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- 1

INSTALL 3-WIRE COPPER SERVICE ENTRANCE CONDUCTORS
- 2

INSTALL 4-WIRE COPPER FEEDER CONDUCTORS
- 3

INSTALL 3-WIRE COPPER FEEDER CONDUCTORS
- 4

INSTALL SMFO CABLE
- 5

INSTALL ETHERNET CABLE
- 6

INSTALL FIBER OPTIC DROP CABLE
- 7

INSTALL TRACER WIRE
- 8

TRENCH OR PLOW
- 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 FIBER OPTIC CABLE SEAL
- 13

INSTALL OUTER-DUCT POLYETHYLENE CONDUIT
- 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 STUB-OUTS
- 22

INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
- 23

INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)
- 24

INSTALL NEW CONDUIT INTO NEW POLE MOUNTED CABINET
- 25

INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET
- 26

INSTALL FIELD ETHERNET SWITCH IN CABINET
- 27

INSTALL POE INJECTOR INSIDE CONTROLLER CABINET
- 28

INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS AND FUSION SPLICE CABLE IN CABINET
- 29

INSTALL UNDERGROUND SPLICE ENCLOSURE AND STORE 100 FEET OF COMMUNICATIONS CABLE
- 30

MODIFY EXISTING SPLICE ENCLOSURE
- 31

MODIFY EXISTING SPLICE TRAY
- 32

INSTALL AERIAL SPLICE ENCLOSURE
- 33

REMOVE EXISTING SPLICE ENCLOSURE
- 34

INSTALL CABINET FOUNDATION
- 35

REMOVE EXISTING CABINET FOUNDATION

- 36

INSTALL CCTV CAMERA ASSEMBLY
- 37

INSTALL CCTV CAMERA METAL POLE
- 38

INSTALL NEW CCTV POLE MOUNTED CABINET
- 39

INSTALL JUNCTION BOX
- 40

INSTALL OVERSIZED JUNCTION BOX
- 41

INSTALL SPECIAL OVERSIZED JUNCTION BOX
- 42

INSTALL WOOD POLE
- 43

INSTALL 6" x 6" WOOD PEDESTAL
- 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

BACK PULL EXISTING COMMUNICATIONS CABLE
- 50

INSTALL DIGITAL VIDEO ENCODER
- 51

INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
- 52

INSTALL DELINEATOR MARKER
- 53

STORE 50 FEET OF COMMUNICATIONS CABLE
- 54

LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE
- 55

LASH CABLE(S) TO EXISTING MESSENGER CABLE
- 56

LASH CABLE(S) TO NEW MESSENGER CABLE
- 57

MODIFY EXISTING ELECTRICAL SERVICE
- 58

INSTALL NEW ELECTRICAL SERVICE
- 59

INSTALL PEDESTAL TYPE SIGN STRUCTURE FOUNDATION AND DMS ASSEMBLY
- 60

INSTALL EQUIPMENT CABINET DISCONNECT ON CCTV POLE OR DMS STRUCTURE
- 61

INSTALL UNI-DIRECTIONAL ANTENNA
- 62

STORE 100 FEET OF COMMUNICATIONS CABLE
- 63

INSTALL 900 MHZ ETHERNET RADIO
- 64

INTERCEPT AND REROUTE EXISTING CONDUITS
- 65

BOND MESSENGER TO POLE GROUND
- 66

BOND RISER TO POLE GROUND
- 67

BOND RISER AND MESSENGER CABLE TO POLE GROUND
- 68

BOND TRACER WIRE TO EQUIPMENT GROUND BUS ON ONE END
- 69

REMOVE EXISTING CCTV CAMERA ASSEMBLY
- 70

INSTALL 120/240 V STEP-DOWN TRANSFORMER
- 71

INSTALL HEAT SHRINK TUBING RETROFIT KIT
- 72

STORE 20FT OF COMMUNICATION CABLE IN CABINET
- 73

INSTALL CELL MODEM AND ANTENNA
- 74

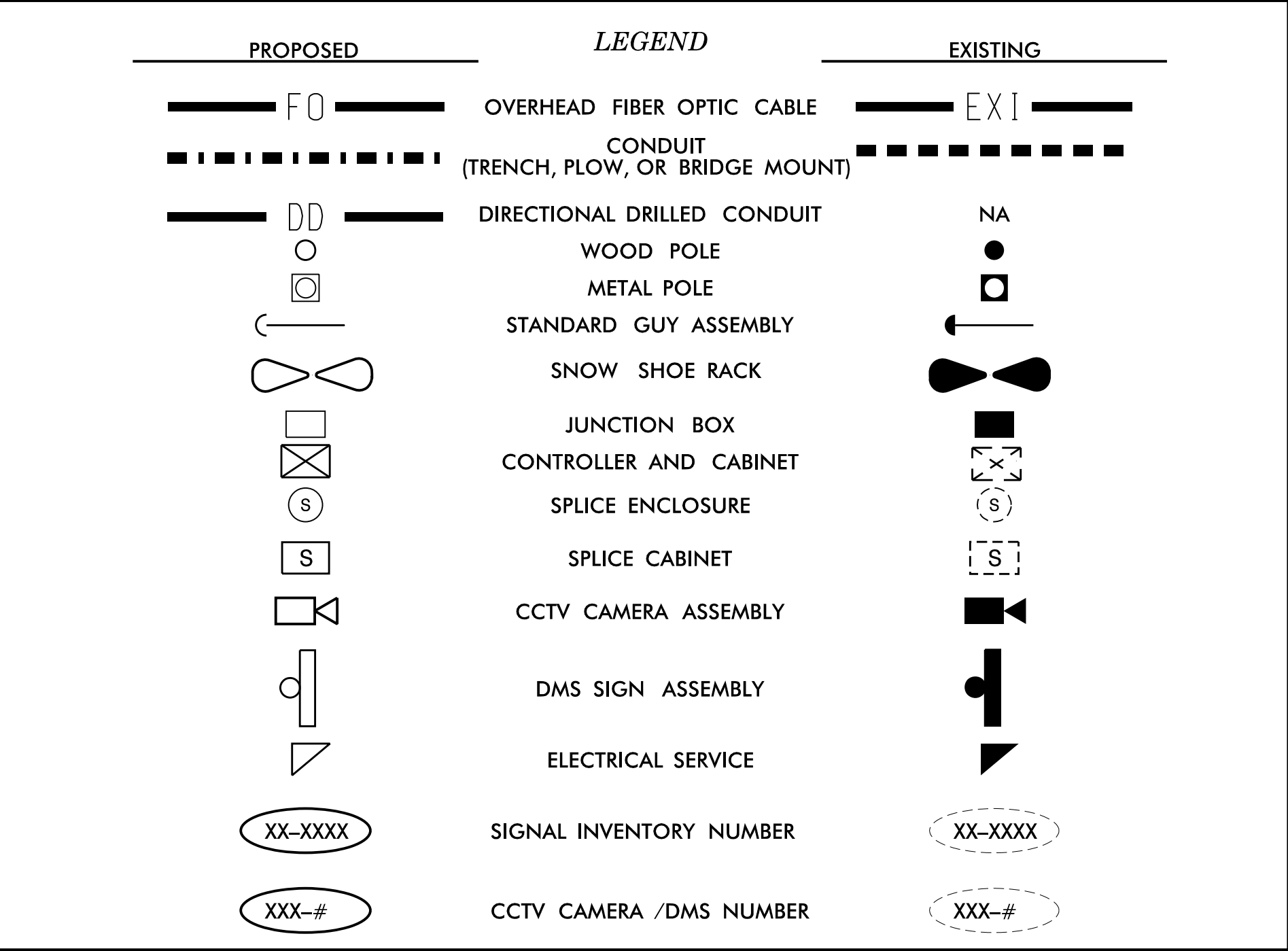
REMOVE EXISTING MESSENGER CABLE

- 75

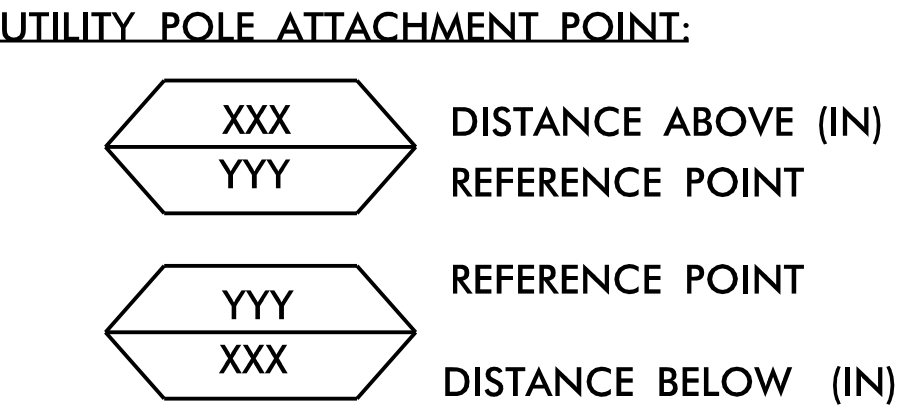
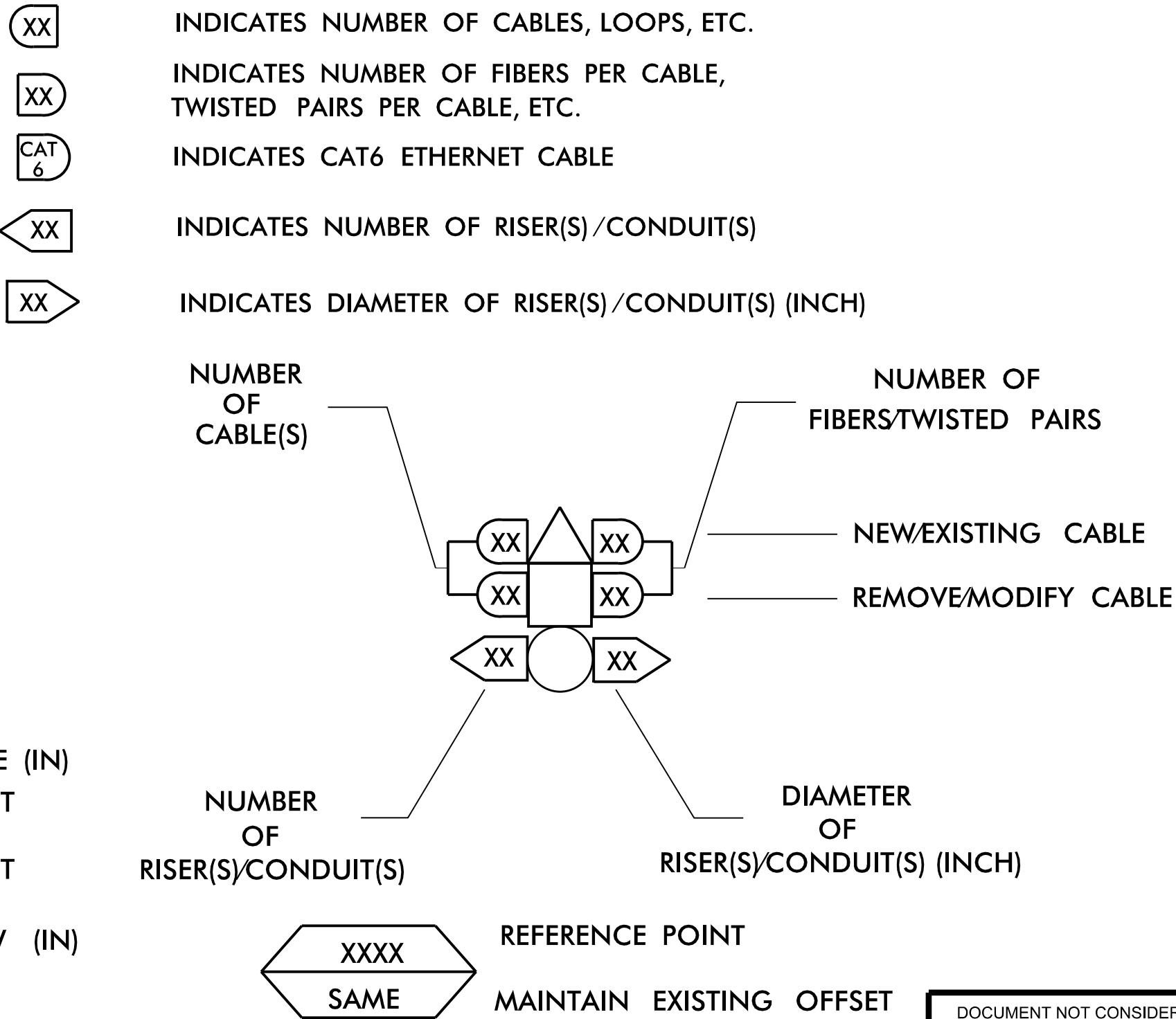
INSTALL 2-HOUR UPS
- 76

INSTALL CCTV CAMERA ON EXTENSION POLE ATTACHED TO DMS
- 77

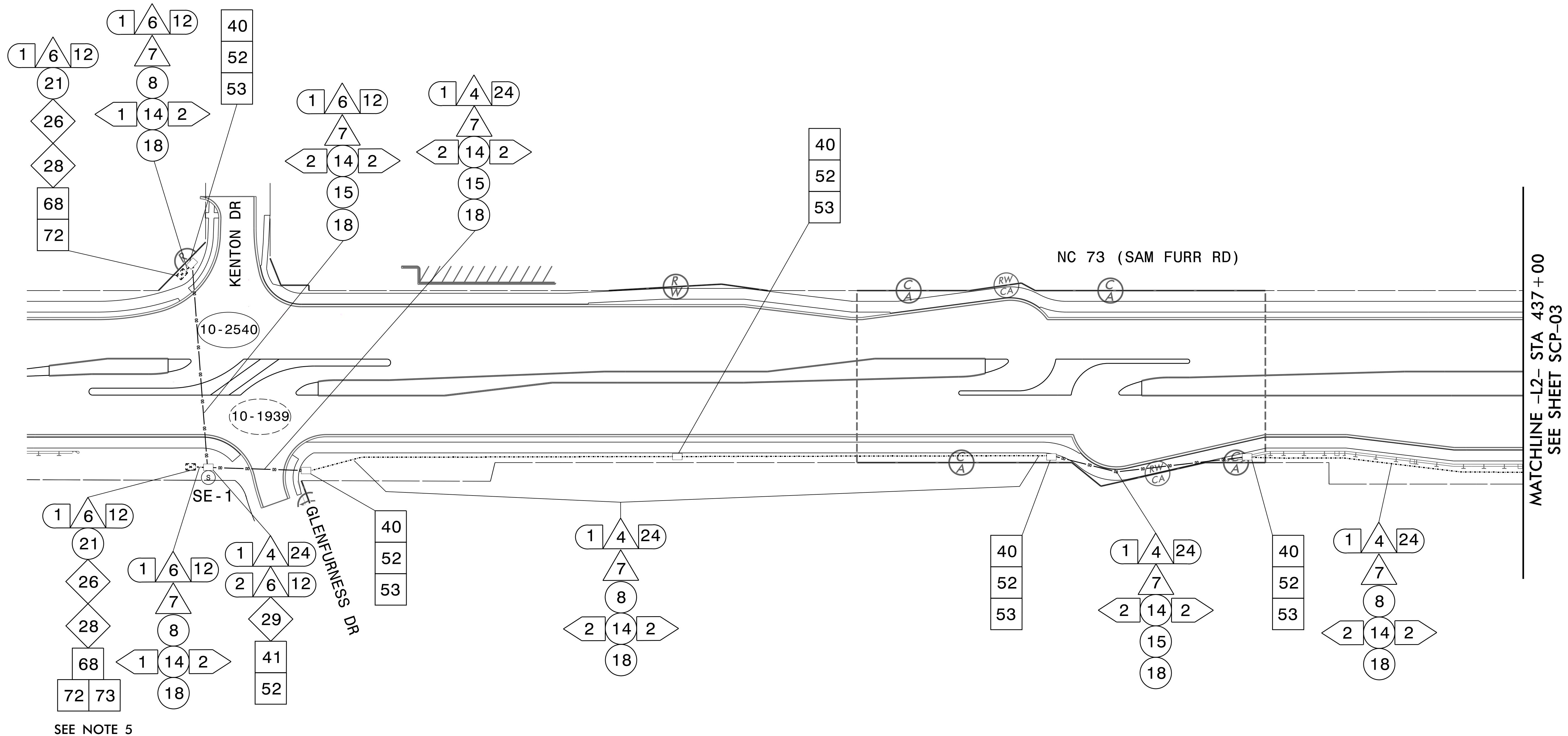
REMOVE EXISTING JUNCTION BOX
- ONCE INSTALLATION OF THE FIBER NETWORK IS COMPLETE REMOVE THE WIRELESS EQUIPMENT AND RETURN IT TO THE DIVISION 10 OFFICE AT 716 W. MAIN ST., ALBEMARLE, NC 28001



CONSTRUCTION NOTE SYMBOLOGY KEY



	CONSTRUCTION NOTES		DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	Division 10 Mecklenburg County Huntersville		SEAL	
	PLAN DATE: July 2026	REVIEWED BY: Z Wang	NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 039071	
	PREPARED BY: K Hector	RKA PROJ. No.:	7/10/2026	
	REVISIONS	INIT.	DATE	SIG. INVENTORY NO.

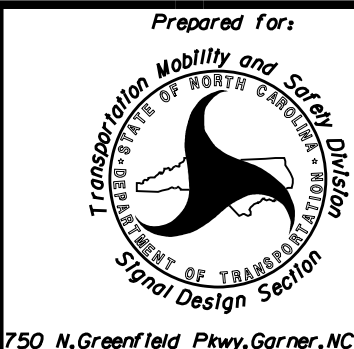


SEE NOTE 5

NOTES:

- 1) FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE NCDOT DIVISION 10 SIGNAL SUPERVISOR AT 704-244-8284 TO ARRANGE FOR NCDOT DIVISION 10 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 SIGNAL SUPERVISOR AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
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- 3) CONTRACTOR SHALL MEET ALL REQUIREMENTS CONTAINED IN THE NCDOT 2024 STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES AND THE 24.3 SIGNALS AND INTELLIGENT TRANSPORTATION SYSTEMS PROJECT SPECIAL PROVISIONS FOR MATERIALS, INSTALLATION, AND OTHER RELATED ITS AND NETWORKING DETAILS.
- 4) SEAL CONDUIT ENDS WITH MOLDABLE DUCT SEALS AT ALL JUNCTION BOX/CABINET ENTRANCES.
- 5) TRANSFER EXISTING CELL MODEM AT SIGNAL CABINET AT 10-1774 (NC 73 AND BRICKDALE COMMONS PKWY) INSTALLED UNDER THE TEMPORARY WIRELESS COMMUNICATIONS PLAN TO SIGNAL CABINET AT 10-1939 (NC 73 AND GLENFURNESS DR), AS SHOWN.

Final Design



D10-43 HUNTERSVILLE SIGNAL SYSTEM
COMMUNICATIONS CABLE
ROUTING PLANS

Division 10 Mecklenburg County Huntersville

PLAN DATE: July 2026 REVIEWED BY: Z Wang

PREPARED BY: K Hector RKA PROJ. No.:

REVISIONS INIT. DATE



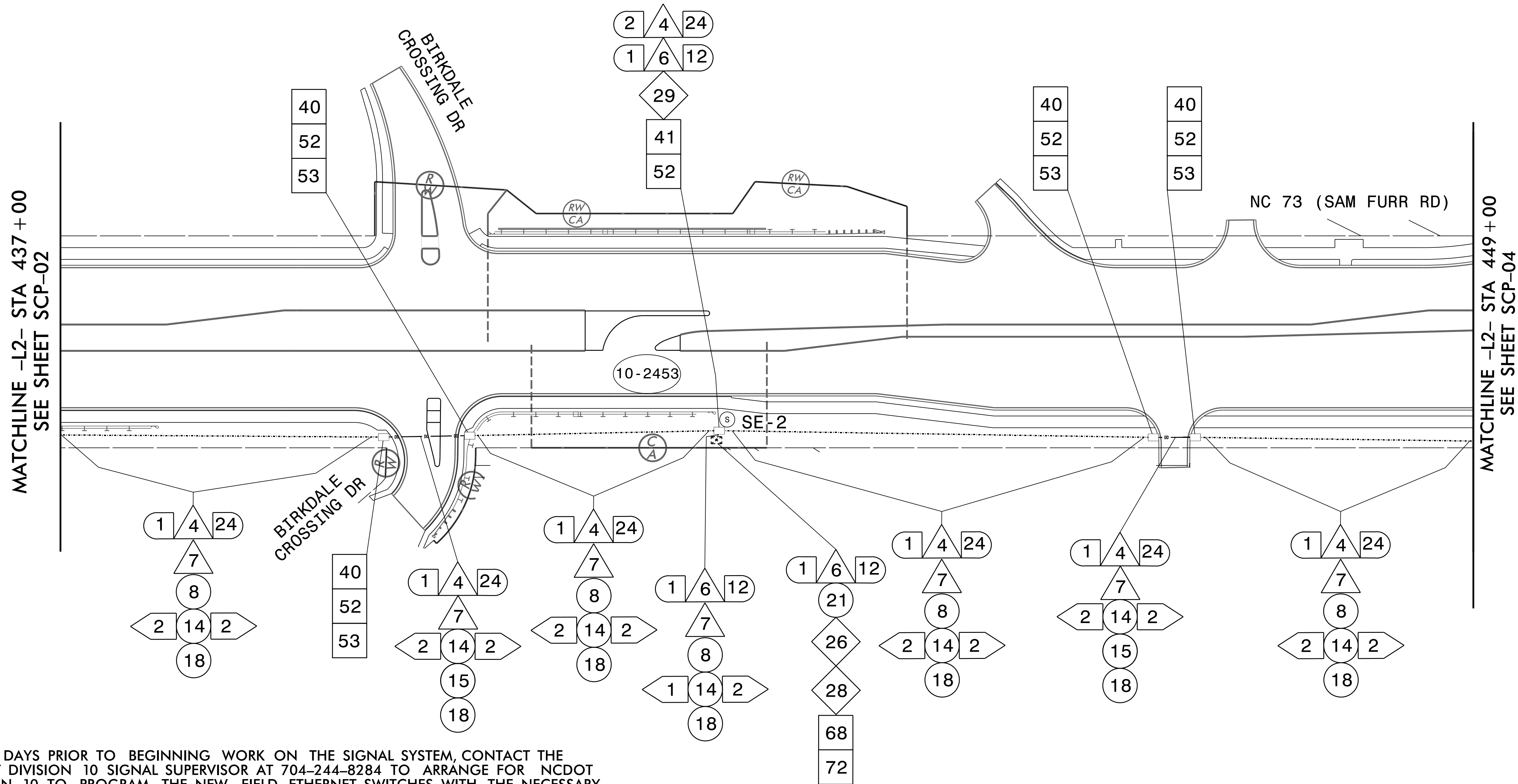
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555 Fayetteville St. Suite 900 Raleigh, N.C. 27601
N.C.B.E.L.S. License Number: F-0116



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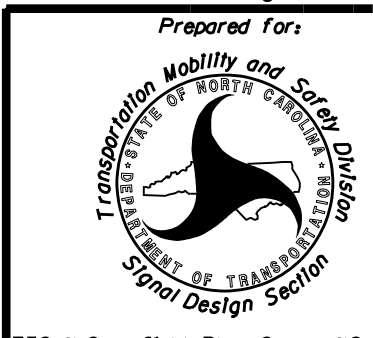
SEAL
NORTH CAROLINA
PROFESSIONAL
ENGINEER
KARL E. HECTOR
7/10/2026
SIGNATURE DATE
SIG. INVENTORY NO.



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Final Design

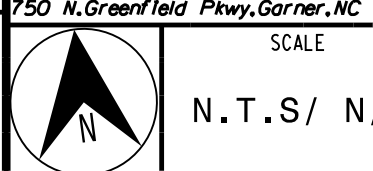


D10-43_HUNTERSVILLE SIGNAL SYSTEM
COMMUNICATIONS CABLE
ROUTING PLANS

Division 10 Mecklenburg County Huntersville
PLAN DATE: July 2026 REVIEWED BY: Z Wang
PREPARED BY: K Hector RKA PROJ. No.:

REVISIONS	INIT.	DATE

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N.C.B.E.L.S. License Number: F-0116



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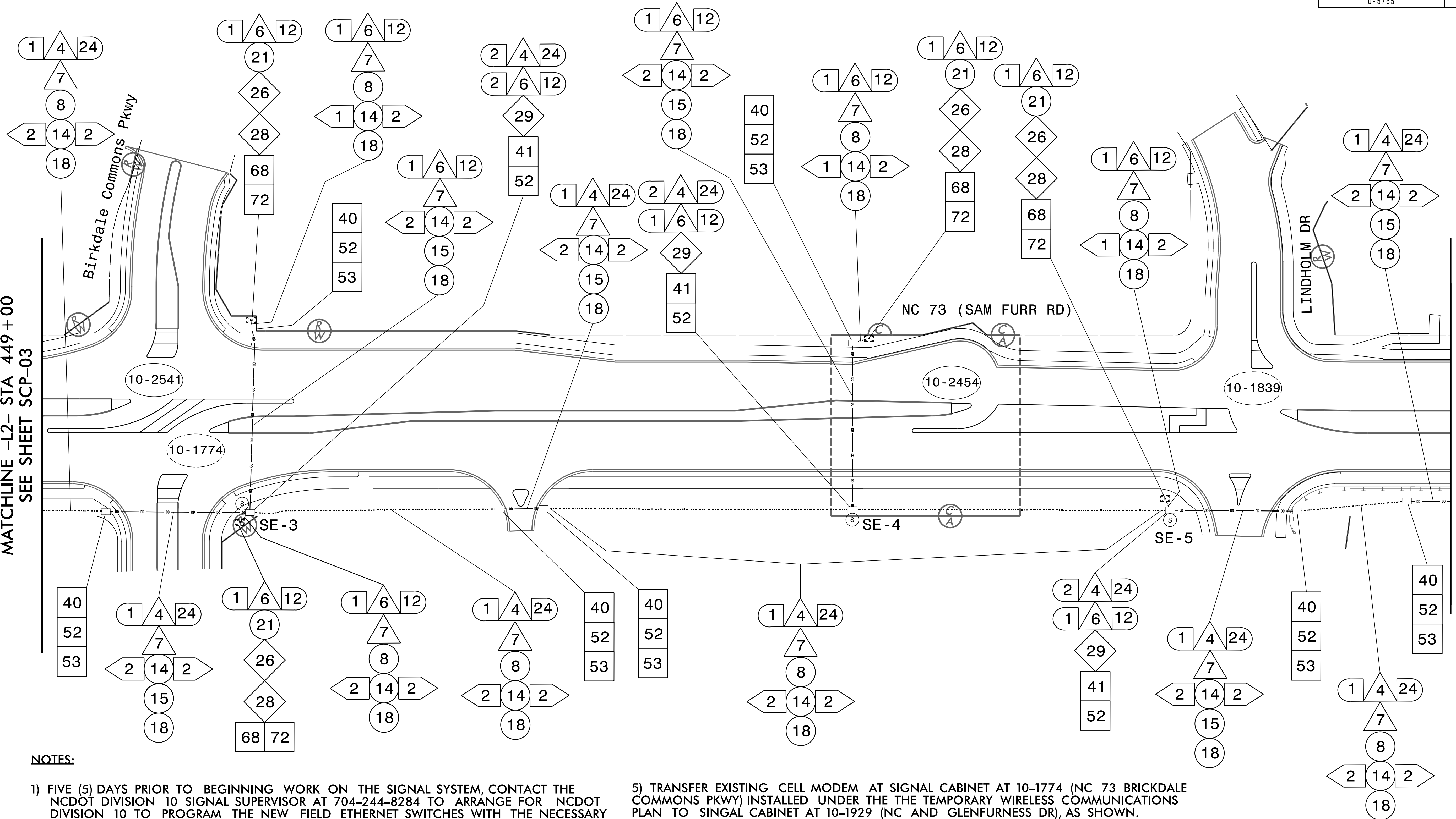
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MATCHLINE -L2- STA 449+00
SEE SHEET SCP-03

MATCHLINE -L2- STA 463+00
SEE SHEET SCP-05

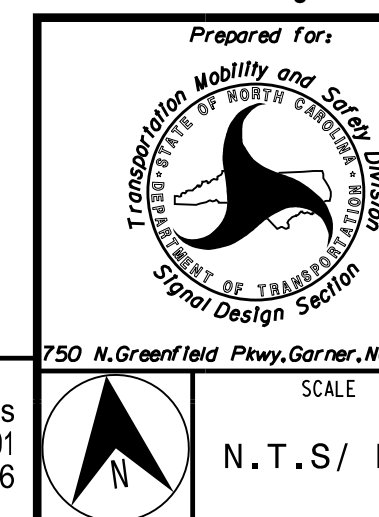


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Final Design



D10-43 HUNTERSVILLE SIGNAL SYSTEM
COMMUNICATIONS CABLE
ROUTING PLANS

Division 10 Mecklenburg County Huntersville

PLAN DATE: July 2026 REVIEWED BY: Z Wang

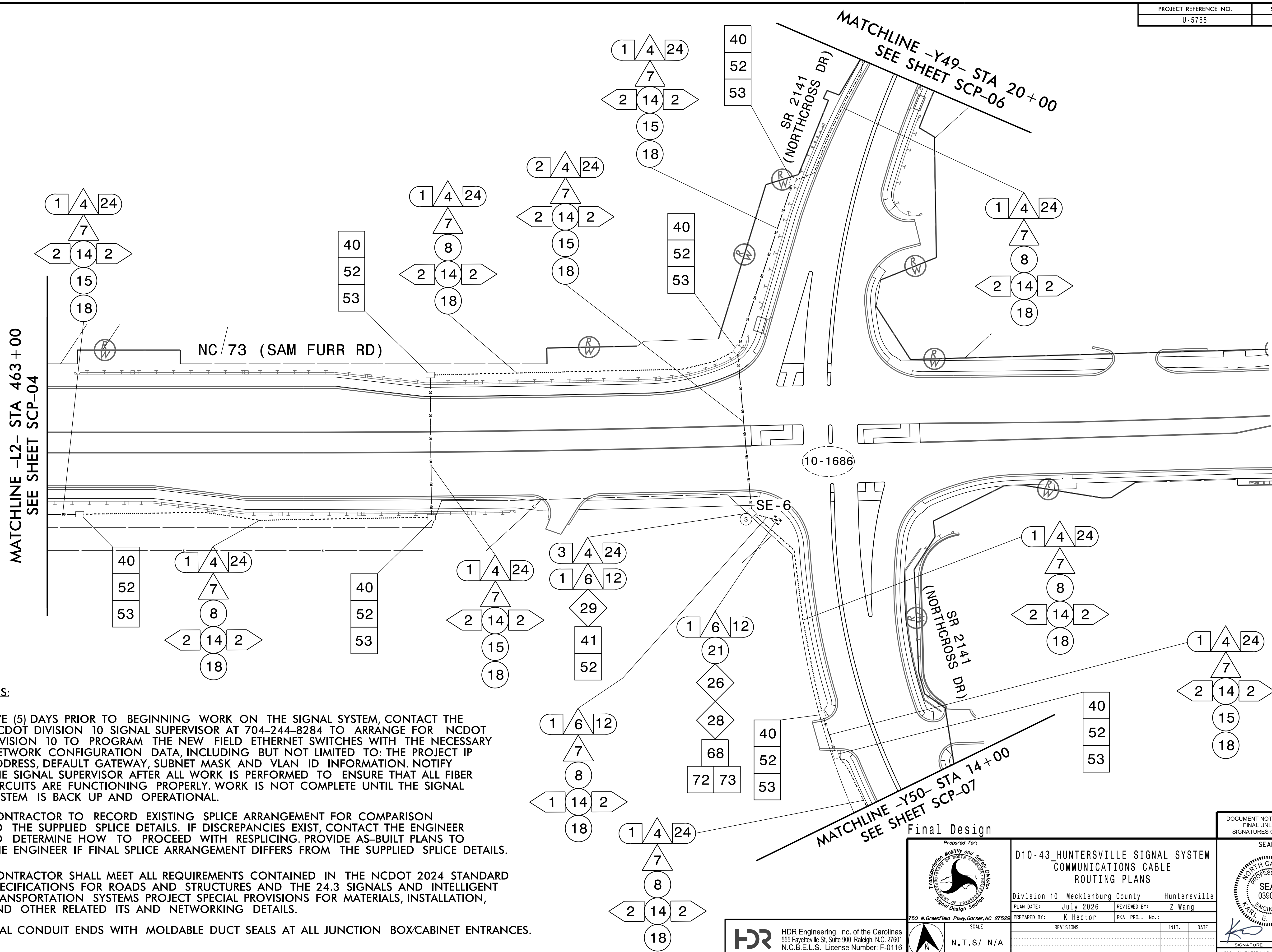
PREPARED BY: K Hector RKA PROJ. No.:

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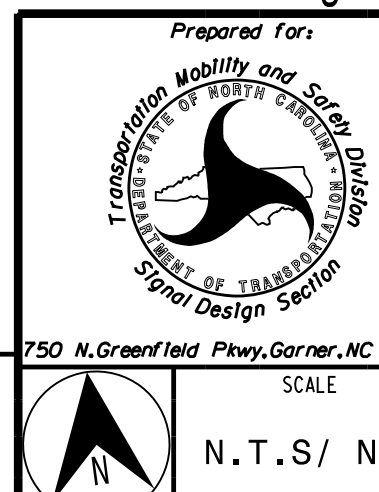




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D10-43 HUNTERSVILLE SIGNAL SYSTEM COMMUNICATIONS CABLE ROUTING PLANS

Division 10 Mecklenburg County		Huntersville	
PLAN DATE: July 2026		REVIEWED BY: Z Wang	
PREPARED BY: K Hector		RKA PROJ. No.:	
REVISIONS		INIT.	DATE

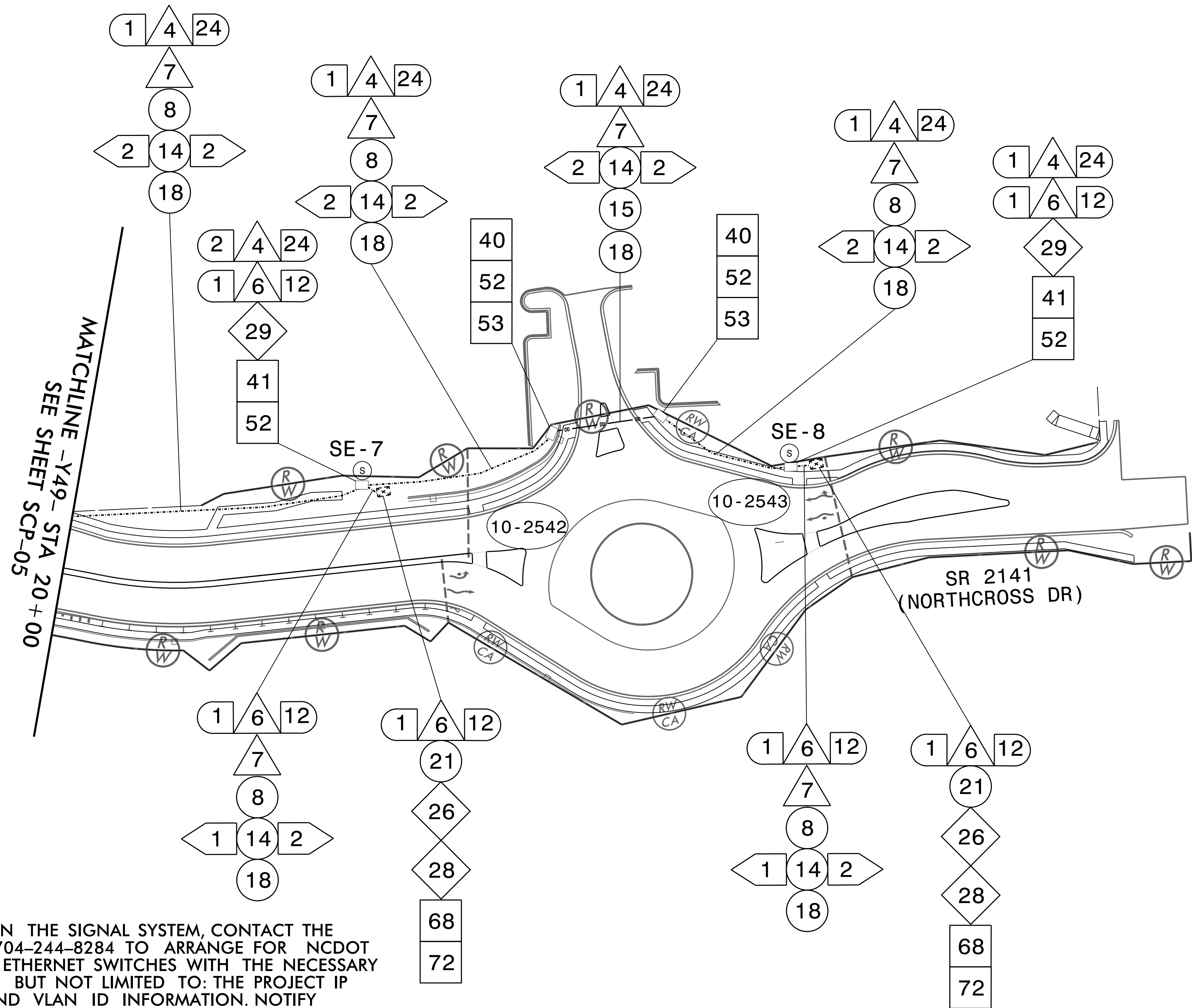
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SEAL

SEAL
NORTH CAROLINA
PROFESSIONAL ENGINEER
KARL E. HECOF
039071

SIGNATURE: *KO* DATE: 7/10/2026

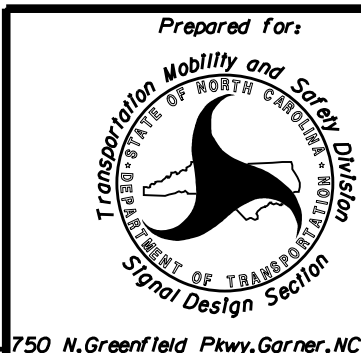
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Final Design



D10-43_HUNTERSVILLE SIGNAL SYSTEM
COMMUNICATIONS CABLE
ROUTING PLANS

Division 10 Mecklenburg County Huntersville

PLAN DATE: July 2026 REVIEWED BY: Z Wang

PREPARED BY: K Hector RKA PROJ. No.:

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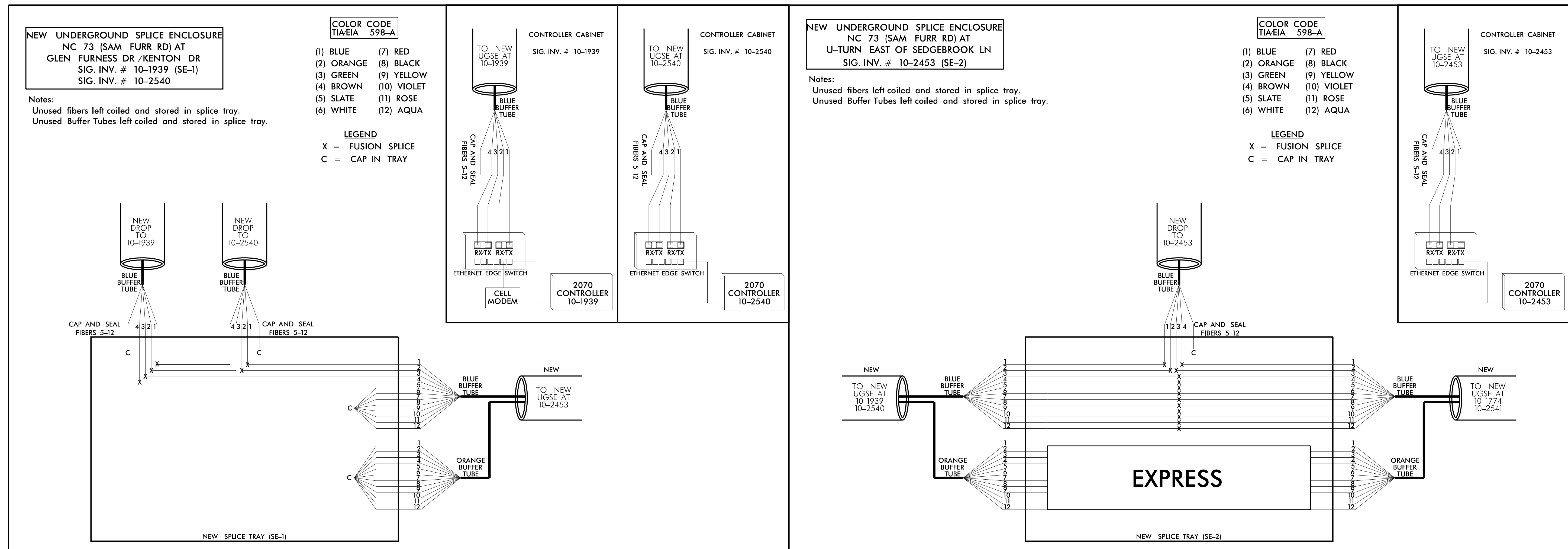
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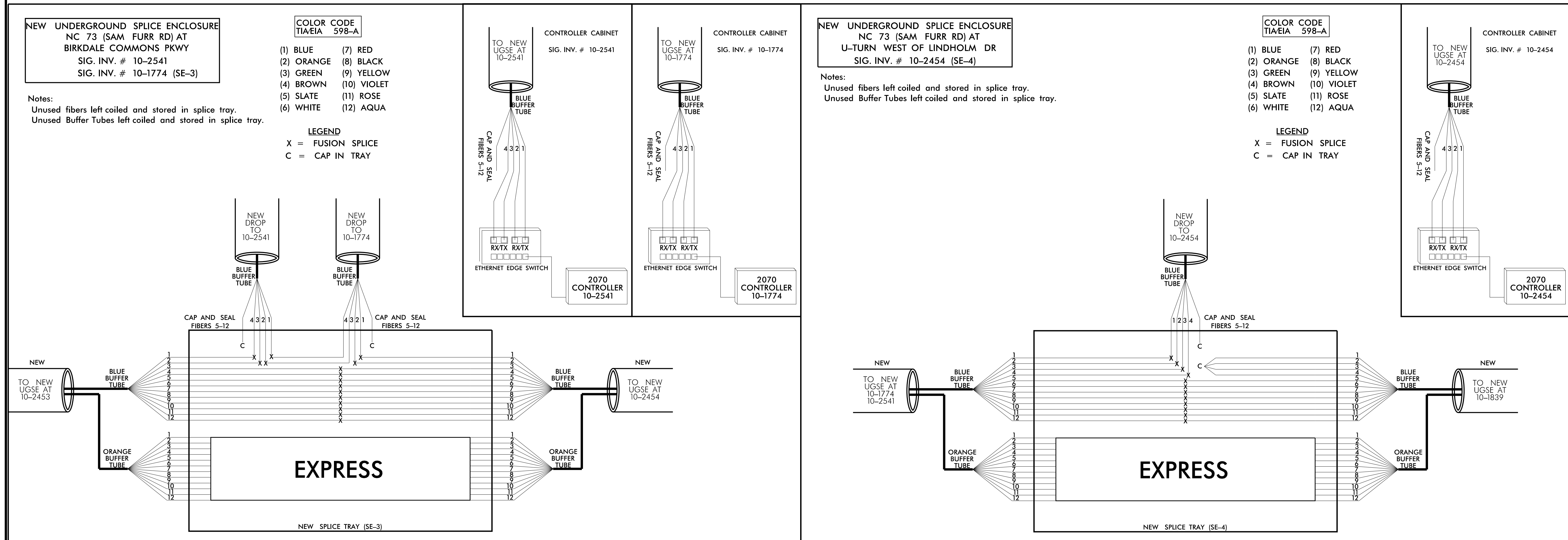
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- 3) ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
- 4) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING:
REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"
 - 1) SPLICE LOCATION
 - 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.

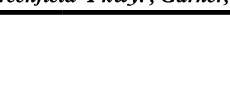


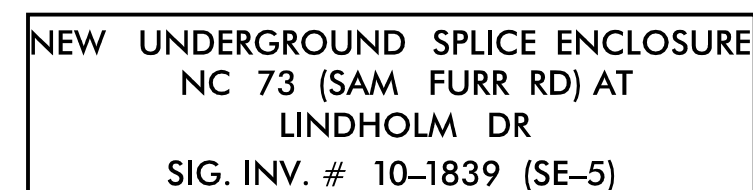
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Final Design

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<i>Prepared in the Offices of:</i> 	D10-43_HUNTERSVILLE SIGNAL SYSTEM SPlice DETAIL (3&4)	SEAL 																																	
759 N. Greenfield Pkwy., Garner, NC. 27529	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: left; padding: 5px;">Division 10 Mecklenburg County Huntersville</th> </tr> <tr> <td style="width: 50%; padding: 5px;">PLAN DATE: July, 2026</td> <td style="width: 50%; padding: 5px;">REVIEWED BY: Z Wang</td> </tr> <tr> <td colspan="2" style="padding: 5px;">PREPARED BY: K Hector</td> </tr> </table>	Division 10 Mecklenburg County Huntersville		PLAN DATE: July, 2026	REVIEWED BY: Z Wang	PREPARED BY: K Hector		7/10/2026																											
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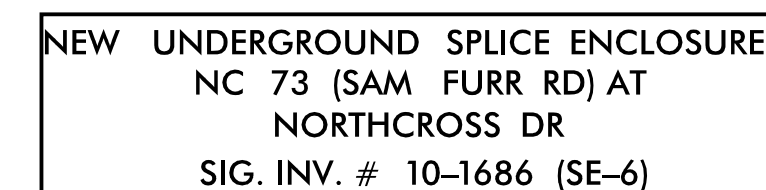
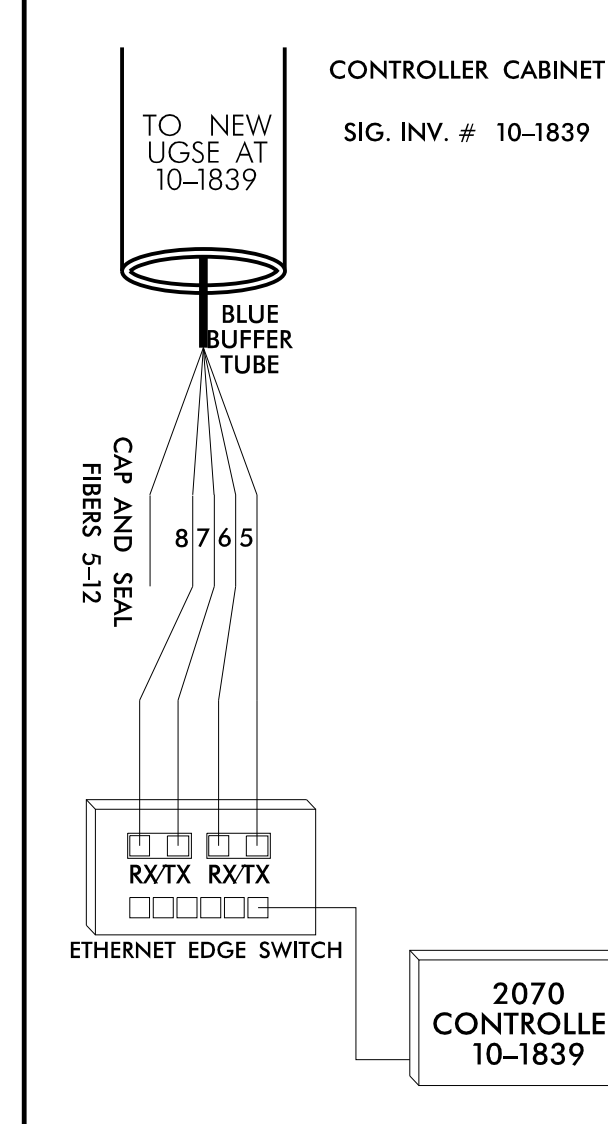
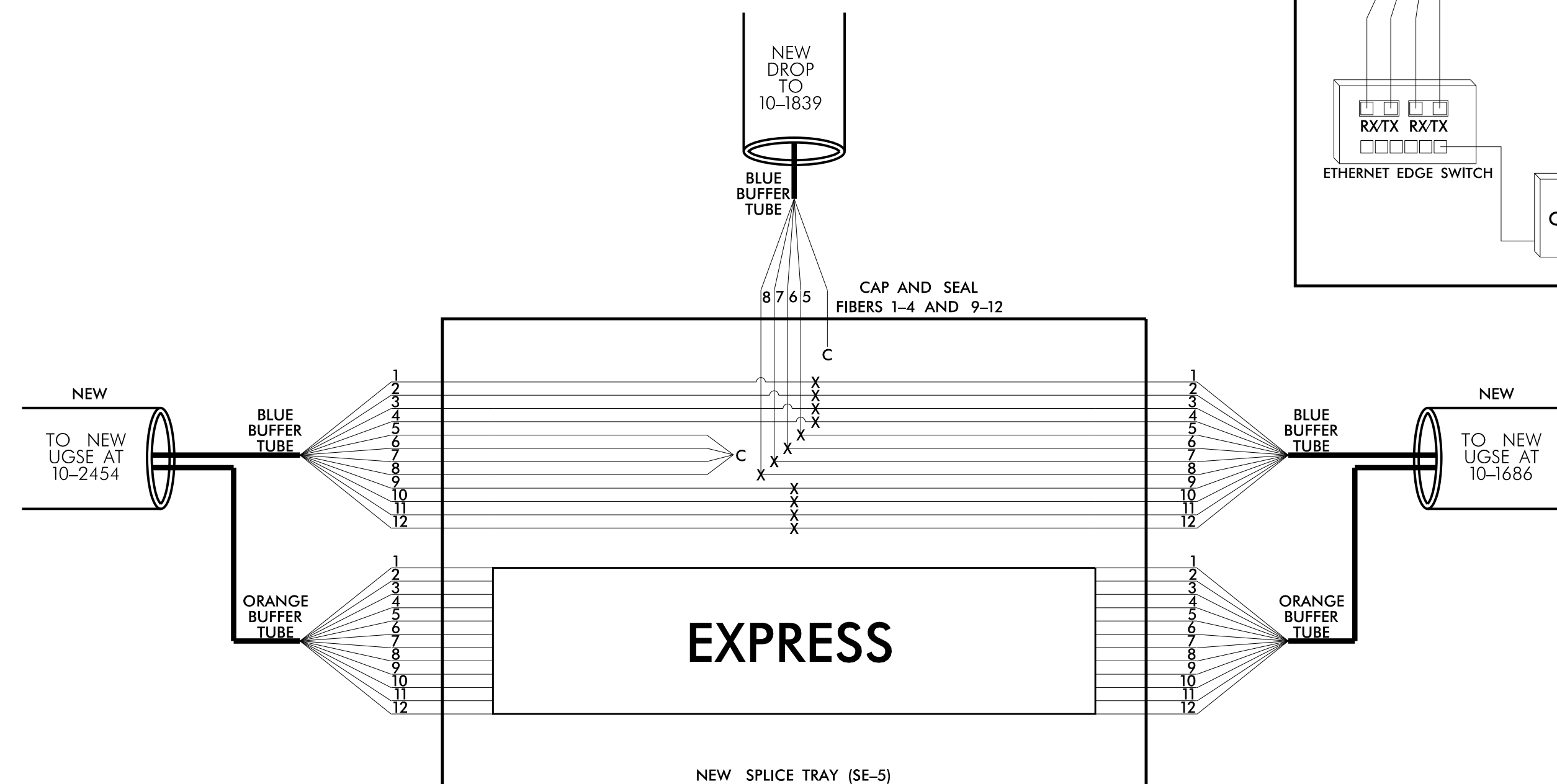
Notes:
Unused fibers left coiled and stored in splice tray.
Unused Buffer Tubes left coiled and stored in splice tray.

COLOR	CODE
TIA/EIA	598-A

- (1) BLUE (7) RED
(2) ORANGE (8) BLACK
(3) GREEN (9) YELLOW
(4) BROWN (10) VIOLET
(5) SLATE (11) ROSE
(6) WHITE (12) AQUA

LEGEND

X = FUSION SPLICE
C = CAP IN TRAY



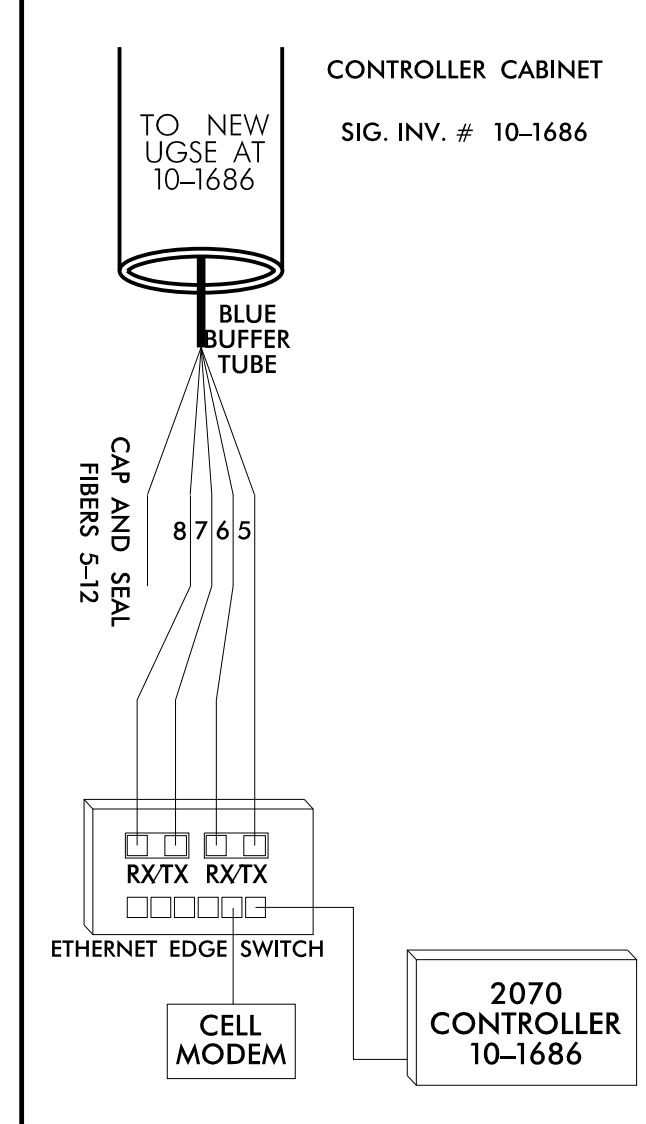
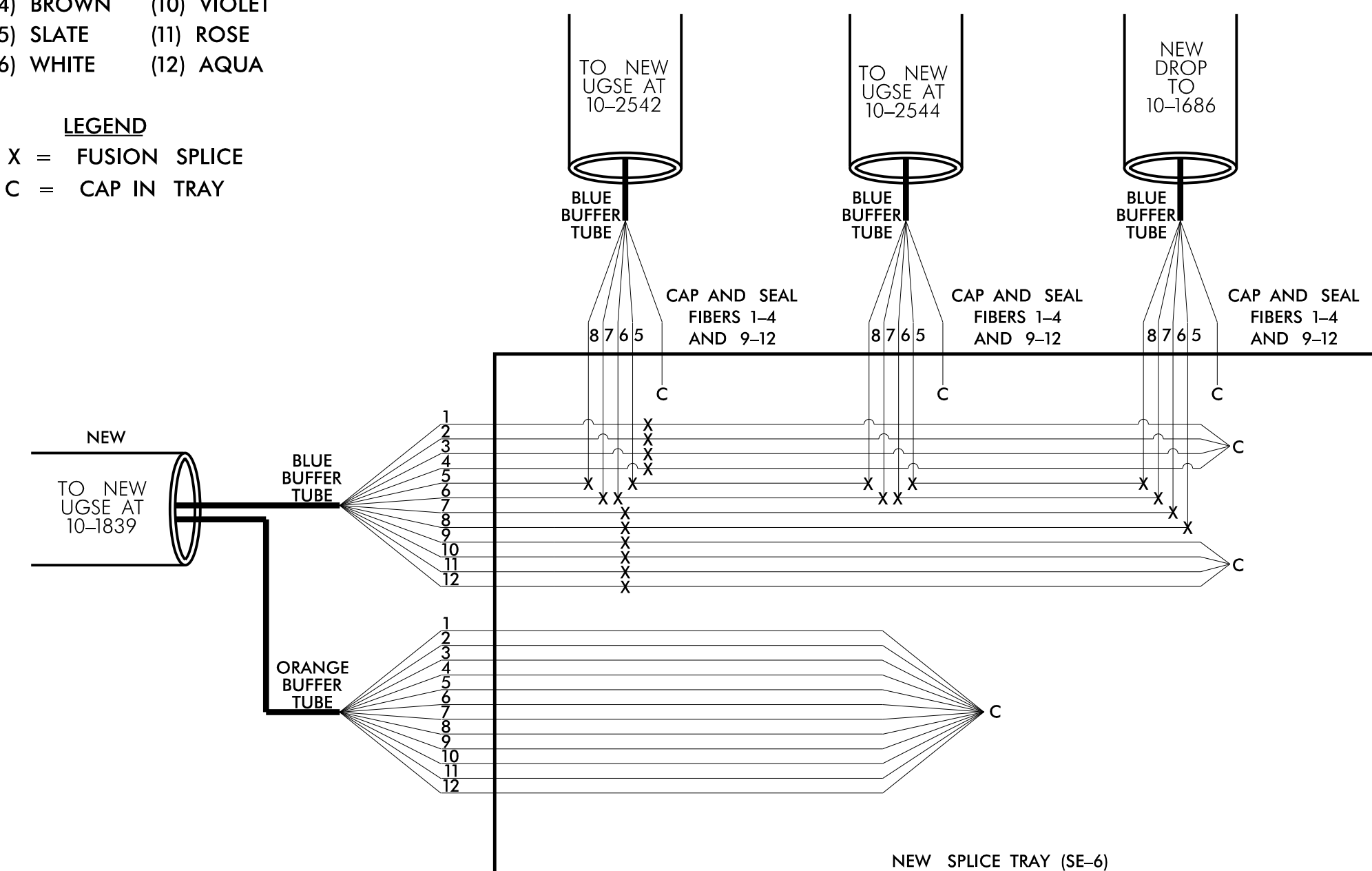
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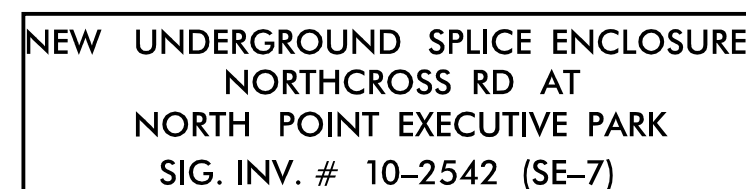
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- 2) CONTRACTOR TO RECORD EXISTING SPlice ARRANGEMENT FOR COMPARISON TO THE SUPPLIED SPlice DETAILS. IF DISCREPANCIES EXIST, CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED WITH RESPLICING. PROVIDE AS-BUILT PLANS TO THE ENGINEER IF FINAL SPlice ARRANGEMENT DIFFERS FROM THE SUPPLIED SPlice DETAILS.
- 3) ETHERNET SWITCH TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING \ ENSURING PROPER TERMINATIONS.
- 4) INCLUDE ON THE COVER OF EACH SPlice TRAY THE FOLLOWING:
REFERENCE SECTION 1731 "FIBER OPTIC SPlice ENCLOSURE"
 - 1) SPlice LOCATION
 - 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.

Final Design

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

<i>Prepared in the Offices of:</i>  750 N. Greenfield Pkwy., Garner, NC 27529	D10-43_HUNTERSVILLE SIGNAL SYSTEM SPlice DETAIL (5&6)	SEAL 																																	
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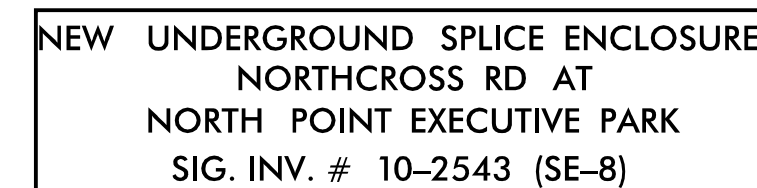
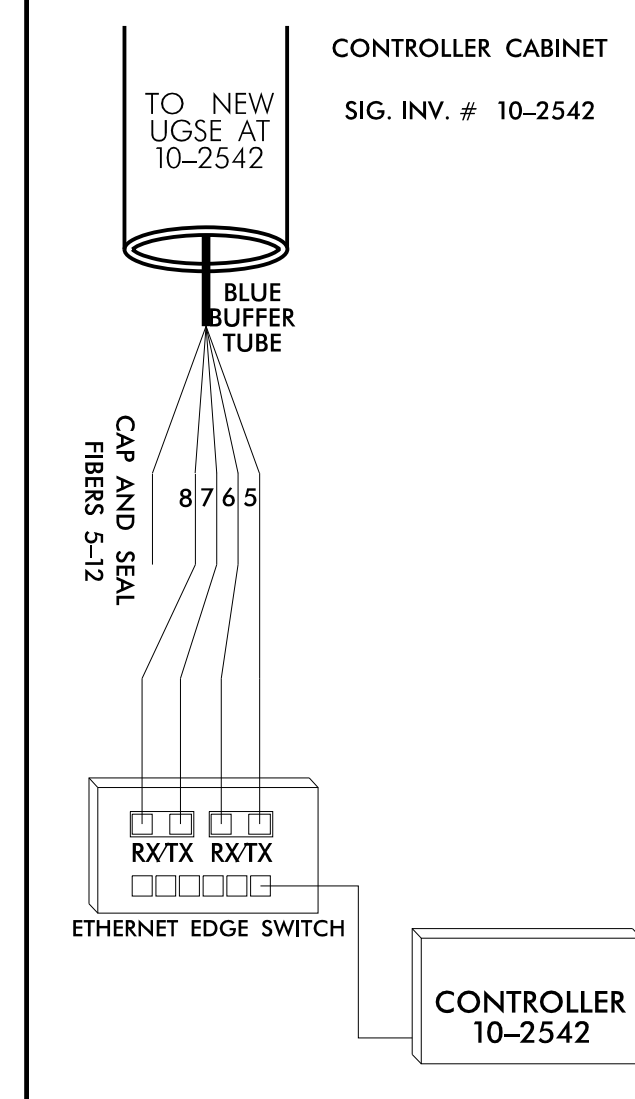
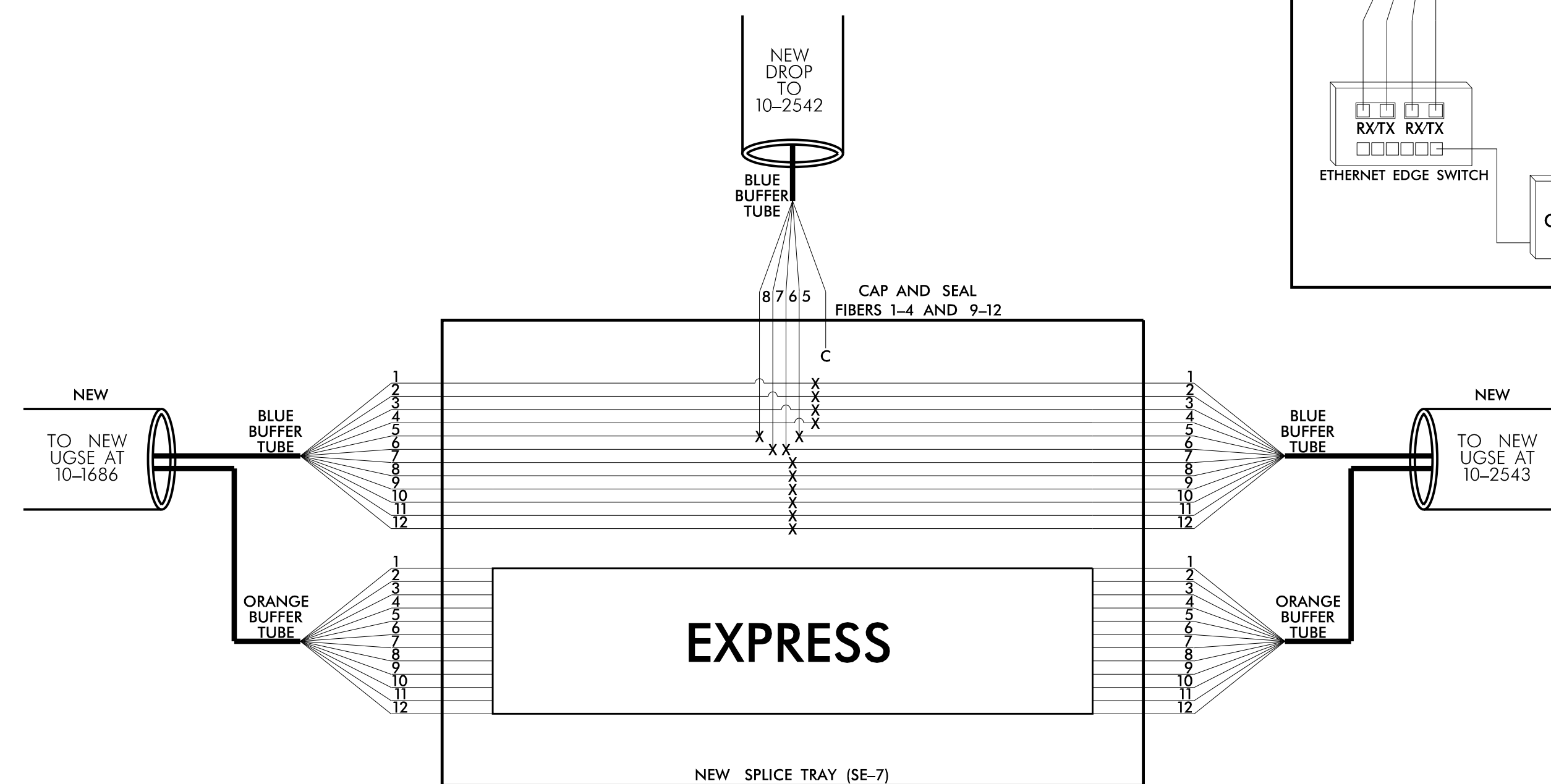
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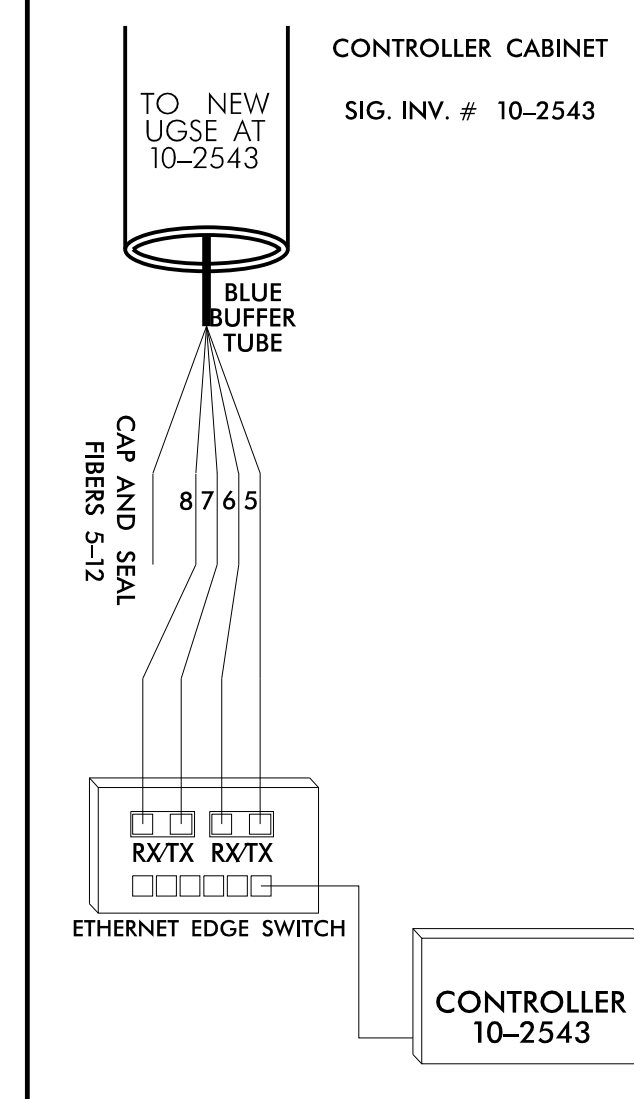
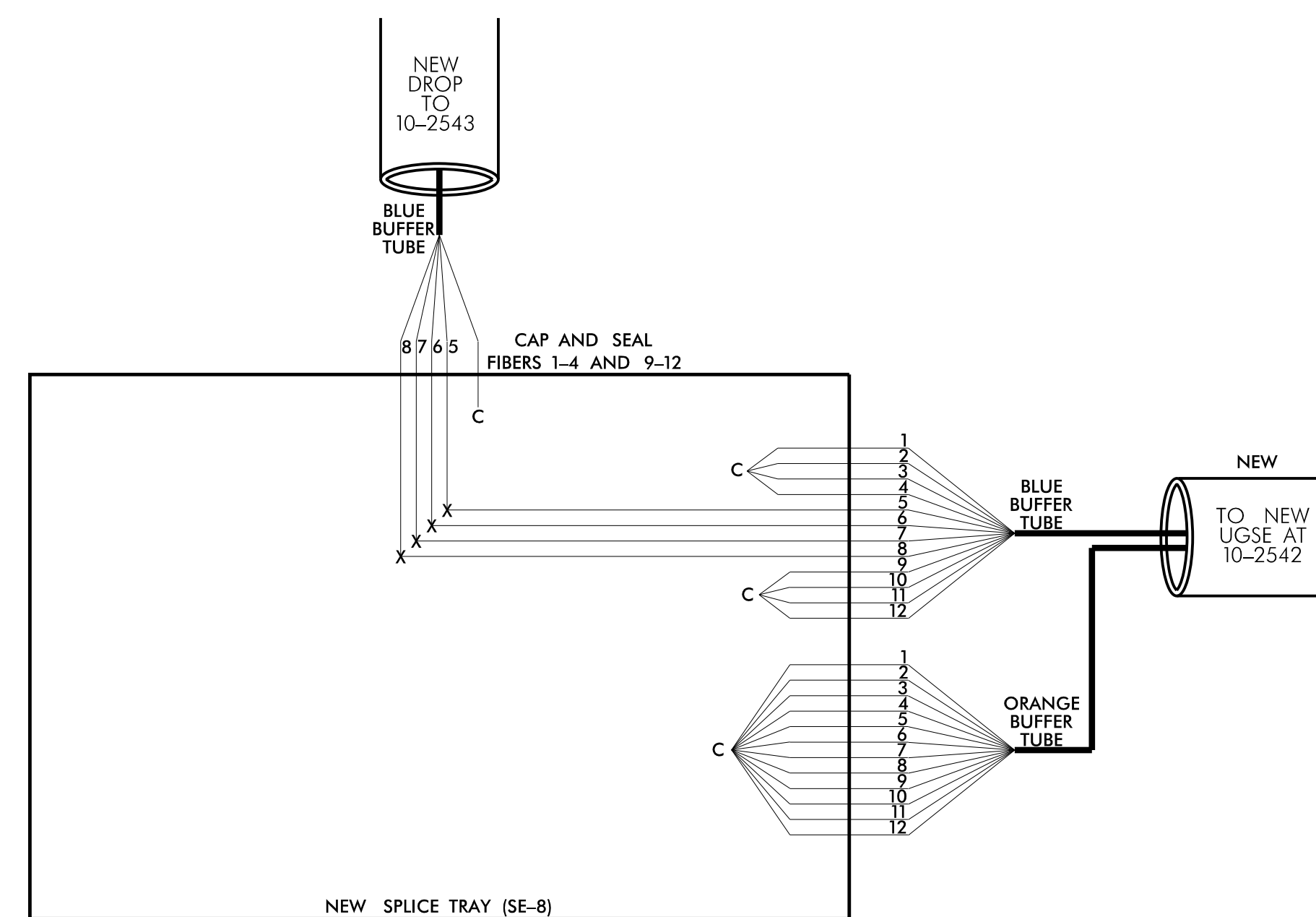
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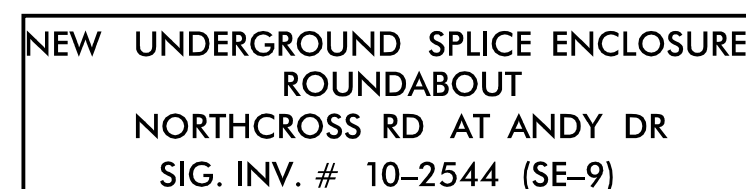
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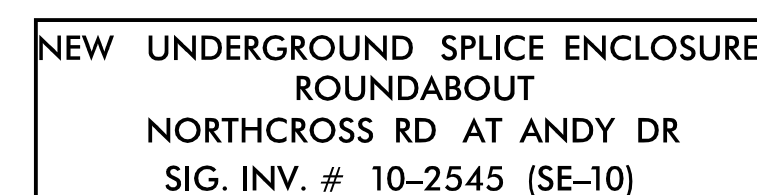
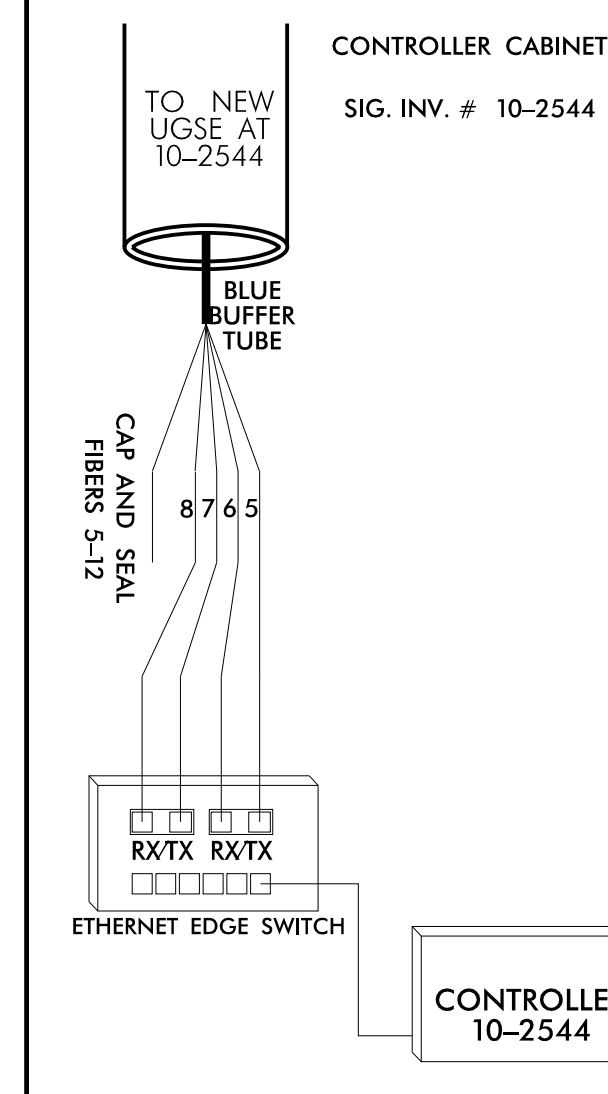
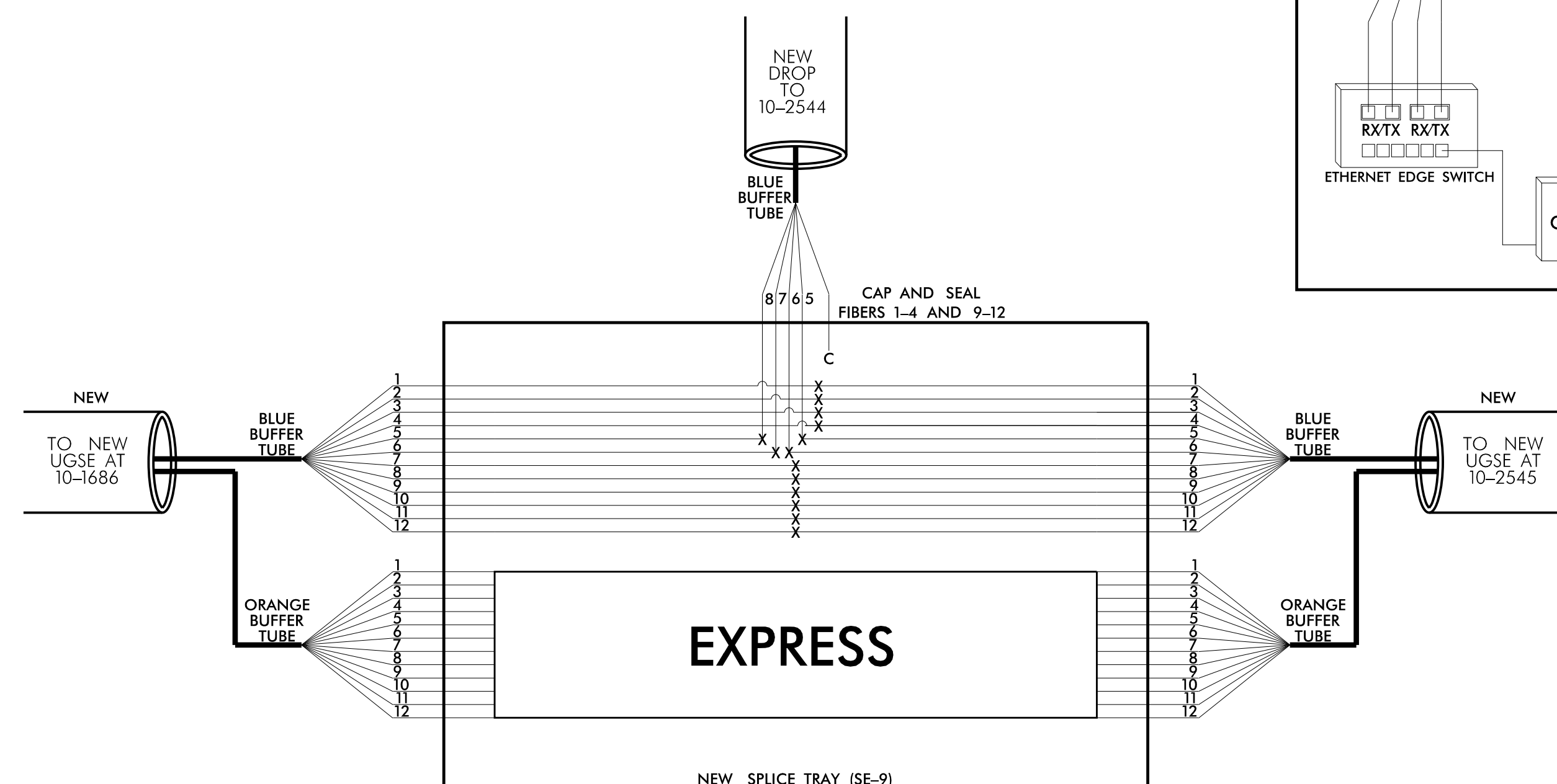
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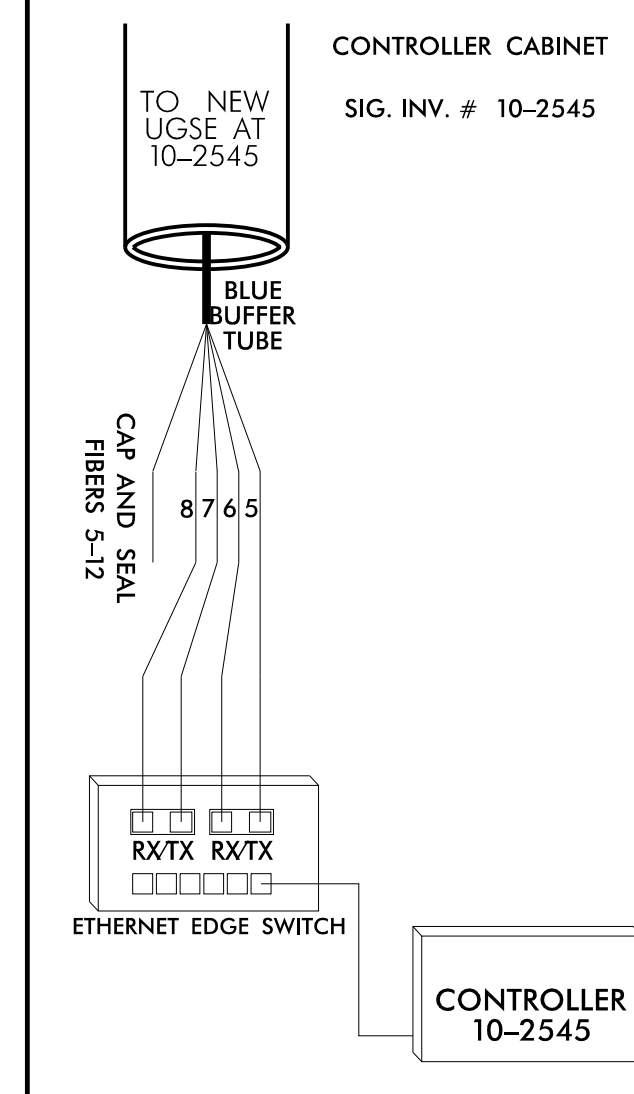
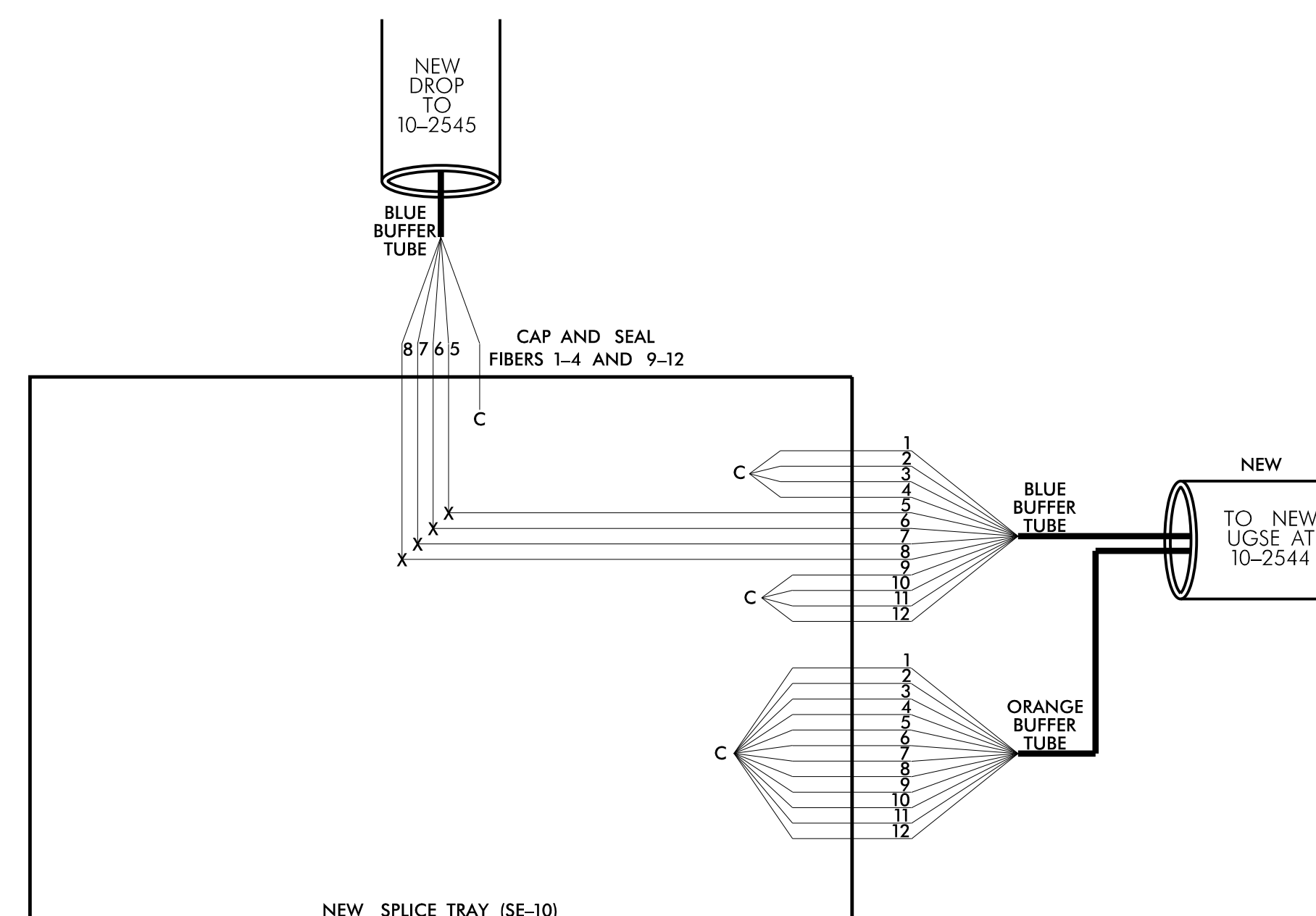
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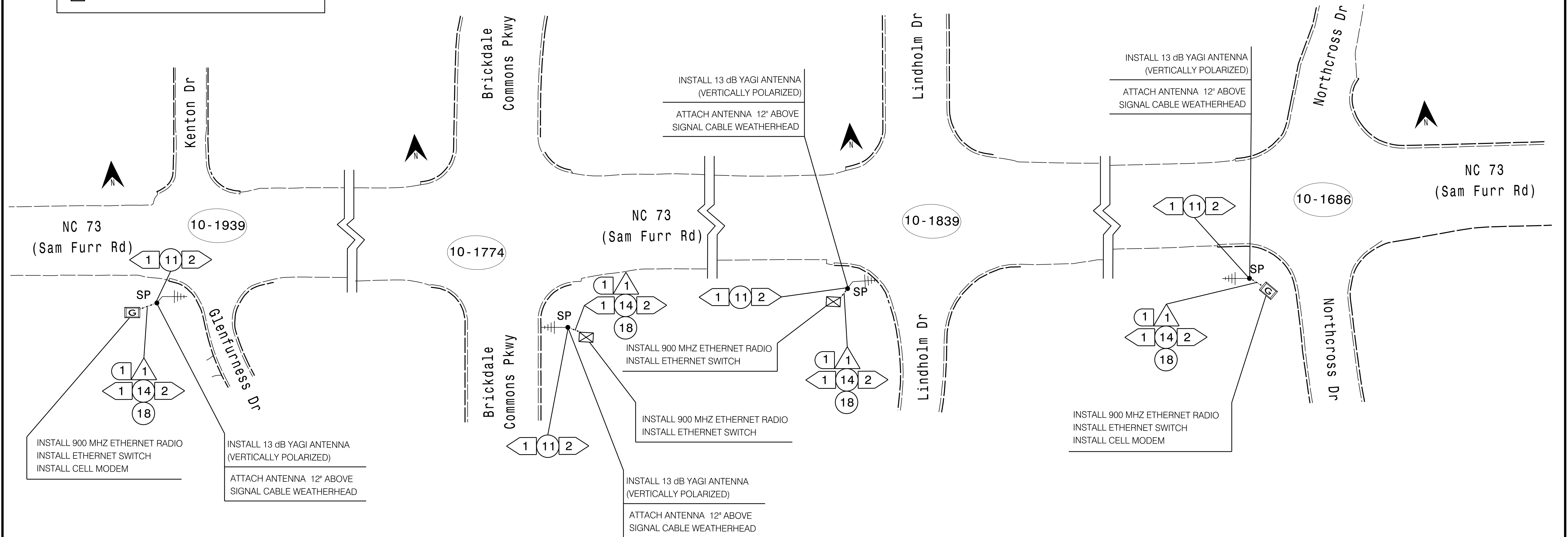
PROJECT REFERENCE NO.	SHEET NO.
U-5765	SCP-13

LEGEND

- | | |
|---|--|
|  | YAGI ANTENNA (SINGLE) |
|  | EXISTING YAGI ANTENNA (SINGLE) |
|  | SIGNAL INVENTORY NUMBER |
|  | PROPOSED GATEWAY RADIO LOCATION |
|  | EXISTING GATEWAY RADIO LOCATION |
|  | PROPOSED CONTROLLER & CABINET |
|  | EXISTING CONTROLLER & CABINET |
|  | PROPOSED CONDUIT |
|  | EXISTING CONDUIT |
|  | INSTALL COAXIAL CABLE |
|  | INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD |
|  | INSTALL POLYETHYLENE CONDUIT |
|  | INSTALL CABLE(S) IN NEW CONDUIT |
|  | STORE 20 FEET OF COMMUNICATIONS CABLE |

CONSTRUCTION NOTE SYMBOLS KEY

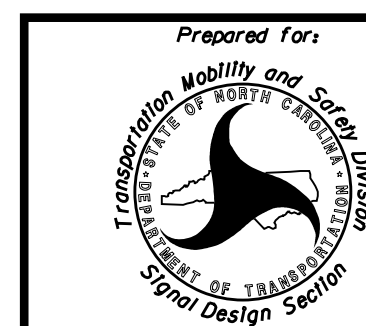
-  INDICATES NUMBER OF CABLES, LOOPS, ETC.
- NUMBER
CABLE(S) 
-  INDICATES NUMBER OF RISER(S)/CONDUIT(S)
-  INDICATES DIAMETER OF RISER(S)/CONDUIT(S) (INCH)



NOTES FOR WIRELESS COMMUNICATIONS:

1. FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL, CONTACT THE DEPUTY DIVISION TRAFFIC ENGINEER AT 704-983-4400 NOTIFY NOT COMPLETE UNTIL ALL SIGNALS ARE COMMUNICATING WITH THE CENTRAL SYSTEM.
2. CELL PHONE MODEM TO BE SUPPLIED BY THE DEPARTMENT, CONTACT THE DEPUTY DIVISION ENGINEER AT 704-983-4400 TO REQUEST THE CELL MODEM, ALLOW 8 WEEKS LEAD TIME BEFORE ANTICIPATED DEPLOYMENT.
3. INSTALL COAXIAL CABLE:
 - A. ON WOOD POLES, REQUIRING A NEW RIGID GALVANIZED STEEL RISER, INSTALL A 2" RISER WITH WEATHERHEAD.
4. INSTALL WIRELESS ANTENNA ON POLE WITH RF WARNING SIGN.
(NOTE: RF WARNING SIGN NOT REQUIRED WHEN ANTENNA IS INSTALLED ON AN NCDOT-OWNED POLE.)
5. MAINTAIN PROPER CLEARANCE FROM ALL UTILITIES PER NATIONAL ELECTRICAL SAFETY CODE.
6. INSTALL WIRELESS RADIO MODEM WITH EXTERIOR DISCONNECT SWITCH LOCATED ON CABINET.
(NOTE: RF ANTENNA DISCONNECT SWITCH AND DECAL AR NOT REQUIRED WHEN THE ANTENNA IS INSTALLED ON NCDOT-OWNED POLE.)
7. REFERENCE SPREAD SPECTRUM RADIO ROADWAY STANDARD DRAWINGS 1736.01.
8. ONCE INSTALLATION OF THE FIBER NETWORK IS COMPLETE REMOVE THE WIRELESS EQUIPMENT AND RETURN IT TO THE DIVISION 10 OFFICE AT 716 W. MAIN ST., ALBEMARLE, NC 28001.

TMP PHASE 1 STEPS 1-4



(Signal System #: D10-43_Huntersville)
 TEMPORARY WIRELESS COMMUNICATION PLANS
 (TMP PHASE 1 STEPS 1-4)

Division 10 Mecklenburg County		Huntersville
PLAN DATE:	July 2026	REVIEWED BY: Z Wang

[illegible]

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REAL



G. INVENTORY NO.

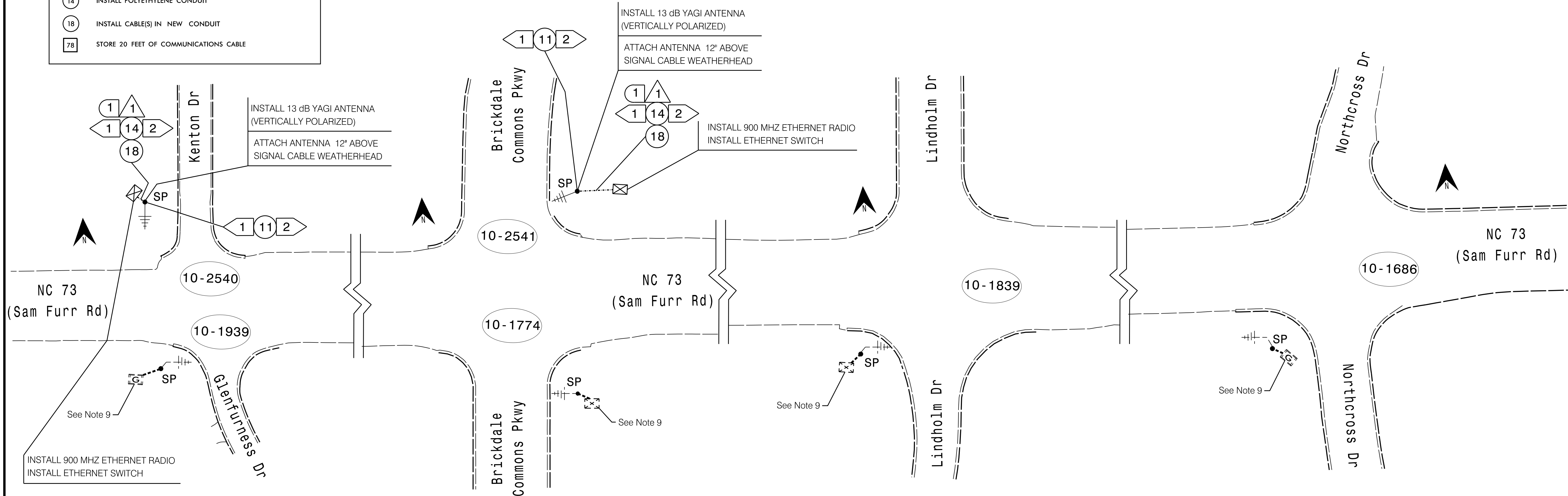


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LEGEND	
	YAGI ANTENNA (SINGLE)
	EXISTING YAGI ANTENNA (SINGLE)
	SIGNAL INVENTORY NUMBER
	PROPOSED GATEWAY RADIO LOCATION
	EXISTING GATEWAY RADIO LOCATION
	PROPOSED CONTROLLER & CABINET
	EXISTING CONTROLLER & CABINET
	PROPOSED CONDUIT
	EXISTING CONDUIT
	INSTALL COAXIAL CABLE
	INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD
	INSTALL POLYETHYLENE CONDUIT
	INSTALL CABLE(S) IN NEW CONDUIT
	STORE 20 FEET OF COMMUNICATIONS CABLE

CONSTRUCTION NOTE SYMBOLOGY KEY

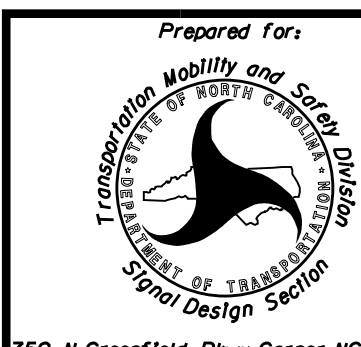
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(NOTE: RF ANTENNA DISCONNECT SWITCH AND DECAL ARE NOT REQUIRED WHEN THE ANTENNA IS INSTALLED ON NCDOT-OWNED POLE.)
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- EXISTING WIRELESS EQUIPMENT AND EXISTING ETHERNET SWITCH.
- PRIOR TO REMOVING TEMPORARY WIRELESS EQUIPMENT. TRANSFER EXISTING CELL MODEM IN SIGNAL CABINET AT 10-1774 (NC 73 AND BRICKDALE COMMONS PKWY) TO SIGNAL CABINET AT 10-1939 (NC 73 AND GLENFURNESS DR).

TMP PHASE 2



(Signal System #: D10-43_Huntersville)	
TEMPORARY WIRELESS COMMUNICATION PLANS	
(TMP PHASE 2)	
Division 10 Mecklenburg County Huntersville	
PLAN DATE: July 2026	REVIEWED BY: Z Wang
PREPARED BY: K Hector	RKA PROJ. No.:

REVISIONS	INIT.	DATE

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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	7/10/2026
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