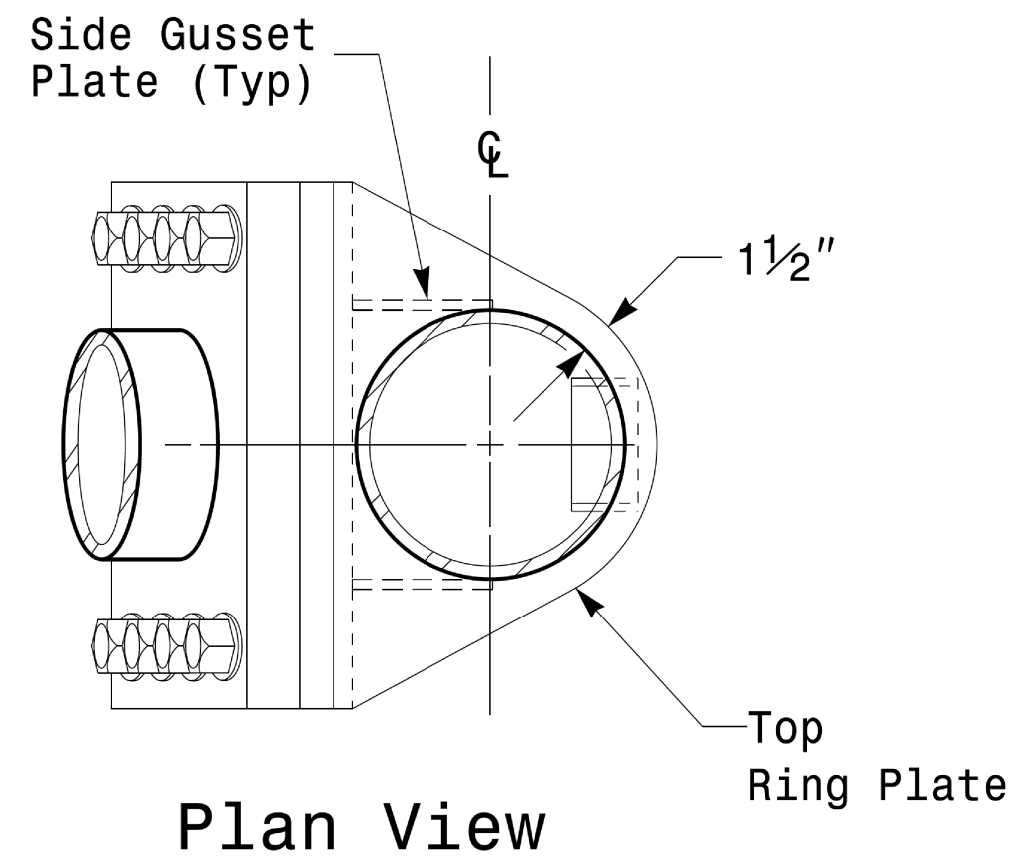
**Fabrication Details - Mast Arm Poles**

11-OCT-2017 08:33 S:\IT&S\UM\TIS Signal\Signal\Eastern Region\MM Sheets\2016\2014 Sig.M4 Std. Fabrication Detail\Mast Arm Poles.dgn

	<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	DATE: 10/11/2017		DATE:

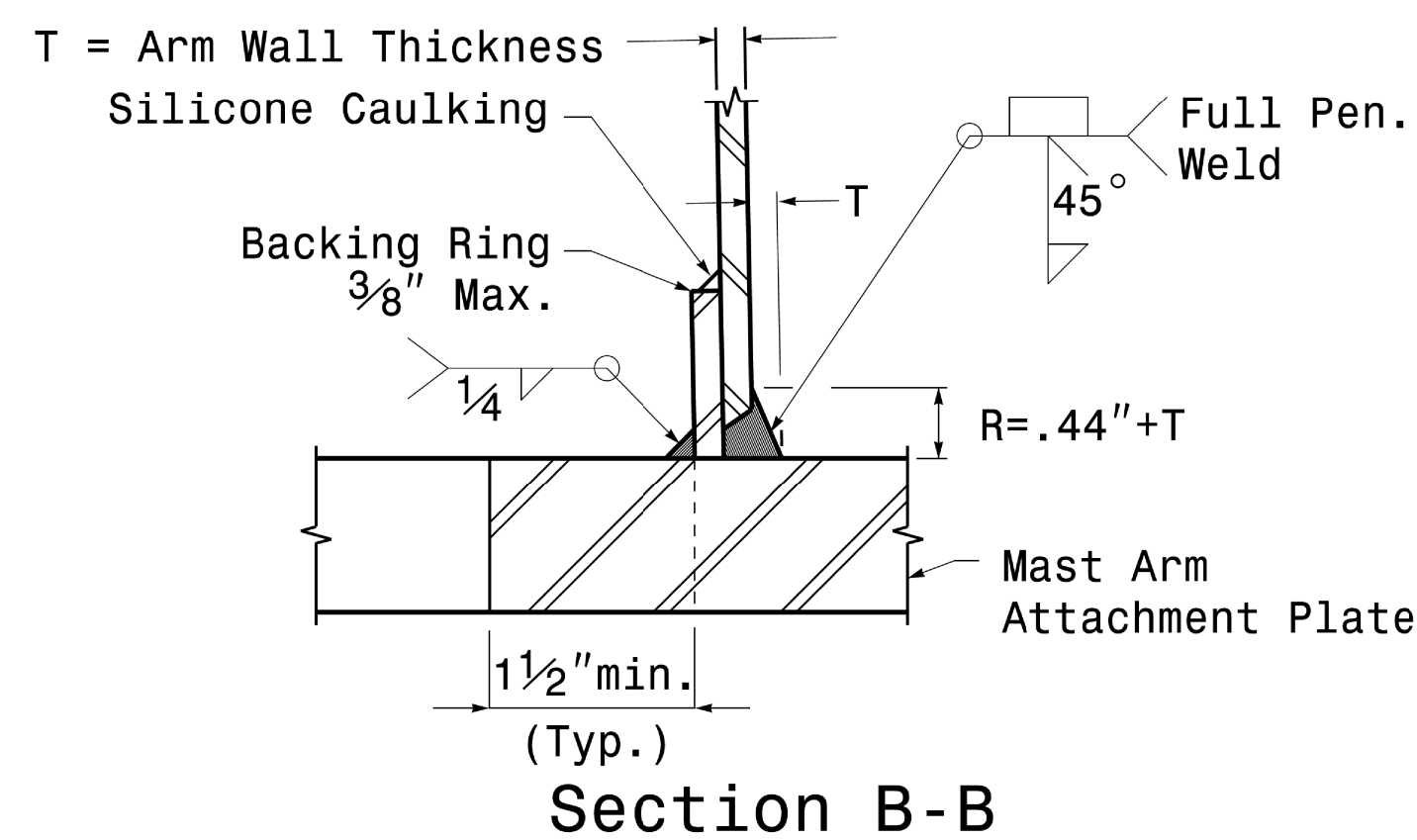
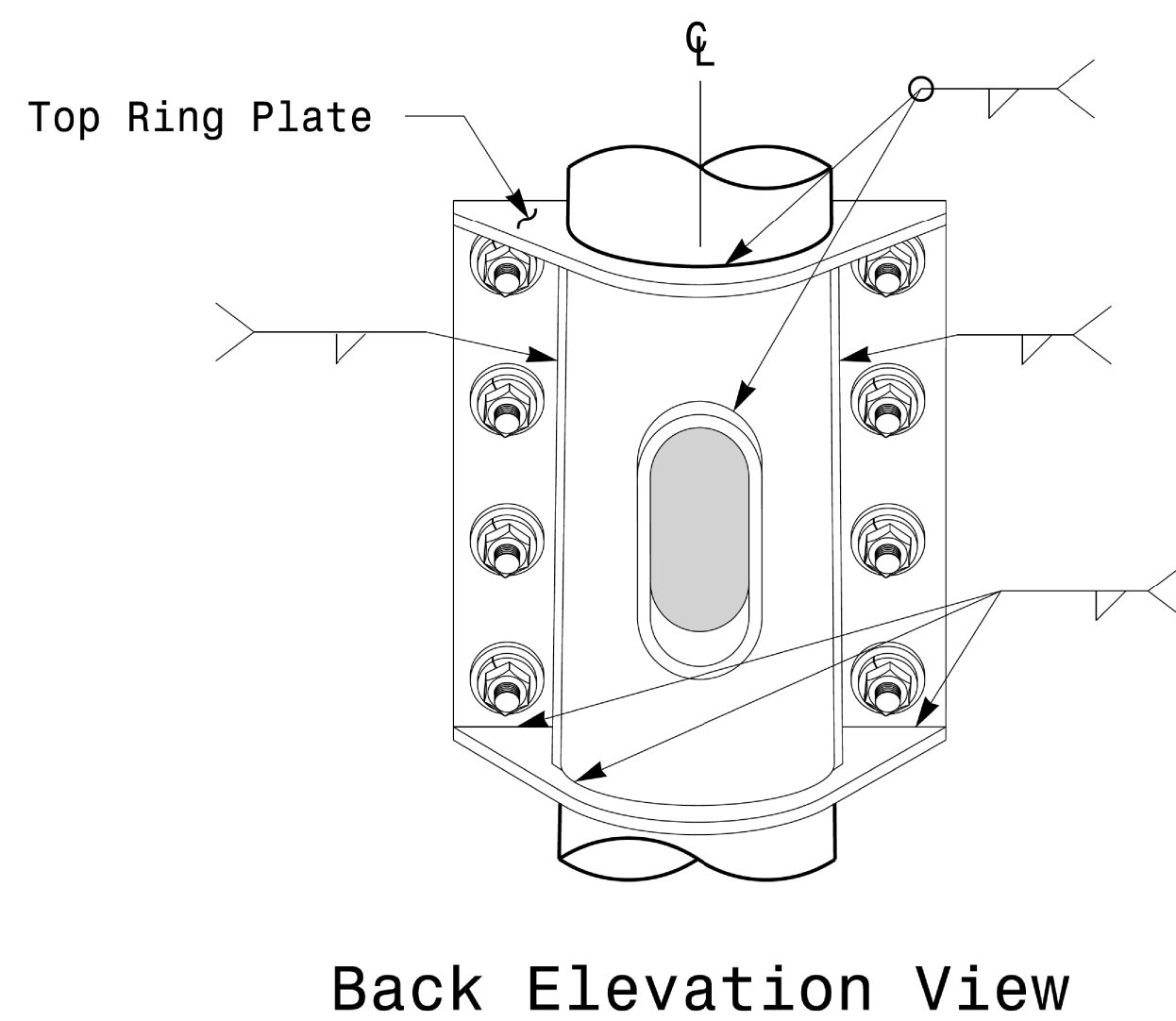
# Welded Ring Stiffened Mast Arm Connection

PROJECT ID. NO.	SHEET NO.
R - 5021	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.

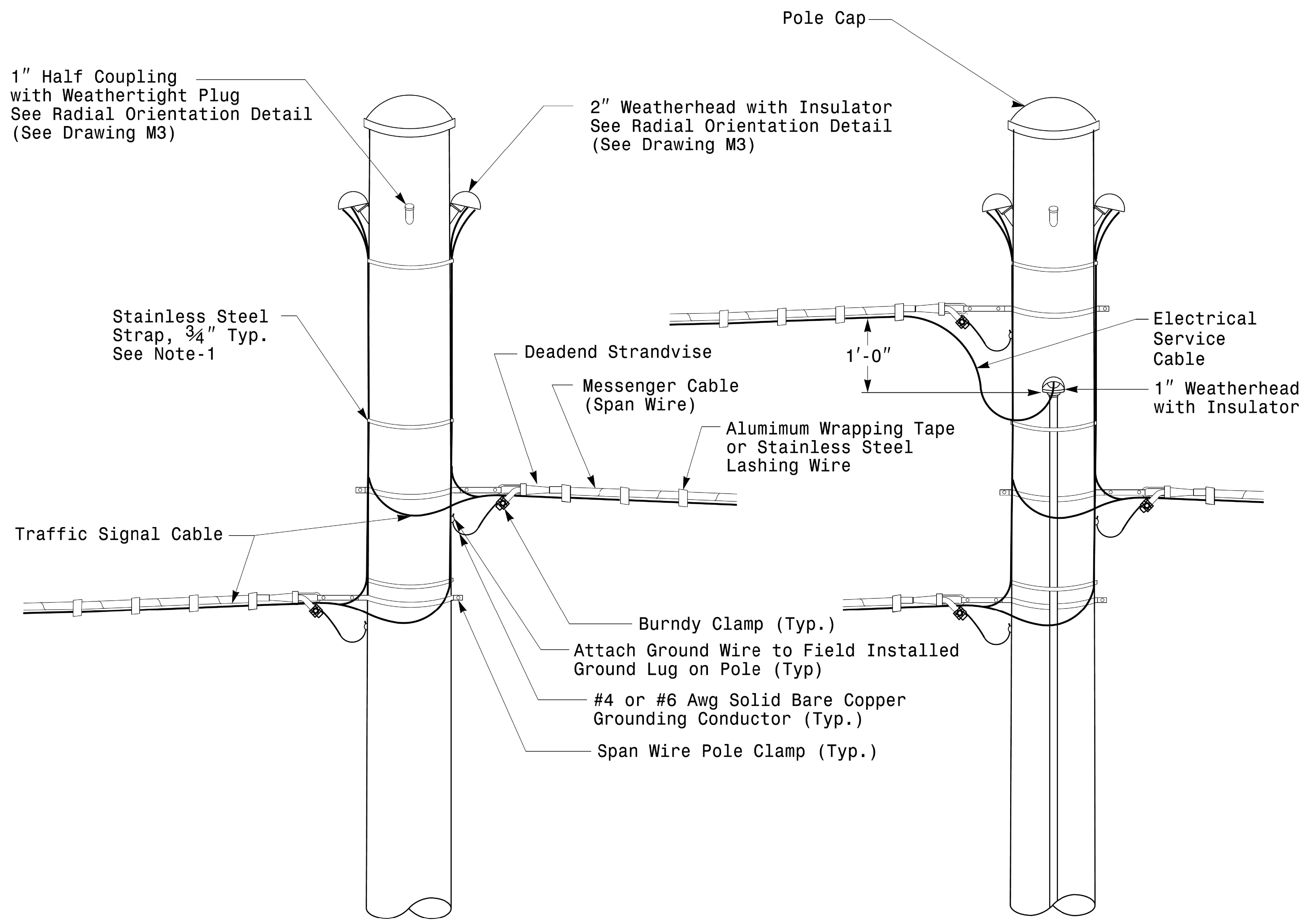


**Fabrication Details – Mast Arm Connection**

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.
SCALE: 0 NA NONE		Documented by: 		
		10/11/2017 DATE		

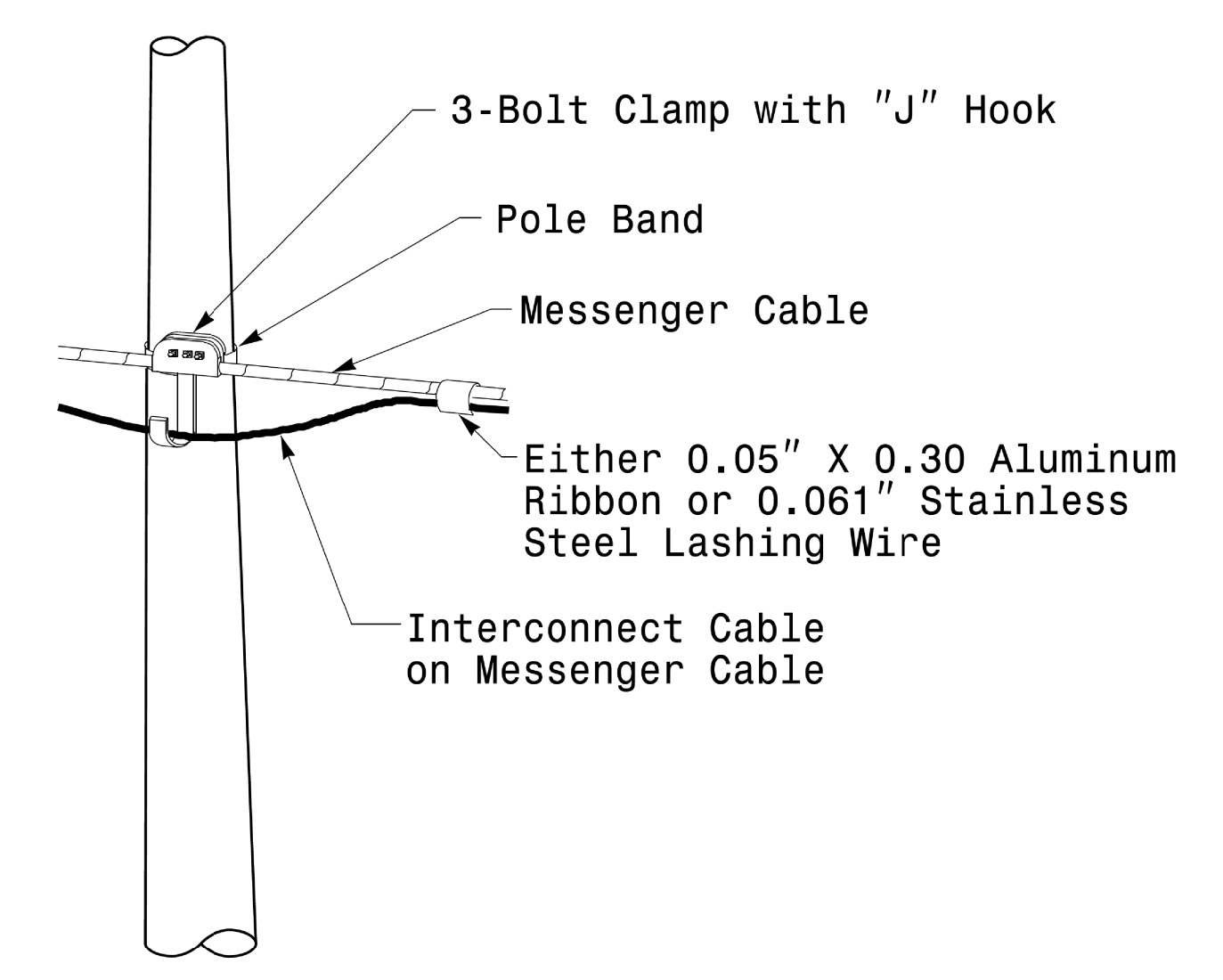
PROJECT ID. NO.	SHEET NO.
R - 5021	Sig.M6



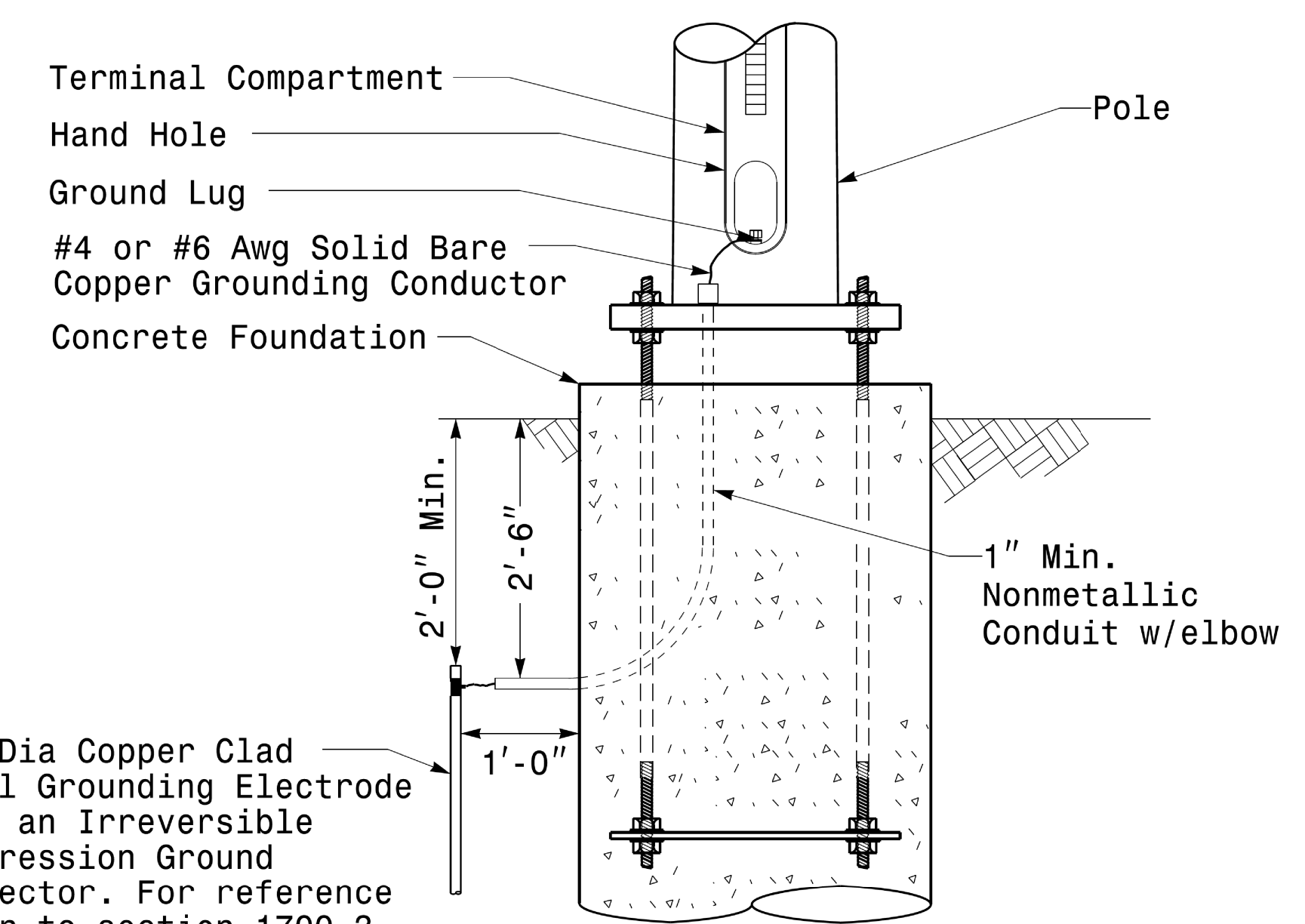
**Strain Pole Attachments**

**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**

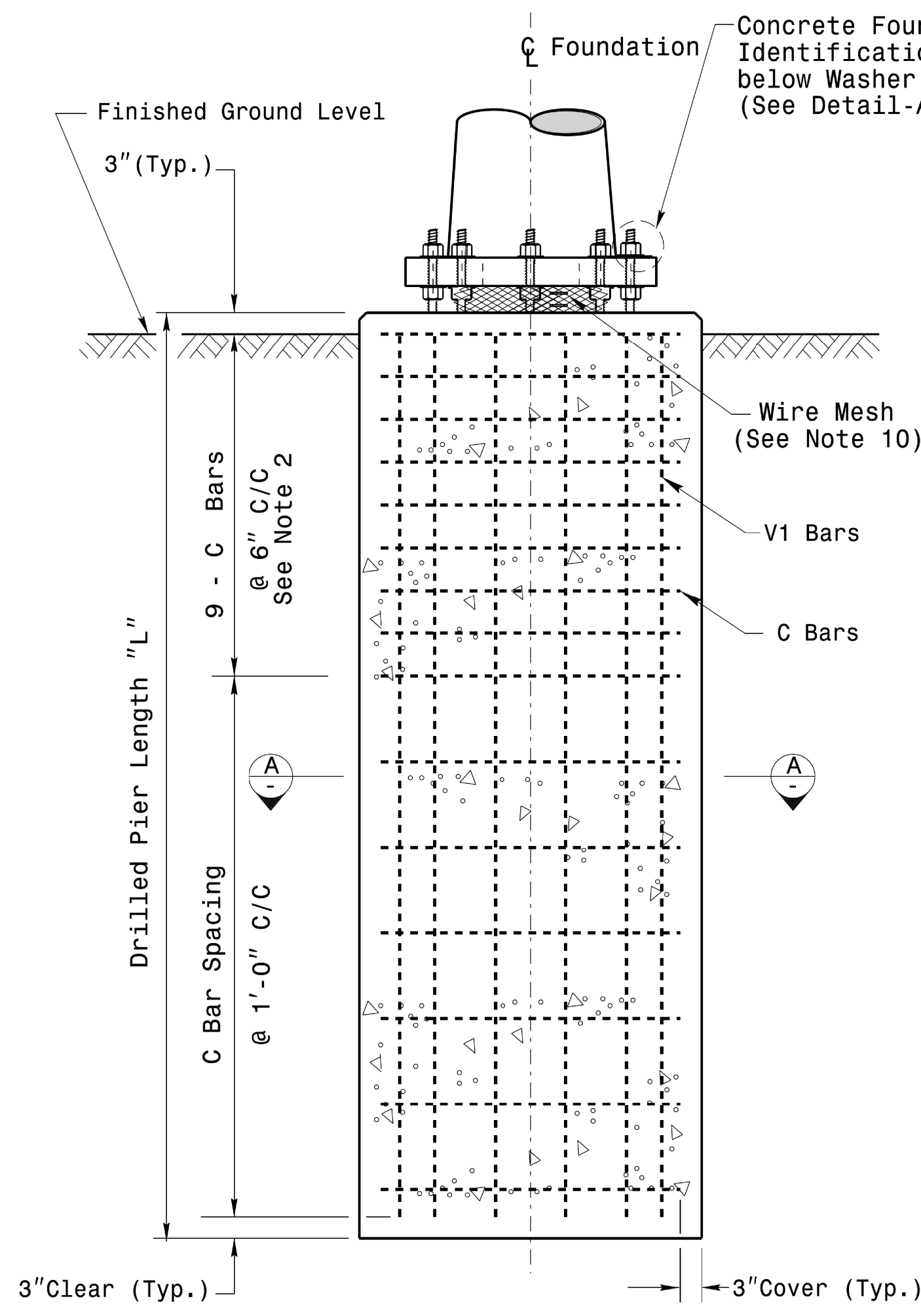


**Metal Pole Grounding Detail For Strain Pole and Mast Arm**

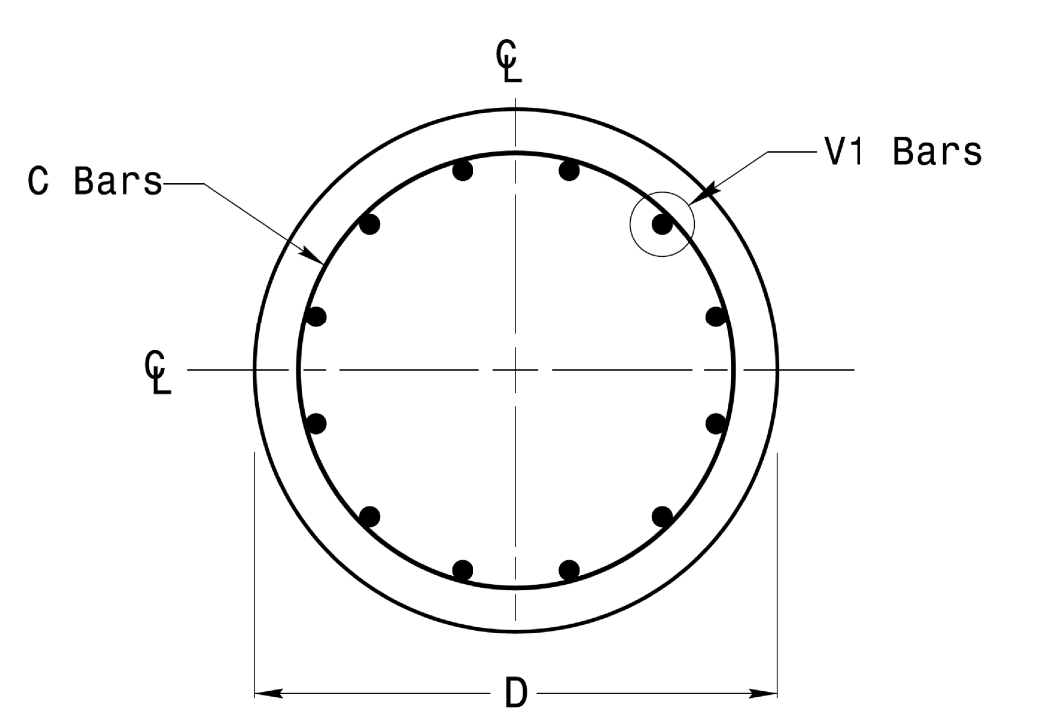
**Fabrication Details - Strain Pole Attachments**

11-001-2017\_08:36  
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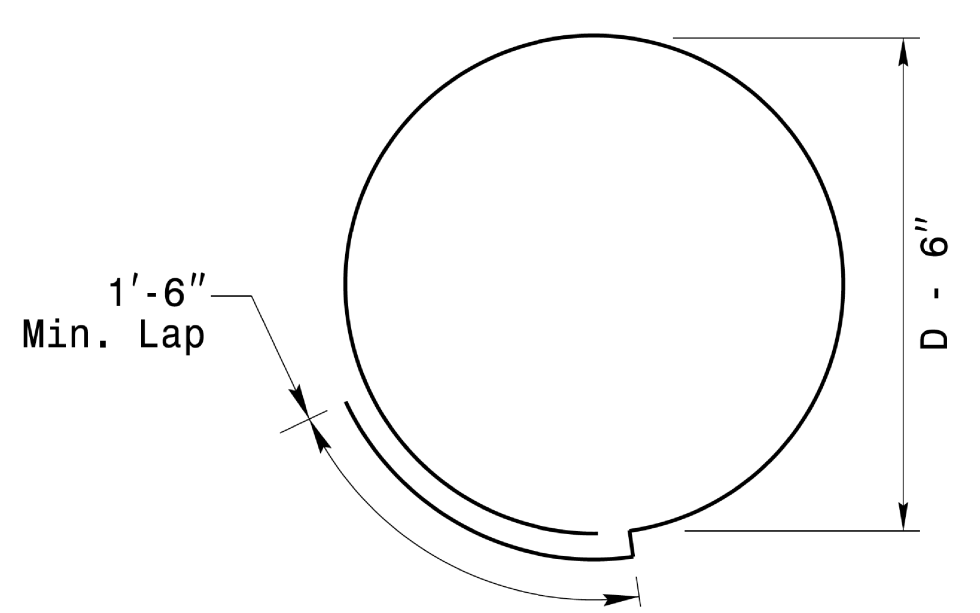
	<p>Typical Fabrication Details For Strain Pole Attachments</p>		
	<p>PLAN DATE: OCTOBER 2017</p>	<p>DESIGNED BY: C.F. ANDREWS</p>	
<p>SCALE: NONE</p>	<p>PREPARED BY: N. BITTING</p>	<p>REVISIONS</p>	<p>INIT. DATE</p>
<p>Signature: Debesh C. Sarkar</p>			<p>DATE: 10/11/2017</p>



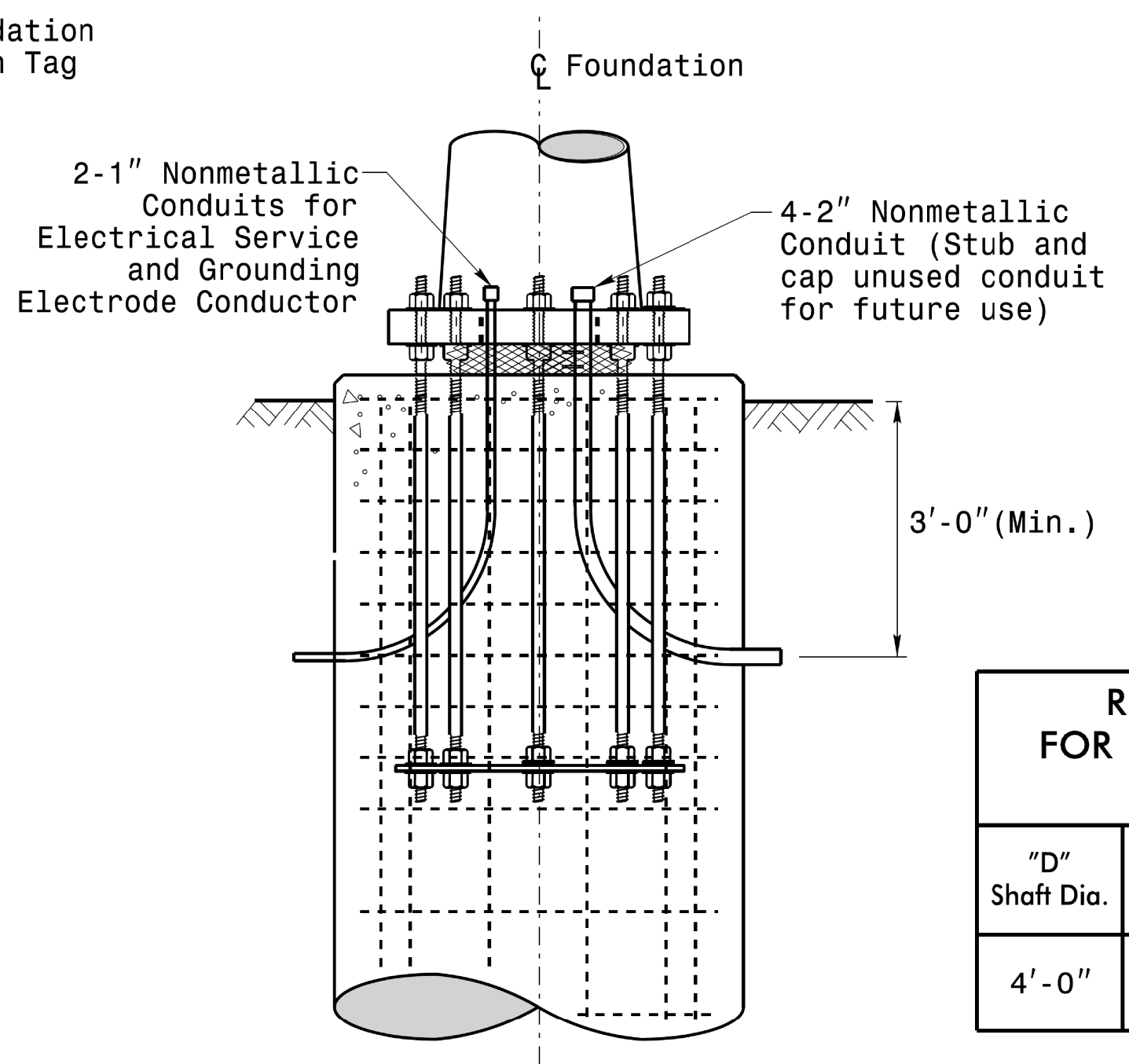
Concrete Shaft Elevation



Section A-A



Typical "C" Bar Detail



Typical Foundation Conduit Details

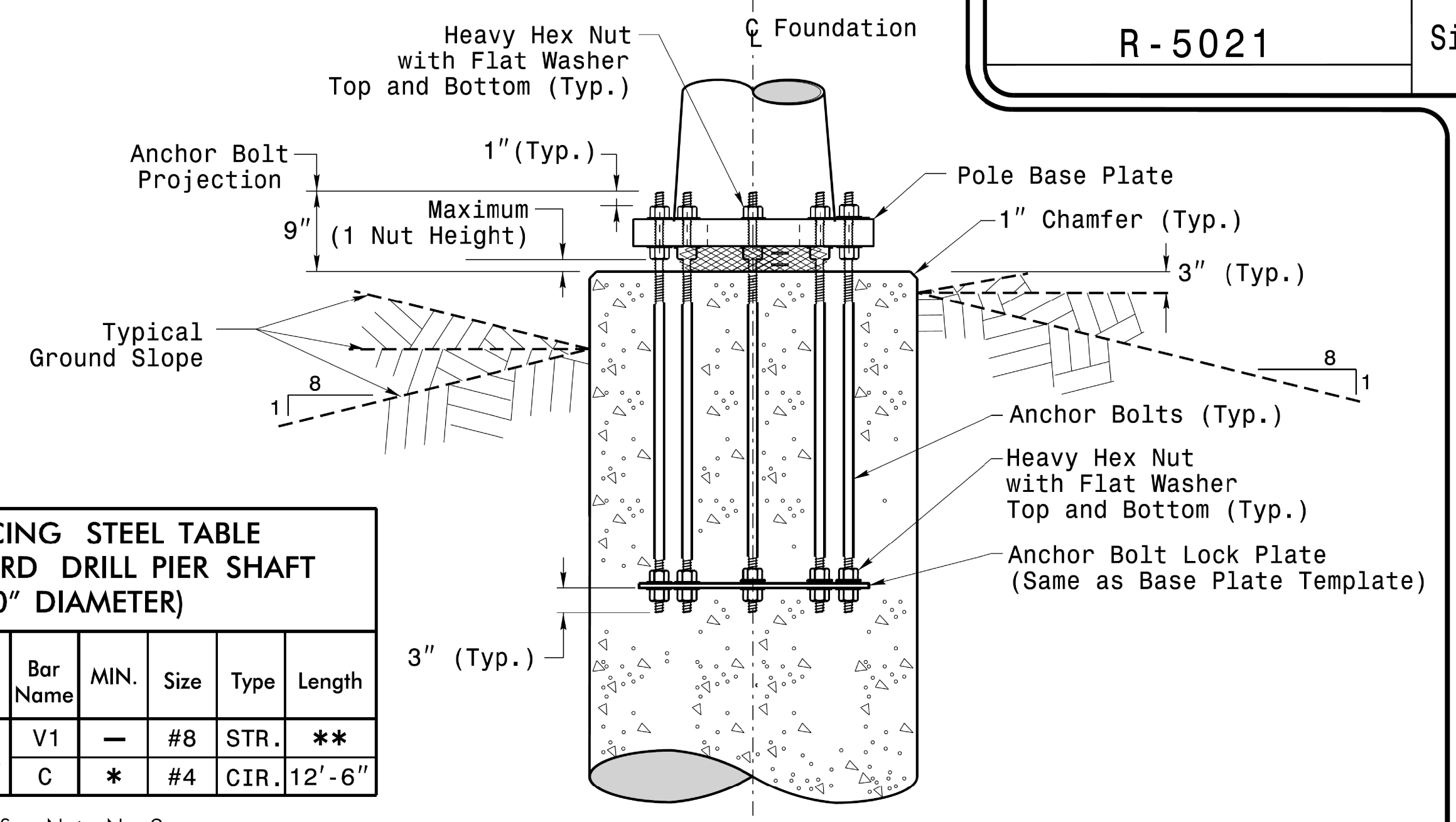
**REINFORCING STEEL TABLE FOR STANDARD DRILL PIER SHAFT (4'-0" DIAMETER)**

"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

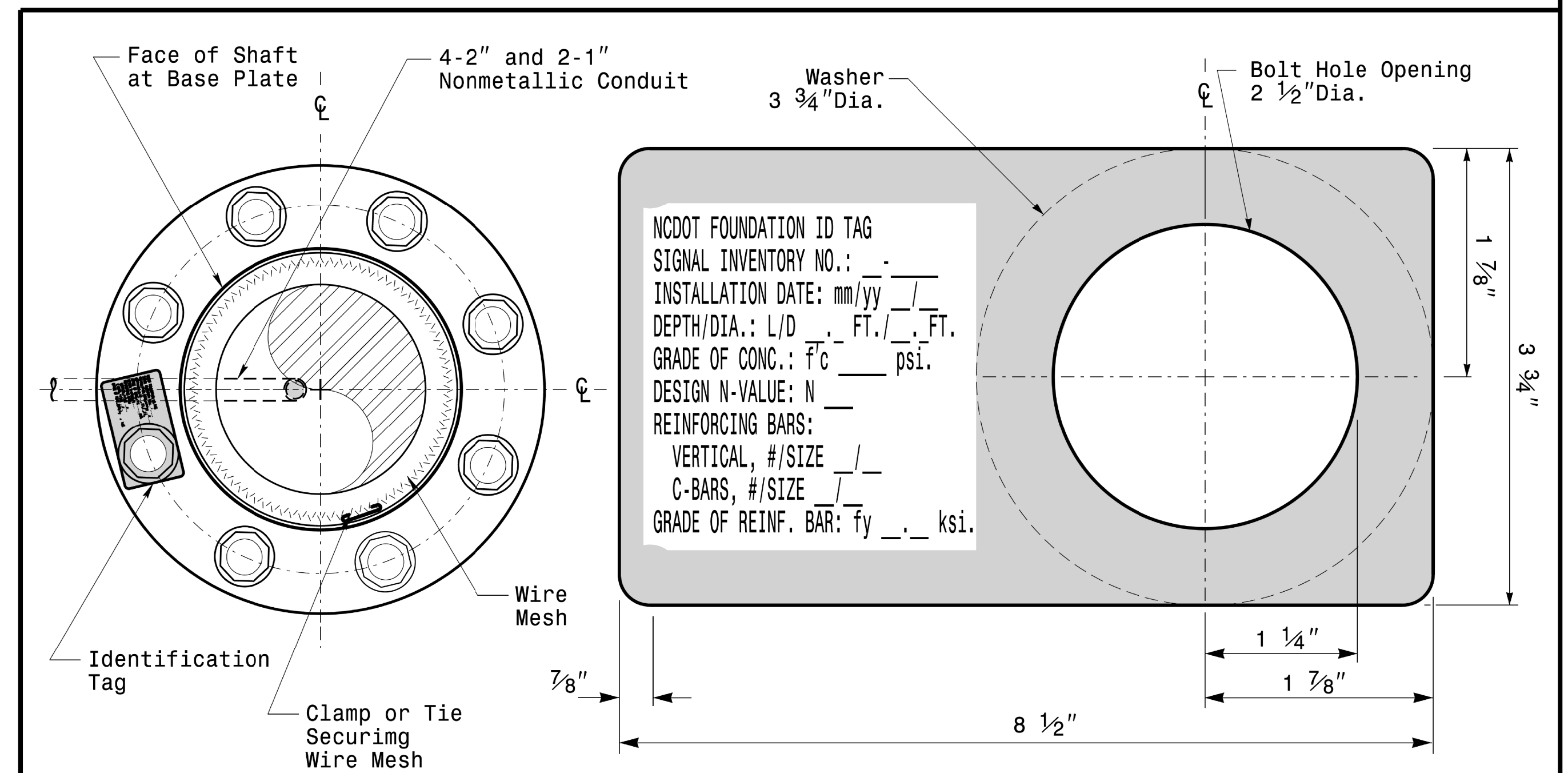
**General Notes:**

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>
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)



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

Detail-A

**Concrete Foundation Identification Tag Details**

NCDOT FOUNDATION ID TAG  
SIGNAL INVENTORY NO.: \_\_\_\_\_  
INSTALLATION DATE: mm/yy \_\_\_\_/\_\_\_\_  
DEPTH/DIA.: L/D \_\_\_\_ FT./\_\_\_\_ FT.  
GRADE OF CONC.: f'c \_\_\_\_ psi.  
DESIGN N-VALUE: N \_\_\_\_\_  
REINFORCING BARS:  
VERTICAL, #/SIZE \_\_\_\_/\_\_\_\_  
C-BARS, #/SIZE \_\_\_\_/\_\_\_\_  
GRADE OF REINF. BAR: fy \_\_\_\_ ksi.

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**Construction Details - Foundations**

<p>750 N. Greenfield Pkwy, Garner, NC 27529</p>	<p><b>Construction Details For Foundations</b></p>		<p>SEAL</p> <p>DocuSigned by: <i>Dinesh C. Sarkar</i> 10/11/2017</p>
	<p>SCALE: 0 NA NONE</p>	<p>PLN DATE: OCTOBER 2018 DESIGNED BY: C.B. COGDELL</p> <p>PREPARED BY: N. BITTING REVIEWED BY: D.C. SARKAR</p>	

# SOIL CONDITION

PROJECT ID. NO.	SHEET NO.
R - 5021	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:**


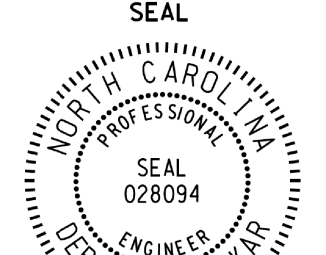
1. Values shown in the "Reactions at the Pole Base" column represent the minimum acceptable capacity allowed for design using a design CSR of 1.00.
2. Use chairs and spacers to maintain proper clearance.
3. For foundation, always use air-entrain concrete mix.

**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.

**Standard Strain Pole Foundation-All Soil Condition**

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

	<b>Standard Strain Pole Foundation for All Soil Conditions</b>		
	PLAN DATE: OCTOBER 2017 DESIGNED BY: C.B. COGDILL PREPARED BY: N. BITTING REVIEWED BY: D.C. SARKAR	REVISIONS Changed "Foundation Depth" to "Drilled Pier Length" in Spec. Exp. N.B. 7/12/2015	INITIALS DATE 10/11/2017

- 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 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 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
- 58 INSTALL NEW ELECTRICAL SERVICE
- 59 BOND TRACER WIRE TO EQUIPMENT GROUND BUS ON ONE END
- 59A DO NOT BOND TRACER WIRE TO EQUIPMENT GROUND BUS
- 60 BOND MESSENGER TO POLE GROUND
- 61 BOND RISER TO POLE GROUND
- 62 INTERCEPT EXISTING JUNCTION BOX
- 63 REMOVE EXISTING ANTENNA, RADIO, AND CABLE
- 64 INSTALL DMS ASSEMBLY
- 65 INSTALL POLE MOUNTED FIELD EQUIPMENT CABINET
- 66 INSTALL EQUIPMENT CABINET DISCONNECT
- 67 INSTALL JUNCTION BOX MARKERS
- 68 REMOVE EXISTING JUNCTION BOX AND BACK FILL WITH APPROVED SUBGRADE MATERIAL
- 69 ABANDON CONDUIT IN PLACE
- 70 INSTALL 6X6 WOOD PEDESTAL

**LEGEND**

	NEW FIBER OPTIC COMMUNICATIONS CABLE
	EXISTING COMMUNICATIONS CABLE
	EXISTING COMMUNICATIONS CABLE TO BE REMOVED
	NEW CONDUIT
	EXISTING CONDUIT
	NEW DIRECTIONAL DRILLED CONDUIT
	NEW GUARDRAIL
	NEW CHAIN LINK FENCE
	EXISTING METAL POLE WITH MASTARM
	NEW METAL POLE WITH MASTARM
	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 DMS
	EXISTING DMS
	NEW CCTV CAMERA ASSEMBLY
	EXISTING CCTV CAMERA ASSEMBLY
	NEW STANDARD GUY ASSEMBLY
	EXISTING STANDARD GUY ASSEMBLY
	NEW SIGNAL CABINET
	EXISTING SIGNAL CABINET
	NEW MASTER SIGNAL CABINET
	EXISTING MASTER SIGNAL CABINET
	NEW YAGI ANTENNA (SINGLE)
	NEW ELECTRICAL SERVICE
	EXISTING ELECTRICAL SERVICE
	SIGNAL POLE
	CCTV/DMS NUMBER
	SIGNAL INVENTORY NUMBER

**ATTACHMENT POINT:**

	DISTANCE ABOVE INCHES REFERENCE POINT
	REFERENCE POINT DISTANCE BELOW INCHES

**CONSTRUCTION NOTE SYMBOLOGY KEY**

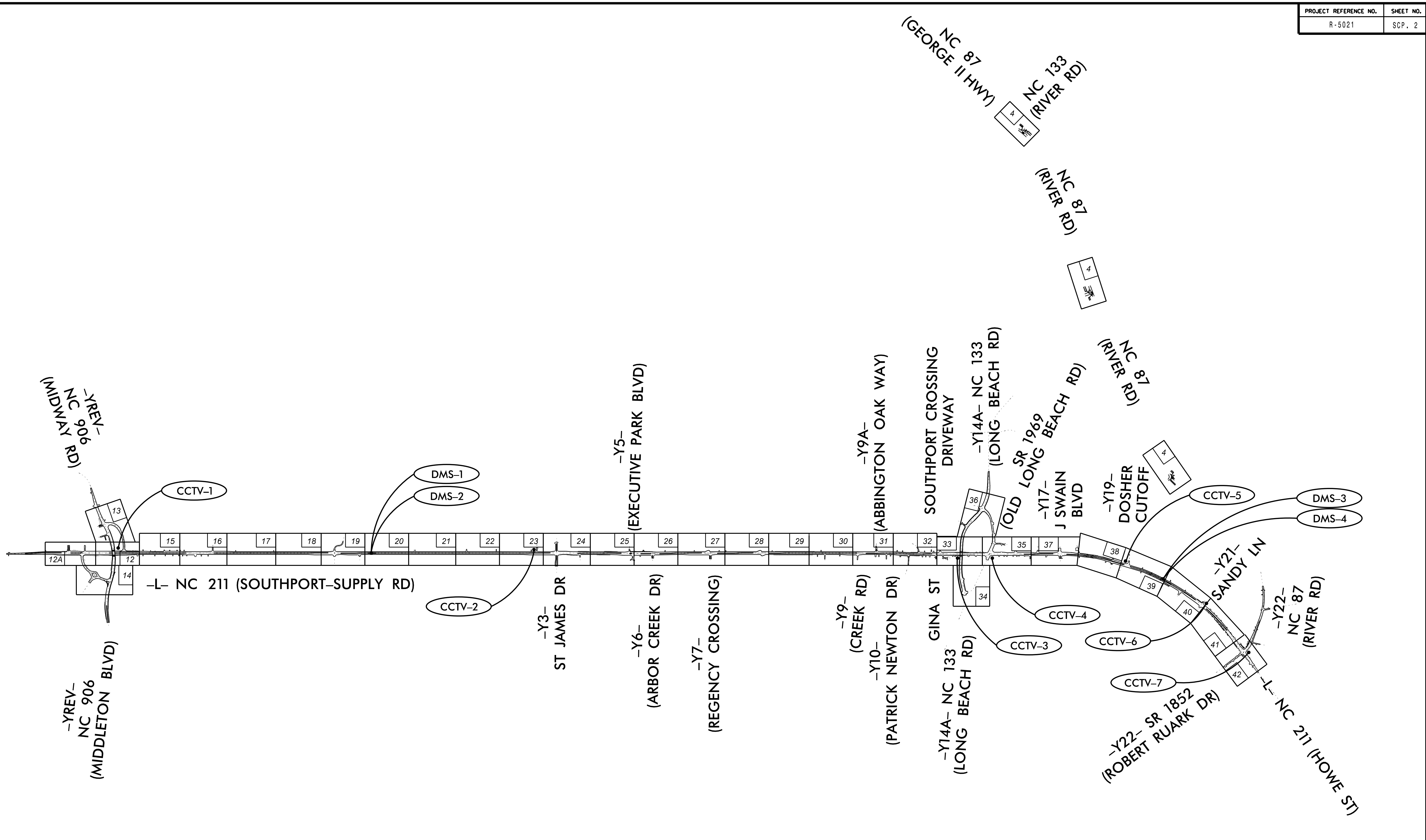
NUMBER OF CABLE(S), LOOPS, ETC.		NUMBER OF FIBERS / TWISTED PAIRS PER CABLE, ETC.
NUMBER OF RISER(S) / CONDUIT(S)		DIAMETER OF RISER(S) / CONDUIT(S) (INCH)
NUMBER OF DEVICES		NUMBER OF FIBERS
NUMBER OF CABLES		REMOVE OR MODIFY CABLE

TMP - FINAL

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

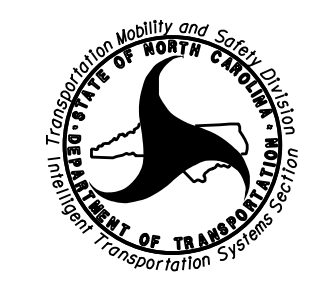


	Plans Prepared for: 	NC 211 (SOUTHPORT-SUPPLY RD) CONSTRUCTION NOTES AND LEGEND	
	Division 03 Brunswick Co. Southport	PREPARED BY: N.K. Vlanich REVIEWED BY: T.R. Terrell REVIEWED BY: N.R. Simmons	
NONE	PLAN DATE: June 2017	REVISIONS	DATE
250 N. Greenfield Pkwy., Garner, NC 27529	9/9/2021	SIGNATURE	DATE

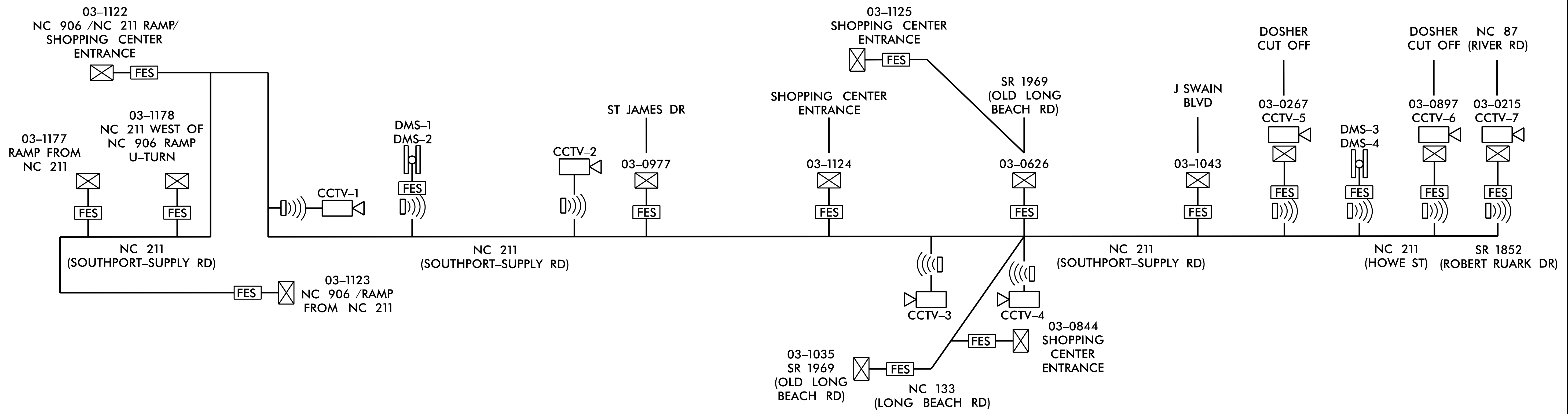


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 <small>250 N. Greenfield Place, Garner, NC 27529</small>	<b>NC 211</b> <b>(SOUTHPORT-SUPPLY RD / HOWE ST)</b> <b>CABLE ROUTING PLAN</b>		 <small>SEAL NATASHA R. SIMMONS ENGINEER 031464</small>									
	Division 3 Brunswick Co. Southport PLAN DATE: September 2021 REVIEWED BY: N.K. Vianich PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons											
SCALE NONE	<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> </tbody> </table>		REVISIONS	INIT.	DATE							DocuSigned by:  10/29/2021 <small>FEDABDF3AD445A</small> SIGNATURE DATE CADD File Name: R5021_scp-02.dgn
REVISIONS	INIT.	DATE										



**LEGEND**

- SIGNAL CABINET
- CCTV
- DMS BACK TO BACK
- FIELD ETHERNET SWITCH
- CELLULAR MODEM

**NOTES:**

- THIS BLOCK DIAGRAM IS APPROXIMATE REPRESENTATION OF CONNECTIONS. SEE SPLICE DIAGRAMS SHEETS FOR DETAILED CONNECTIONS.
- SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 3 DEPUTY TRAFFIC ENGINEER STONEWALL (STONEY) MATHIS, AT (910) 341-2200 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.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH NCDOT PERSONNEL TO OBTAIN ALL RELEVANT NETWORK INFORMATION BEFORE TESTING.
- ALL SWITCHES SHALL BE CONFIGURED PER NCDOT SECURITY REQUIREMENTS.

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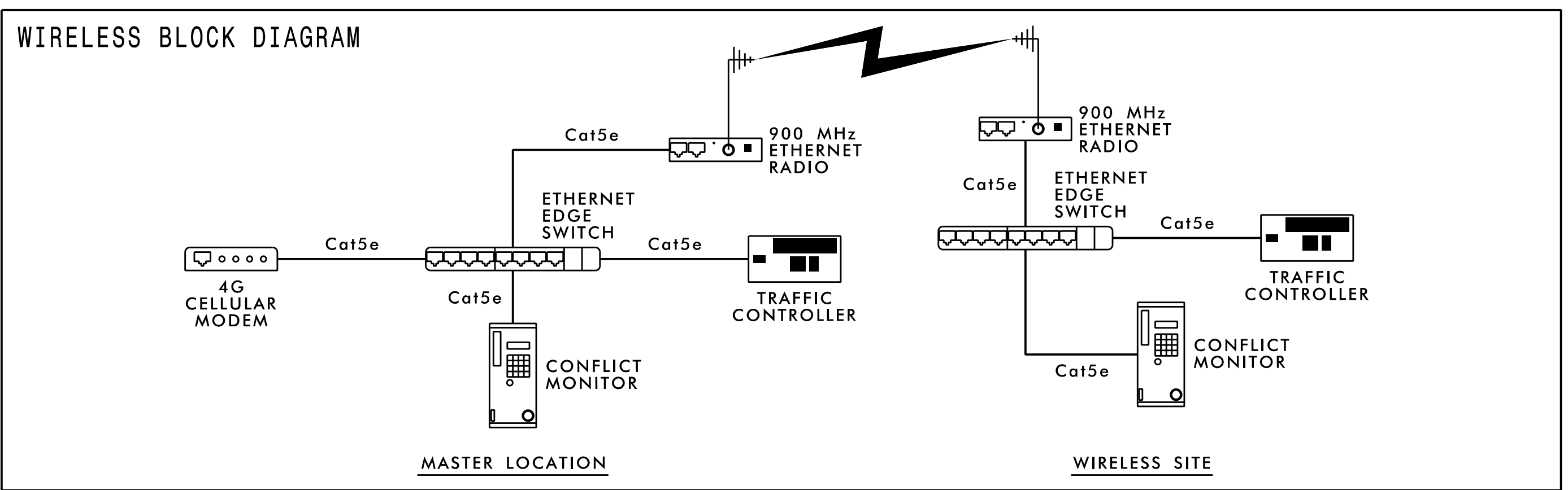
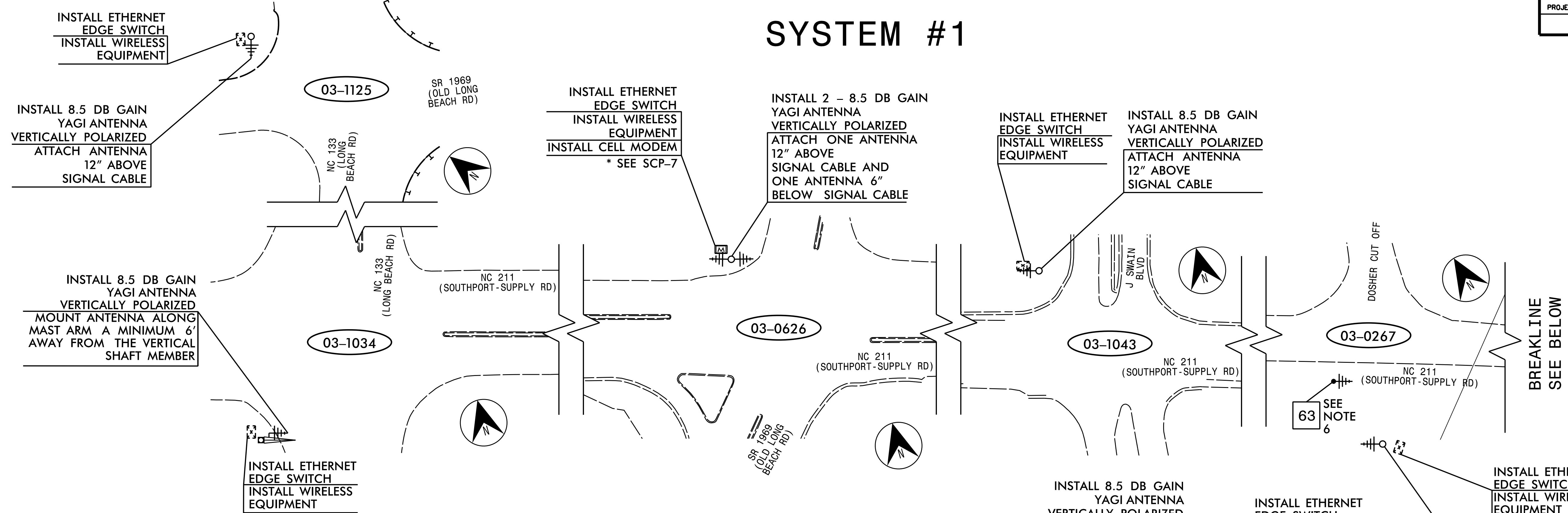
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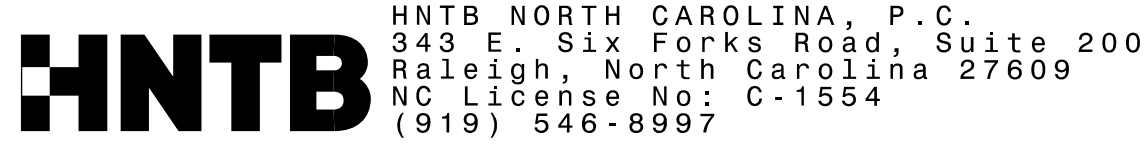
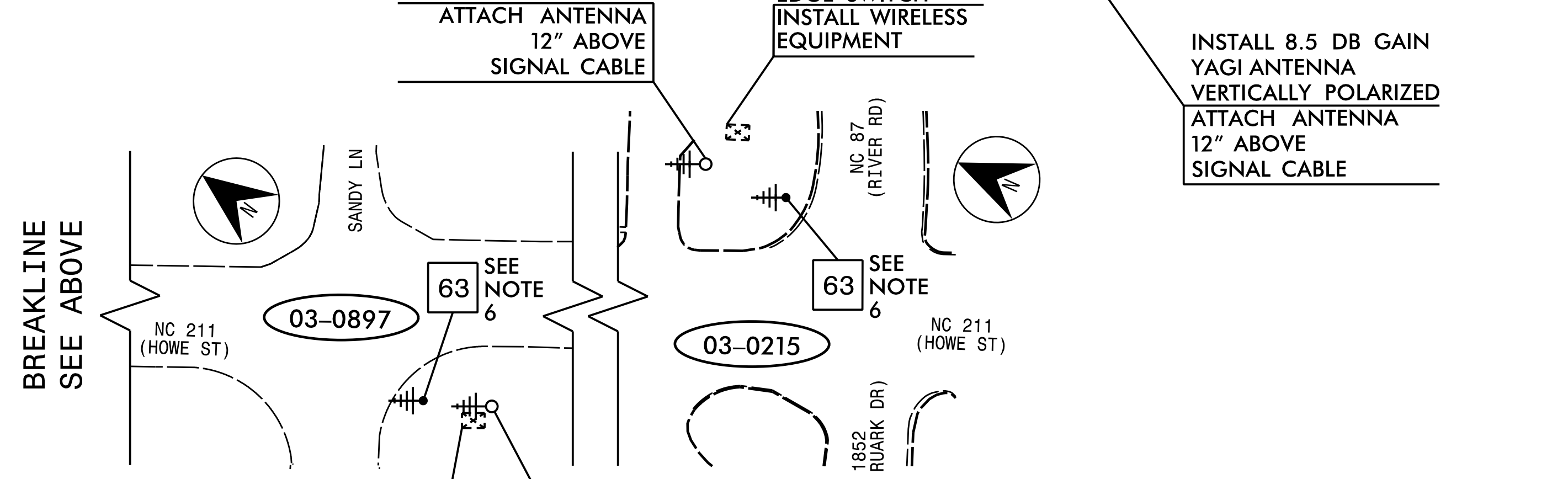
	<p><b>NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) NETWORK BLOCK DIAGRAM</b></p>	<p>SEAL NORTH CAROLINA PROFESSIONAL ENGINEER NATASHA R. SIMMONS</p>									
	<p>Division 3 Brunswick Co. Southport                  PLAN DATE: September 2021 REVIEWED BY: N.K. Vianich                  PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons</p>	<p>DocuSigned by:                  Natasha Simmons 10/29/2021                  FE048BDF3AD45A                  SIGNATURE DATE</p>									
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REVISIONS	INIT.	DATE									



# SYSTEM #1



- 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 03 SIGNAL SHOP. THE DIVISION 03 OFFICE IS LOCATED AT 5501 BARBADOS BLVD, CASTLE HAYNE, NC 28429 AND CAN BE REACHED AT 910-341-2200.
  - SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 3 DEPUTY TRAFFIC ENGINEER, STONEWALL (STONE) MATHIS, AT 910-341-2200 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.
  - NCDOT DIVISION 3 WILL FURNISH AND INSTALL THE CELL MODEM. CONTACT SIX (6) WEEKS PRIOR BEGINNING WORK.



**LEGEND**

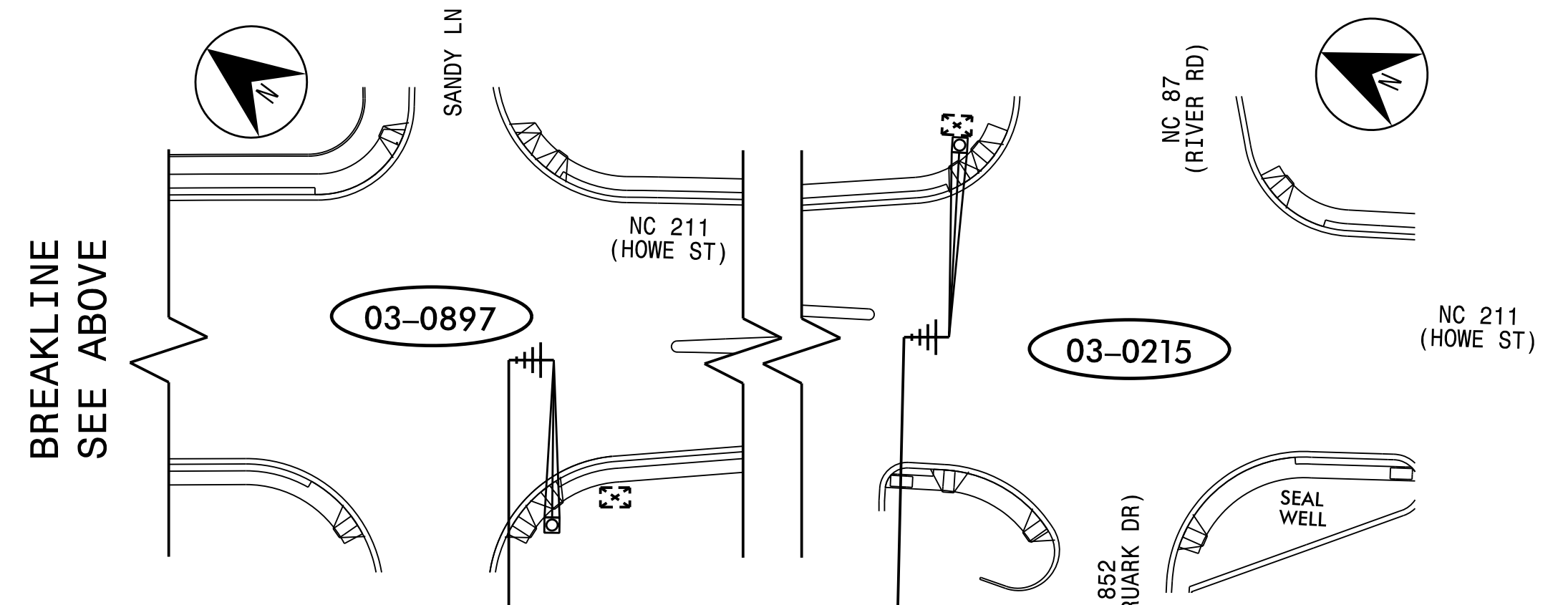
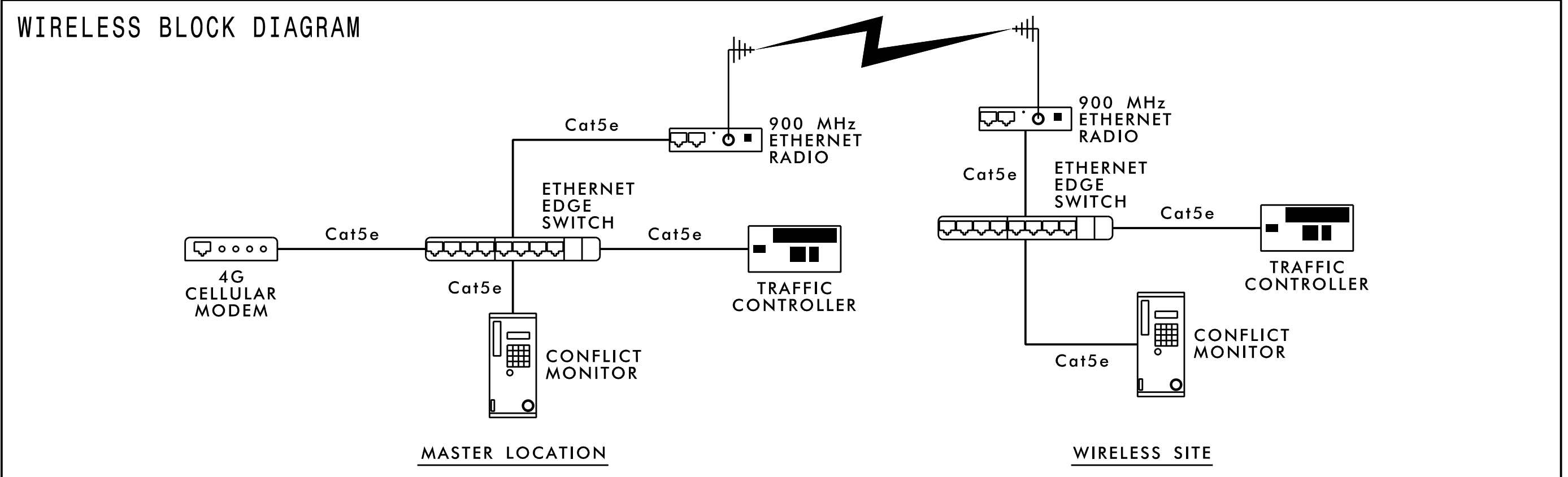
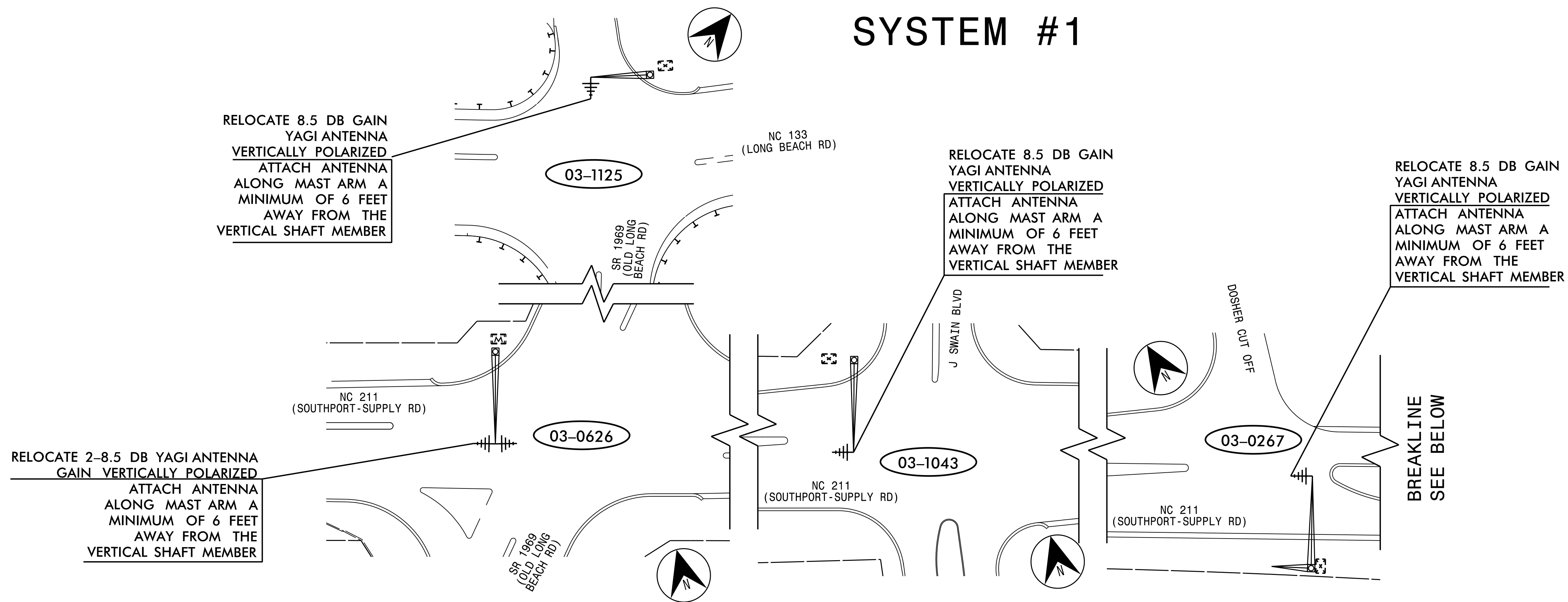
	YAGI ANTENNA (DOUBLE) FOR REPEATER OPERATION
	YAGI ANTENNA (SINGLE)
	NEW CONTROLLER AND CABINET
	NEW MASTER CONTROLLER AND CABINET
	EXISTING CONTROLLER AND CABINET
	SIGNAL INVENTORY NUMBER
	NEW METAL POLE W/MAST ARM
	EXISTING METAL POLE W/MAST ARM
	NEW WOOD POLE
	EXISTING WOOD POLE

TMP - TEMP 1

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

	NC 211 (SOUTHPORT-SUPPLY RD) CABLE ROUTING PLAN TEMPORARY WIRELESS SYSTEM		
	Division 3 Brunswick Co. Southport	PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell	
250 N. Greenfield Place, Garner, NC 27529		SCALE: 0 50 1" = 50'	DocuSigned by: Natasha Simmons 9/9/2017 SIGNATURE DATE CADD Filename: R5021 scp-04.dgn

# SYSTEM #1



- 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 03 SIGNAL SHOP. THE DIVISION 03 OFFICE IS LOCATED AT 5501 BARBADOS BLVD, CASTLE HAYNE, NC 28429 AND CAN BE REACHED AT 910-341-2200.
  - SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 3 DEPUTY TRAFFIC ENGINEER, STONEWALL (STONEY) MATHIS, AT 910-341-2200 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.
  - NCDOT DIVISION 3 WILL FURNISH AND INSTALL THE CELL MODEM. CONTACT SIX (6) WEEKS PRIOR BEGINNING WORK.

**LEGEND**

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

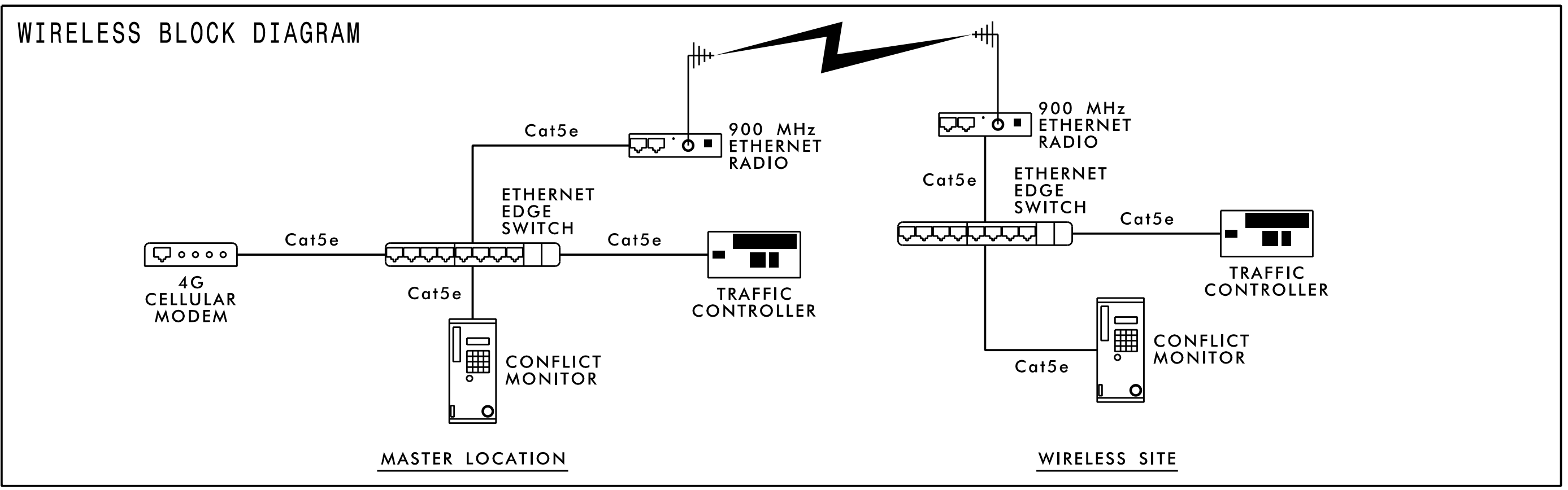
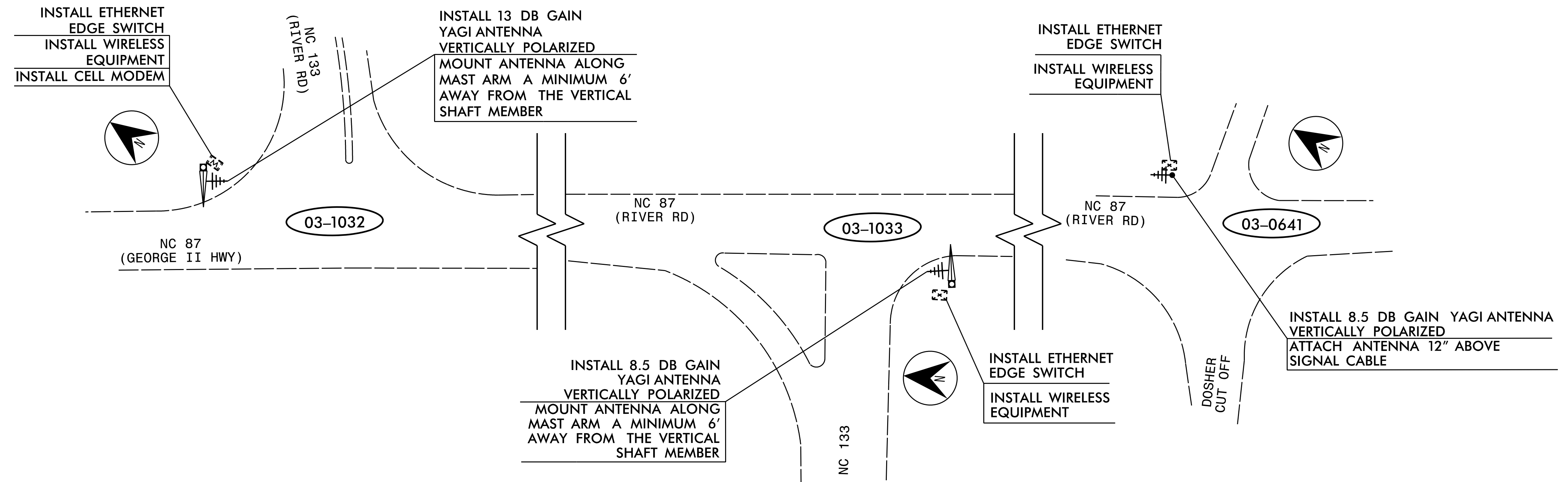
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(919) 546-8997

TMP - TEMP 2

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

Plans Prepared for: 		NC 211 (SOUTHPORT-SUPPLY RD) CABLE ROUTING PLAN TEMPORARY WIRELESS SYSTEM		SEAL 
Division 3 Brunswick Co. Southport		PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell		9/9/2021 SIGNATURE DATE CADD Filename: R5021 scp-05.dgn
PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons		REVISIONS INIT. DATE		

# SYSTEM #2



- 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 03 SIGNAL SHOP. THE DIVISION 03 OFFICE IS LOCATED AT 5501 BARBADOS BLVD, CASTLE HAYNE, NC 28429 AND CAN BE REACHED AT 910-341-2200.
  - SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 3 DEPUTY TRAFFIC ENGINEER, STONEWALL (STONEY) MATHIS, AT 910-341-2200 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.
  - NCDOT DIVISION 3 WILL FURNISH AND INSTALL THE CELL MODEM. CONTACT SIX (6) WEEKS PRIOR BEGINNING WORK.

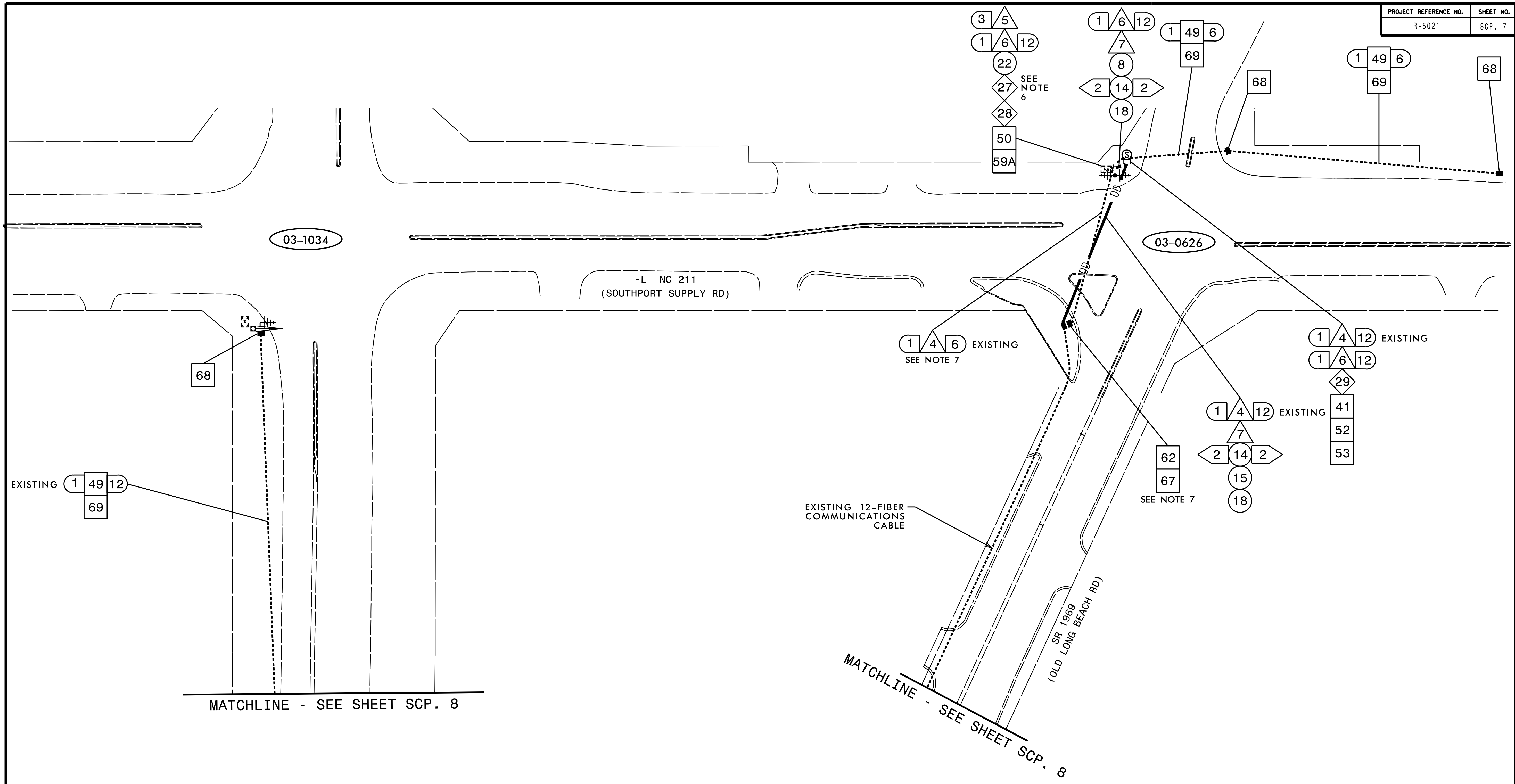
LEGEND	
	YAGI ANTENNA (SINGLE)
	NEW CONTROLLER AND CABINET
	NEW MASTER CONTROLLER AND CABINET
	EXISTING CONTROLLER AND CABINET
	SIGNAL INVENTORY NUMBER
	NEW METAL POLE W/MAST ARM
	EXISTING METAL POLE W/MAST ARM
	NEW WOOD POLE
	EXISTING WOOD POLE

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	NC 211 (SOUTHPORT-SUPPLY RD) CABLE ROUTING PLAN SYSTEM #2		
	Division 3 Brunswick Co. Southport	PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell	
250 N. Greenfield Place, Garner, NC 27529	SCALE 0 50 1" = 50'	REVISIONS INIT. DATE	DocuSigned by: Natasha Simmons 9/9/2021 F8DAB80F3AD446A SIGNATURE DATE CADD File name: R5021 scp-06.dgn



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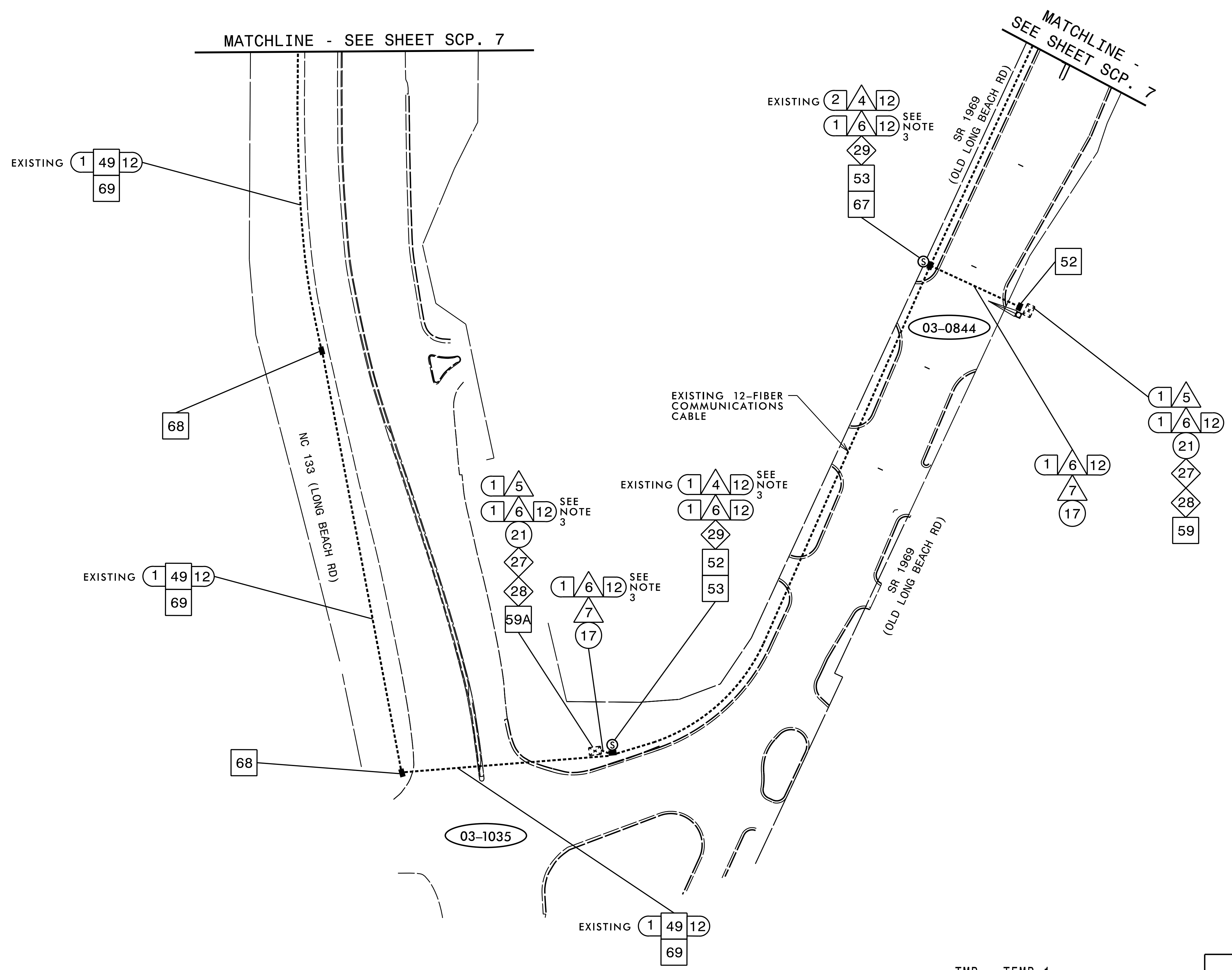
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- CONTACT BRUNSWICK ELECTRIC MEMBERSHIP CORPORATION (910) 754-4391 TO ARRANGE FOR POWER TO ELECTRICAL SERVICE.
- CONTACT STONEY MATHIS (NCDOT DIVISION 3) AT (910) 341-2200 TO COORDINATE ANY TRAFFIC SIGNAL SERVICE MODIFICATIONS.
- MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE EDGE OF PAVEMENT AND A MINIMUM OF 5 FEET BEHIND THE MSE WALL WHEN TRENCHING PARALLEL TO THE ROADWAY.
- SEAL ALL CONDUIT ENTRANCES WITH DUCT AND CONDUIT SEALER AT ALL JUNCTION BOX /CABINET ENTRANCES.
- ETHERNET EDGE SWITCH INSTALLED FOR TEMPORARY AND FINAL SIGNAL COMMUNICATIONS.
- DISCONNECT EXISTING 12-FIBER COMMUNICATIONS CABLE FROM THE CABINET AND PULL BACK TO THE EXISTING JUNCTION BOX AND REROUTE TO NEW JUNCTION BOX AS SHOWN.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE AVAILABLE FAULT CURRENT INFORMATION FROM THE POWER COMPANY FOR THE REQUIRED ELECTRICAL SERVICE AND PLACE A "FAULT CURRENT" STICKER INSIDE THE SERVICE DISCONNECT PANEL WITH THE DATE AND AVAILABLE FAULT CURRENT ON THE STICKER.
- NCDOT DIVISION 3 WILL FURNISH AND INSTALL THE CELL MODEM. CONTACT SIX (6) WEEKS PRIOR BEGINNING WORK.

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 Plans Prepared for:  250 N. Greenfield Place, Garner, NC 27529	<b>NC 211</b> <b>(SOUTHPORT-SUPPLY RD / HOWE ST)</b> <b>CABLE ROUTING PLAN</b>		SEAL  SEAL <b>031464</b> ENGINEER <b>NATASHA R. SIMMONS</b>									
	Division 3 Brunswick Co. Southport PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons											
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REVISIONS	INIT.	DATE										



NOTES:

- SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 3 DEPUTY TRAFFIC ENGINEER STONEWALL (STONEY) MATHIS, AT (910) 341-2200 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.
- SEAL ALL CONDUIT ENTRANCES WITH DUCT AND CONDUIT SEALER AT ALL JUNCTION BOX / CABINET ENTRANCES.
- DISCONNECT EXISTING 12-FIBER COMMUNICATIONS CABLE FROM THE CABINET AND PULL BACK TO THE EXISTING JUNCTION BOX AND REROUTE TO SIGNAL CABINET AS SHOWN.

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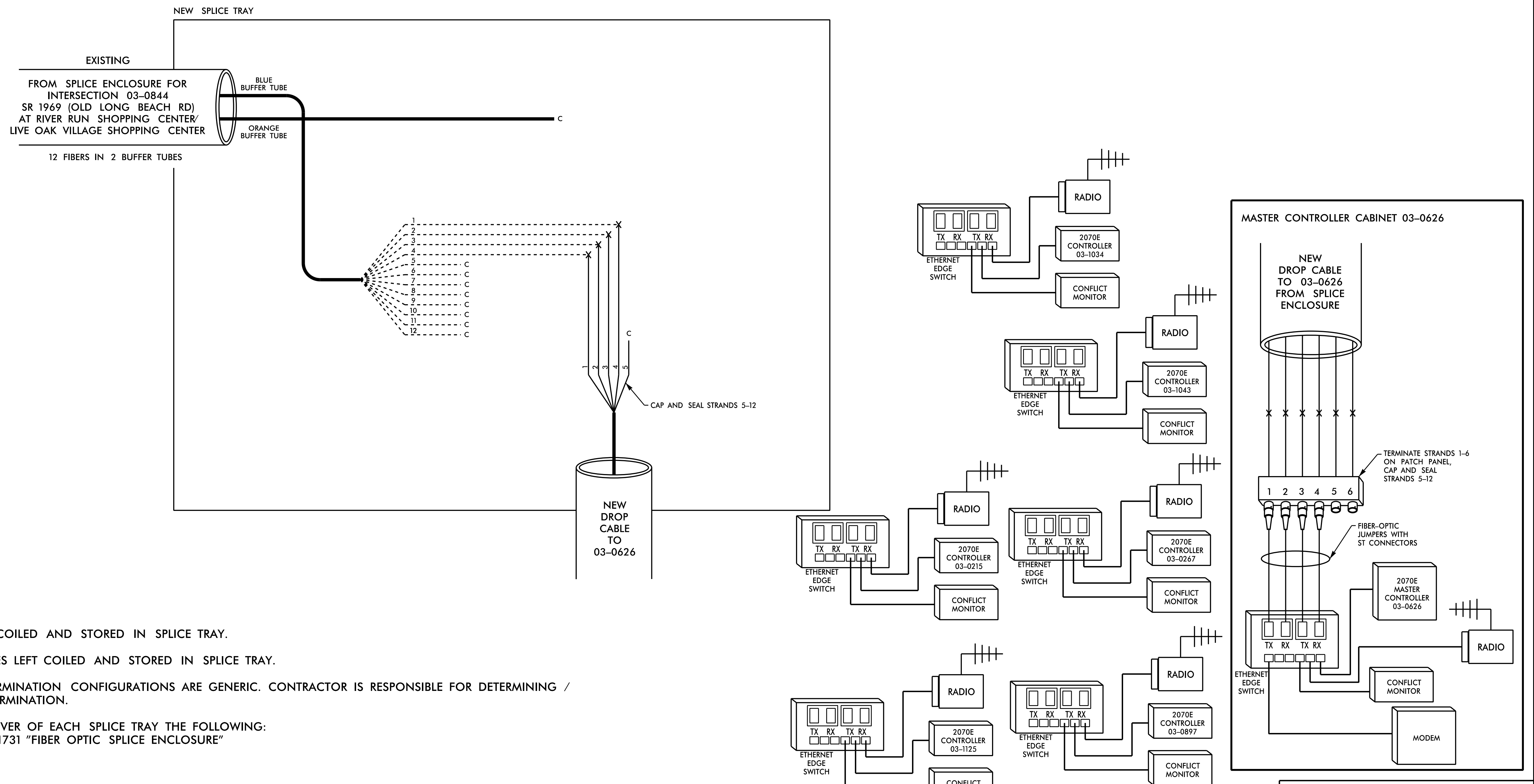
TMP - TEMP 1

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

	Plans Prepared for: <b>NC 211</b> (SOUTHPORT-SUPPLY RD / HOWE ST) <b>CABLE ROUTING PLAN</b>		
	Division 3 PLAN DATE: June 2017 PREPARED BY: N.K. Vlanich	Brunswick Co. REVIEWED BY: T.R. Terrell REVIEWED BY: N.R. Simmons	
REVISIONS			SEAL
SCALE: 1" = 50' 			CADD File Name: R5021_scp-08.dgn

TEMP 03-0626  
NC 211 (SOUTHPORT-SUPPLY RD)  
AT  
SR 1969 (OLD LONG BEACH RD)  
NEW SPLICE ENCLOSURE

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:

- UNUSED FIBERS LEFT COILED AND STORED IN SPLICE TRAY.
  - UNUSED BUFFER TUBES LEFT COILED AND STORED IN SPLICE TRAY.
  - ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING / ENSURING PROPER TERMINATION.
  - INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING: REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"
    - SPLICE
    - DATE
    - COMPANY NAME
    - 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.
- SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 3 DEPUTY TRAFFIC ENGINEER, STONEWALL (STONEY) MATHIS, AT 910-341-2200 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.

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TMP - TEMP 1 & 2

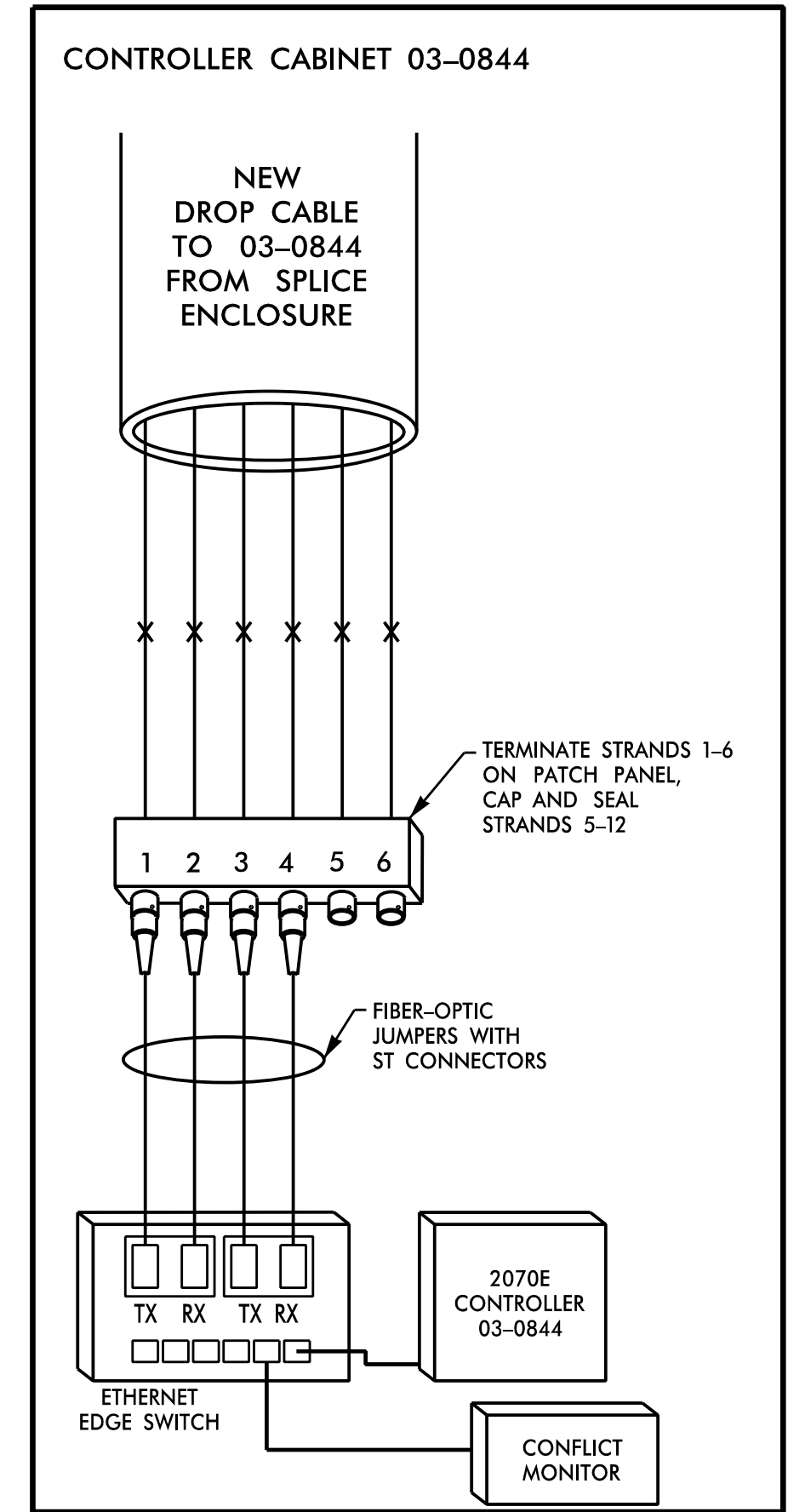
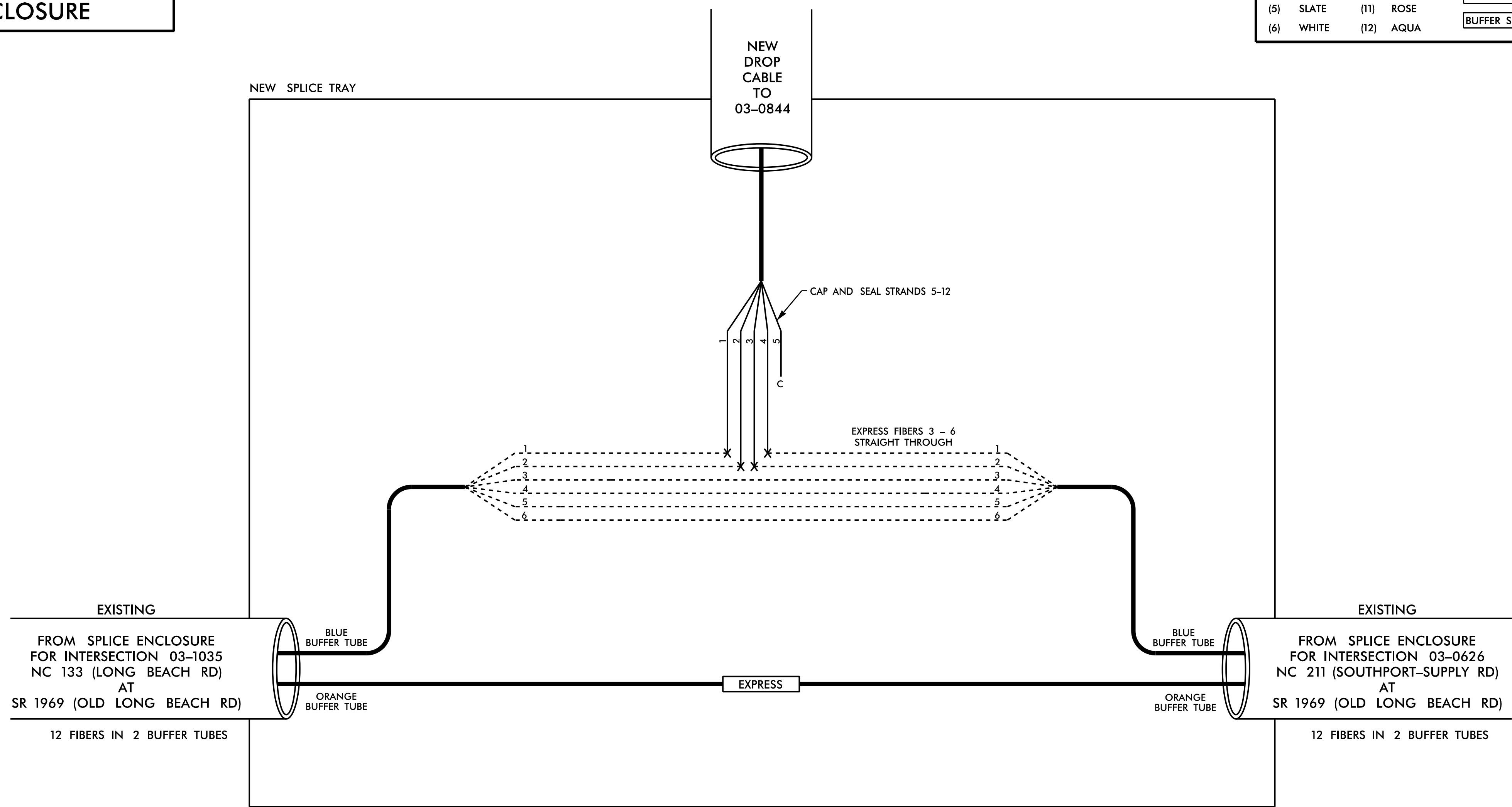
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Plans Prepared for: 		NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) SPLICE DETAIL		SEAL 	
Division 3 Brunswick Co. Southport		PLAN DATE: June 2018		REVIEWED BY: T.R. Terrell	
PREPARED BY: Rakesh Nune		REVIEWED BY: N.R. Simmons		DocuSigned by: Natasha Simmons 9/9/2021	
SCALE	REVISIONS	INIT.	DATE	SIGNATURE	DATE
NONE					

CADD Filename: R5021 scp-09.dgn

TEMP 03-0844  
 SR 1969 (OLD LONG BEACH RD)  
 AT RIVER RUN SHOPPING CENTER/  
 LIVE OAK VILLAGE SHOPPING CENTER  
 NEW SPLICE ENCLOSURE

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:

- UNUSED FIBERS LEFT COILED AND STORED IN SPLICE TRAY.
  - UNUSED BUFFER TUBES LEFT COILED AND STORED IN SPLICE TRAY.
  - ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING / ENSURING PROPER TERMINATION.
  - 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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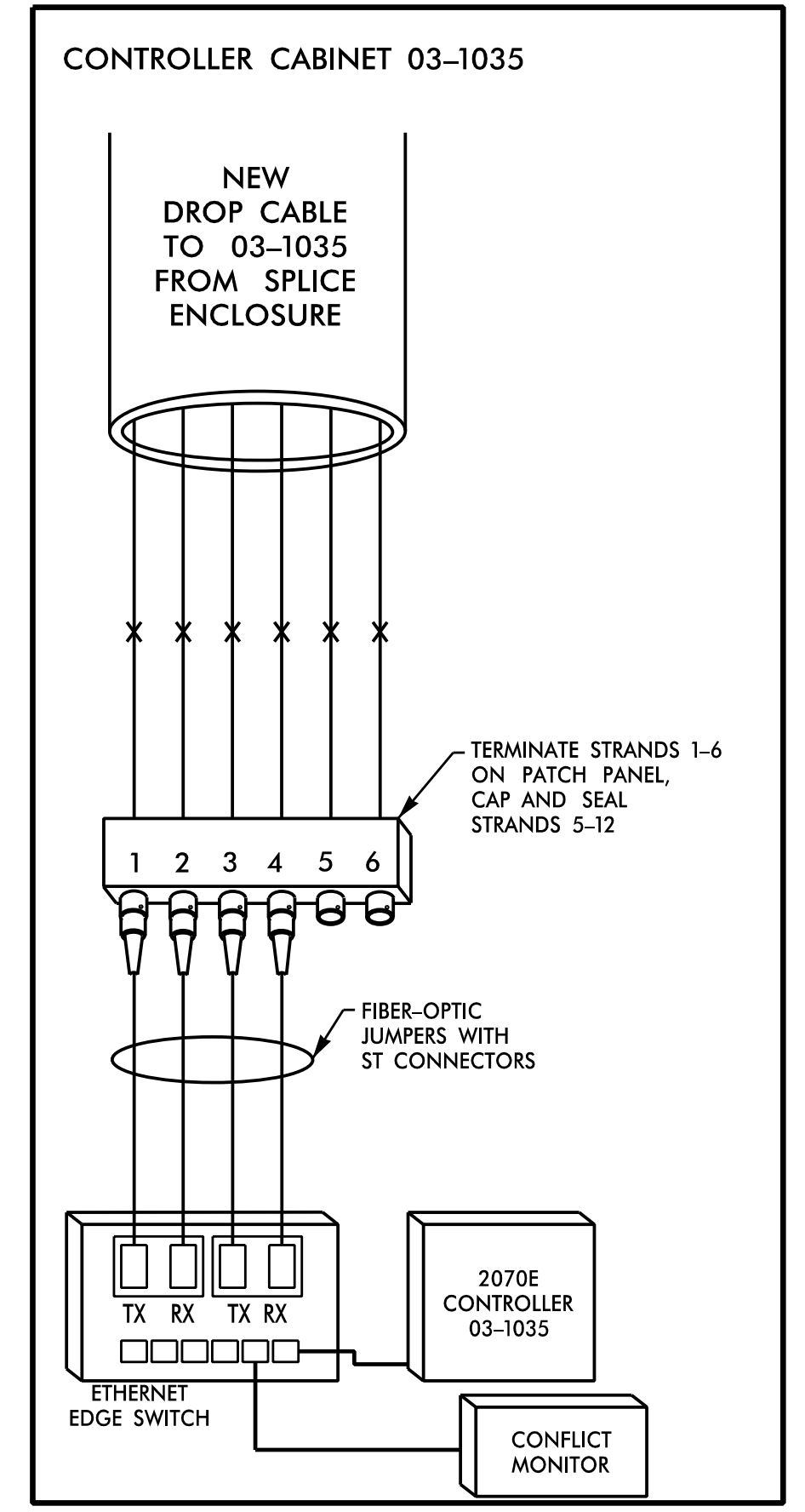
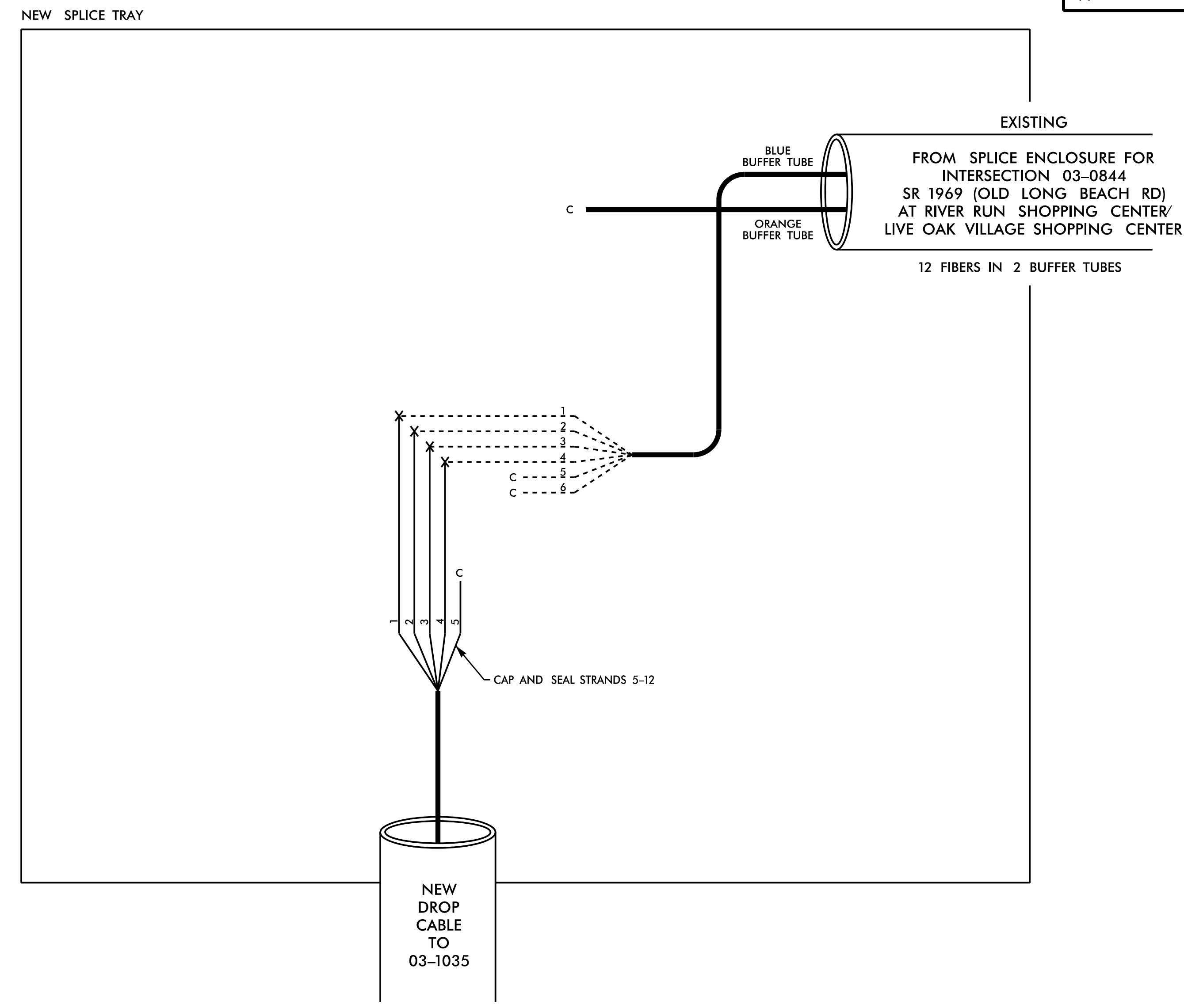
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	NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) SPLICE DETAIL		
	Division 3 Brunswick Co. Southport	PLAN DATE: June 2018 REVIEWED BY: T.R. Terrell	
SCALE NONE	REVISIONS INIT. DATE	2070E CONTROLLER 03-0844 CONFLICT MONITOR	DocuSigned by: Natasha Simmons 9/9/2021 FE0488DF3A0445A... SIGNATURE DATE CADD Filename: R5021_scp-10.dgn

**TEMP 03-1035**  
**NC 133 (LONG BEACH RD)**  
**AT**  
**SR 1969 (OLD LONG BEACH RD)**  
**NEW SPLICE ENCLOSURE**

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:**

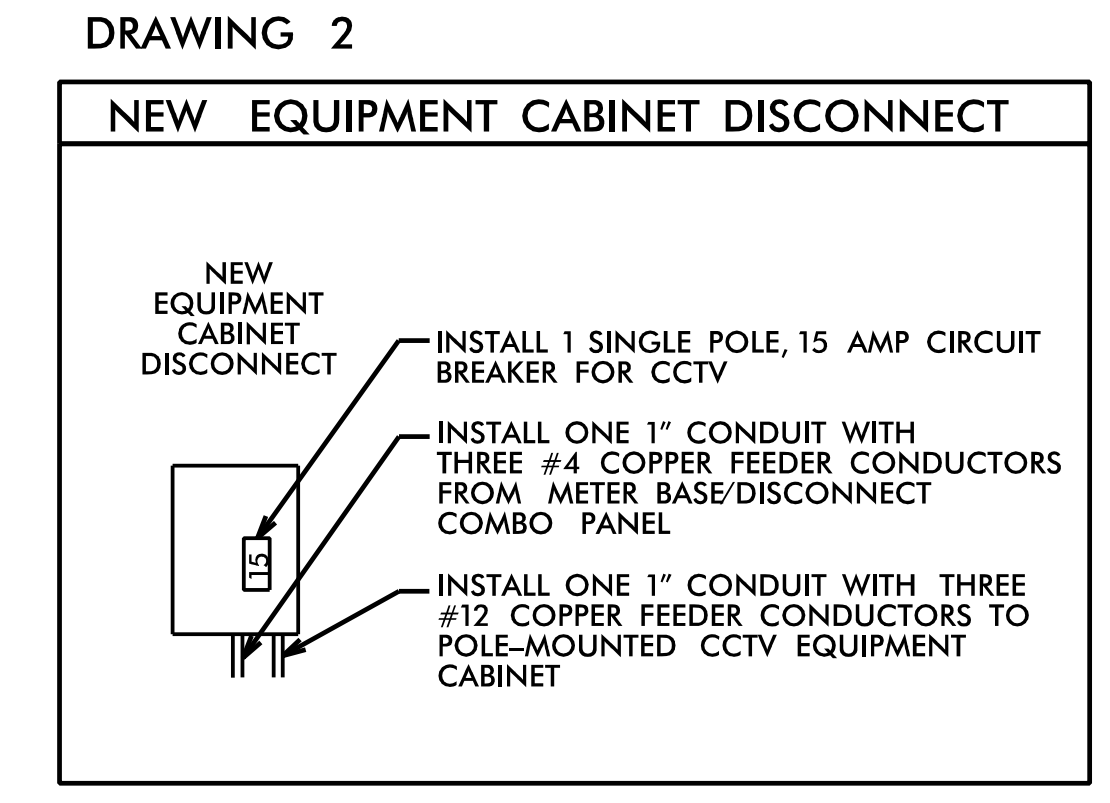
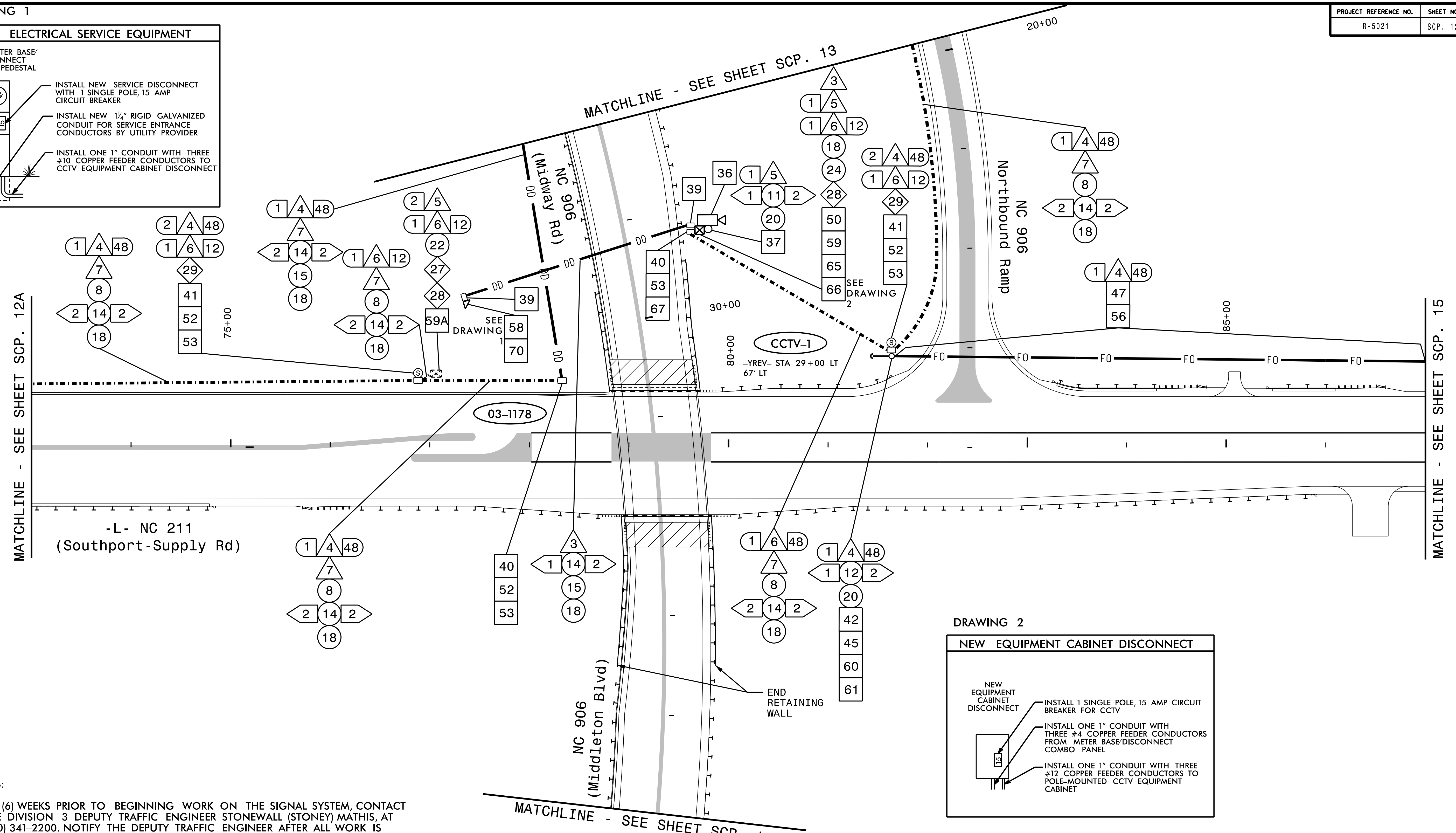
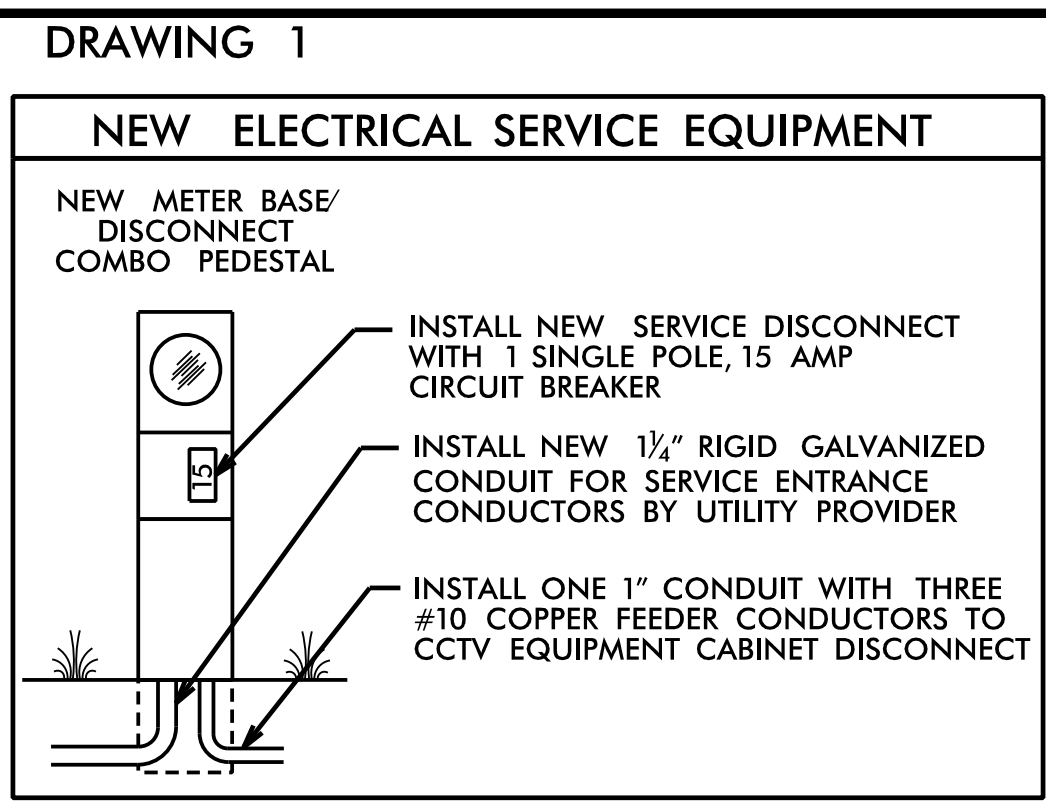
- UNUSED FIBERS LEFT COILED AND STORED IN SPLICE TRAY.
  - UNUSED BUFFER TUBES LEFT COILED AND STORED IN SPLICE TRAY.
  - ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING / ENSURING PROPER TERMINATION.
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    - DATE
    - COMPANY NAME
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Plans Prepared for: 250 N. Greenfield Place, Garner, NC 27529		NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) SPLICE DETAIL		SEAL  NATASHA R. SIMMONS ENGINEER SEAL 031464
Division 3 Brunswick Co. Southport		PLAN DATE: June 2018 REVIEWED BY: T.R. Terrell		DocuSigned by: Natasha Simmons 9/9/2021 FE0488DF3AD45A... SIGNATURE DATE CADD File name: R5021_scp-11.dgn
PREPARED BY: Rakesh Nune REVIEWED BY: N.R. Simmons		REVISIONS INIT. DATE		
SCALE NONE				





- NOTES:
- SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 3 DEPUTY TRAFFIC ENGINEER STONEWALL (STONEY) MATHIS, AT (910) 341-2200. 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 BRUNSWICK ELECTRIC MEMBERSHIP CORPORATION (910) 754-4391 TO ARRANGE FOR POWER TO ELECTRICAL SERVICE.
  - CONTACT STONEY MATHIS (NCDOT DIVISION 3) AT (910) 341-2200 TO COORDINATE ANY TRAFFIC SIGNAL SERVICE MODIFICATIONS.
  - MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE EDGE OF PAVEMENT AND A MINIMUM OF FIVE (5) FEET BEHIND THE MSE WALL WHEN TRENCHING PARALLEL TO THE ROADWAY.
  - SEAL ALL CONDUIT ENTRANCES WITH DUCT AND CONDUIT SEALER AT ALL JUNCTION BOX / CABINET ENTRANCES.
  - INSTALL CONDUITS IN THE SAME TRENCH. DO NOT INSTALL ELECTRICAL POWER CONDUCTORS AND FIBER-OPTIC CABLE IN THE SAME CONDUIT OR JUNCTION BOX.
  - AT THE DIRECTION OF THE ENGINEER, PERFORM GRADING AS NEEDED WHERE GUARDRAIL, POLE INSTALLATION, AND DMS CONSTRUCTION WORK HAS BEEN PERFORMED.
  - IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE AVAILABLE FAULT CURRENT INFORMATION FROM THE POWER COMPANY FOR THE REQUIRED ELECTRICAL SERVICE AND PLACE A "FAULT CURRENT" STICKER INSIDE THE SERVICE DISCONNECT PANEL WITH THE DATE AND AVAILABLE FAULT CURRENT ON THE STICKER.
  - NCDOT DIVISION 3 WILL FURNISH AND INSTALL THE CCTV AND DMS CELL MODEM. CONTACT SIX (6) WEEKS PRIOR BEGINNING WORK.

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NC 211  
(SOUTHPORT-SUPPLY RD / HOWE ST)  
CABLE ROUTING PLAN

Division 3 Brunswick Co. Southport

PLAN DATE: September 2021 REVIEWED BY: N.K. Vianich

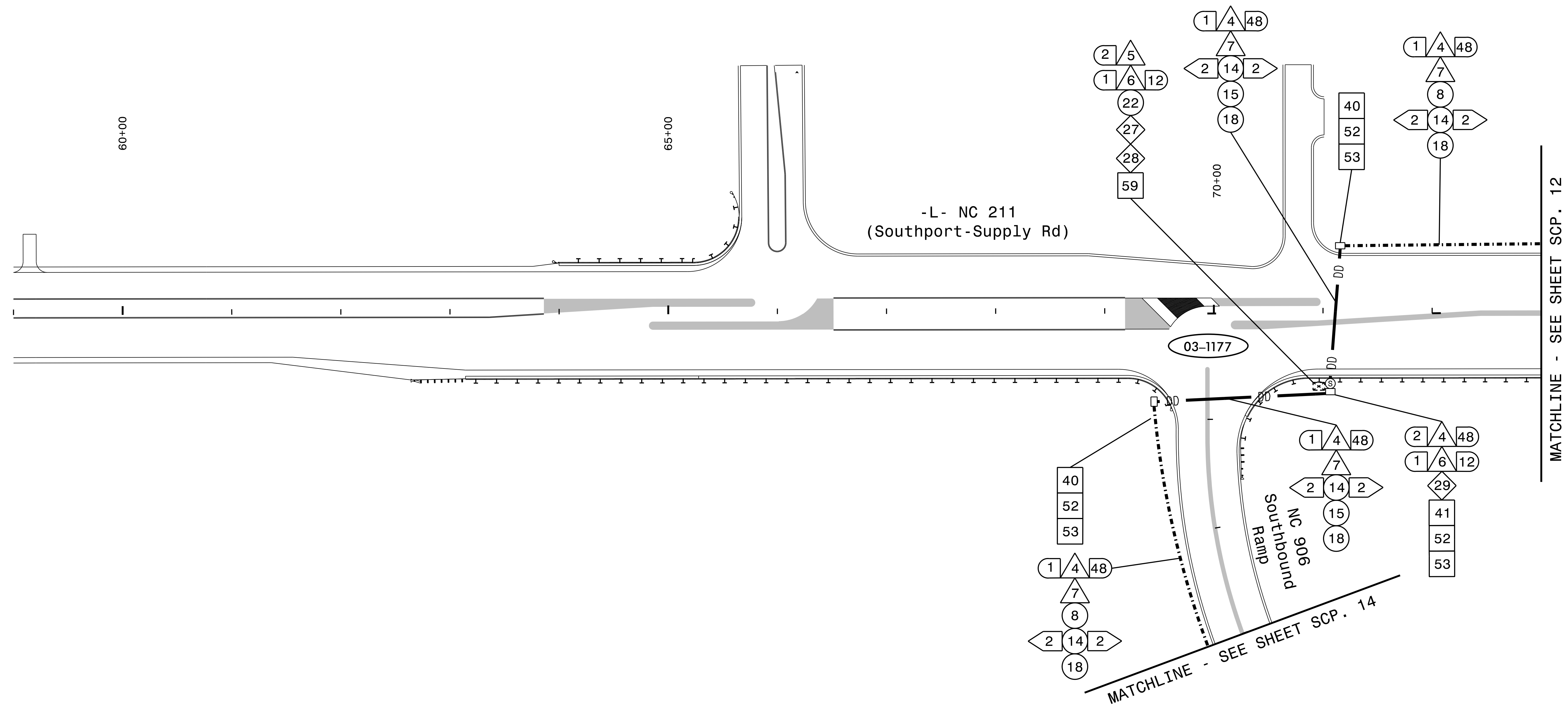
PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons

REVISIONS

NO.	DESCRIPTION	INIT.	DATE

SEAL  
NORTH CAROLINA PROFESSIONAL ENGINEER  
NATASHA R. SIMMONS  
SEAL 031464

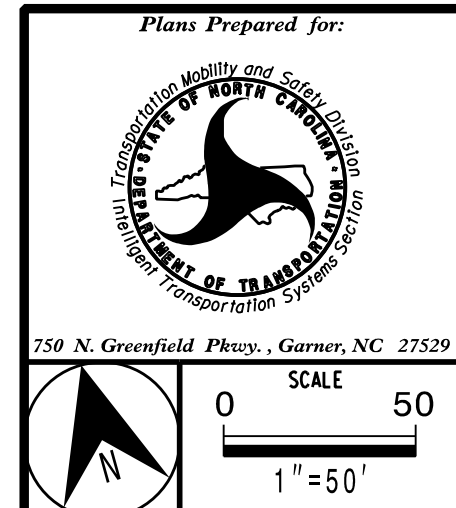
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Natasha Simmons 10/29/2021  
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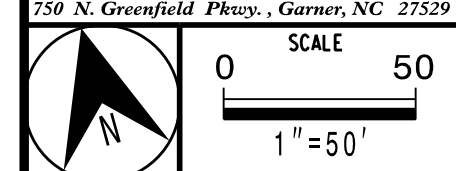
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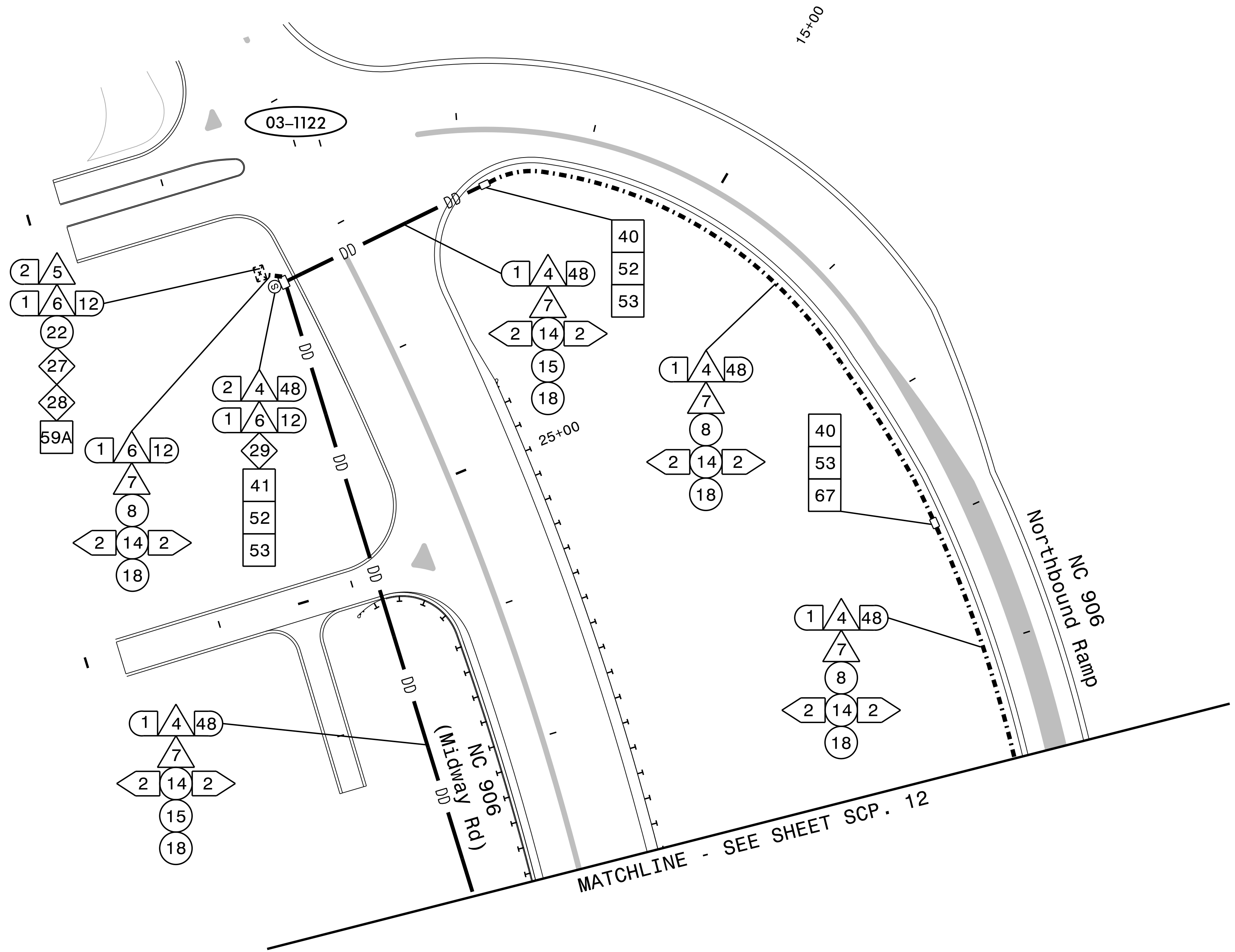


NC 211  
 (SOUTHPORT-SUPPLY RD / HOWE ST)  
 CABLE ROUTING PLAN  
 Division 3 Brunswick Co. Southport  
 PLAN DATE: September 2021 REVIEWED BY: N.K. Vianich  
 PREPARED BY: T.R. Terrell REVIEWED BY: N.R. Simmons

REVISIONS	INIT.	DATE

SEAL  
 NORTH CAROLINA  
 PROFESSIONAL  
 ENGINEER  
 NATASHA R. SIMMONS  
 031464  
 DocuSigned by:  
 Natasha Simmons 10/29/2021  
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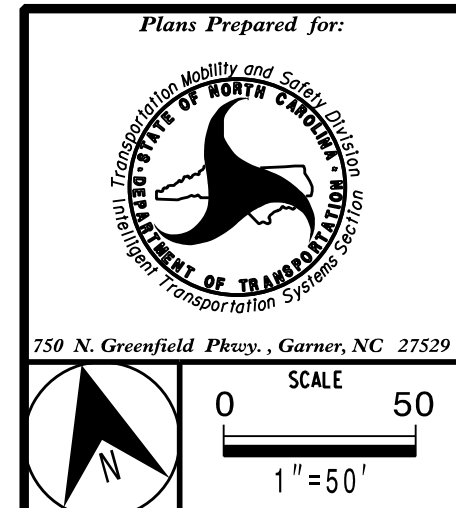




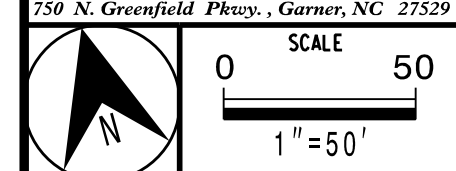
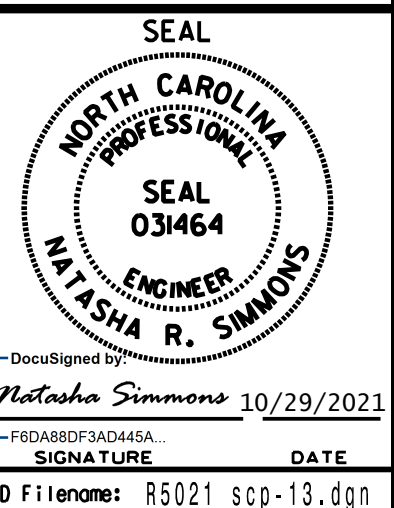
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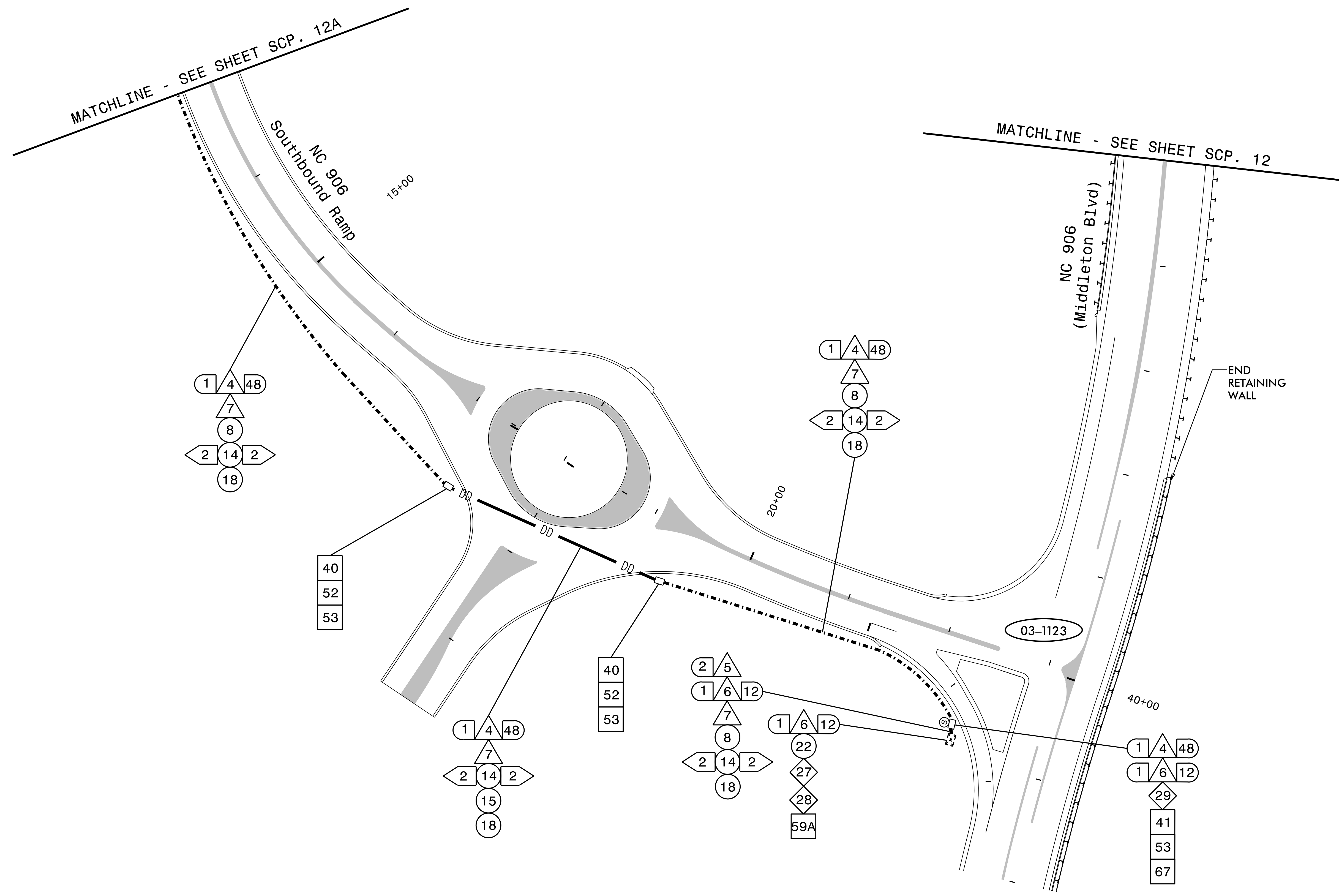
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NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) CABLE ROUTING PLAN	
Division 3	Brunswick Co. Southport
PLAN DATE: September 2021	REVIEWED BY: N.K. Vianich
PREPARED BY: T.R. Terrell	REVIEWED BY: N.R. Simmons
REVISIONS	INIT. DATE



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 Natasha Simmons 10/29/2021  
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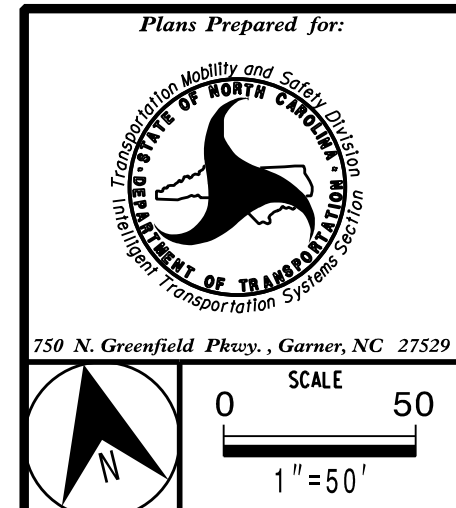


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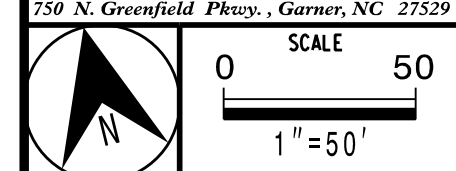
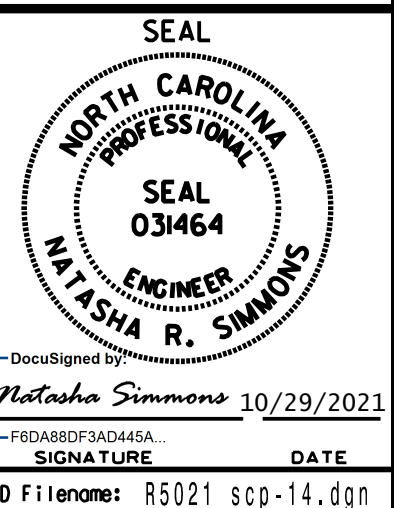
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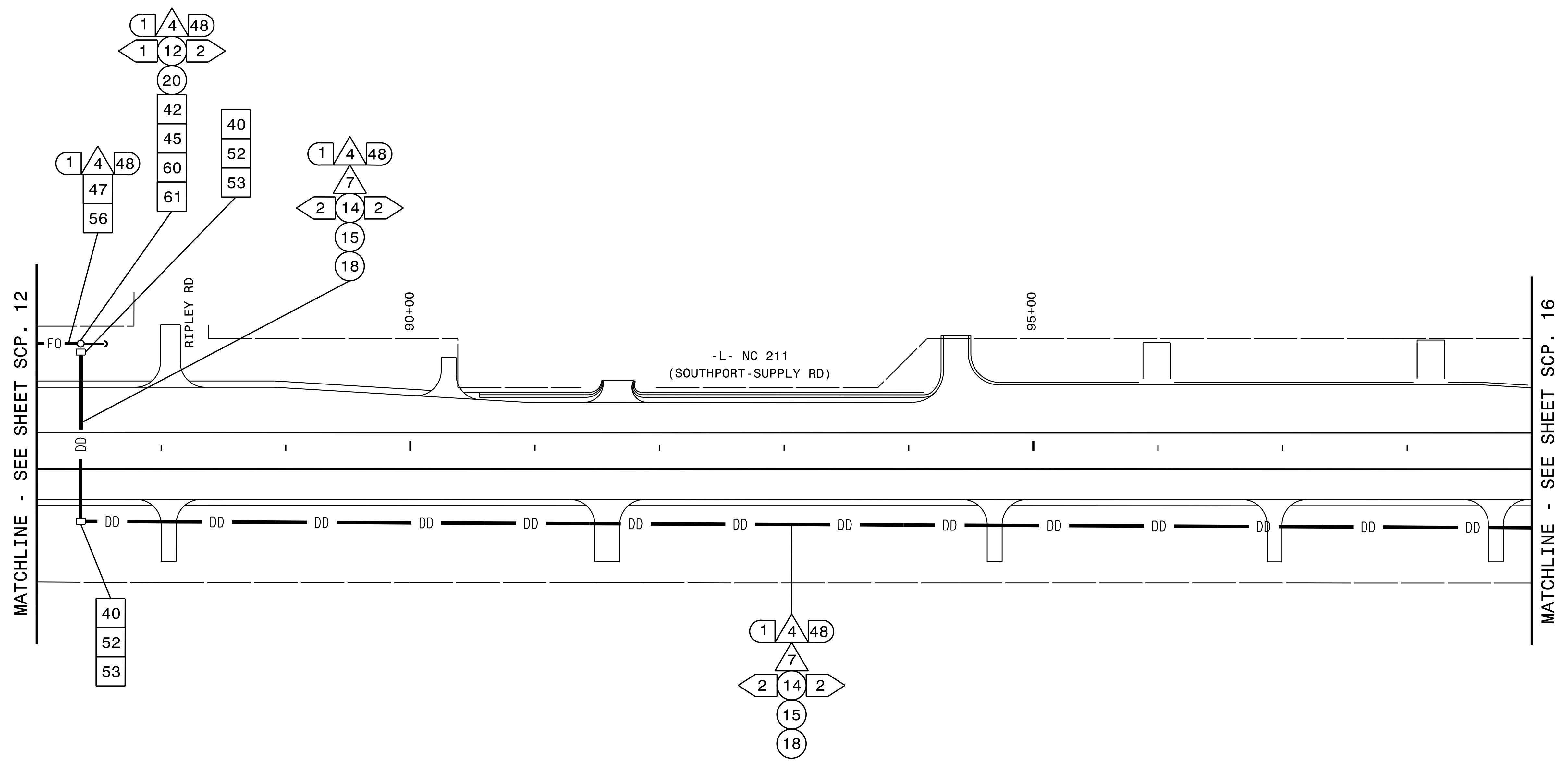
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NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) CABLE ROUTING PLAN	
Division 3	Brunswick Co. Southport
PLAN DATE: September 2021	REVIEWED BY: N.K. Vianich
PREPARED BY: T.R. Terrell	REVIEWED BY: N.R. Simmons
REVISIONS	INIT. DATE





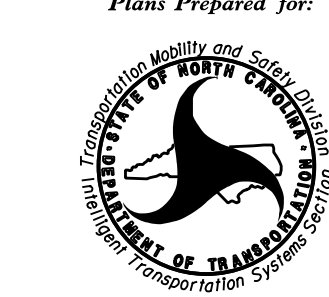
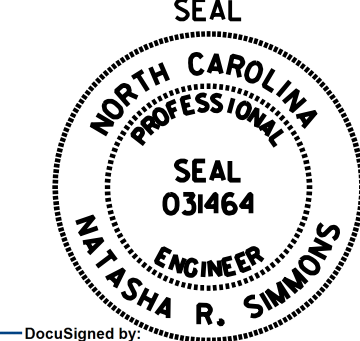
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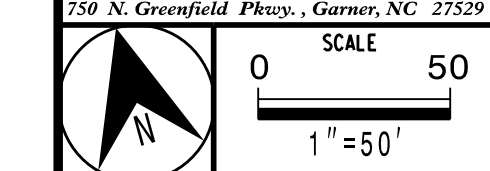
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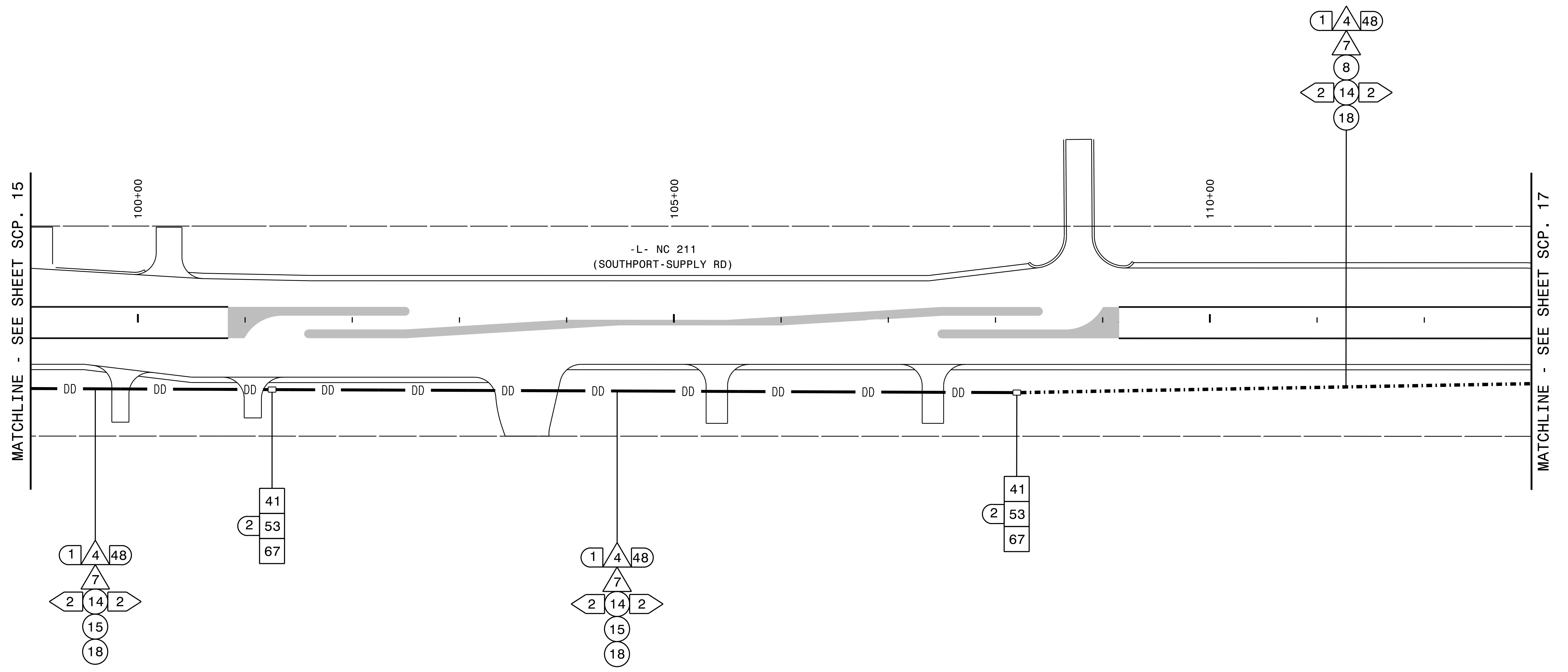
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 <small>250 N. Greenfield Place, Garner, NC 27529</small>	<b>NC 211</b> <b>(SOUTHPORT-SUPPLY RD / HOWE ST)</b> <b>CABLE ROUTING PLAN</b>		 <small>SEAL NATASHA R. SIMMONS ENGINEER 031464</small>
	<small>Division 3 Brunswick Co. Southport</small> <small>PLAN DATE: June 2017</small> <small>PREPARED BY: N.K. Vlanich</small>	<small>REVIEWED BY: T.R. Terrell</small> <small>REVIEWED BY: N.R. Simmons</small>	





MATCHLINE - SEE SHEET SCP. 15

MATCHLINE - SEE SHEET SCP. 17

-L- NC 211  
(SOUTHPORT-SUPPLY RD)

NOTES:

1. MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE EDGE OF PAVEMENT AND A MINIMUM OF FIVE (5) FEET BEHIND THE MSE WALL WHEN TRENCHING PARALLEL TO THE ROADWAY.
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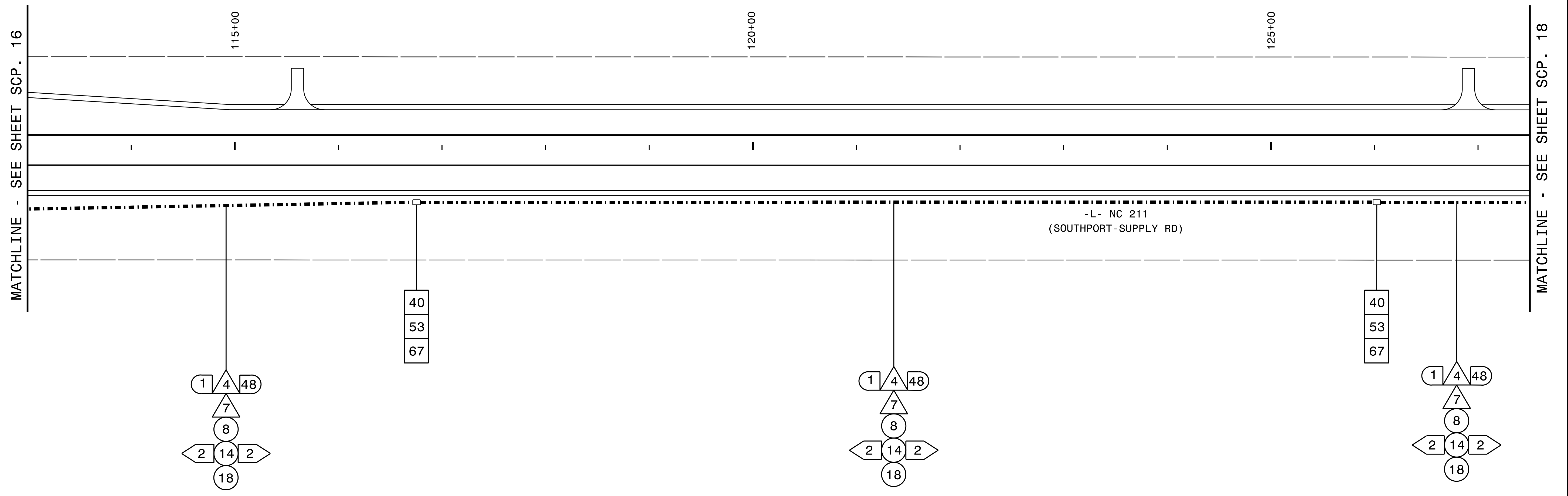
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	NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) CABLE ROUTING PLAN		
	Division 3 Brunswick Co. Southport	PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell	
750 N. Greenfield Place, Garner, NC 27529	REVISIONS _____ INIT. DATE	SIGNATURE _____ DATE	SEAL _____ DATE

DocuSigned by:  
 Natasha Simmons  
 9/9/2021  
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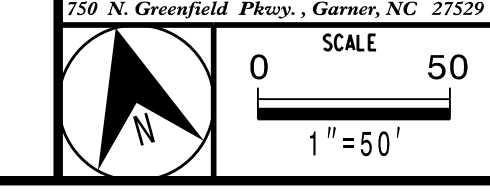
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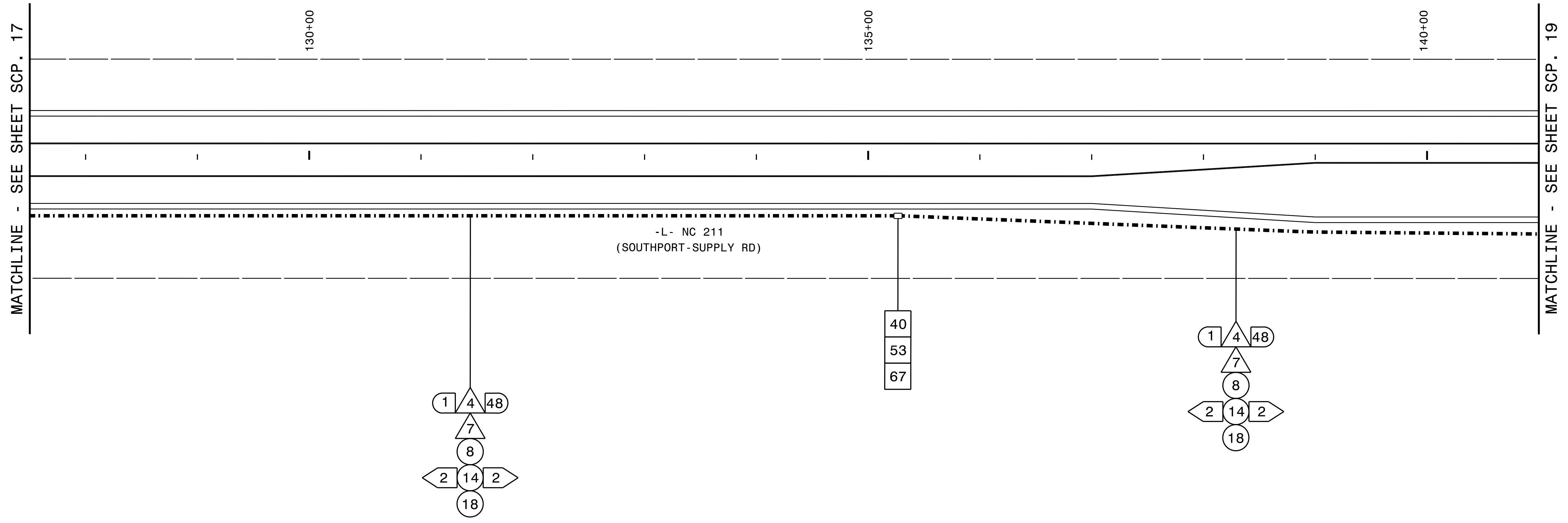
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 <small>250 N. Greenfield Place, Garner, NC 27529</small>	<b>NC 211</b> <b>(SOUTHPORT-SUPPLY RD / HOWE ST)</b> <b>CABLE ROUTING PLAN</b>		 <small>SEAL NATASHA R. SIMMONS ENGINEER 031464</small>
	<small>Division 3 Brunswick Co. Southport</small> <small>PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell</small> <small>PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons</small>	<small>DocuSigned by: Natasha Simmons 9/9/2021 F8DAB80F3AD446A SIGNATURE DATE CADD Filename: R5021_scp-17.dgn</small>	






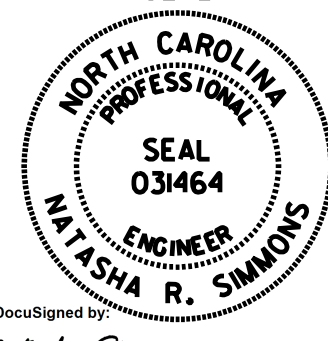

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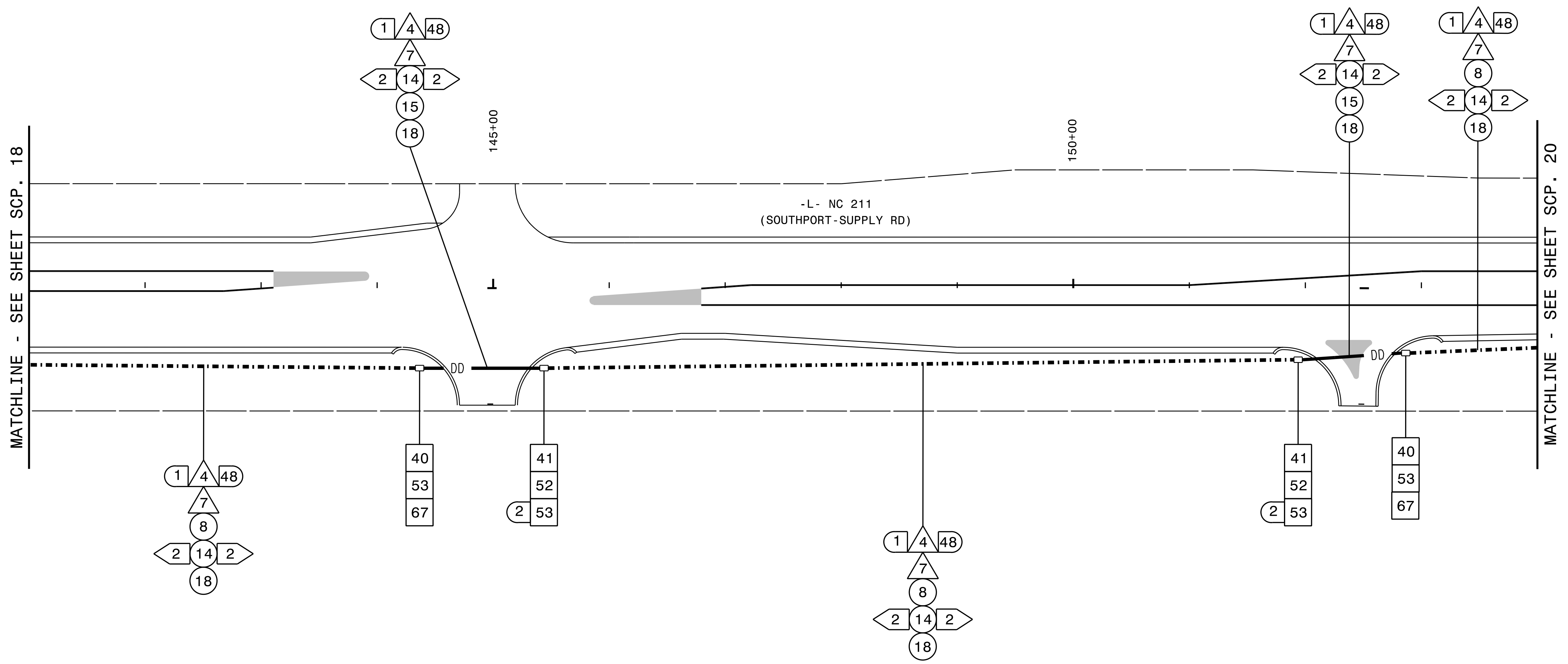
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 <small>250 N. Greenfield Place, Garner, NC 27529</small>	<b>NC 211</b> <b>(SOUTHPORT-SUPPLY RD / HOWE ST)</b> <b>CABLE ROUTING PLAN</b>		 <small>SEAL NATASHA R. SIMMONS ENGINEER 031464</small>						
	Division 3 Brunswick Co. Southport PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons								
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REVISIONS	INIT.	DATE							








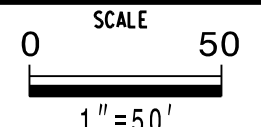
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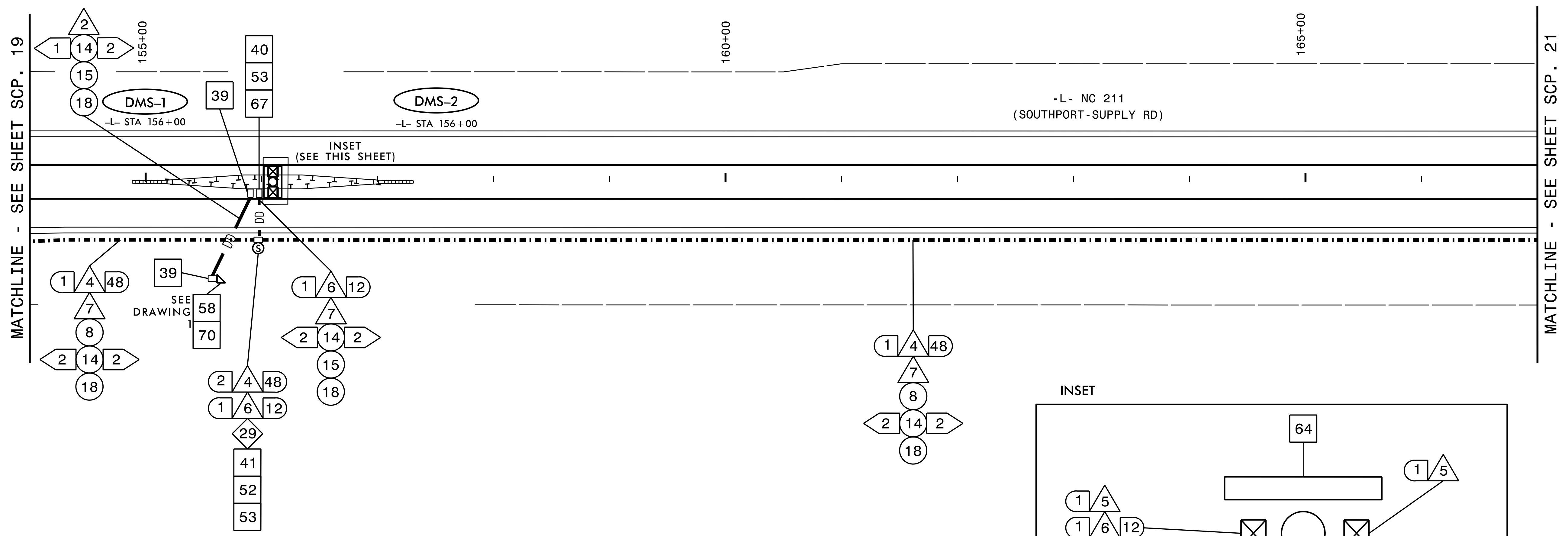
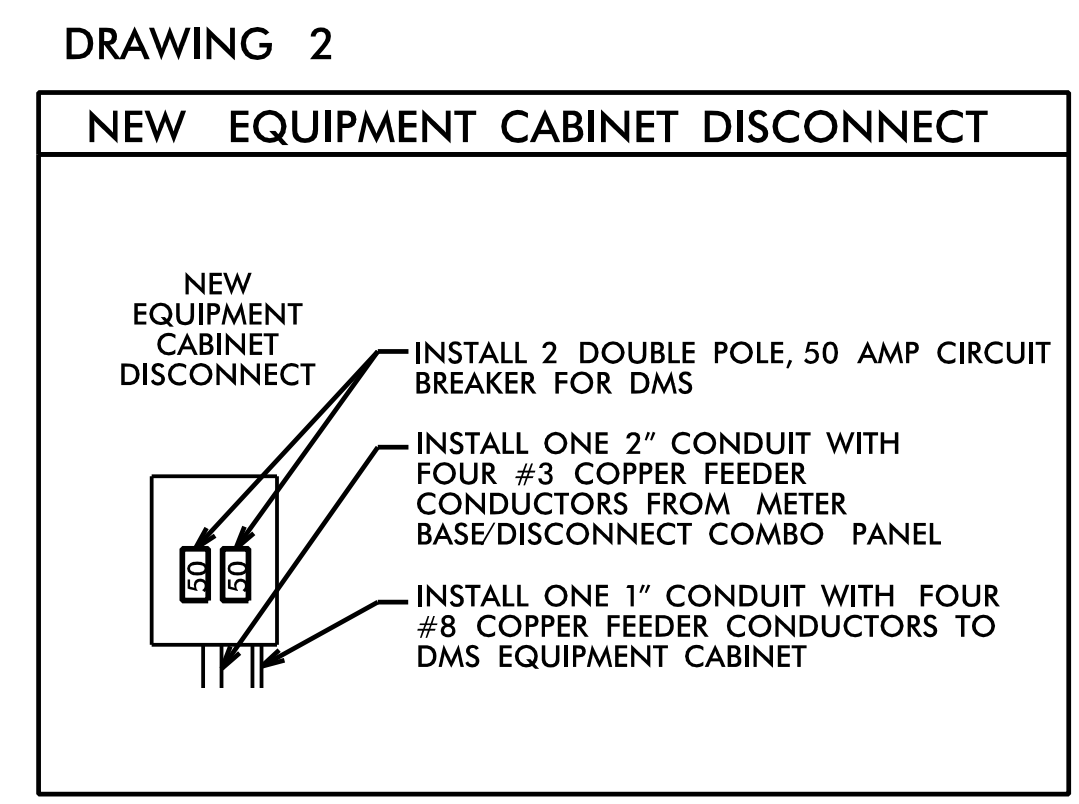
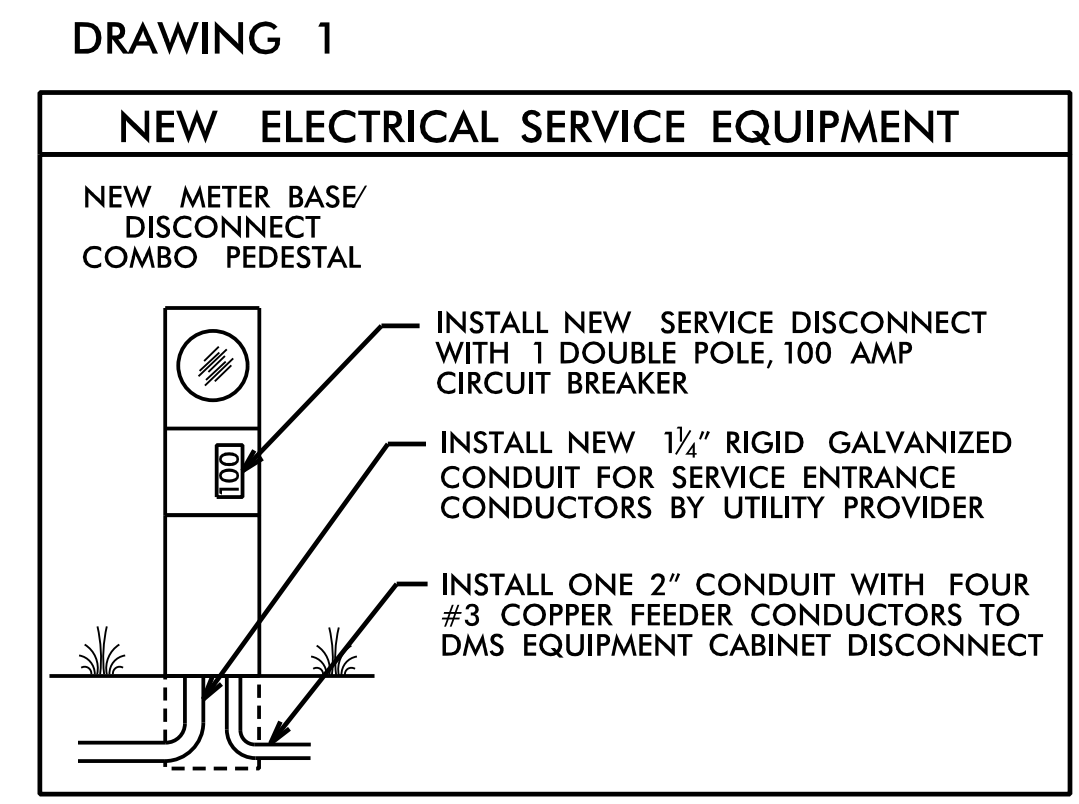
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 <small>250 N. Greenfield Place, Garner, NC 27529</small>	<b>NC 211</b> <b>(SOUTHPORT-SUPPLY RD / HOWE ST)</b> <b>CABLE ROUTING PLAN</b>		 <small>DocuSigned by: Natasha R. Simmons</small>						
	<small>Division 3 Brunswick Co. Southport</small> <small>PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell</small> <small>PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons</small>								
	<small>SCALE</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> </tbody> </table>	REVISIONS	INIT.	DATE				<small>DocuSigned by: Natasha R. Simmons</small> 9/9/2021 <small>SEAL 031464</small> <small>SIGNATURE DATE</small> <small>CADD Filename: R5021_scp-19.dgn</small>
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- NOTES:
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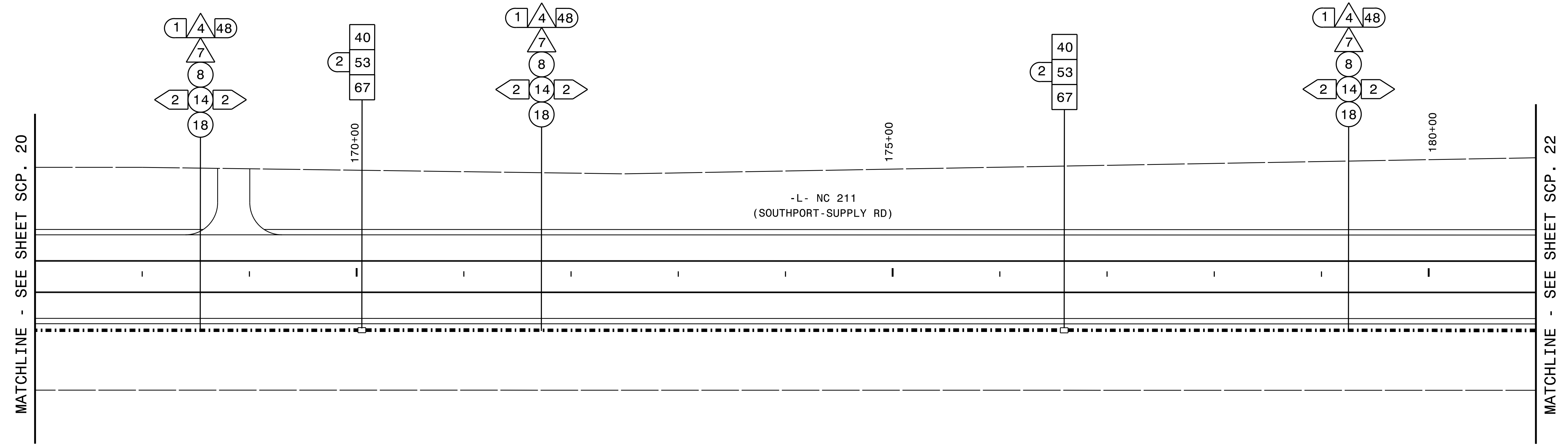
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PREPARED BY: N.K. Vlanich	REVIEWED BY: N.R. Simmons	REVISIONS	INIT. DATE
250 N. Greenfield Place, Garner, NC 27529	SCALE 0 50 1" = 50'	DocuSigned by: Natasha Simmons 9/9/2021	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER NATASHA R. SIMMONS SEAL 031464

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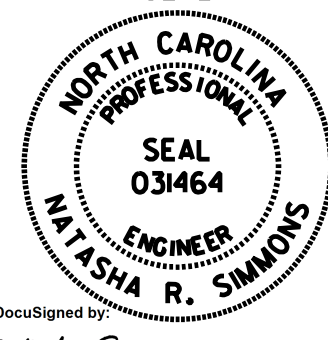
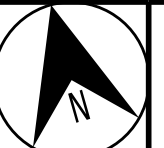
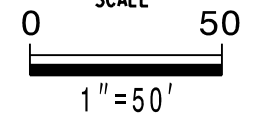
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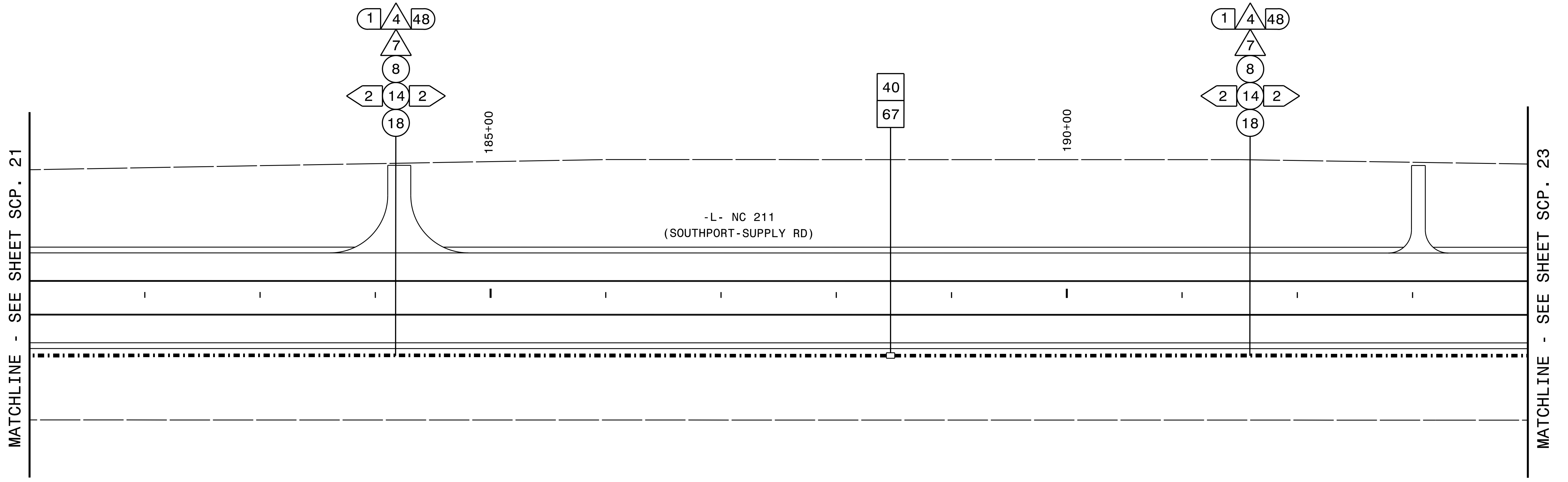
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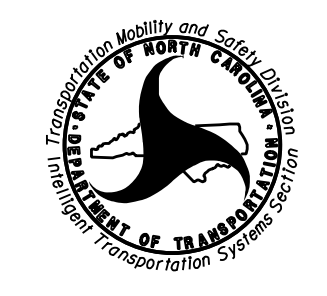
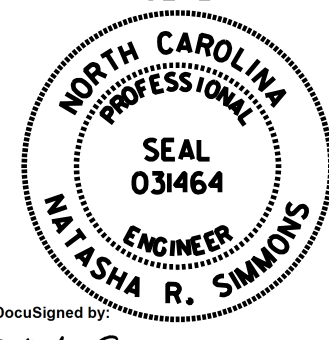


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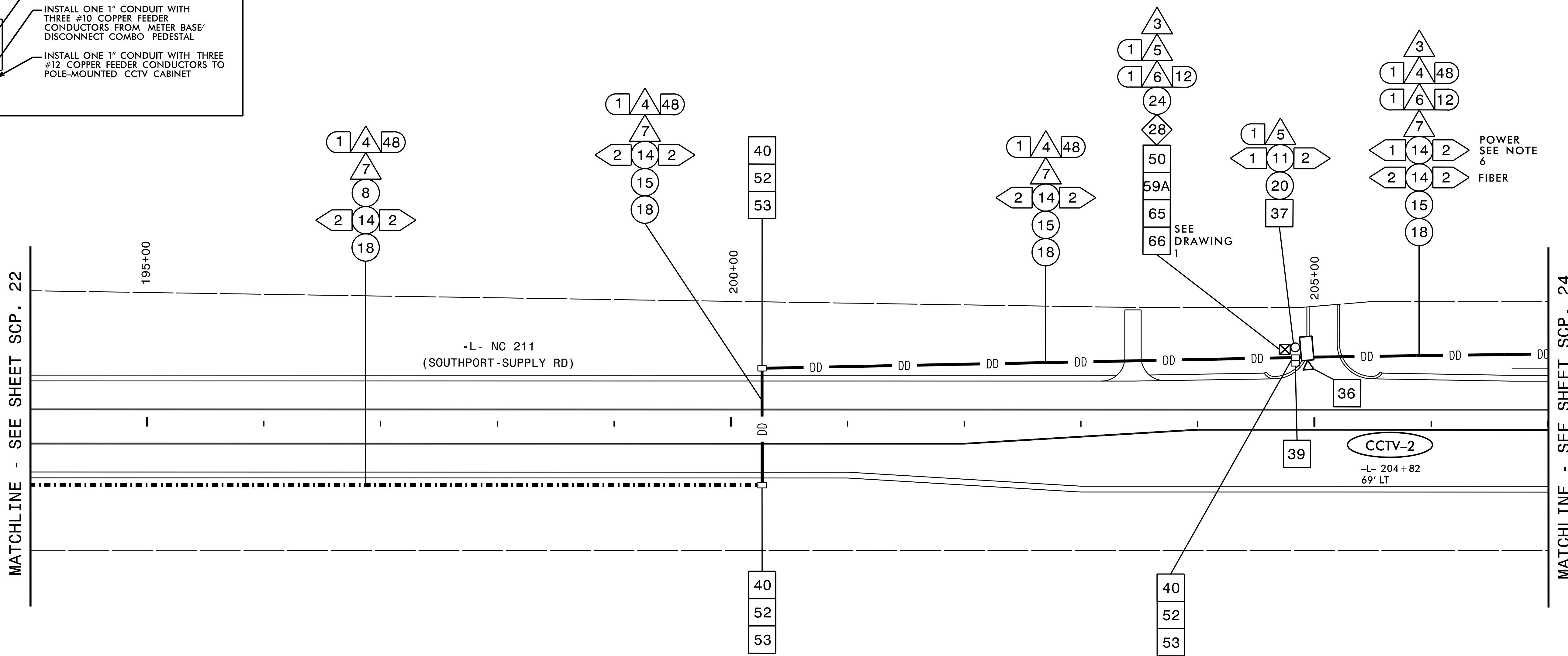
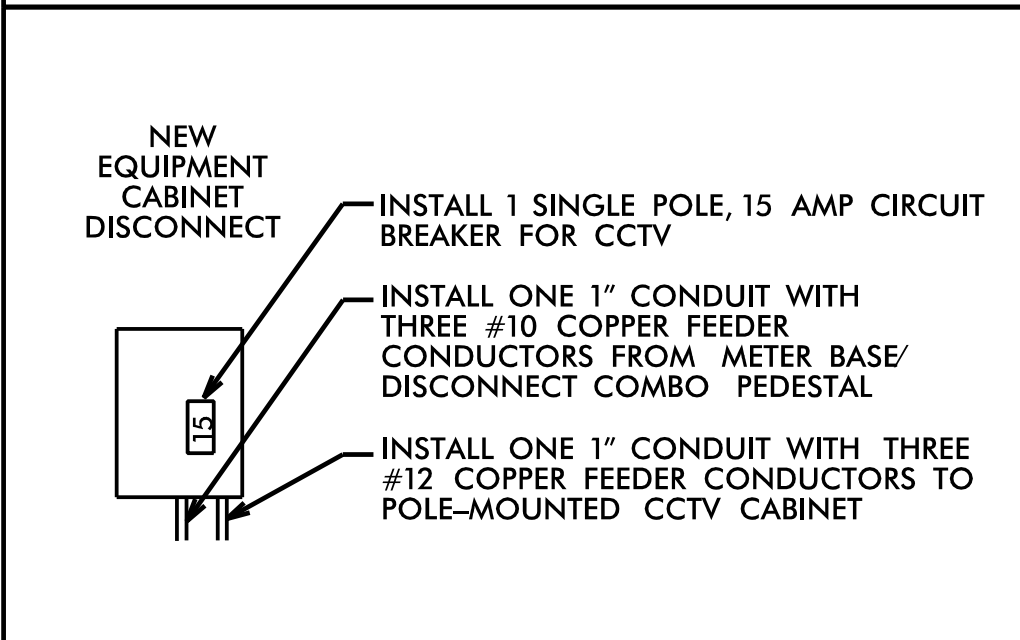
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NEW EQUIPMENT CABINET DISCONNECT



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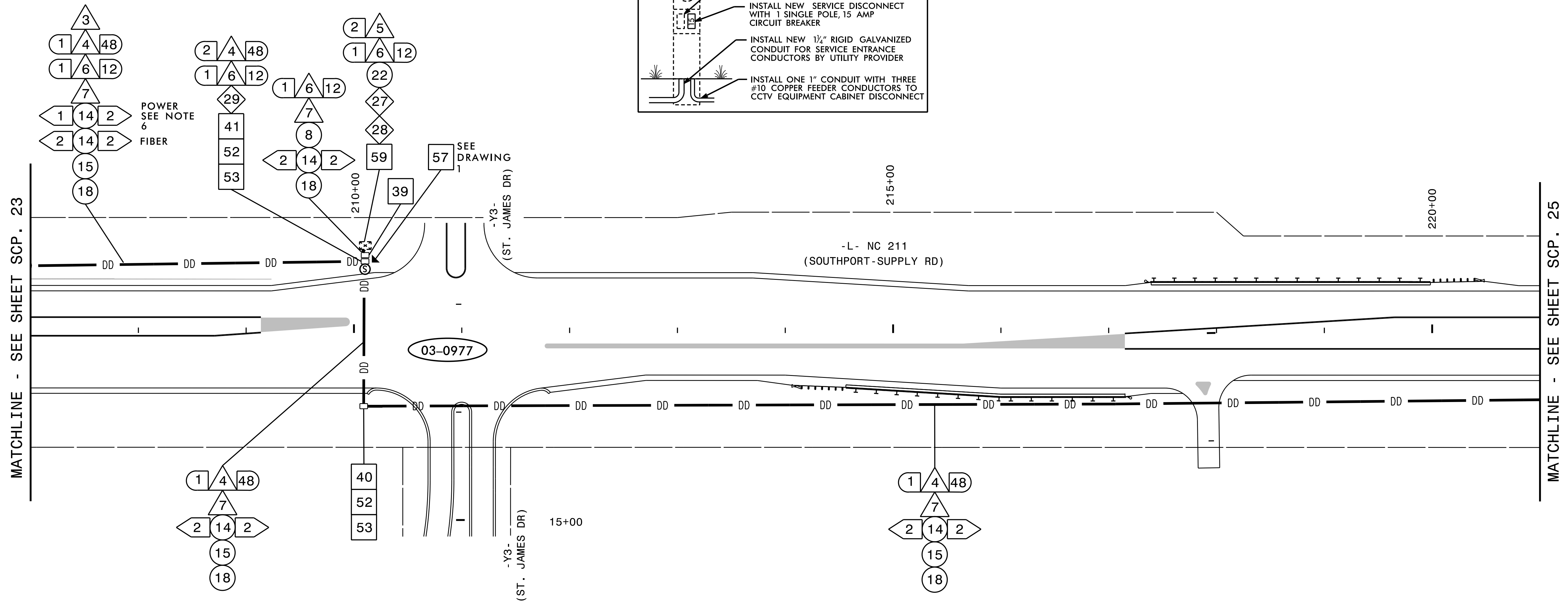
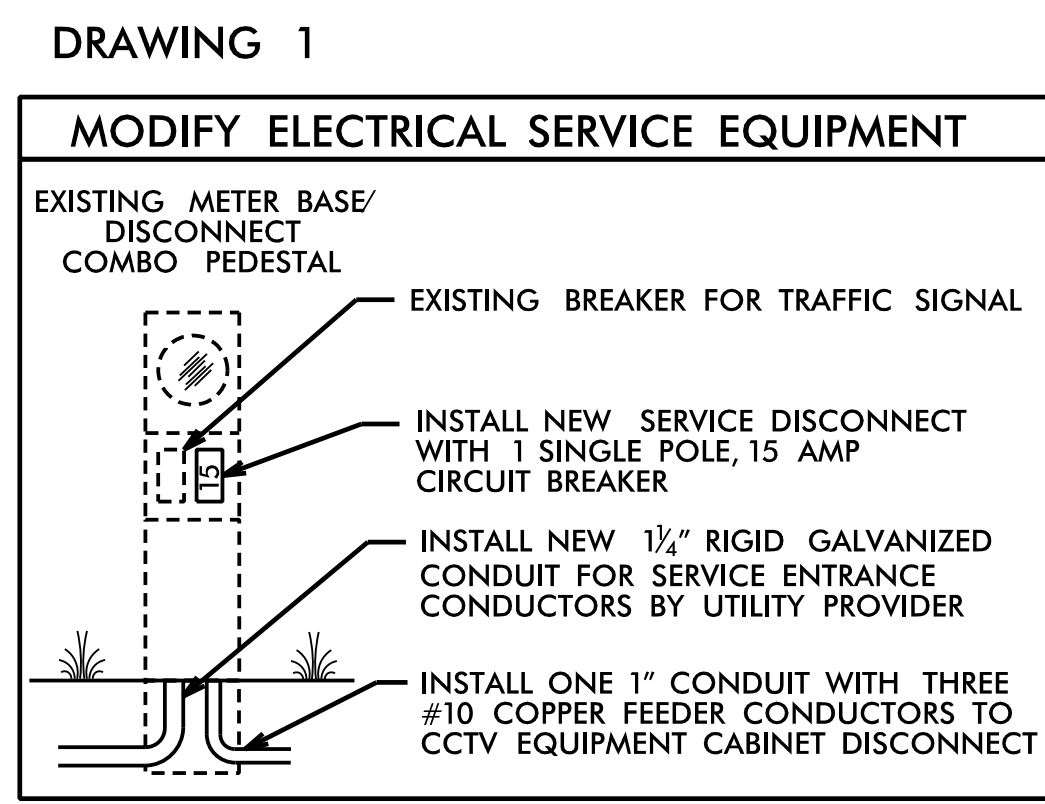
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	<p>NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) CABLE ROUTING PLAN</p>								
	<p>Division 3 Brunswick Co. Southport</p>	<p>PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell</p>		<p>PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons</p>					
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NC 211  
(SOUTHPORT-SUPPLY RD / HOWE ST)  
CABLE ROUTING PLAN

Division 3 Brunswick Co. Southport

PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell

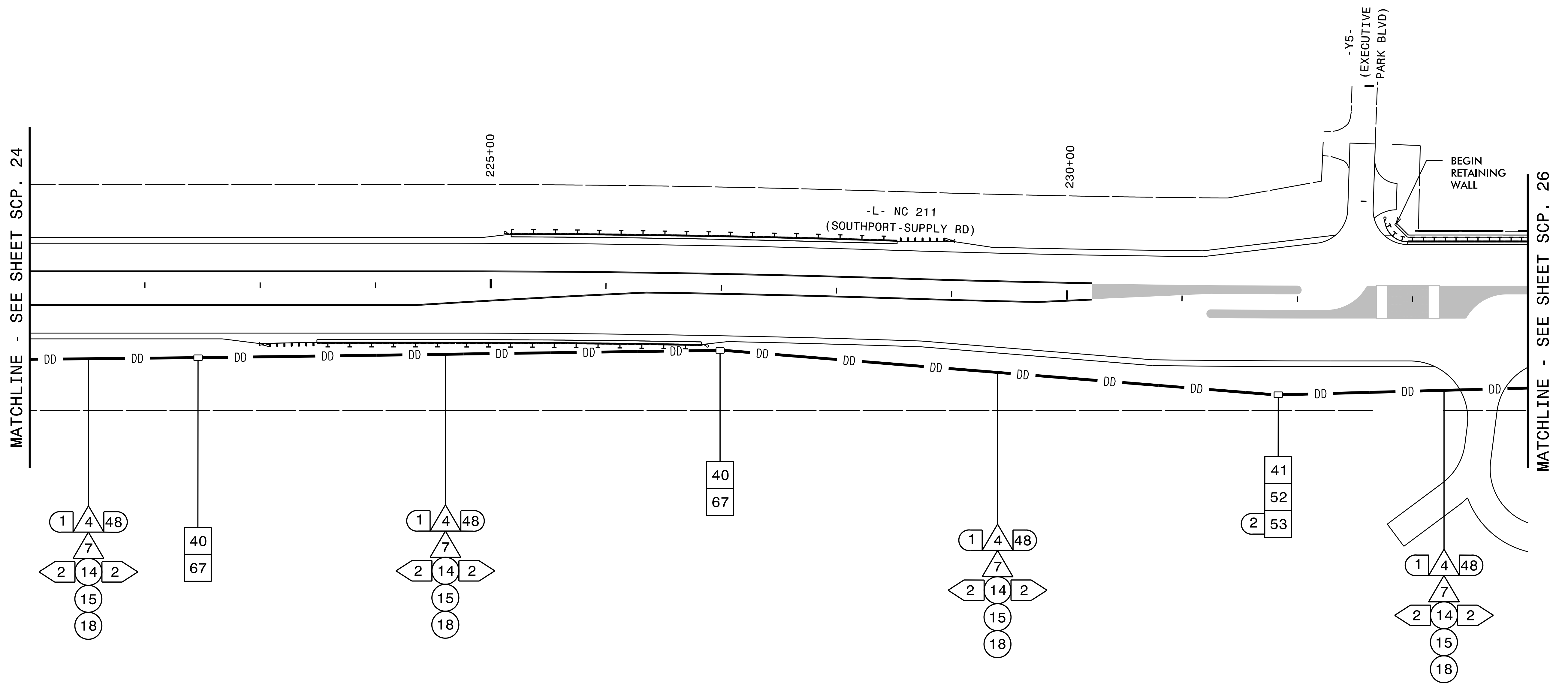
PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons

SEAL  
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ENGINEER  
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031464

DocuSigned by:  
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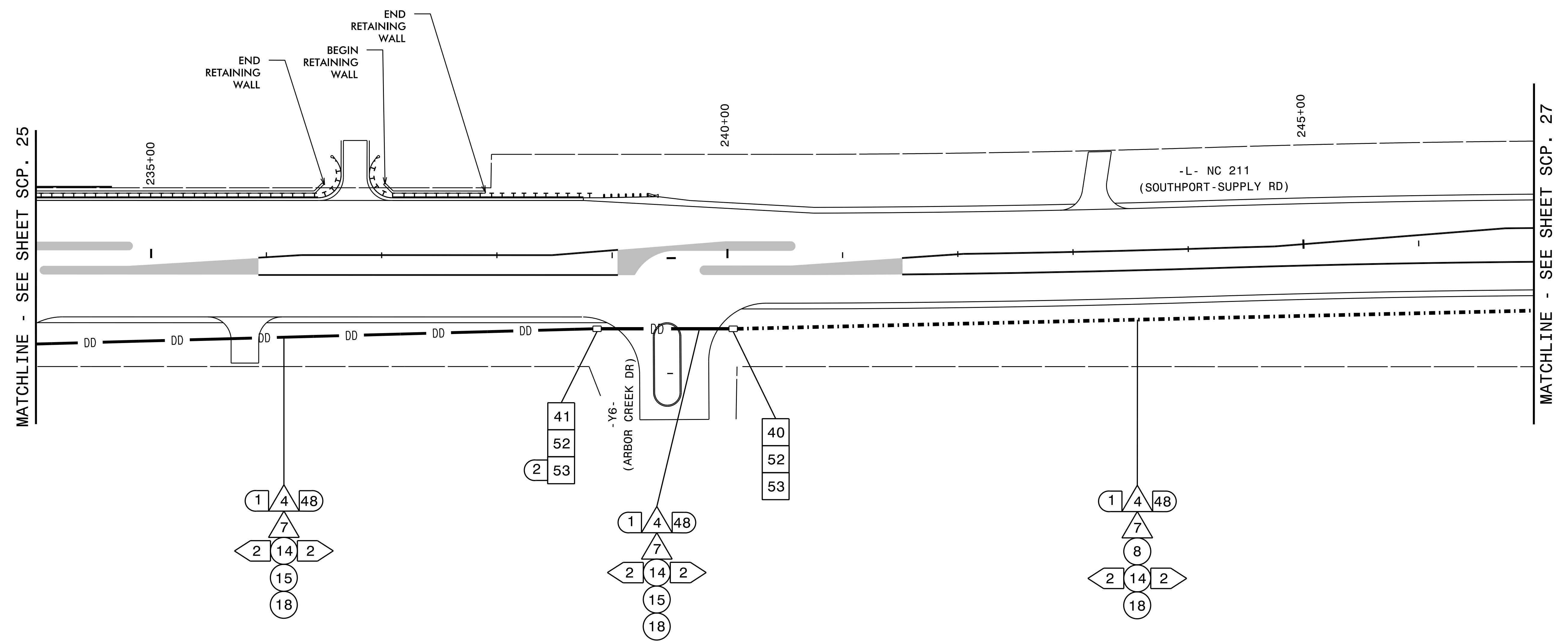
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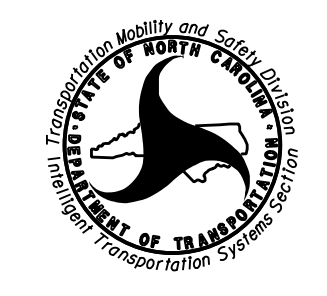
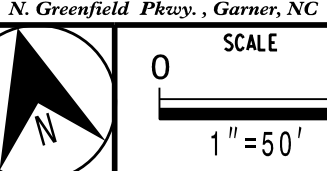
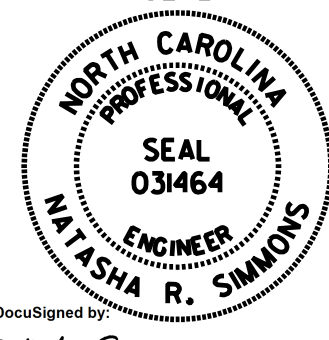

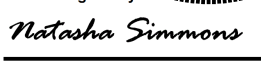
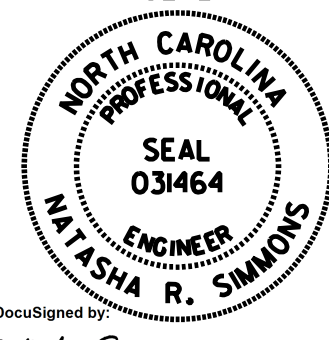
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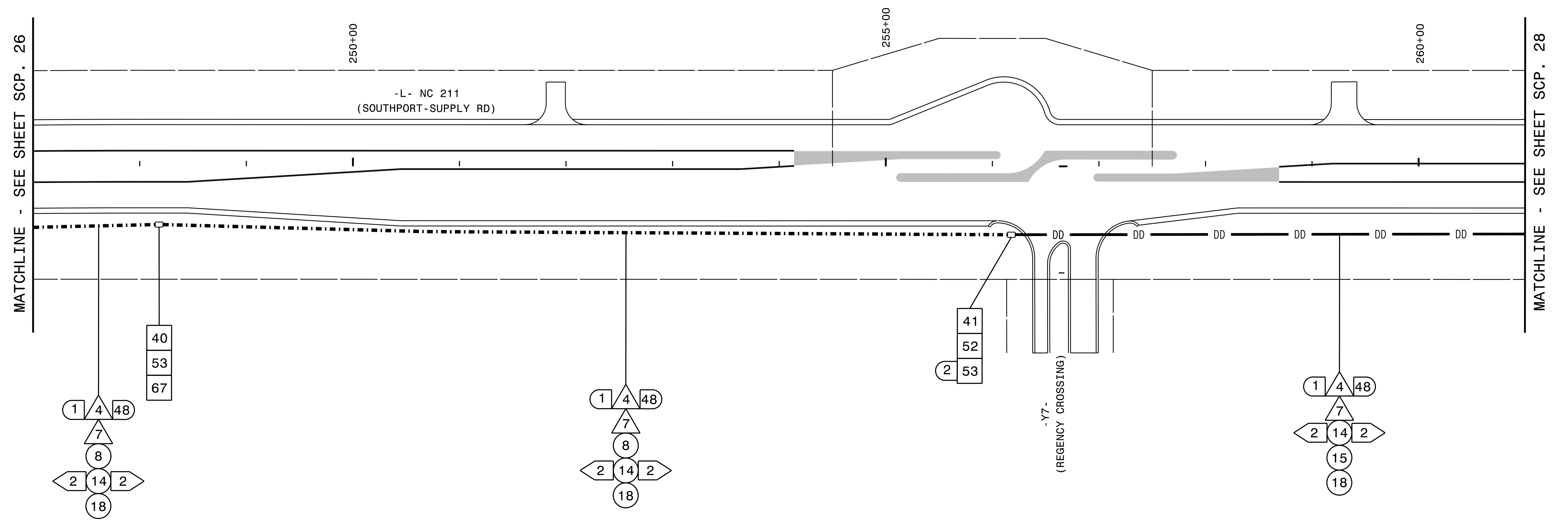
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 Plans Prepared for: 	<b>NC 211</b> <b>(SOUTHPORT-SUPPLY RD / HOWE ST)</b> <b>CABLE ROUTING PLAN</b>		SEAL  SEAL <b>031464</b> ENGINEER <b>NATASHA R. SIMMONS</b>								
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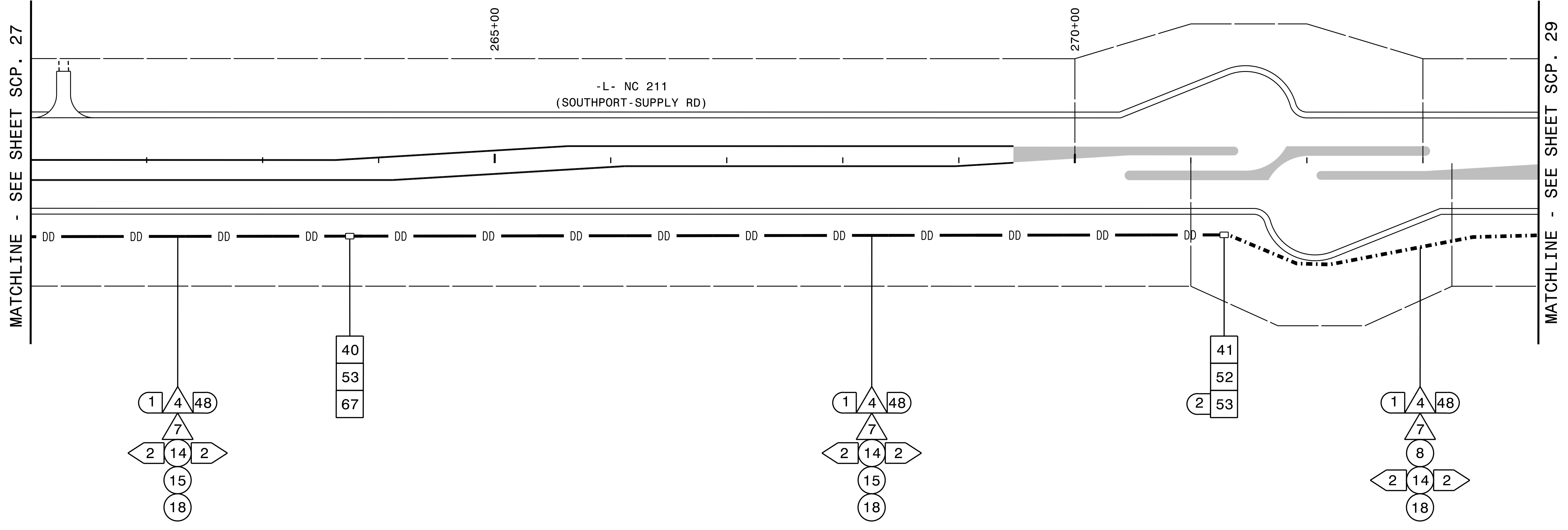
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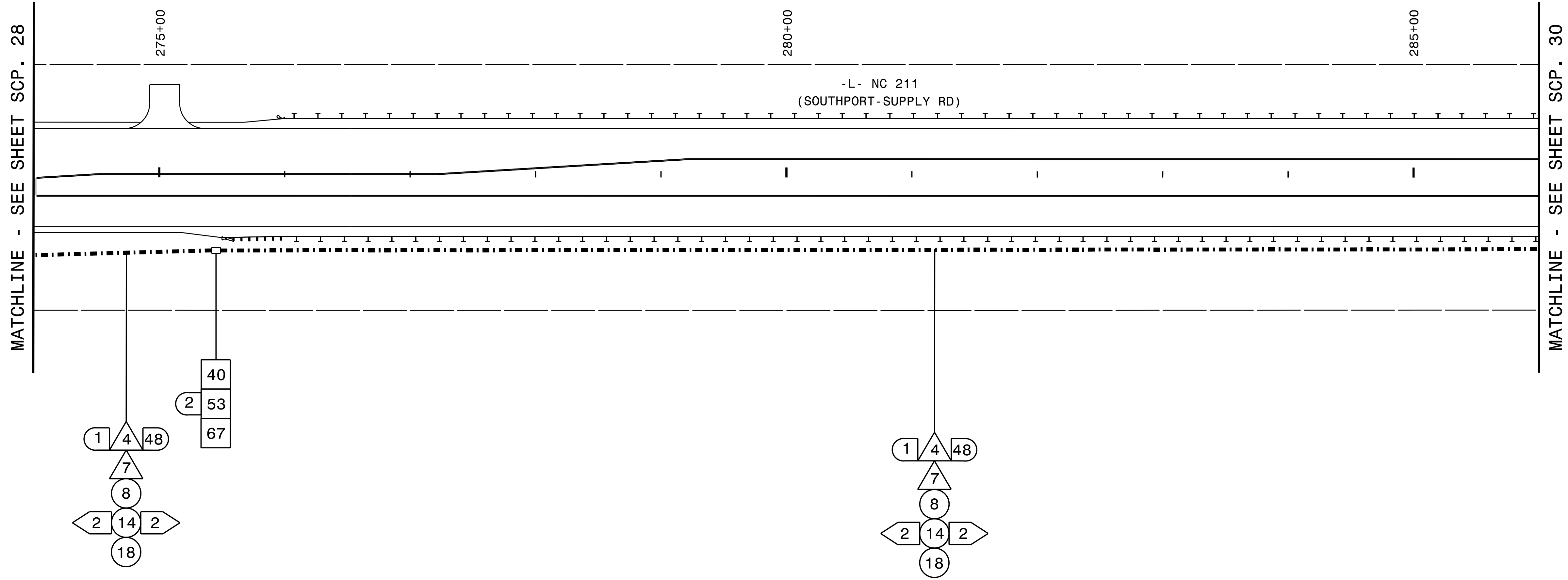
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	NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) CABLE ROUTING PLAN		
	Division 3 Brunswick Co. Southport	PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell	
PREPARED BY: N.K. Vlanich	REVIEWED BY: N.R. Simmons	DocuSigned by: Natasha R. Simmons 9/9/2021 Signature Date	
REVISIONS		INIT.	DATE
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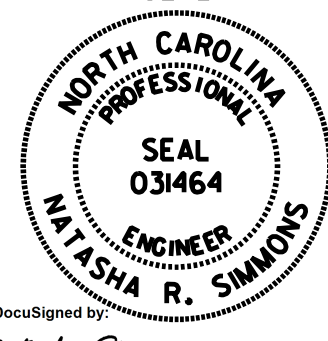

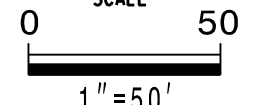
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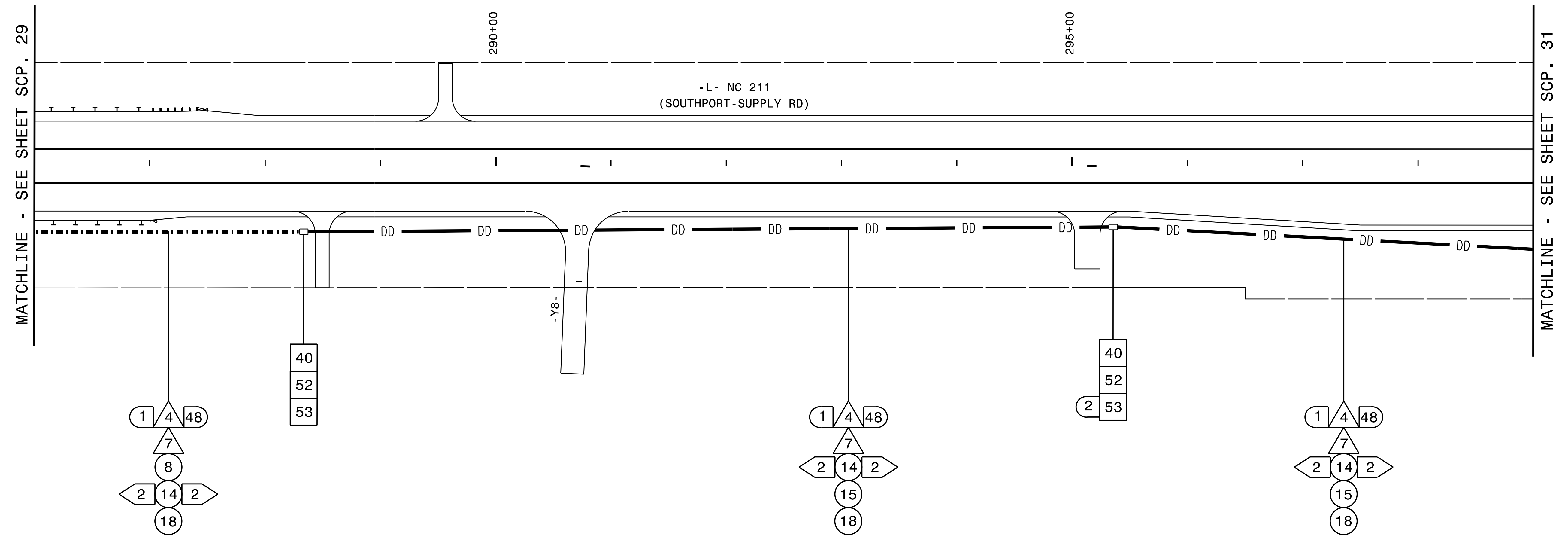
1. MAINTAIN A MINIMUM OF SIX (6) FEET FROM THE EDGE OF PAVEMENT AND A MINIMUM OF FIVE (5) FEET BEHIND THE MSE WALL WHEN TRENCHING PARALLEL TO THE ROADWAY.
2. SEAL ALL CONDUIT ENTRANCES WITH DUCT AND CONDUIT SEALER AT ALL JUNCTION BOX / CABINET ENTRANCES.

**HNTB**  
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 <small>250 N. Greenfield Place, Garner, NC 27529</small>	<b>NC 211</b> <b>(SOUTHPORT-SUPPLY RD / HOWE ST)</b> <b>CABLE ROUTING PLAN</b>		 <small>DocuSigned by: Natasha Simmons 9/9/2021</small>								
	<small>Division 3 Brunswick Co. Southport</small> <small>PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell</small> <small>PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons</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> </tbody> </table>		REVISIONS	INIT.	DATE					
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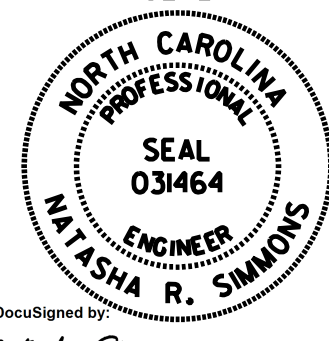

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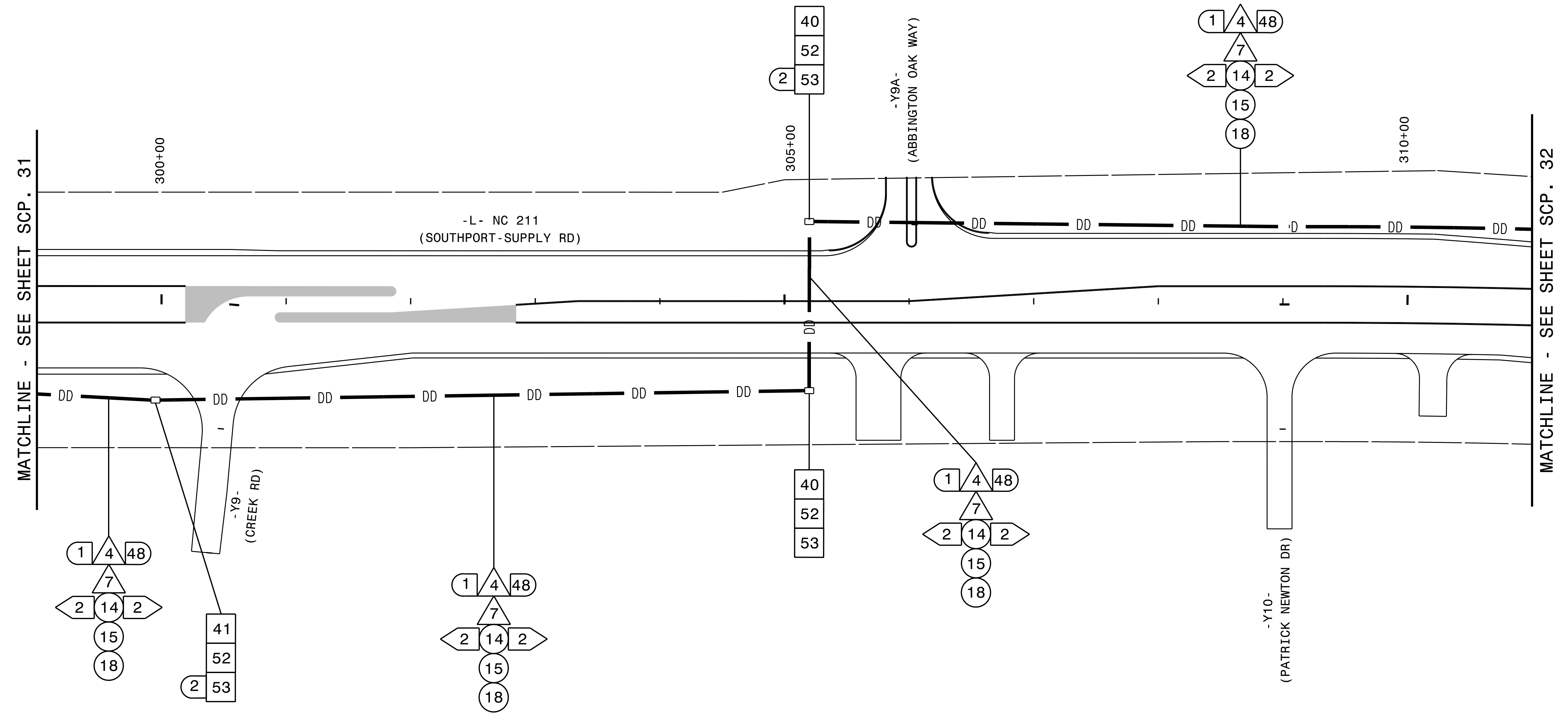
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MATCHLINE - SEE SHEET SCP. 31

MATCHLINE - SEE SHEET SCP. 32


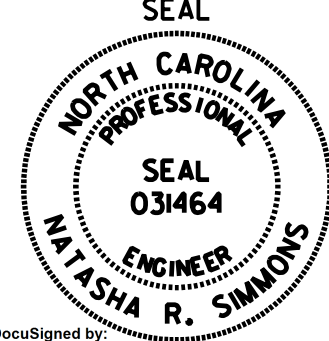

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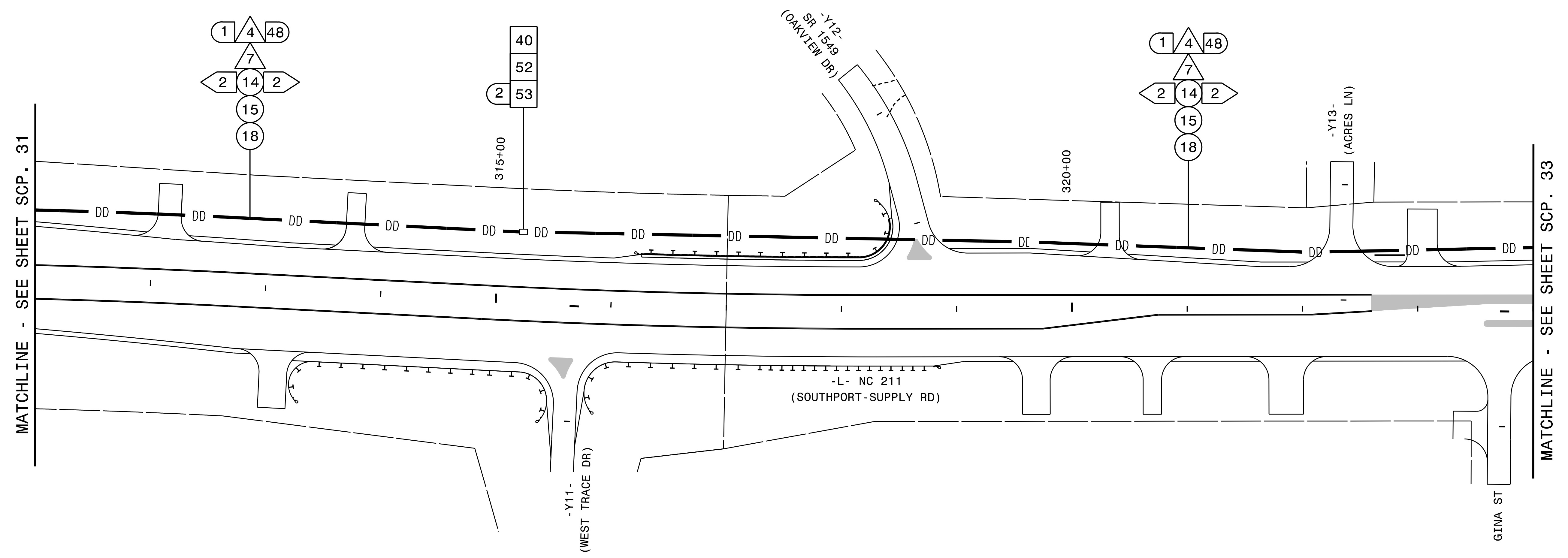
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REVISIONS	INIT.	DATE						
 SCALE 0 50 1" = 50'	DocuSigned by: Natasha Simmons 9/9/2021 PEDAB80F3AD445A SIGNATURE DATE CADD Filename: R5021_scp-31.dgn		SEAL NORTH CAROLINA PROFESSIONAL SEAL 031464 ENGINEER NATASHA R. SIMMONS					



MATCHLINE - SEE SHEET SCP. 31

MATCHLINE - SEE SHEET SCP. 33

NOTES:

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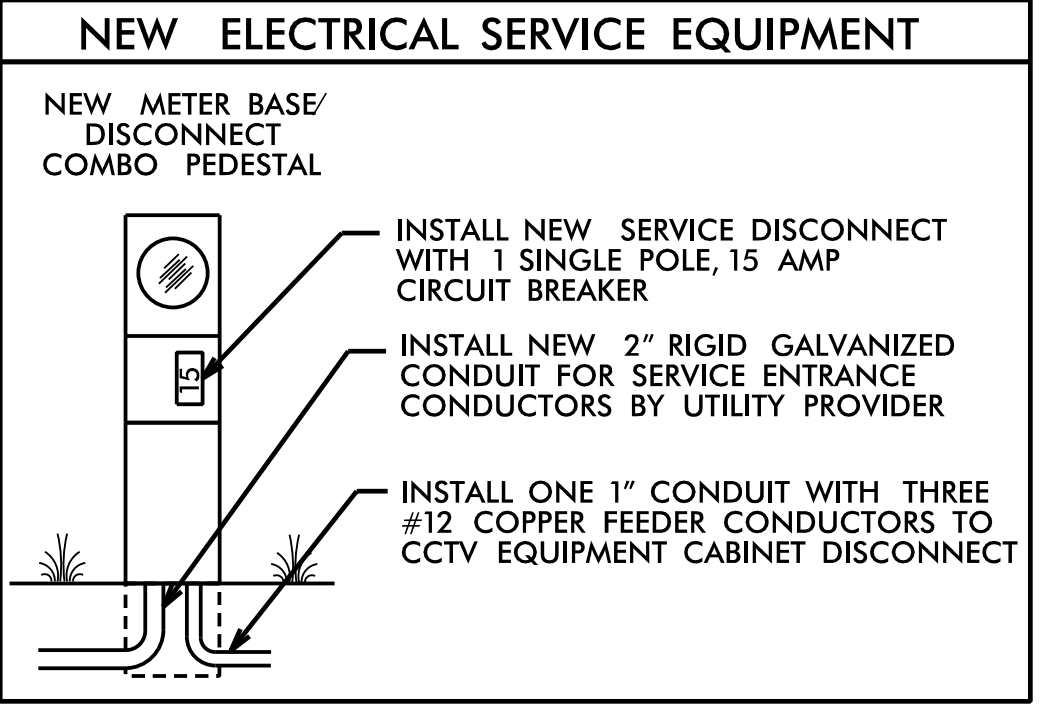
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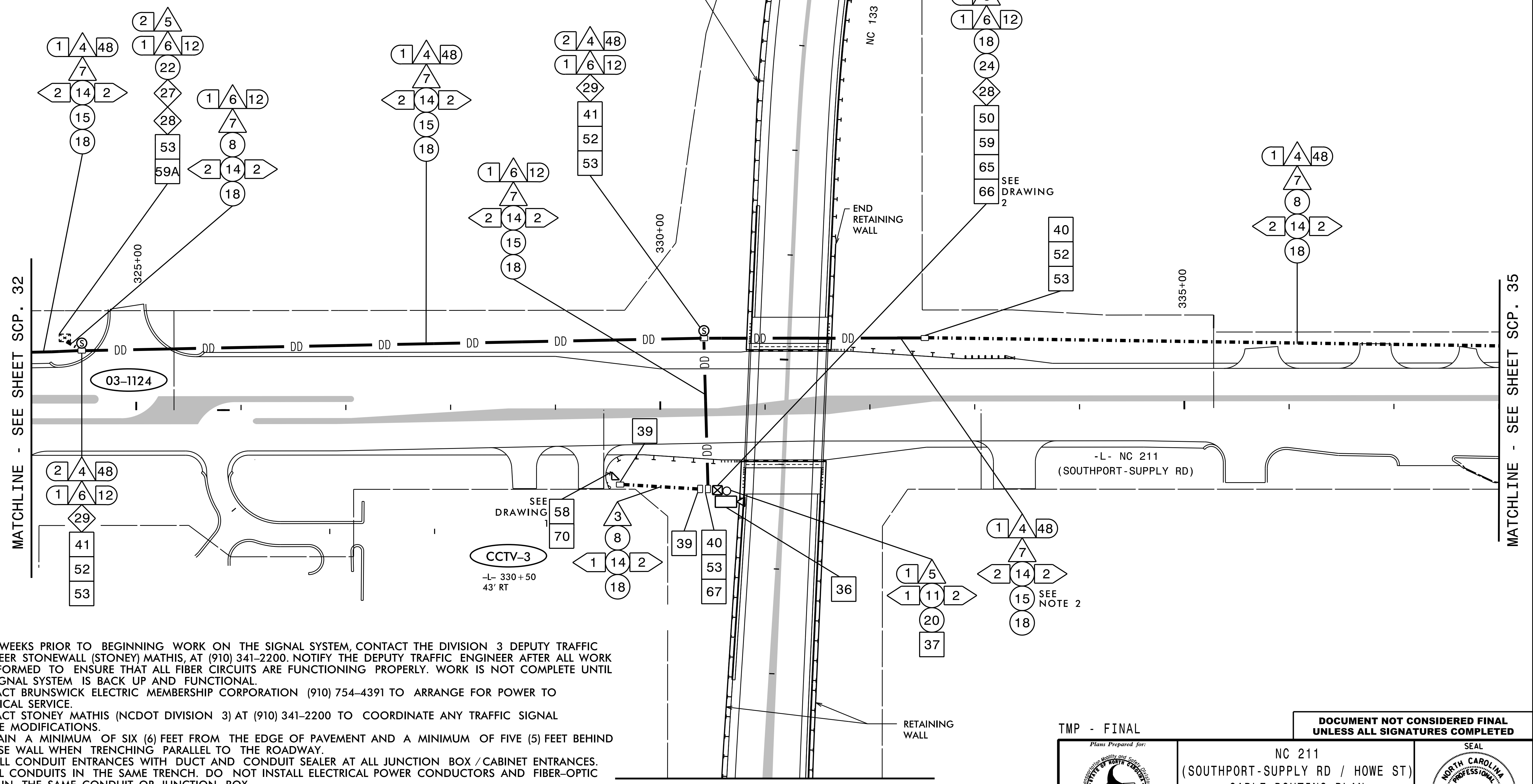
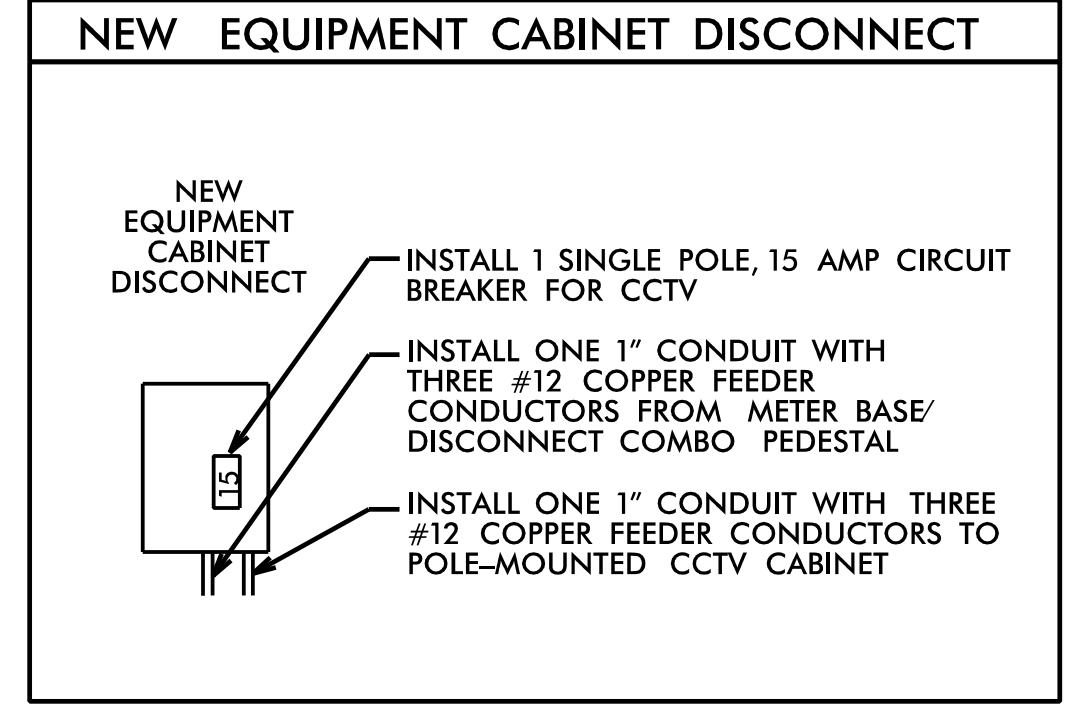
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SCALE: 1" = 50'		SIGNATURE DATE	
CADD Filename: R5021_scp-32.dgn			

DocuSigned by:  
 Natasha Simmons  
 9/9/2021  
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 NORTH CAROLINA  
 PROFESSIONAL  
 SEAL  
 031464  
 ENGINEER  
 NATASHA R. SIMMONS

DRAWING 1  
NEW ELECTRICAL SERVICE EQUIPMENT



DRAWING 2  
NEW EQUIPMENT CABINET DISCONNECT



NOTES:

- SIX (6) WEEKS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE DIVISION 3 DEPUTY TRAFFIC ENGINEER STONEWALL (STONEY) MATHIS, AT (910) 341-2200. 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.
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- NCDOT DIVISION 3 WILL FURNISH AND INSTALL THE CCTV AND DMS CELL MODEM. CONTACT SIX (6) WEEKS PRIOR BEGINNING WORK.

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NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) CABLE ROUTING PLAN

Division 3 Brunswick Co. Southport

PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell

PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons

REVISIONS	INIT.	DATE

SEAL NORTH CAROLINA PROFESSIONAL ENGINEER 031464 NAYASHA R. SIMMONS

DocuSigned by: *Netasha Simmons* 9/9/2021

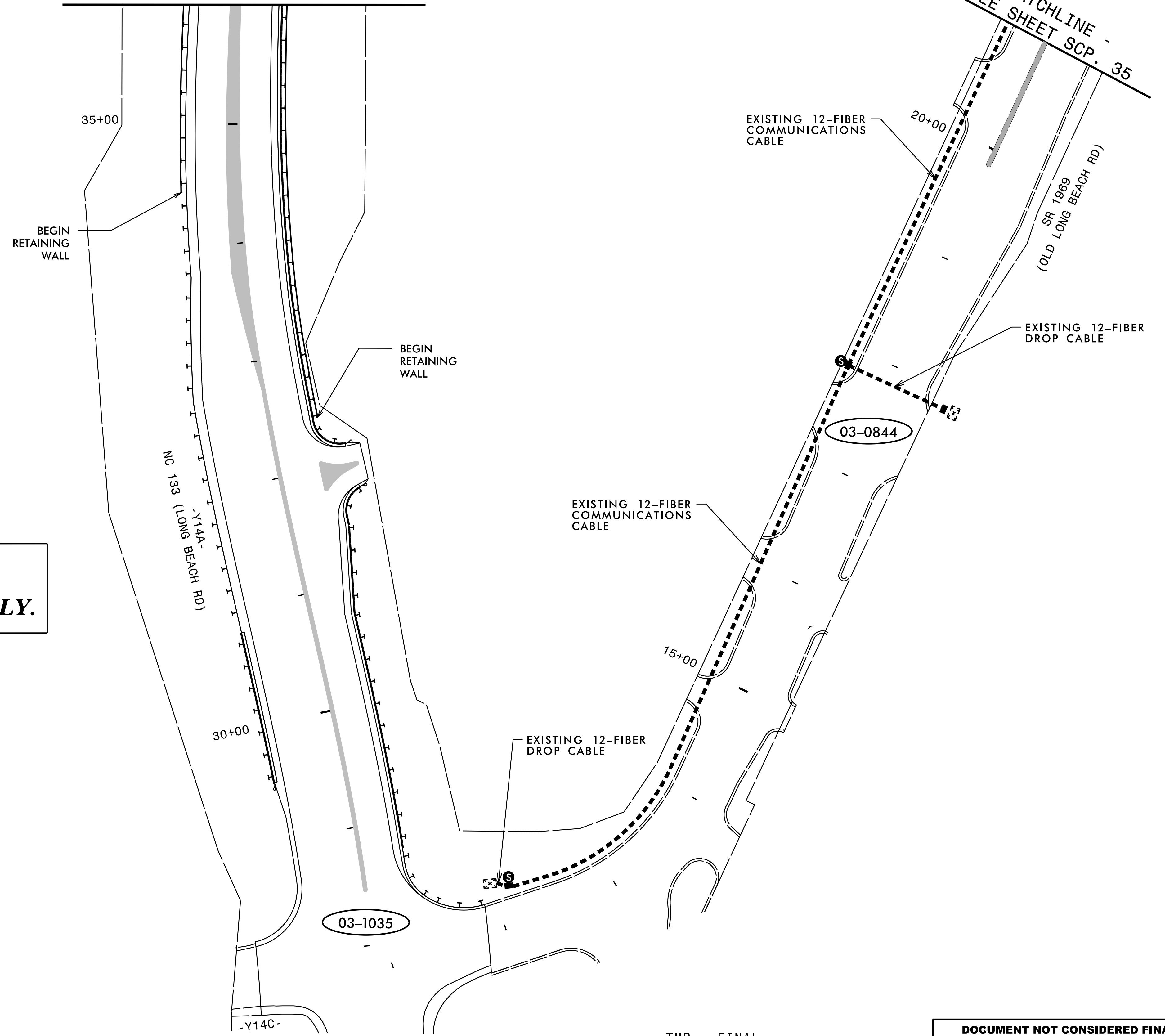
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MATCHLINE - SEE SHEET SCP. 33

MATCHLINE - SEE SHEET SCP. 35

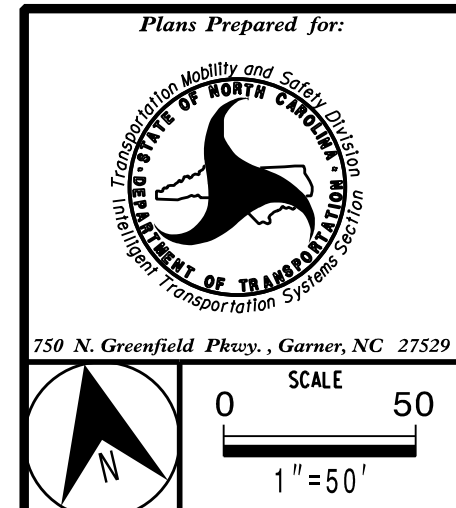
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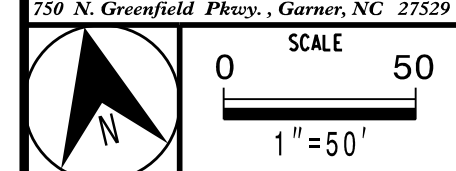
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Plans Prepared for:	
NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) CABLE ROUTING PLAN	
Division 3	Brunswick Co. Southport
PLAN DATE: June 2017	REVIEWED BY: T.R. Terrell
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 PROFESSIONAL  
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 031464  
 ENGINEER  
 NATASHA R. SIMMONS

DocuSigned by:  
 Natasha Simmons  
 9/9/2021  
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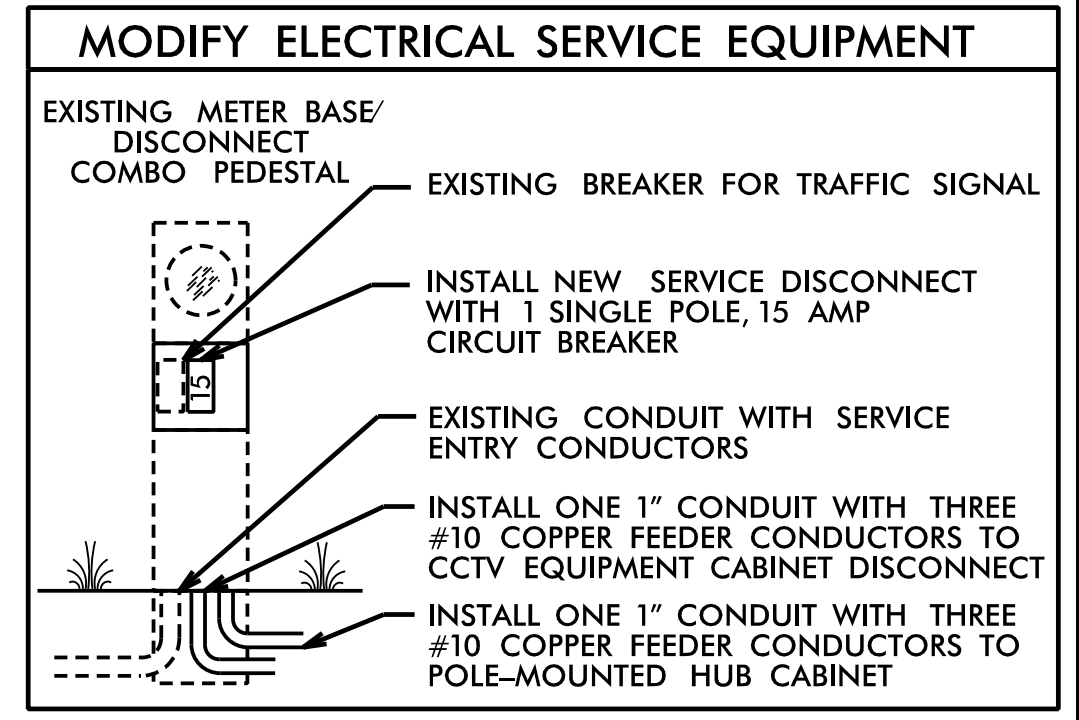


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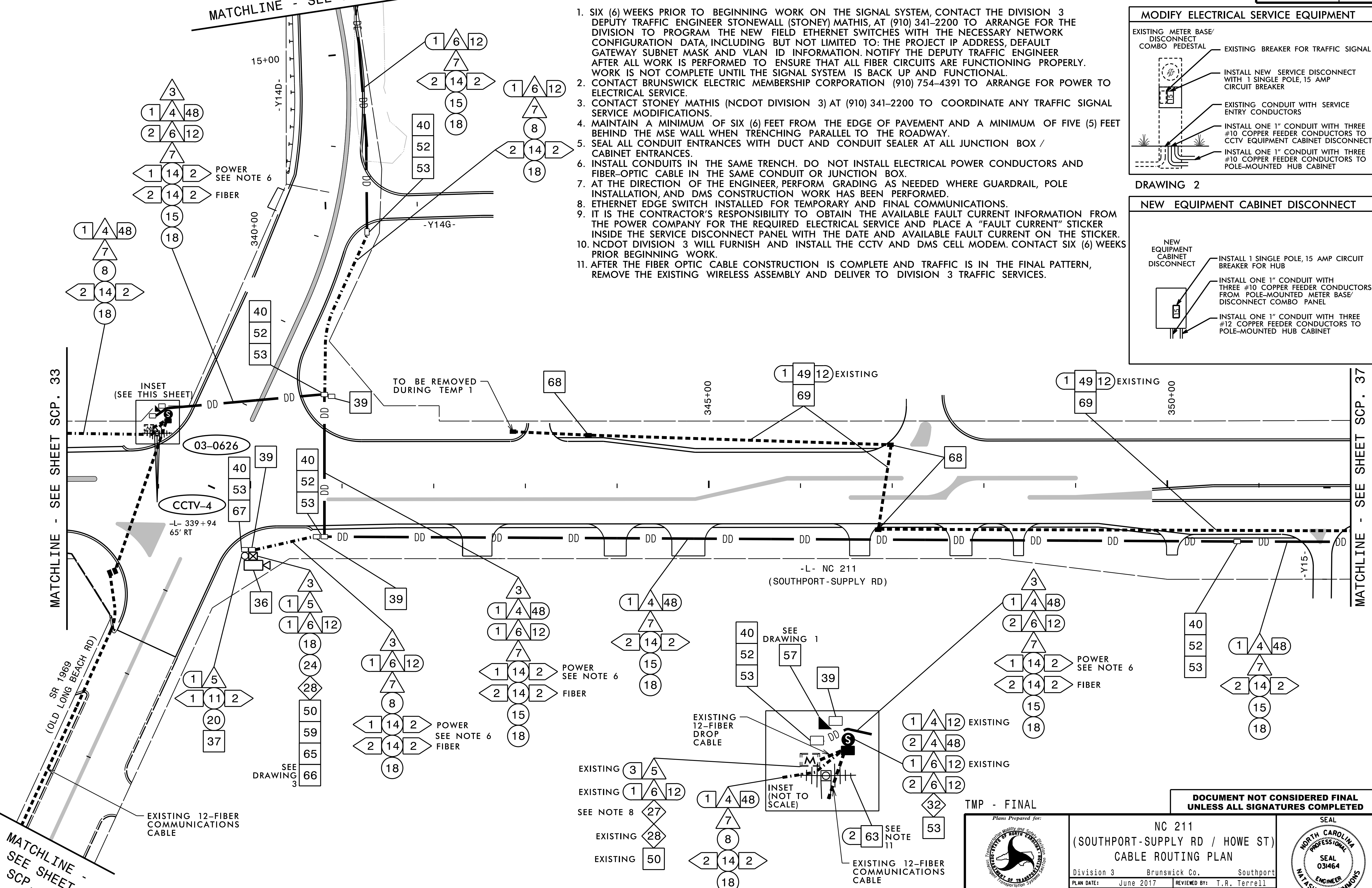
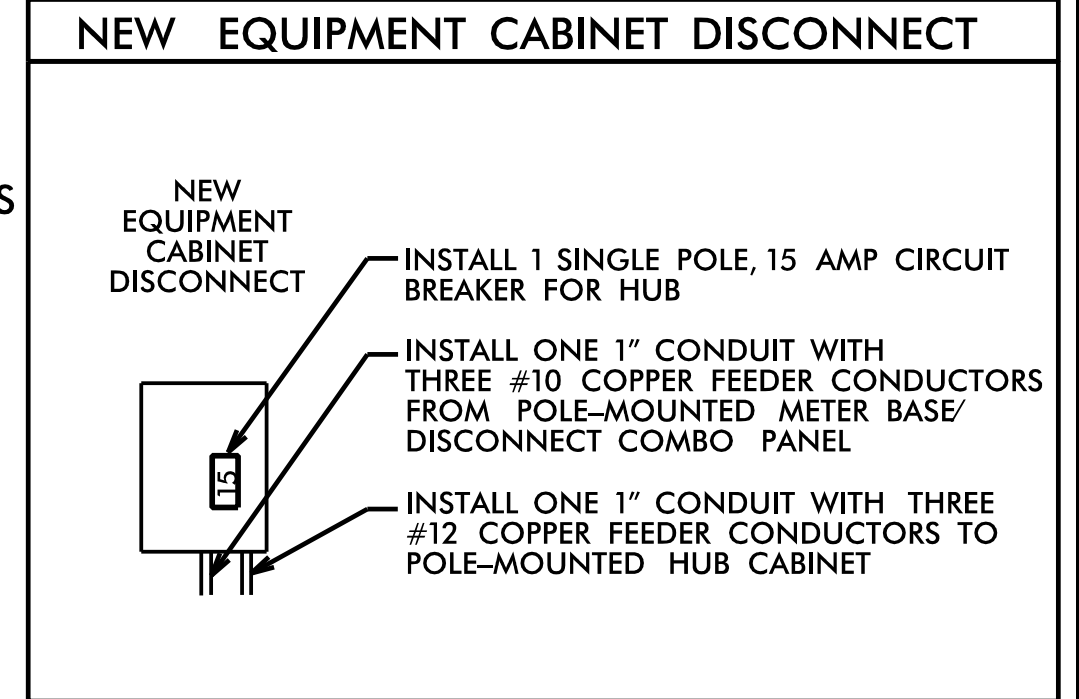
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DRAWING 1



DRAWING 2



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Plans Prepared for:

**NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) CABLE ROUTING PLAN**

Division 3 Brunswick Co. Southport

PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell

PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons

REVISIONS: INIT. DATE

SCALE: 1" = 50'

SEAL NORTH CAROLINA PROFESSIONAL ENGINEER 031464 N. ASH R. SIMMONS

DocuSigned by: Natasha Simmons 9/9/2021

CADD File name: R5021 scp-35.dgn

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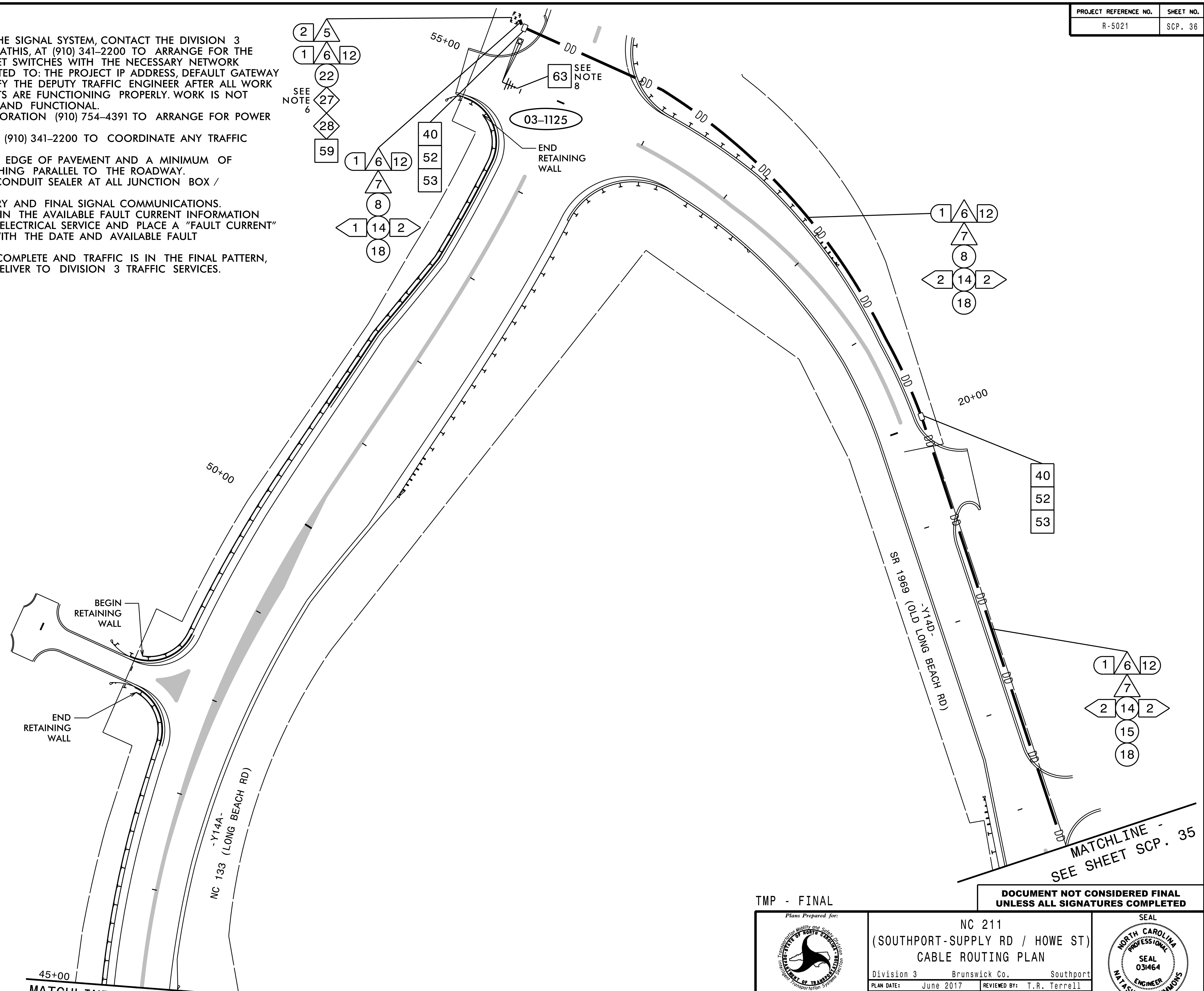
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MATCHLINE - SEE SHEET SCP. 34

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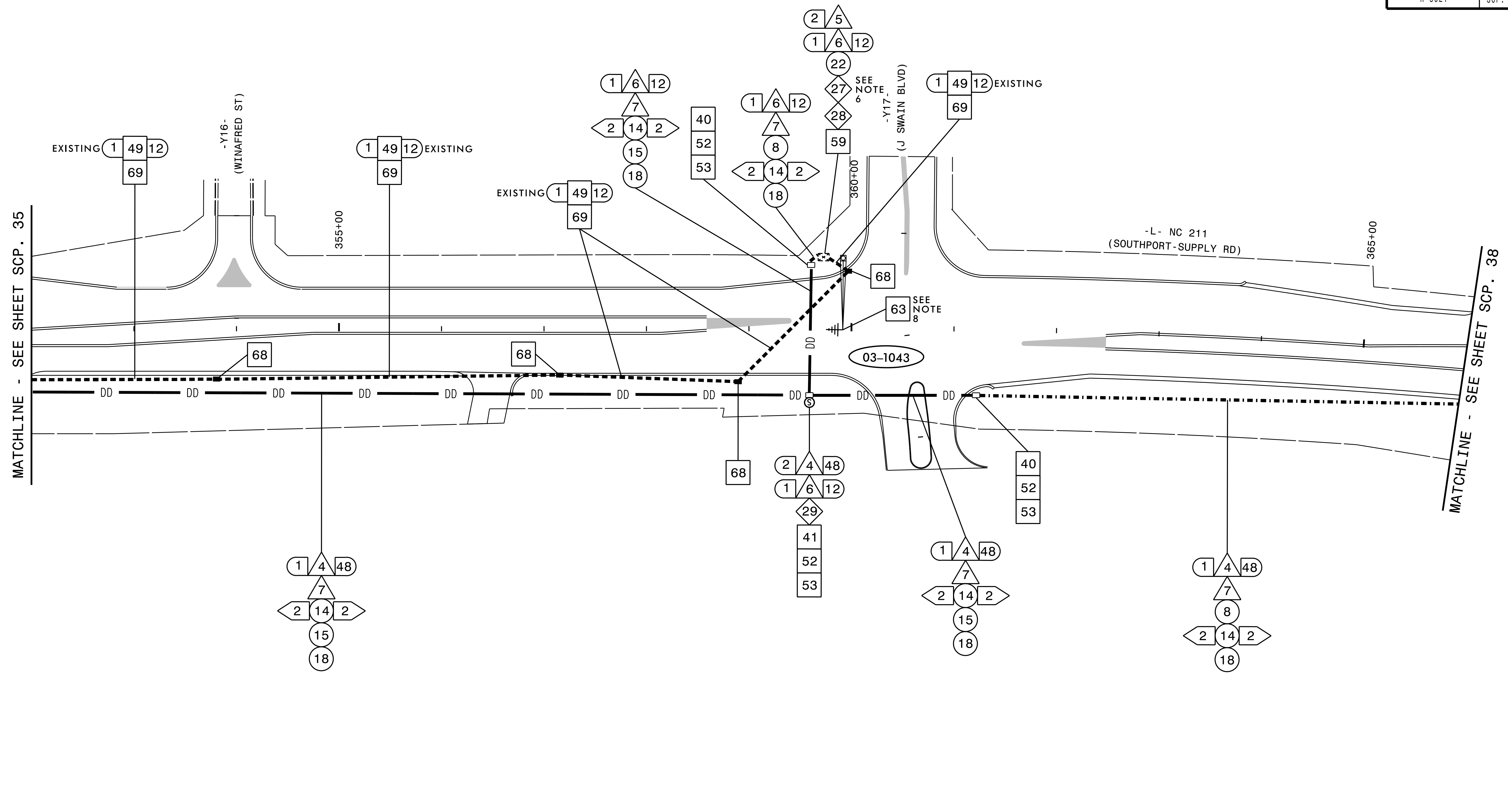
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<p>SCALE 0 50 1"=50'</p>			<p>CADD Filename: R5021_scp-36.dgn</p>

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MATCHLINE - SEE SHEET SCP. 33

MATCHLINE - SEE SHEET SCP. 35





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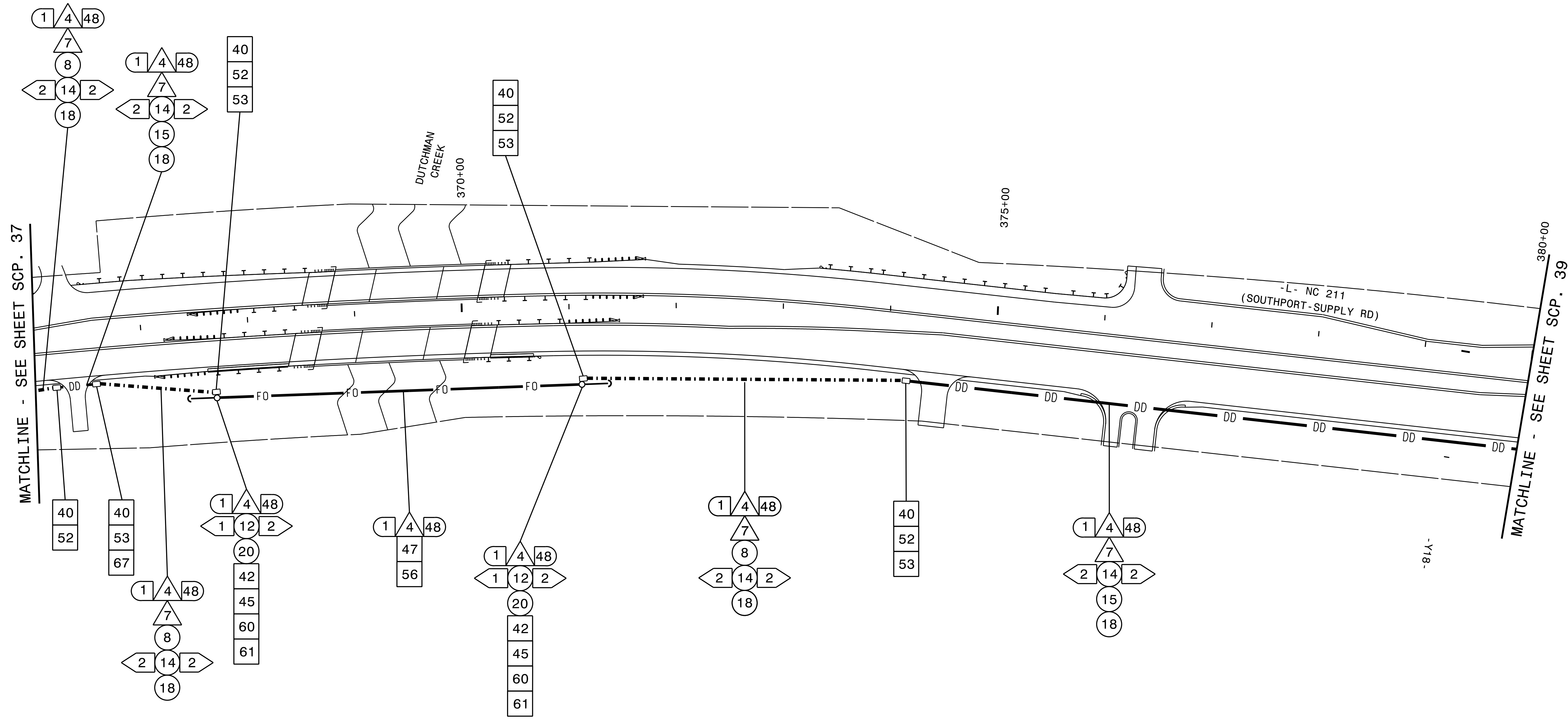
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 Plans Prepared for: NC 211 (SOUTHPORT-SUPPLY RD / HOWE ST) CABLE ROUTING PLAN	Division 3 Brunswick Co. Southport		 SEAL NORTH CAROLINA PROFESSIONAL ENGINEER NATASHA R. SIMMONS 031464
	PLAN DATE: June 2017 PREPARED BY: N.K. Vlanich	REVIEWED BY: T.R. Terrell REVIEWED BY: N.R. Simmons	




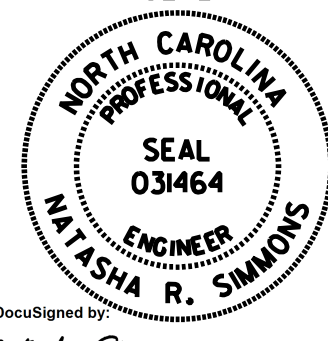
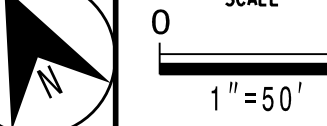
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 <small>250 N. Greenfield Place, Garner, NC 27529</small>	<b>NC 211</b> <b>(SOUTHPORT-SUPPLY RD / HOWE ST)</b> <b>CABLE ROUTING PLAN</b>		 <small>SEAL NATASHA R. SIMMONS ENGINEER 031464</small>								
	Division 3 Brunswick Co. Southport PLAN DATE: June 2017 REVIEWED BY: T.R. Terrell PREPARED BY: N.K. Vlanich REVIEWED BY: N.R. Simmons	<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> </tbody> </table>		REVISIONS	INIT.	DATE					
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