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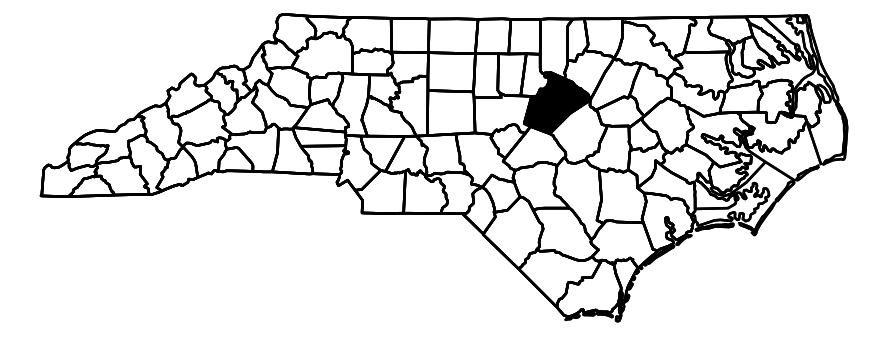
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

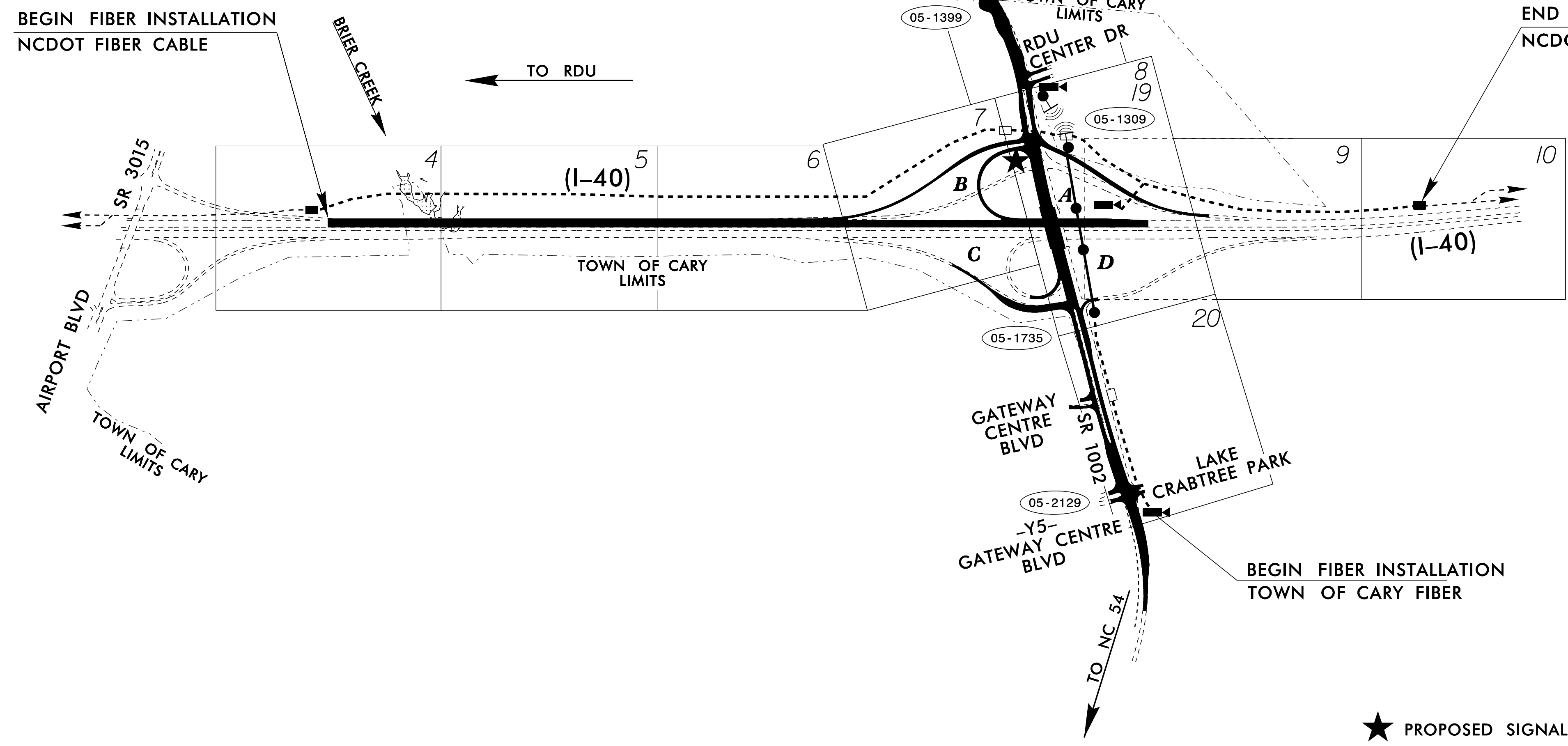
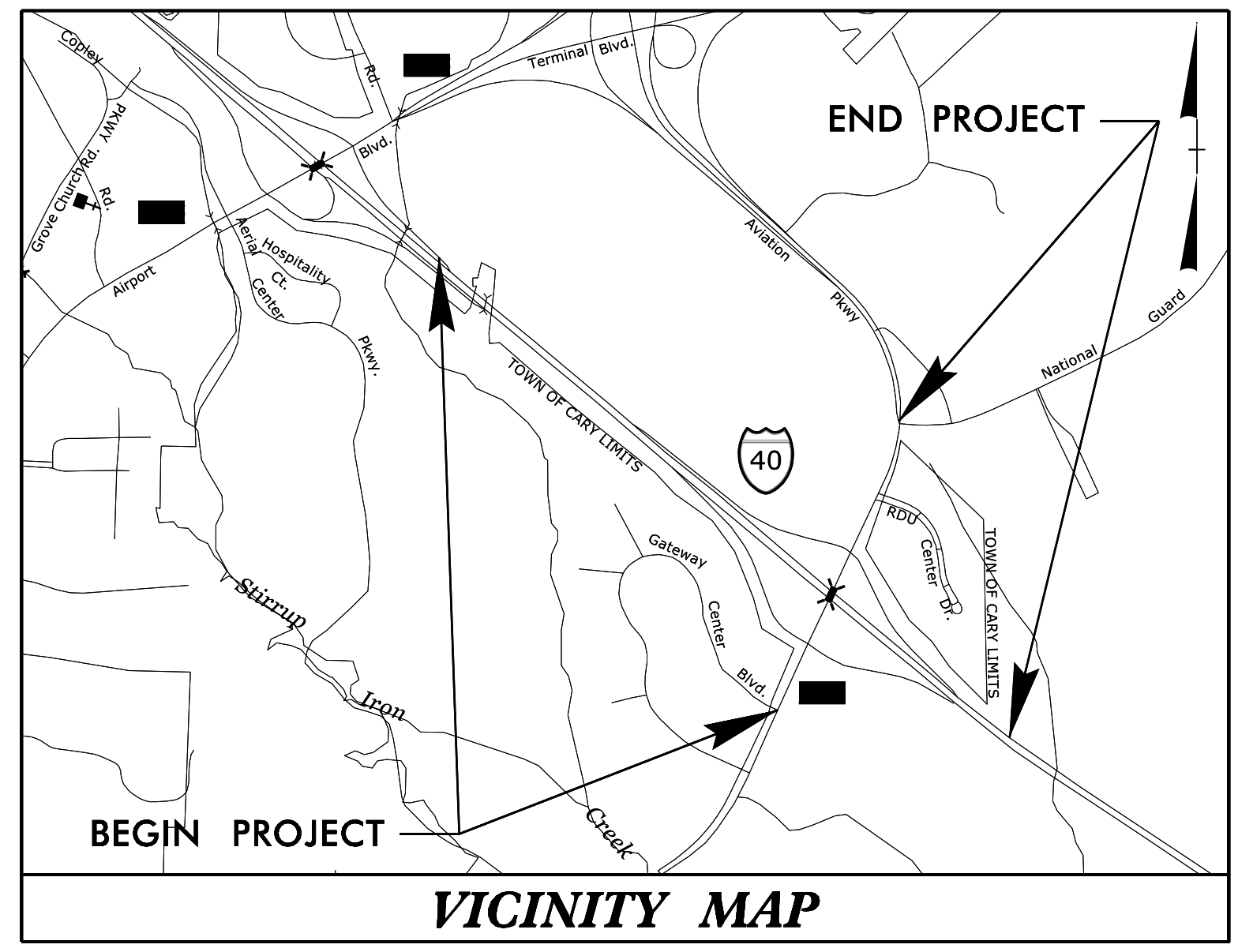
LOCATION: I-40 AND SR 1002 (AVIATION PARKWAY) INTERCHANGE

TYPE OF WORK: FIBER CABLE INSTALLATION, CCTV CAMERA
AND 2.4GHz WIRELESS SYSTEM

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



CONTRACT: TIP PROJECT: I-5506



★ PROPOSED SIGNALS

INDEX OF PLANS	
SHEET NUMBER	LOCATION / DESCRIPTION (NCDOT)
SCP-1	TITLE SHEET
SCP-2	SCHEMATIC DIAGRAM (NCDOT TMP PH I/FINAL)
SCP-3	DRAWING FORMAT ITEMS - CONSTRUCTION NOTES, CABLE INSTALLATION NOTES
SCP-4 thru SCP-10	NCDOT ITS TRUNK FIBER INSTALLATION
SCP-11 thru SCP-13	NCDOT FIBER CABLE SPLICING DETAILS
SCP-14	NCDOT CCTV WOOD POLE DETAIL

INDEX OF PLANS	
SHEET NUMBER	LOCATION / DESCRIPTION (TOWN OF CARY)
SCP-1	TITLE SHEET
SCP-3	DRAWING FORMAT ITEMS - CONSTRUCTION NOTES, CABLE INSTALLATION NOTES
SCP-15	SCHEMATIC DIAGRAM - TOWN OF CARY (TMP PH I/FINAL)
SCP-16 thru SCP-20	TOWN OF CARY - TRUNK FIBER INSTALLATION
SCP-21 thru SCP-23	TOWN OF CARY - FIBER CABLE SPLICING DETAILS
SCP-26	TOWN OF CARY - CCTV METAL POLE DETAIL

ROADWAY STANDARD DRAWINGS	
STD. No.	TITLE
1101.01	WORK ZONE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURE
1101.03	TEMPORARY SHOULDER CLOSURE
1710.01	MESSAGE CABLE
1715.01	UNDERGROUND CONDUIT
1716.01	JUNCTION BOXES
1720.01	WOOD POLES
1721.01	GUY ASSEMBLIES
1722.01	RISER ASSEMBLY
1730.01	FIBER OPTIC CABLE
1736.01	WIRELESS RADIO ANTENNA

LEGEND	
(XX-XXXX)	SIGNAL INVENTORY No.
(XX)	UTILITY POLE NUMBER

NCDOT CONTACT:
TRANSPORTATION SAFETY AND MOBILITY
INTELLIGENT TRANSPORTATION SYSTEMS SECTION

I. Neal Avery
Signal Communication Project Engineer

Heidi Berggren, EI
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Betsy L. Watson, PE
Senior Principal

Dean Harris
Senior Transportation Engineer

Jim Ingram
Senior ITS Designer

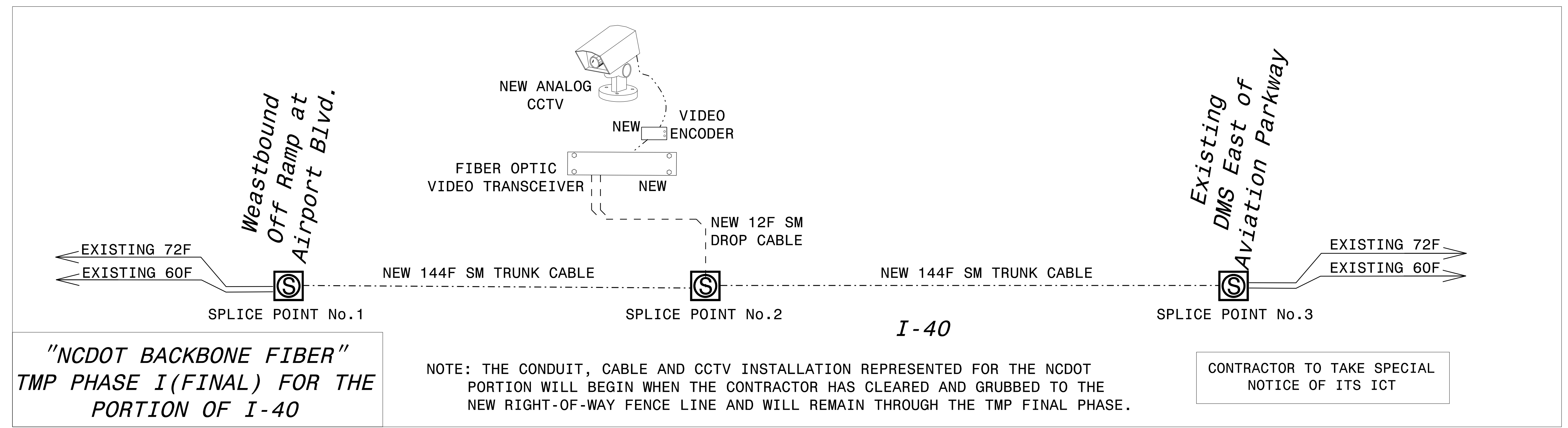
Plans Prepared for:
DIVISION OF HIGHWAYS

750 N. Greenfield Parkway, Garner, NC 27529

DocuSigned by:
Betsy L. Watson
35E19B34F88E

SEAL
29449
BETSY L. WATSON
ENGINEER
11/30/2017

\$\$\$\$\$ SYSTEMS TIME\$\$\$\$\$ DGN\$\$\$\$\$ USERNAME\$\$\$\$\$



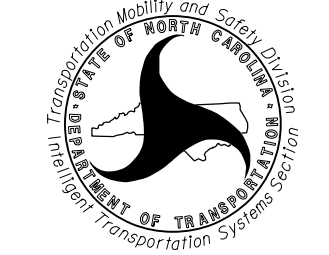
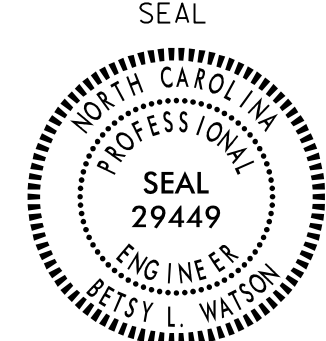
ORDER OF WORK:

WORK TO BE PERFORMED AT THE DIRECTION OF THE ENGINEER, AFTER ALL CLEARING AND GRUBBING IS COMPLETED TO THE EDGE OF THE RIGHT-OF-WAY.

- 1) CONTRACTOR TO FAMILIARIZE THEMSELVES WITH "INTERMEDIATE CONTRACT TIME" (ICT) FOR THIS WORK.
- 2) LOCATE AREA FOR INSTALLATION OF NEW ANALOG CCTV CAMERA AND OBTAIN APPROVAL FROM THE ENGINEER.
- 3) ESTABLISH ELECTRICAL SERVICE FOR NEW ANALOG CCTV CAMERA.
- 4) INSTALLATION OF NEW CONDUIT SYSTEM.
- 5) INSTALLATION OF NEW FIBER.
- 6) RECORD EXISTING SPLICE ARRANGEMENT FOR THE EXISTING ANALOG CCTV CAMERA THAT IS TO BE REMOVED.
- 7) UPON COMPLETION OF ALL STEPS 1 THROUGH 6 ABOVE AND WITH APPROVAL OF THE ENGINEER BEGIN CUT-OVER FROM EXISTING FIBER TO NEW FIBER NETWORK.

NOTE: CONTRACTOR HAS 24 HOURS TO COMPLETE CUT-OVER OF FIBER NETWORK AND TO VERIFY THAT ALL FIBER CIRCUITS ARE FUNCTIONING TO AVOID LIQUIDATED DAMAGES. (See "ICT")

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

 Prepared in the Offices of: 750 N. Greenfield Pkwy., Garner, NC 27529	ONE LINE DIAGRAM NCDOT TMP PHASE I(FINAL)		SEAL  Betsy L. Watson ENGINEER
	DIV 5 WAKE COUNTY TOWN OF CARY	PLAN DATE: 2017 REVIEWED BY: D. HARRIS	
SCALE: NTS	PREPARED BY: J. INGRAM	REVIEWED BY: B. WATSON	SIGNATURE: _____ DATE: 12/5/2017
CADD Filename:			

- 1 INSTALL REA, PE - 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
- 2 INSTALL CAT 5e (PoE) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
- 3 INSTALL REA, PE - 39, (UNDERGROUND) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE
- 4 INSTALL SMFO CABLE
- 5 INSTALL MMFO 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 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 STUBOUTS
- 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 EXISTING POLE MOUNTED CABINET
- 25 INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET
- 26 TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET
- 27 INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER 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 POLE MOUNTED SPlice CABINET
- 32 INSTALL BASE MOUNTED SPlice CABINET (336) WITH EXTENDED BASE
- 33 REMOVE EXISTING 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 SPECIAL OVERSIZED JUNCTION BOX 36"(L)x36"(W)x24"(D) WITH 100 FEET OF COMMUNICATION CABLE
- 40 INSTALL OVERSIZED JUNCTION BOX
- 41 REUSE EXISTING METAL CCTV CAMERA POLE WITH NEW POLE FOUNDATION
- 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 ETHERNET NETWORK SWITCH
- 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 NEW BASE MOUNTED CABINET (336)
- 60 SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND SIGNAL/CCTV CONTROL CABINETS WITH MOLDABLE DUCT SEAL
- 61 RELOCATE EXISTING CCTV CAMERA AND POLE MOUNTED CABINET TO NEW POLE LOCATION.
- 62 BOND TRACER WIRE TO EQUIPMENT GROUND BUS
- 63 DO NOT BOND TRACER WIRE TO EQUIPMENT GROUND BUS
- 64 BOND MESSANGER CABLE AND RISER TO POLE GROUND
- 65 MODIFY EXISTING UNDERGROUND SPlice CLOSURE AND RESEAL
- 66 RESEAL EXISTING RISER USING HEAT SRINK TUBING

LEGEND

	NEW AERIAL FIBER OPTIC COMMUNICATIONS CABLE
	NEW TWISTED PAIR COMMUNICATIONS CABLE
	EXISTING COMMUNICATIONS CABLE
	EXISTING FENCE LINE
	PROPOSED FENCE LINE
	PROPOSED RIGHT-OF-WAY LINE
	EXISTING WATER LINE /WETLANDS
	NEW FIBER OPTIC COMMUNICATIONS CABLE IN NEW CONDUIT
	NEW FIBER OPTIC COMMUNICATIONS CABLE IN EXISTING CONDUIT
	NEW DIRECTIONAL DRILLED CONDUIT
	NEW BORED AND JACKED CONDUIT
	NEW JUNCTION BOX (OVERSIZED)
	EXISTING JUNCTION BOX (OVERSIZED)
	NEW WOOD POLE
	EXISTING WOOD POLE
	NEW AERIAL SPICE ENCLOSURE
	NEW METAL SIGNAL POLE
	NEW UNDERGROUND SPICE ENCLOSURE IN SPECIAL OVERSIZED JUNCTION BOX
	EXISTING METAL SIGNAL POLE
	NEW CCTV CAMERA ASSEMBLY
	EXISTING CCTV CAMERA ASSEMBLY
	NEW STANDARD GUY ASSEMBLY
	NEW STANDARD GUY USING EXISTING ANCHOR
	NEW SIDEWALK GUY ASSEMBLY
	EXISTING CONTROLLER AND CABINET
	PROPOSED CONTROLLER CABINET
	EXISTING SPICE CABINET
	EXISTING DYNAMIC MESSAGE SIGN (DMS) ON SINGLE STEEL POLE
	EXISTING MASTER CONTROLLER AND CABINET
	SIGNAL POLE
	ITS FIELD DEVICES
	FLAT PANEL ANTENNA (SINGLE)
	YAGI ANTENNA (DOUBLE) FOR REPEATER OPERATION
	YAGI ANTENNA (SINGLE)
	OMNI ANTENNA
	EXISTING UTILITY CABLE TO BE RELOCATED OR REMOVED
	EXISTING POWER PEDESTAL

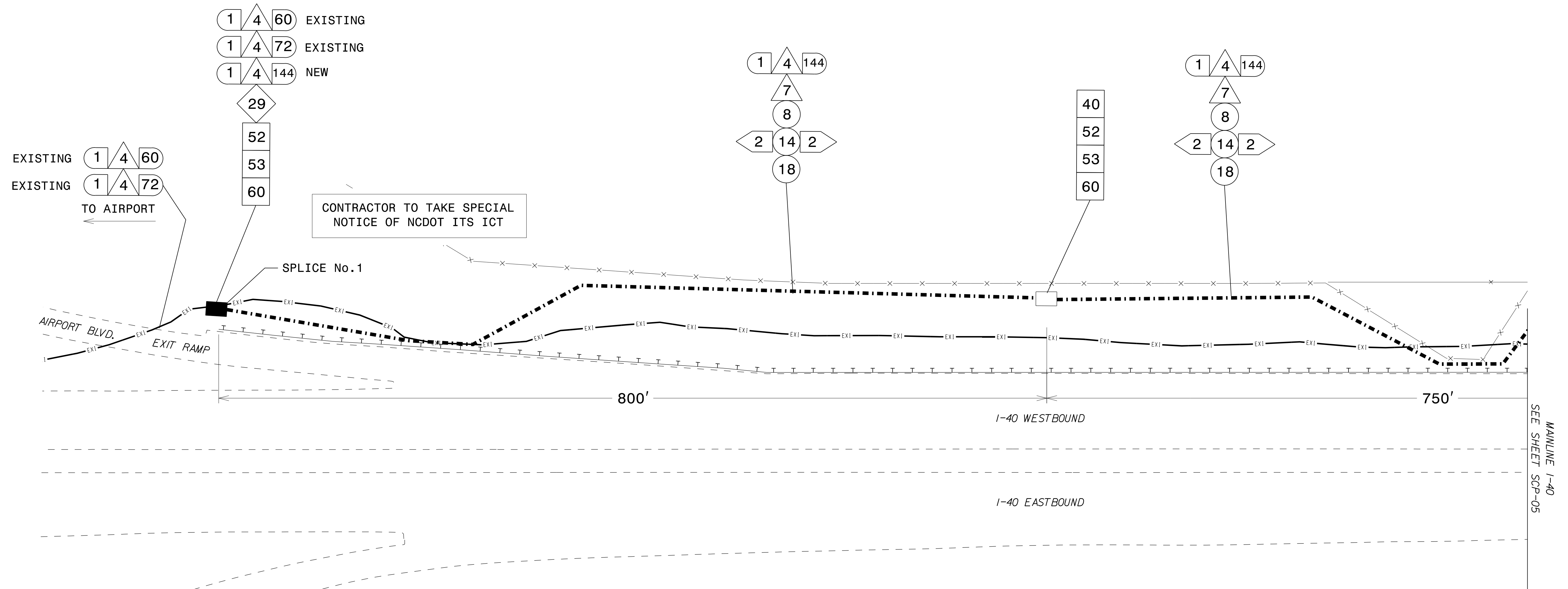
CONSTRUCTION NOTE SYMBOLOGY KEY

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

NUMBER OF CABLE(S)
 NUMBER OF RISER(S)/CONDUIT(S)
 DIAMETER OF RISER(S)/CONDUIT(S) (INCH)
 NUMBER OF FIBERS/TWISTED PAIRS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

	AVIATION PARKWAY ITS FIBER CABLE ROUTE CONSTRUCTION NOTES		
	PLAN DATE: 2017 PREPARED BY: J. INGRAM	REVIEWED BY: D. HARRIS REVIEWED BY: B. WATSON	
SCALE 	REVISIONS _____ _____ _____	INIT. DATE _____ _____ _____	SIGNATURE DATE _____ 11/30/2017 CADD FILE NAME



NOTE 1. AFTER THE INSTALLATION OF THE NCDOT FIBER CABLE AND THE TERMINATION OF THE NEW 144 FIBER TRUNK CABLE IS COMPLETE AND CUT-OVER, THE CONTRACTOR SHALL REMOVE THE EXISTING 60F AND 72F CABLE WITHIN THE PROJECT LIMITS, ALSO REMOVE THE EXISTING JUNCTION BOXES AND BACK FILL. ONCE ALL OF THIS CABLE HAS BEEN REMOVED, ABANDON THE EXISTING CONDUIT IN PLACE.

NCDOT CONTACT, REGIONAL ITS ENGINEER, CLIFF BRAAM, PE AT (919)825-2635

- | | | | | |
|--|--|--|---|---|
| <ul style="list-style-type: none"> 1 INSTALL REA, PE - 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE 2 INSTALL CAT 5e, [PoE] SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE 3 INSTALL 3-CONDUCTOR, CLASS B, STRANDED UNDERGROUND POWER CABLE 4 INSTALL SMFO CABLE 5 INSTALL MMFO 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 FIBER OPTIC CABLE SEAL 13 INSTALL OUTER-DUCT POLYETHYLENE CONDUIT 14 INSTALL POLYETHYLENE CONDUIT | <ul style="list-style-type: none"> 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 STUBOUTS 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 EXISTING POLE MOUNTED CABINET 25 INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET 26 TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET 27 INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPlice CABLE IN CABINET 29 INSTALL UNDERGROUND SPlice ENCLOSURE | <ul style="list-style-type: none"> 30 INSTALL AERIAL SPlice ENCLOSURE 31 INSTALL POLE MOUNTED SPlice CABINET 32 INSTALL BASE MOUNTED SPlice CABINET (336) WITH EXTEND BASE 33 REMOVE EXISTING 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 SPECIAL OVERSIZED JUNCTION BOX 36"(L)x36"(W)x24"(D) WITH 100 FEET OF COMMUNICATIONS CABLE 40 INSTALL OVERSIZED JUNCTION BOX 41 REUSE EXISTING METAL CCTV CAMERA POLE WITH NEW POLE FOUNDATION 42 INSTALL WOOD POLE 43 REMOVE EXISTING WOOD POLE 44 INSTALL AERIAL GUY ASSEMBLY | <ul style="list-style-type: none"> 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 ETHERNET NETWORK SWITCH 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 NEW BASE MOUNTED CABINET (336) | <ul style="list-style-type: none"> 60 SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND SIGNAL/CCTV CONTROL CABINETS WITH MOLDABLE DUCT SEAL 61 RELOCATE EXISTING CCTV CAMERA AND POLE MOUNTED CABINET TO NEW POLE LOCATION. 62 BOND TRACER WIRE TO EQUIPMENT GROUND BUS 63 DO NOT BOND TRACER WIRE TO EQUIPMENT GROUND BUS 64 BOND MESSENGER CABLE AND RISER TO POLE GROUND 65 MODIFY EXISTING UNDERGROUND SPlice CLOSURE AND RESEAL 66 RESEAL EXISTING RISER USING HEAT SHRINK TUBING |
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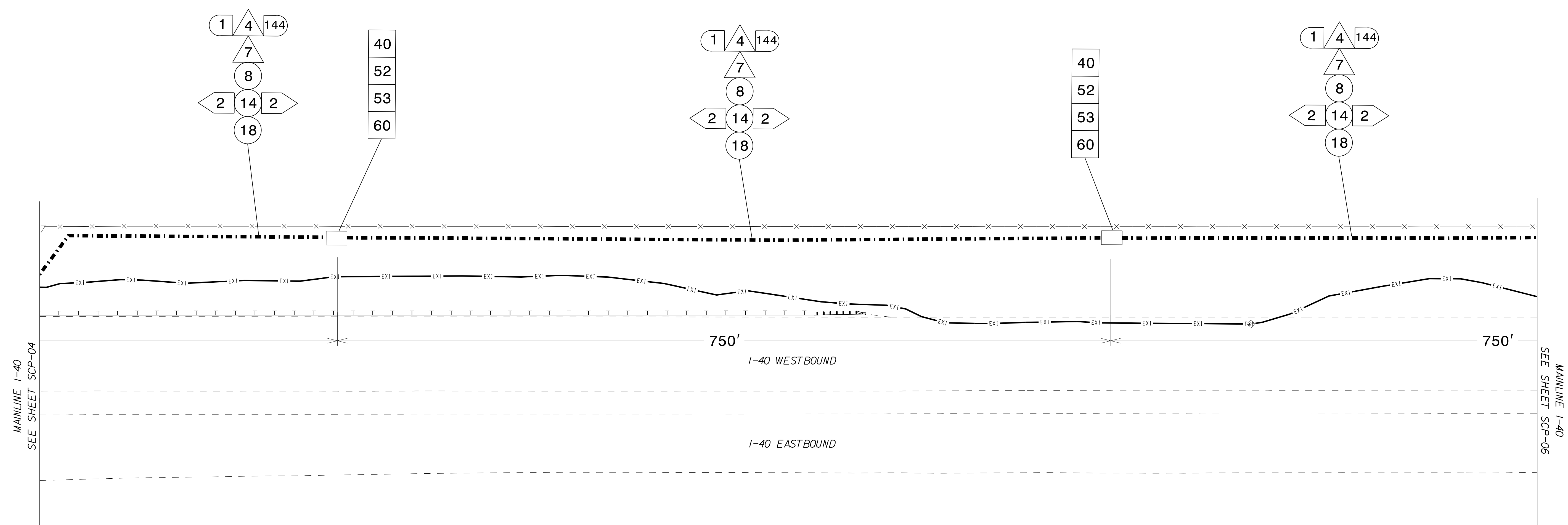
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TMP Phase I(Final)

CONTRACTOR SHALL REFERENCE THE ITS ICT FOR THE COMMUNICATIONS INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES

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	I-40 AND AVIATION PKWY.		SEAL
	ITS FIBER CABLE ROUTING		
DIV 5 WAKE CO. TOWN OF CARY		PLAN DATE: 2017 REVIEWED BY: D. HARRIS PREPARED BY: J. INGRAM REVIEWED BY: B. WATSON	
SCALE: NTS		REVISIONS: _____ INIT. DATE _____ _____	
750 N. Greenfield Plaza, Garner, NC 27529		SIGNATURE: _____ DATE: 11/30/2017 CADD FILE NAME:	



NOTE 1. AFTER THE INSTALLATION OF THE NCDOT FIBER CABLE AND THE TERMINATION OF THE NEW 144 FIBER TRUNK CABLE IS COMPLETE AND CUT-OVER, THE CONTRACTOR SHALL REMOVE THE EXISTING 60F AND 72F CABLE WITHIN THE PROJECT LIMITS, ALSO REMOVE THE EXISTING JUNCTION BOXES AND BACK FILL. ONCE ALL OF THIS CABLE HAS BEEN REMOVED, ABANDON THE EXISTING CONDUIT IN PLACE.

NCDOT CONTACT, REGIONAL ITS ENGINEER, CLIFF BRAAM, PE AT (919)825-2635

- | | | | | |
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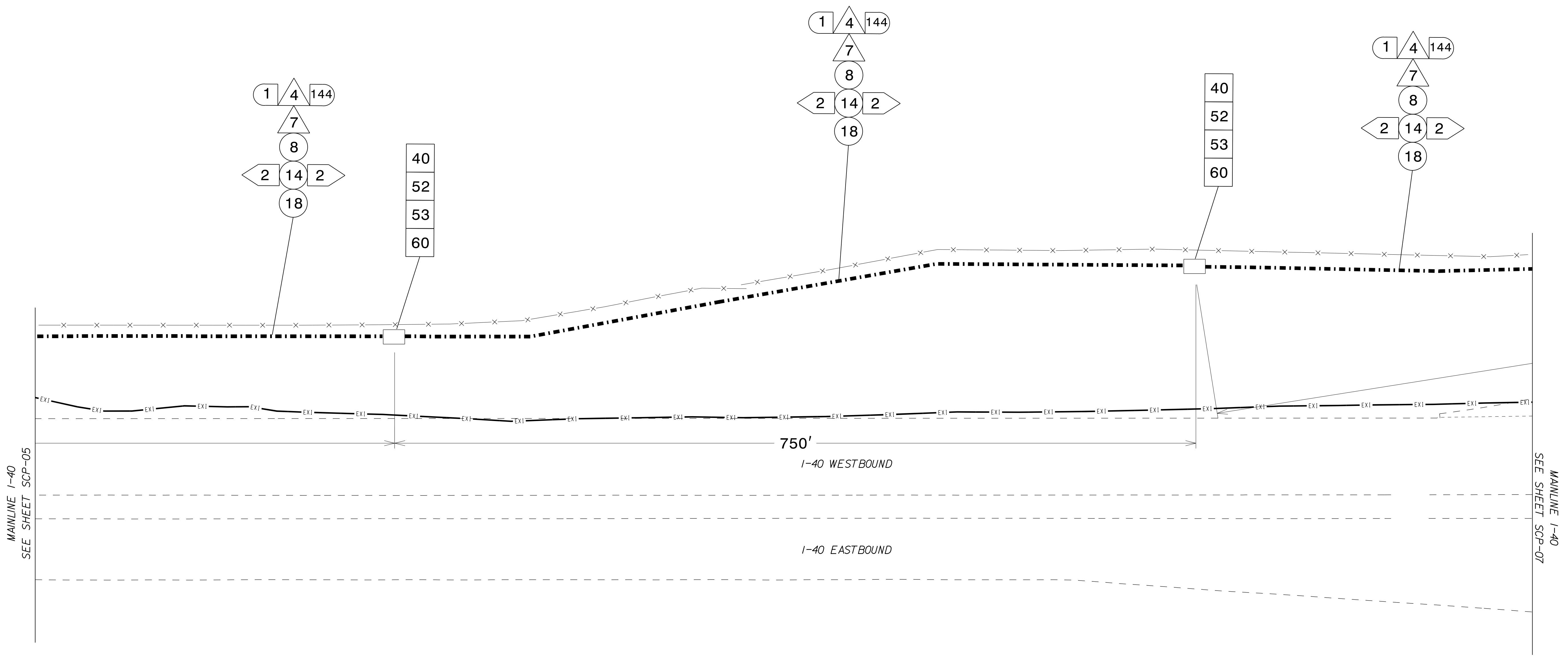
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TMP Phase I(Final)

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	I-40 AND AVIATION PKWY.		
	ITS FIBER CABLE ROUTING		
PLAN DATE: 2017 PREPARED BY: J. INGRAM	DIV 5 WAKE CO. TOWN OF CARY REVIEWED BY: D. HARRIS REVIEWED BY: B. WATSON	SCALE: NTS	SIGNATURE: _____ DATE: 11/30/2017 CADD FILE NAME:



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NCDOT CONTACT, REGIONAL ITS ENGINEER, CLIFF BRAAM, PE AT (919)825-2635

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750 N. Greenfield Pkwy., Garner, NC 27529

SCALE: NTS

I-40 AND AVIATION PKWY.

ITS FIBER CABLE ROUTING

DIV 5 WAKE CO. TOWN OF CARY

PLAN DATE: 2017 REVIEWED BY: D. HARRIS

PREPARED BY: J. INGRAM REVIEWED BY: B. WATSON

REVISIONS	INIT.	DATE

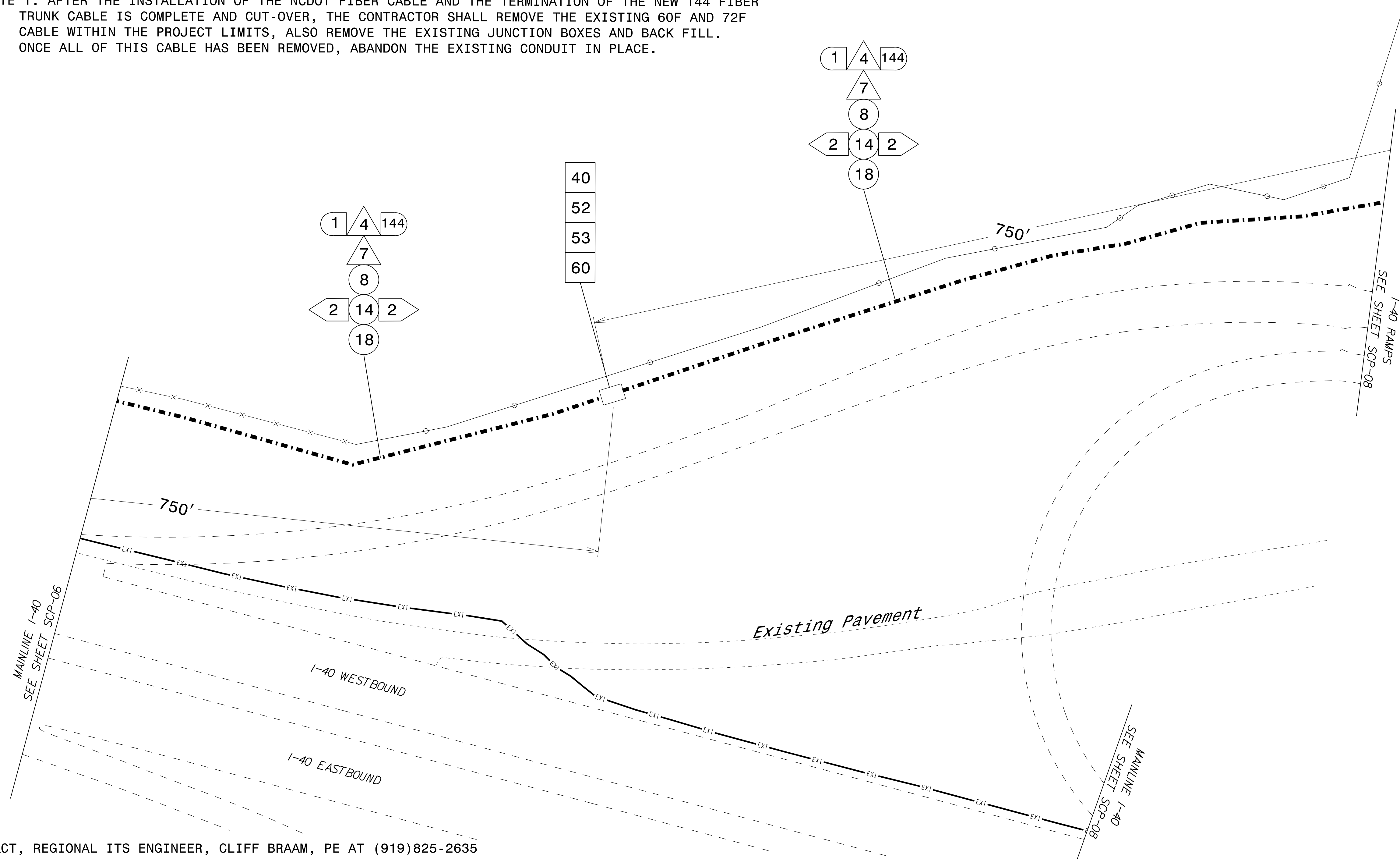
SEAL

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NCDOT CONTACT, REGIONAL ITS ENGINEER, CLIFF BRAAM, PE AT (919)825-2635

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|---|---|---|--|---|
| 1. INSTALL REA, PE - 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE | 15. DIRECTIONAL DRILL CONDUIT | 30. INSTALL AERIAL SPLICE ENCLOSURE | 45. INSTALL STANDARD GUY ASSEMBLY | 60. SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND SIGNAL/CCTV CONTROL CABINETS WITH MOLDABLE DUCT SEAL |
| 2. INSTALL CAT 5e, [PoE] SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE | 16. BORE AND JACK CONDUIT | 31. INSTALL POLE MOUNTED SPLICE CABINET | 46. INSTALL SIDEWALK GUY ASSEMBLY | 61. RELOCATE EXISTING CCTV CAMERA AND POLE MOUNTED CABINET TO NEW POLE LOCATION. |
| 3. INSTALL 3-CONDUCTOR, CLASS B, STRANDED UNDERGROUND POWER CABLE | 17. INSTALL CABLE(S) IN EXISTING CONDUIT | 32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE | 47. INSTALL MESSENGER CABLE | 62. BOND TRACER WIRE TO EQUIPMENT GROUND BUS |
| 4. INSTALL SMFO CABLE | 18. INSTALL CABLE(S) IN NEW CONDUIT | 33. REMOVE EXISTING CABINET | 48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE | 63. DO NOT BOND TRACER WIRE TO EQUIPMENT GROUND BUS |
| 5. INSTALL MMFO CABLE | 19. INSTALL CABLE(S) IN EXISTING RISER | 34. REMOVE EXISTING CABINET FOUNDATION | 49. REMOVE EXISTING COMMUNICATIONS CABLE | 64. BOND MESSENGER CABLE AND RISER TO POLE GROUND |
| 6. INSTALL FIBER OPTIC DROP CABLE | 20. INSTALL CABLE(S) IN NEW RISER | 35. REMOVE EXISTING CABINET FOUNDATION | 50. INSTALL ETHERNET NETWORK SWITCH | 65. MODIFY EXISTING SPLICE CLOSURE AND RESEAL |
| 7. INSTALL TRACER WIRE | 21. INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS | 36. REMOVE EXISTING CABINET FOUNDATION | 51. INSTALL CABLE STORAGE RACKS (SNOW SHOES) | 66. RESEAL EXISTING RISER USING HEAT SHRINK TUBING |
| 8. TRENCH | 22. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE) | 37. INSTALL CCTV CAMERA ASSEMBLY | 52. INSTALL DELINEATOR MARKER | |
| 9. INSTALL PVC CONDUIT | 23. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE) | 38. INSTALL CCTV CAMERA METAL POLE AND FOUNDATION | 53. STORE 50 FEET OF COMMUNICATIONS CABLE | |
| 10. INSTALL RIGID, GALVANIZED STEEL CONDUIT | 24. INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET | 39. INSTALL SPECIAL OVERSIZED JUNCTION BOX 36"(L)x36"(W)x24"(D) WITH 100 FEET OF COMMUNICATIONS CABLE | 54. LASH CABLE(S) TO EXISTING SIGNAL / COMMUNICATIONS CABLE | |
| 11. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD | 25. INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET | 40. INSTALL OVERSIZED JUNCTION BOX | 55. LASH CABLE(S) TO EXISTING MESSENGER CABLE | |
| 12. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL | 26. TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET | 41. REUSE EXISTING METAL CCTV CAMERA POLE WITH NEW POLE FOUNDATION | 56. LASH CABLE(S) TO NEW MESSENGER CABLE | |
| 13. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT | 27. INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET | 42. INSTALL WOOD POLE | 57. MODIFY EXISTING ELECTRICAL SERVICE | |
| 14. INSTALL POLYETHYLENE CONDUIT | 28. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET | 43. REMOVE EXISTING WOOD POLE | 58. INSTALL NEW ELECTRICAL SERVICE | |
| | 29. INSTALL UNDERGROUND SPLICE ENCLOSURE | 44. INSTALL AERIAL GUY ASSEMBLY | 59. INSTALL NEW BASE MOUNTED CABINET (336) | |



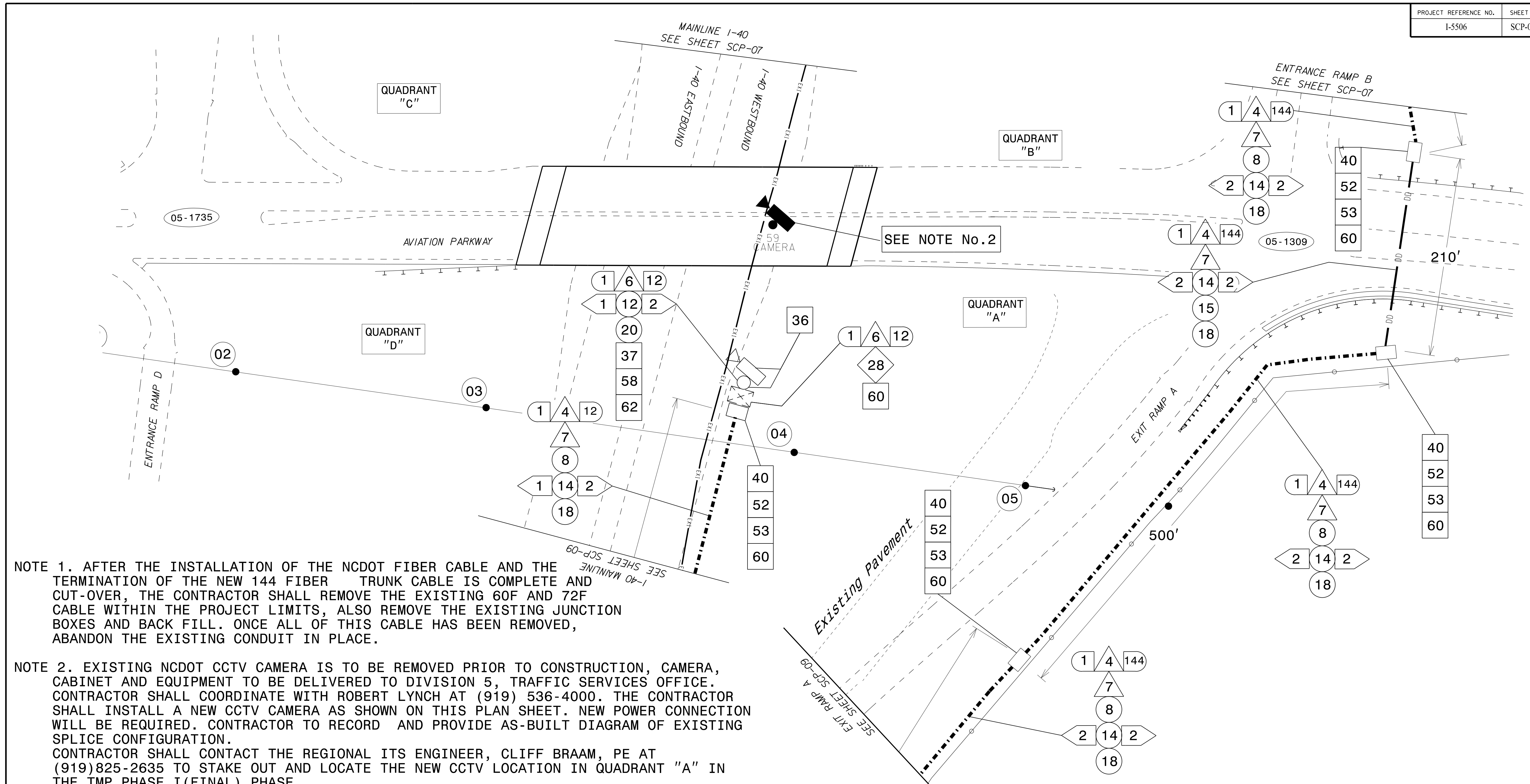
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	ITS FIBER CABLE ROUTING		
PLAN DATE: 2017 PREPARED BY: J. INGRAM	DIV 5 WAKE CO. TOWN OF CARY REVIEWED BY: D. HARRIS REVIEWED BY: B. WATSON	SCALE: NTS REVISIONS:	SIGNATURE: _____ DATE: 11/30/2017 CADD FILE NAME:



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NOTE 2. EXISTING NCDOT CCTV CAMERA IS TO BE REMOVED PRIOR TO CONSTRUCTION, CAMERA, CABINET AND EQUIPMENT TO BE DELIVERED TO DIVISION 5, TRAFFIC SERVICES OFFICE. CONTRACTOR SHALL COORDINATE WITH ROBERT LYNCH AT (919) 536-4000. THE CONTRACTOR SHALL INSTALL A NEW CCTV CAMERA AS SHOWN ON THIS PLAN SHEET. NEW POWER CONNECTION WILL BE REQUIRED. CONTRACTOR TO RECORD AND PROVIDE AS-BUILT DIAGRAM OF EXISTING SPLICE CONFIGURATION. CONTRACTOR SHALL CONTACT THE REGIONAL ITS ENGINEER, CLIFF BRAAM, PE AT (919)825-2635 TO STAKE OUT AND LOCATE THE NEW CCTV LOCATION IN QUADRANT "A" IN THE TMP PHASE I(FINAL) PHASE.

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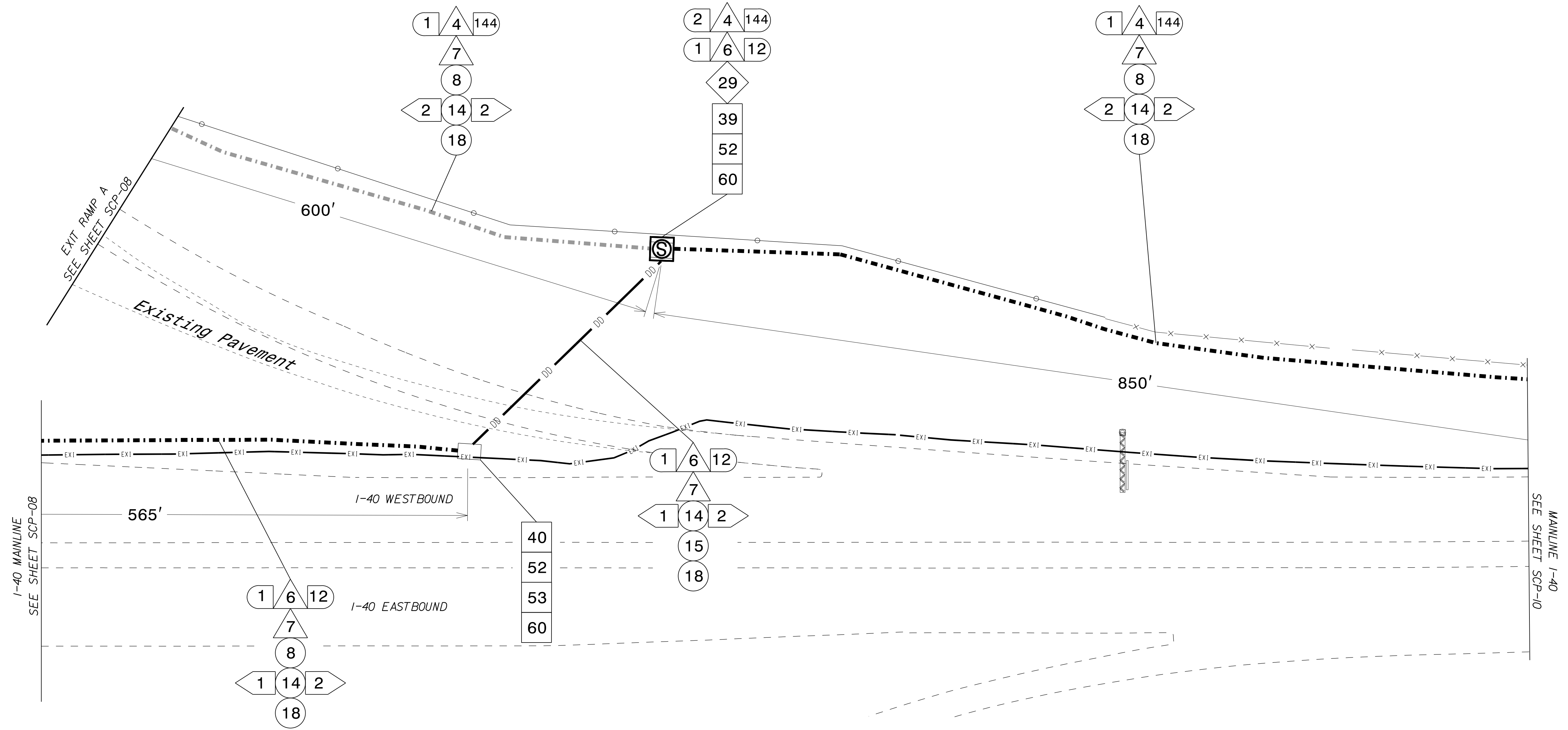
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<p>Prepared for the Offices of:</p> <p>750 N. Greenfield Plaza, Garner, NC 27529</p>		<p>I-40 AND AVIATION PKWY.</p> <p>ITS FIBER CABLE ROUTING</p>		<p>SEAL</p>								
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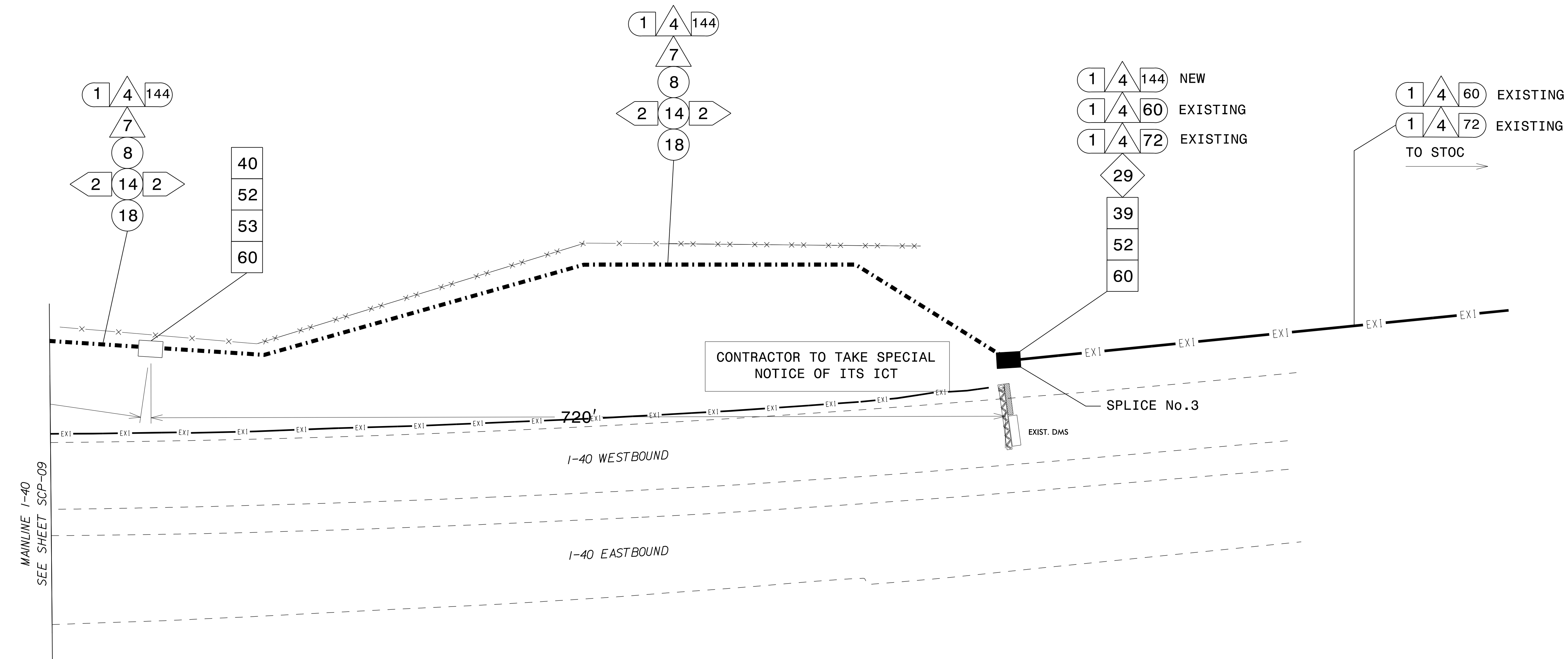
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| <ul style="list-style-type: none"> 1 INSTALL REA, PE - 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE 2 INSTALL CAT 5e (PoE) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE 3 INSTALL 3-CONDUCTOR, CLASS B, STRANDED UNDERGROUND POWER CABLE 4 INSTALL SMFO CABLE 5 INSTALL MMFO 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 FIBER OPTIC CABLE SEAL 13 INSTALL OUTER-DUCT POLYETHYLENE CONDUIT 14 INSTALL POLYETHYLENE CONDUIT | <ul style="list-style-type: none"> 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 STUBOUTS 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 EXISTING POLE MOUNTED CABINET 25 INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET 26 TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET 27 INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET 29 INSTALL UNDERGROUND SPLICE ENCLOSURE | <ul style="list-style-type: none"> 30 INSTALL AERIAL SPLICE ENCLOSURE 31 INSTALL POLE MOUNTED SPLICE CABINET 32 INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE 33 REMOVE EXISTING 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 SPECIAL OVERSIZED JUNCTION BOX 36"(L)x36"(W)x24"(D) WITH 100 FEET OF COMMUNICATIONS CABLE 40 INSTALL OVERSIZED JUNCTION BOX 41 REUSE EXISTING METAL CCTV CAMERA POLE WITH NEW POLE FOUNDATION 42 INSTALL WOOD POLE 43 REMOVE EXISTING WOOD POLE 44 INSTALL AERIAL GUY ASSEMBLY | <ul style="list-style-type: none"> 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 ETHERNET NETWORK SWITCH 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 NEW BASE MOUNTED CABINET (336) | <ul style="list-style-type: none"> 60 SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND SIGNAL/CCTV CONTROL CABINETS WITH MOLDABLE DUCT SEAL 61 RELOCATE EXISTING CCTV CAMERA AND POLE MOUNTED CABINET TO NEW POLE LOCATION. 62 BOND TRACER WIRE TO EQUIPMENT GROUND BUS 63 DO NOT BOND TRACER WIRE TO EQUIPMENT GROUND BUS 64 BOND MESSENGER CABLE AND RISER TO POLE GROUND 65 MODIFY EXISTING UNDERGROUND SPLICE CLOSURE AND RESEAL 66 RESEAL EXISTING RISER USING HEAT SHRINK TUBING |
|---|--|--|---|---|

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TMP Phase I(Final)

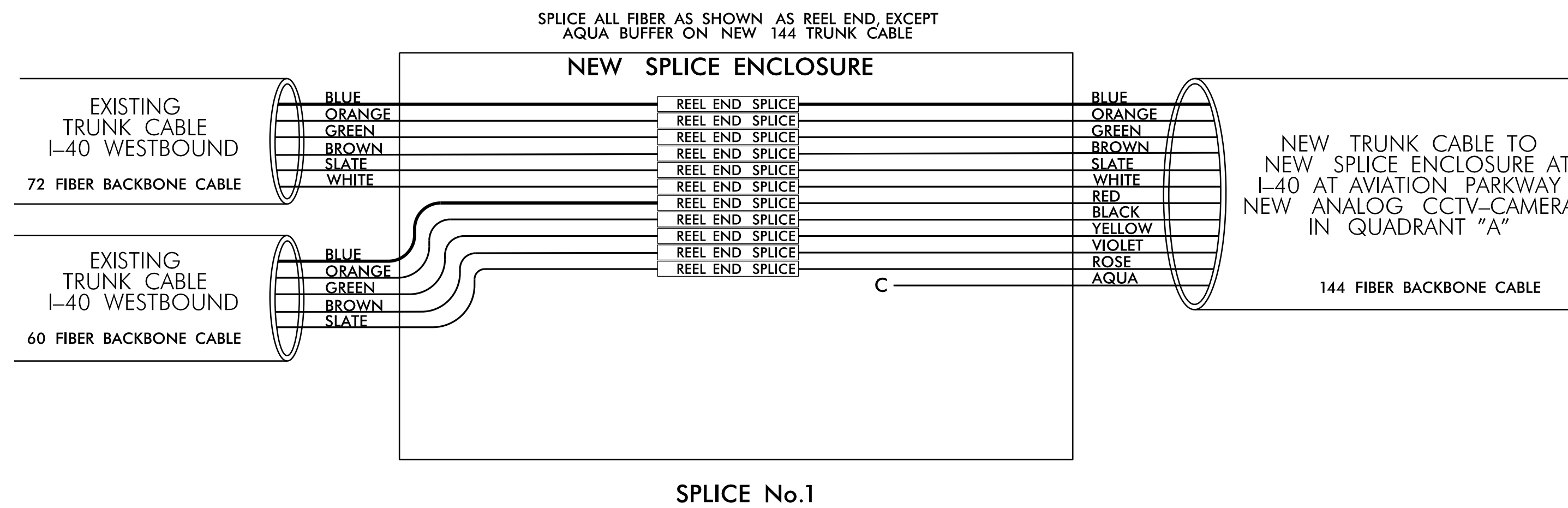
CONTRACTOR SHALL REFERENCE THE ITS ICT FOR THE COMMUNICATIONS INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

<p>Prepared for the Offices of:</p> <p>750 N. Greenfield Plaza, Garner, NC 27529</p>	<p>I-40 AND AVIATION PKWY.</p> <p>ITS FIBER CABLE ROUTING</p>		<p>SEAL</p>							
	<p>DIV 5 WAKE CO. TOWN OF CARY</p> <p>PLAN DATE: 2017 REVIEWED BY: D. HARRIS</p> <p>PREPARED BY: J. INGRAM REVIEWED BY: B. WATSON</p>	<p>REVISIONS</p> <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>INIT.</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>		NO.	DATE	INIT.	DATE			
NO.	DATE	INIT.	DATE							

**SPLICE ENCLOSURE AT
I-40 AND AIPOINT BLVD.
WESTBOUND EXIT RAMP**

SPLICE No.1



NOTES:

- 1.) 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.
- 2.) 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.

TMP Phase I(Final)

CONTRACTOR SHALL REFERENCE THE ITS
ICT FOR THE COMMUNICATIONS
INTERMEDIATE CONTRACT
TIME AND LIQUIDATED DAMAGES

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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
- = EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING
- = SPLICE ENTIRE BUFFER TUBE SPLICE LIKE FIBER TO LIKE FIBER

STANDARD NOTES:

1. UNUSED FIBER SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
2. UNUSED BUFFER TUBES SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
3. ETHERNET TERMINATION CONFIGURATIONS ARE GENERIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND ENSURING PROPER TERMINATION.

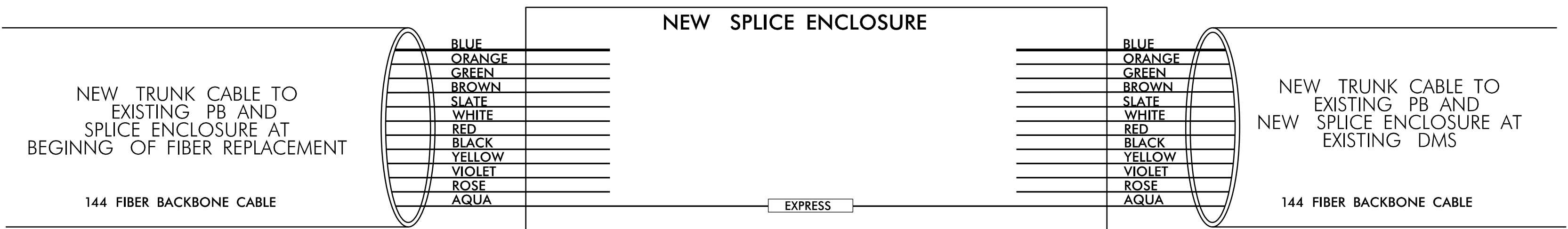


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Prepared in the Offices of:		FIBER OPTIC SPLICE DETAILS BEGIN NCDOT TRUNK FIBER		SEAL
		DIV 5 WAKE CO. TOWN OF GARY		
PLAN DATE:	2017	REVIEWED BY:	DEAN HARRIS	SIGNATURE _____ DATE 11/30/2017
PREPARED BY:	J. INGRAM	REVIEWED BY:	BETSY L. WATSON	
SCALE	NTS	REVISIONS	INIT. DATE	CADD Filename:

**SPLICE ENCLOSURE AT
I-40 AT AVIATION PARKWAY
CCTV CAMERA IN QUADRANT "A"**

SPLICE No.2



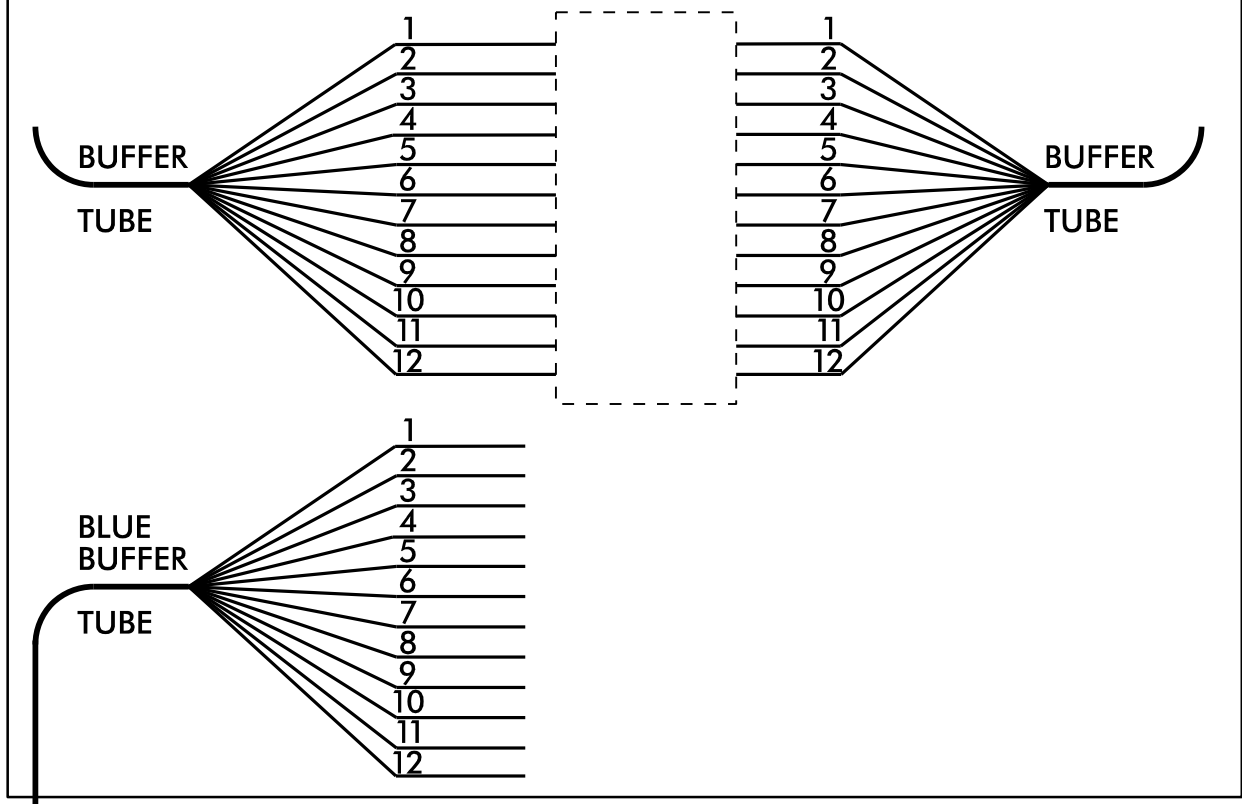
NEW TRUNK CABLE TO EXISTING PB AND SPLICE ENCLOSURE AT BEGINNING OF FIBER REPLACEMENT

144 FIBER BACKBONE CABLE

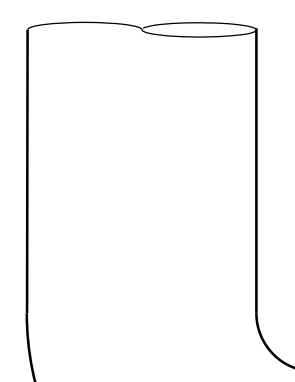
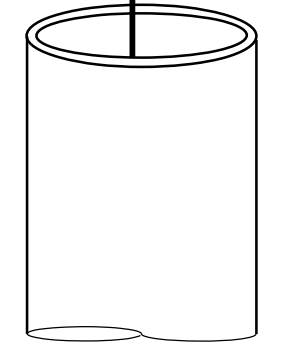
NEW TRUNK CABLE TO EXISTING PB AND NEW SPLICE ENCLOSURE AT EXISTING DMS

144 FIBER BACKBONE CABLE

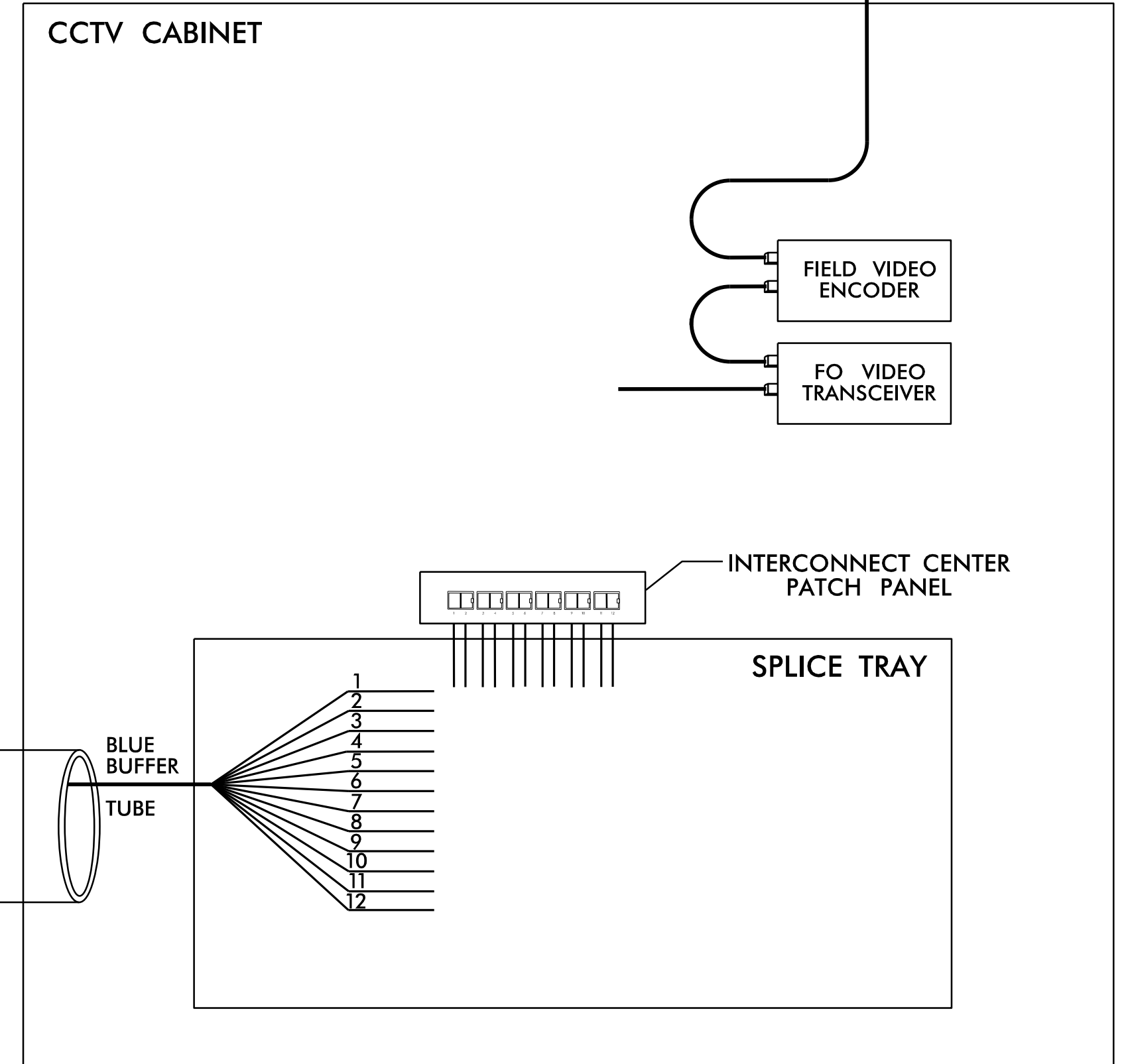
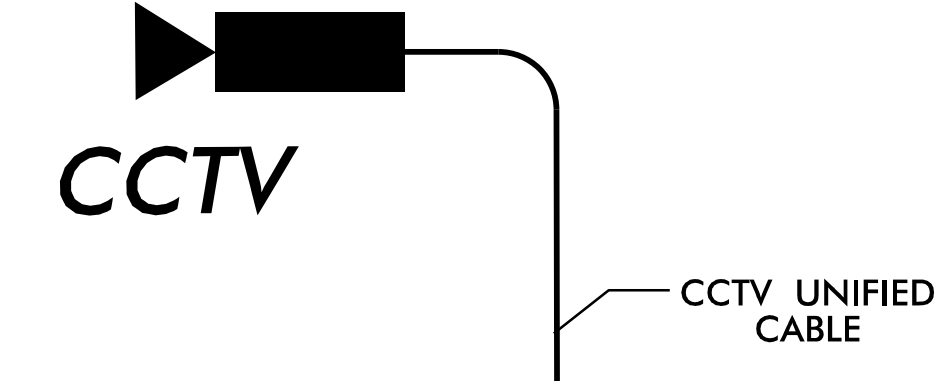
THE CONTRACTOR SHALL RECORD CURRENT SPlicing SCHEME PRIOR TO REMOVAL AND REPLICATE THE SAME SPlicing FOR THE NEW ANALOG CCTV CAMERA



SPLICE No.2



12 FIBER DROP CABLE TO NEW ANALOG CCTV



- 1) FIVE (5) DAYS PRIOR TO BEGINNING WORK, CONTACT THE "NCDOT" ITS, CLIFF BRAAM, PE, AT (919)825-2635 TO ARRANGE FOR PROGRAMING THE FIELD ETHERNET SWITCH WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - 1.) THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION.
 - 2.) NOTIFY THE ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY.
 - 3.) WORK IS NOT COMPLETE UNTIL THE CCTV SIGNAL IS BACK UP AND OPERATIONAL.
- 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) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND 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.

TMP Phase I(Final)

CONTRACTOR SHALL REFERENCE THE ITS ICT FOR THE COMMUNICATIONS INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES

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COLOR CODE TIA/EIA 598-A		LEGEND	
(1) BLUE	(7) RED	X = FUSION SPlice	
(2) ORANGE	(8) BLACK	C = CAP IN TRAY	
(3) GREEN	(9) YELLOW	EXPRESS = EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING	
(4) BROWN	(10) VIOLET		
(5) SLATE	(11) ROSE		
(6) WHITE	(12) AQUA		

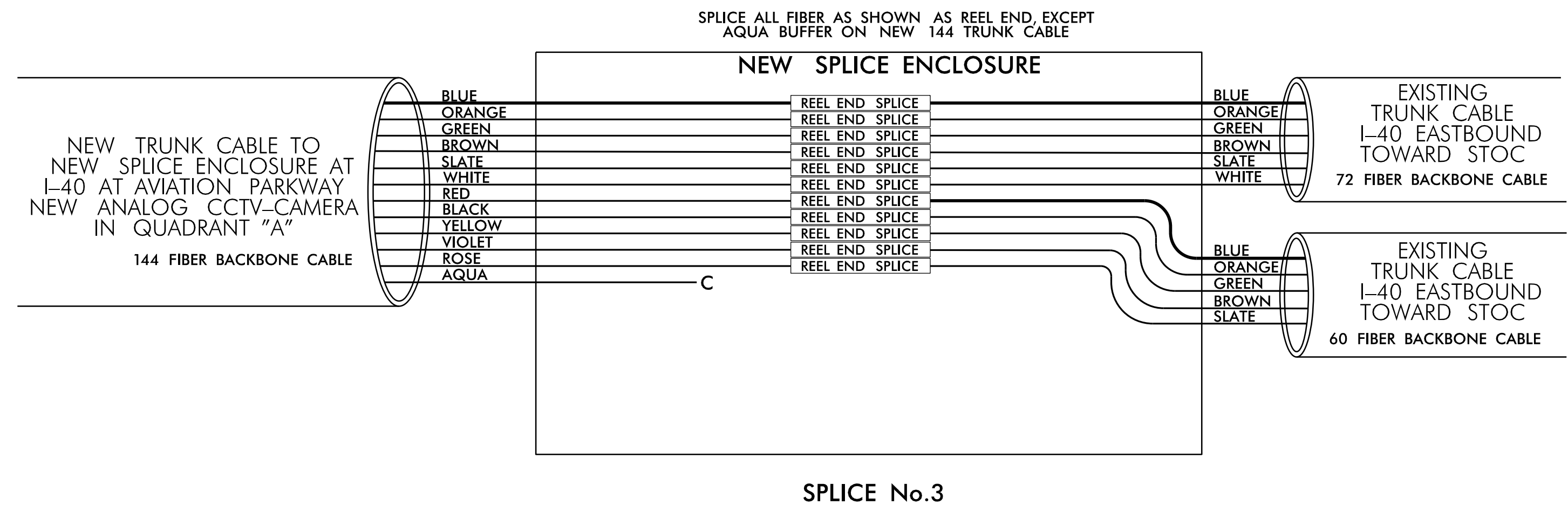
- NOTES**
1. UNUSED FIBER SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
 2. UNUSED BUFFER TUBES SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
 3. ETHERNET TERMINATION CONFIGURATIONS ARE GENERIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND ENSURING PROPER TERMINATION.

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Prepared in the Offices of:		FIBER OPTIC SPLICE DETAILS NCDOT NEW ANALOG CCTV-CAMERA		
		DIV 5 WAKE CO. TOWN OF CARY PLAN DATE: 2017 REVIEWED BY: DEAN HARRIS PREPARED BY: J. INGRAM REVIEWED BY: BETSY L. WATSON SCALE: NTS REVISIONS: _____ INIT. DATE: _____ SIGNATURE: _____ DATE: 11/30/2017 CADD Filename:		

**SPLICE ENCLOSURE
I-40 AT EXISTING DMS
EAST OF ON RAMP TO
AVIATION PARKWAY**

SPLICE No.3



NOTES:

- 1.) 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.
- 2.) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING:

REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"
 1.) SPLICE LOCATION
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TMP Phase I(Final)

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TIA/EIA 598-A**

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LEGEND

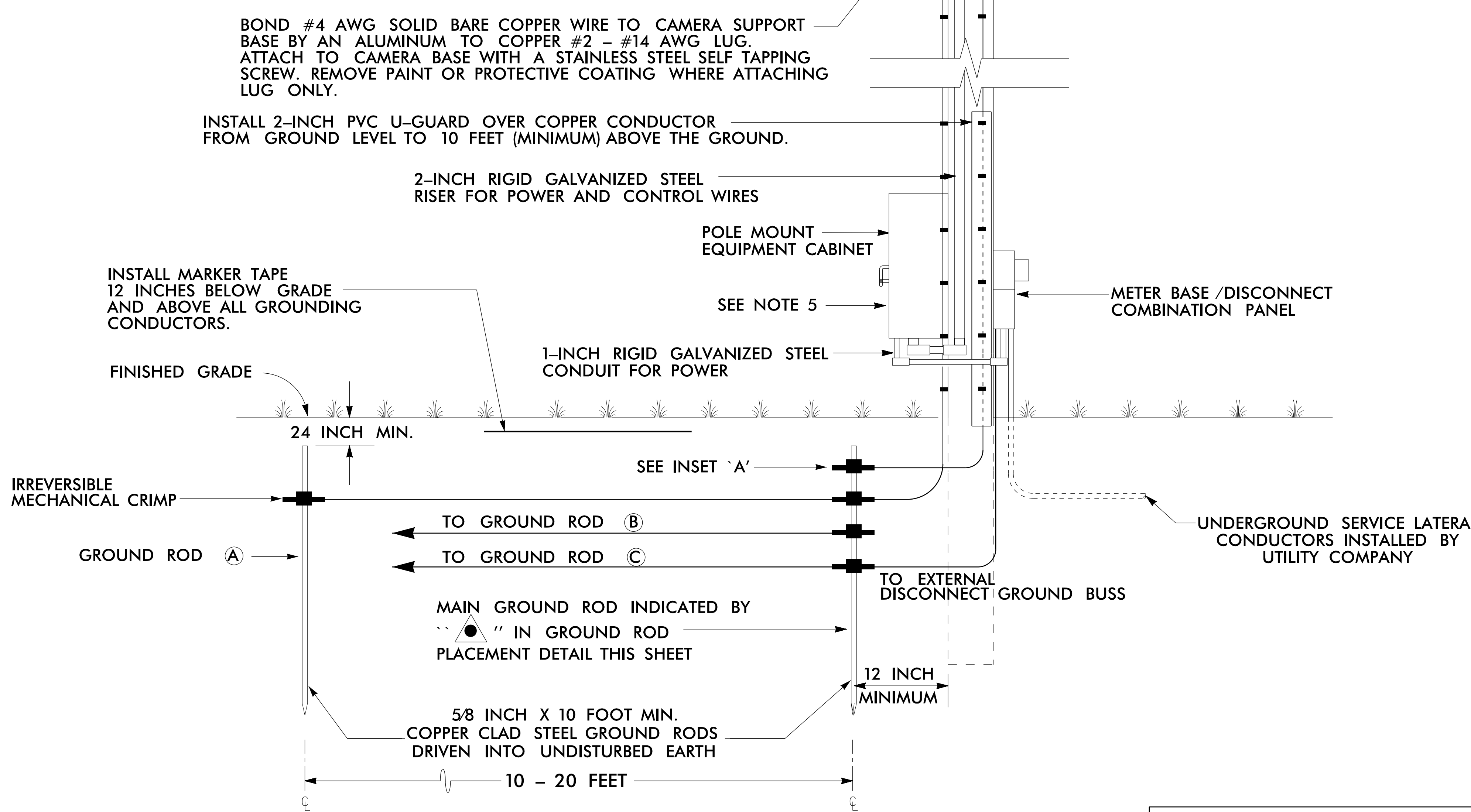
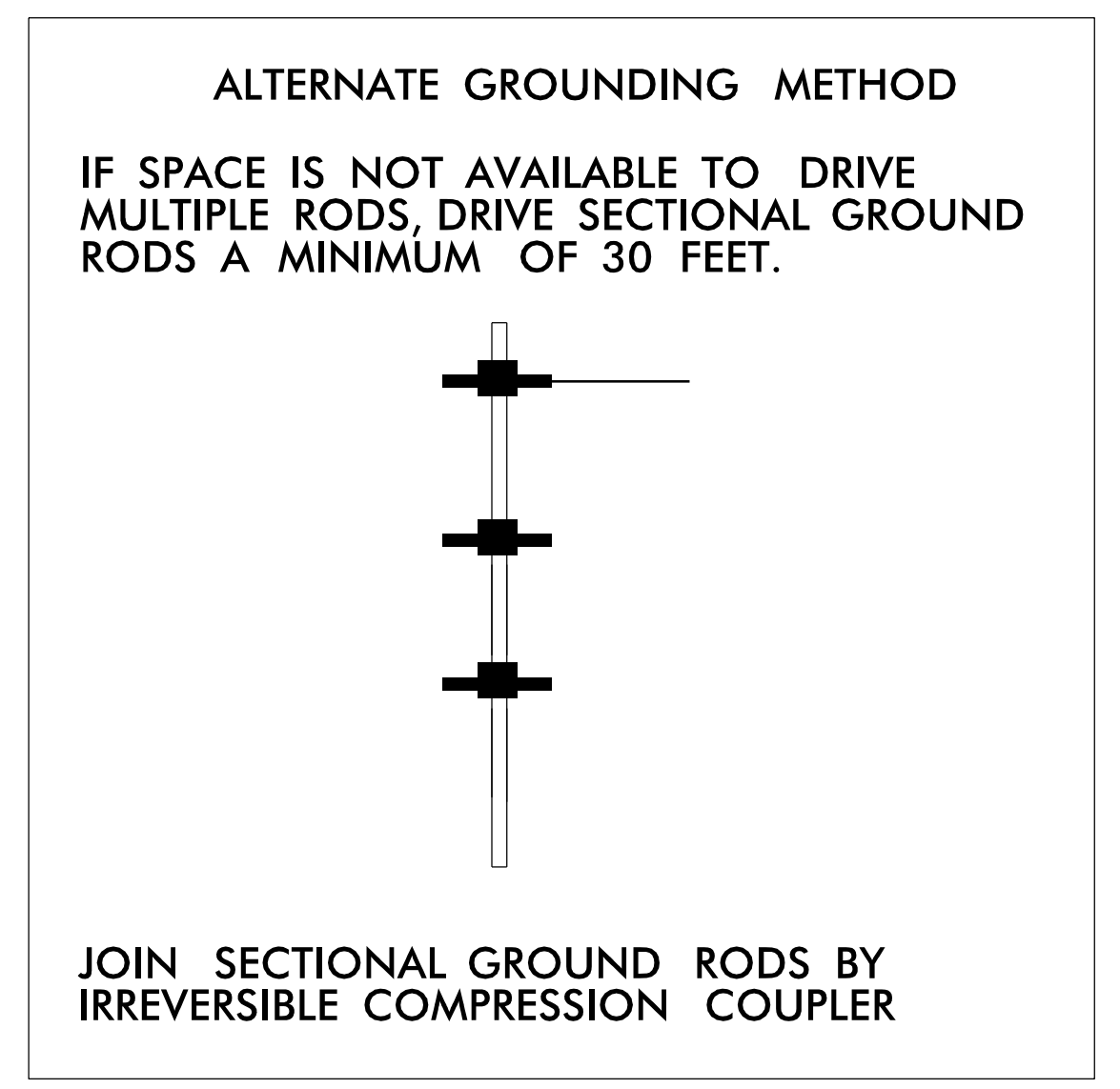
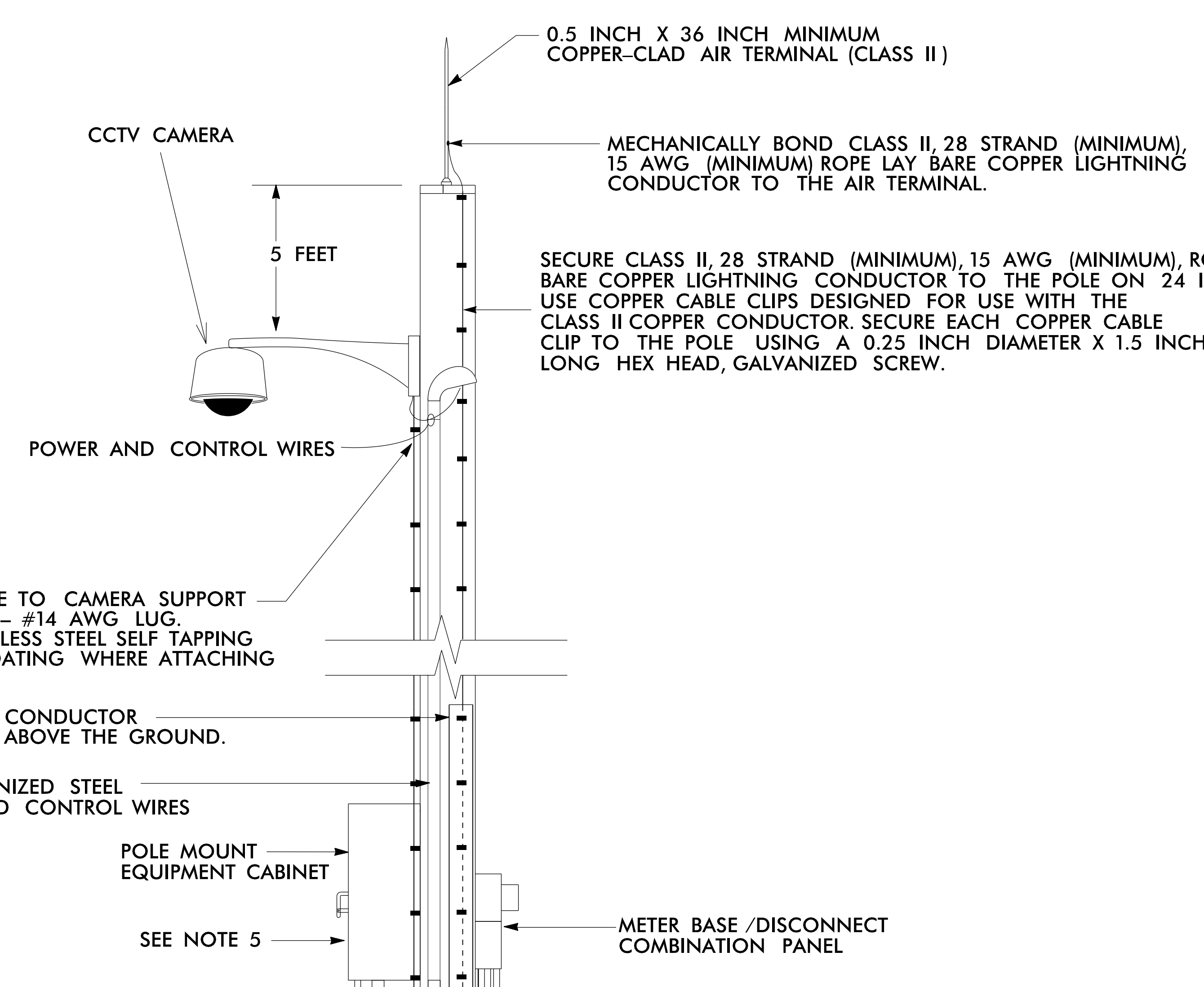
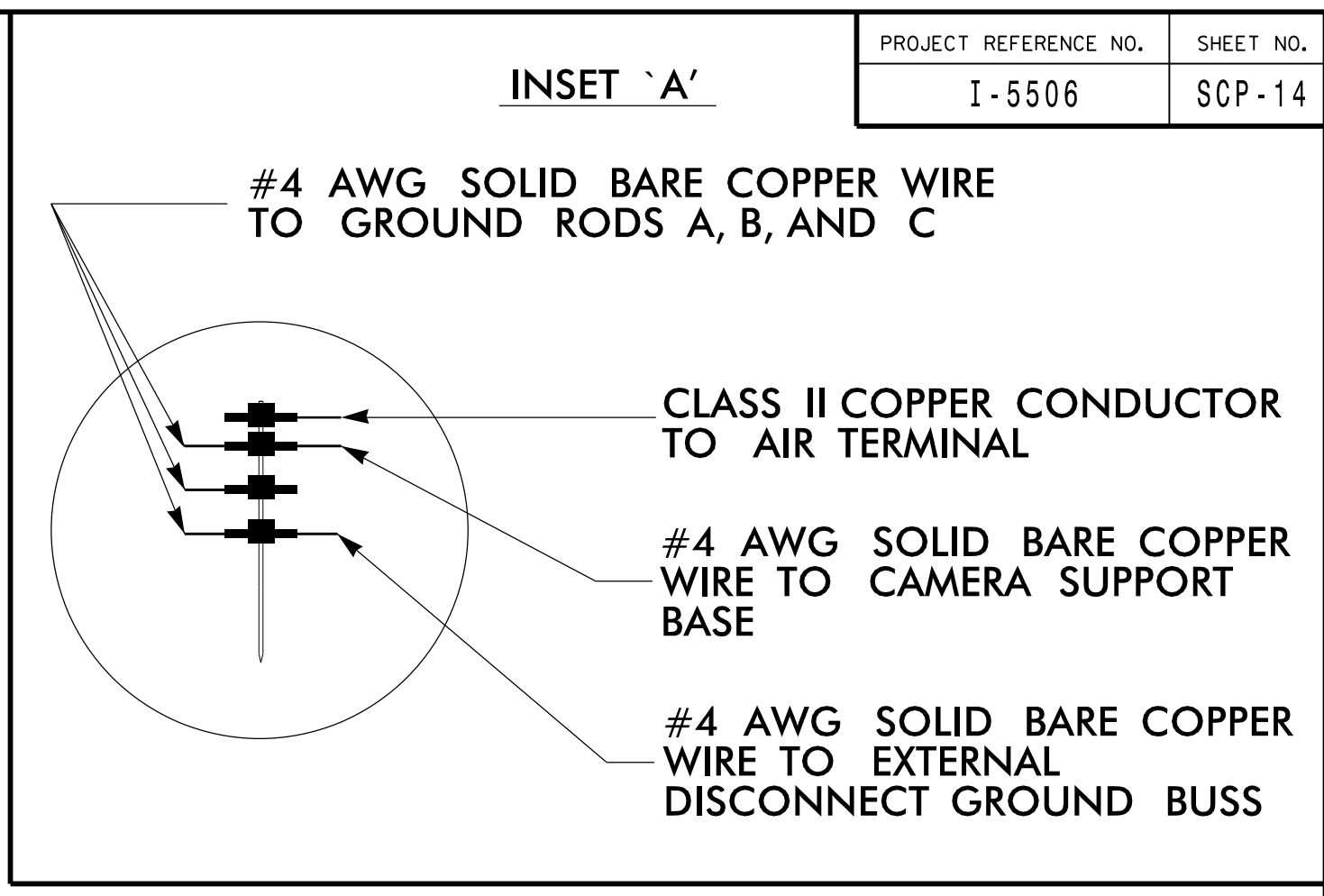
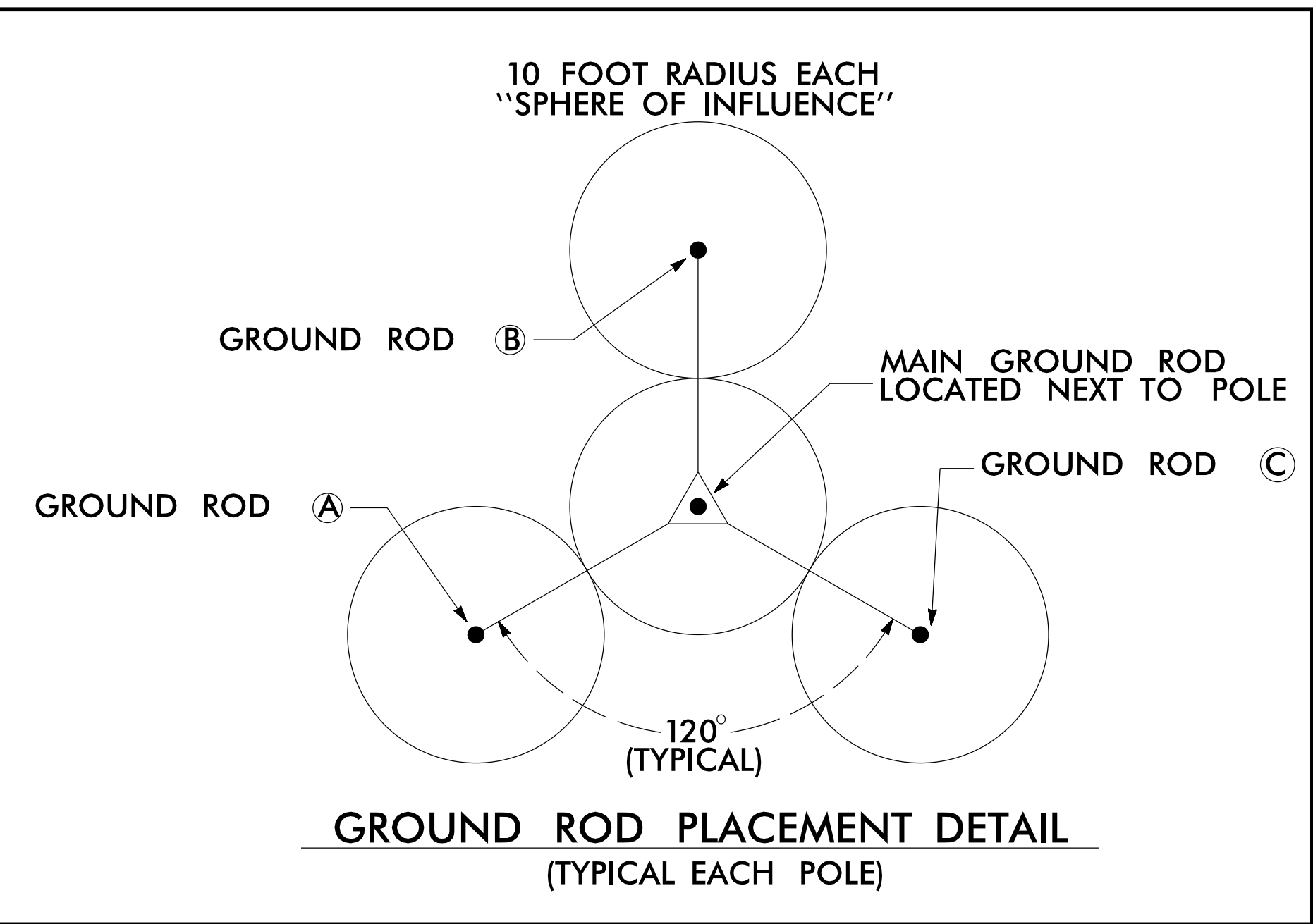
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Prepared in the Offices of: 	
FIBER OPTIC SPLICE DETAILS END NCDOT TRUNK FIBER	
DIV 5	WAKE CO. TOWN OF GARY
PLAN DATE: 2017	REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM	REVIEWED BY: BETSY L. WATSON
SCALE: NTS	SIGNATURE: _____ DATE: 11/30/2017

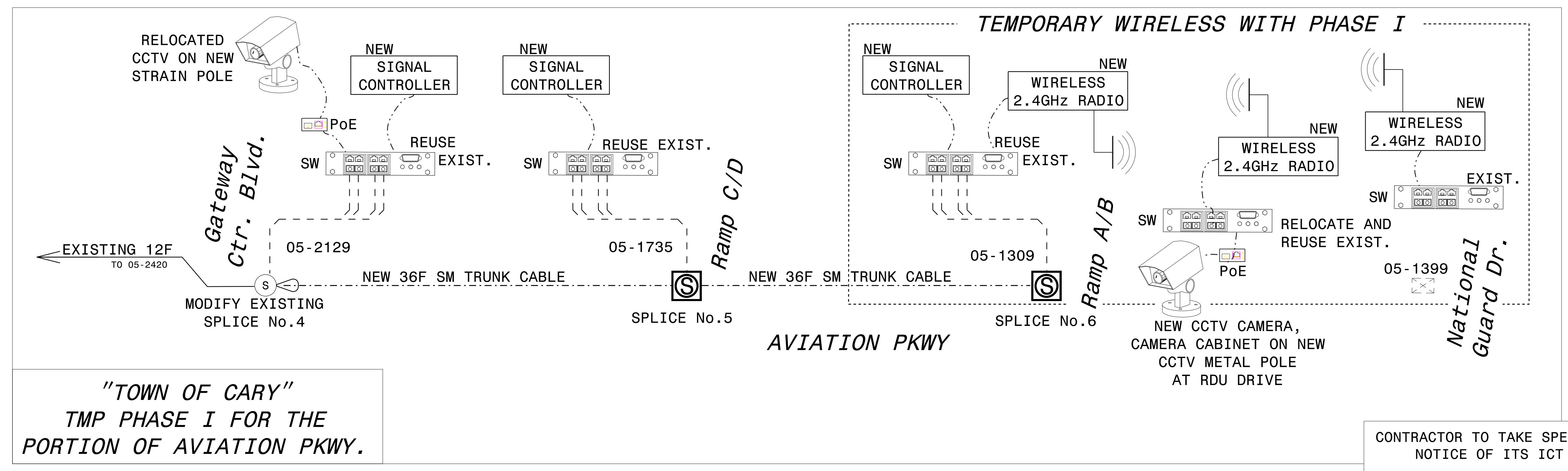


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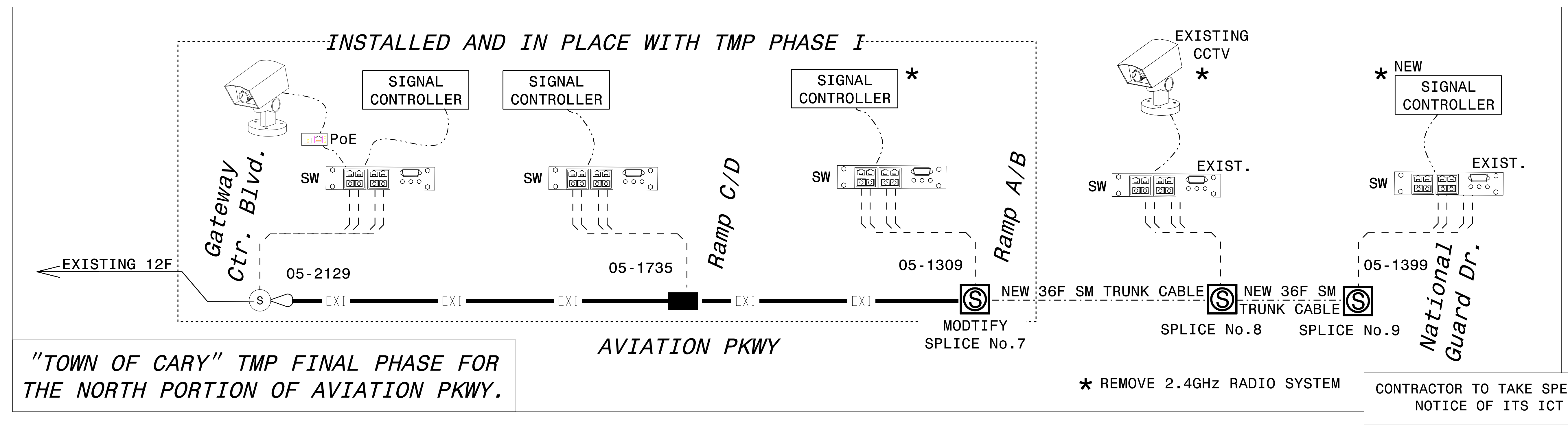
1. BOND CLASS II, 28 STRAND (MINIMUM), 15 AWG (MINIMUM) ROPE-LAY BARE COPPER CONDUCTOR TO THE MAIN GROUND ROD BY AN IRREVERSIBLE MECHANICAL CRIMP. MAINTAIN MAXIMUM HORIZONTAL SEPARATION BETWEEN COPPER CONDUCTOR AND RISER.
2. ALL CONNECTIONS TO GROUND RODS SHOULD BE MADE WITH AN IRREVERSIBLE MECHANICAL CRIMP METHOD.
3. THE CONTRACTOR MAY, UPON APPROVAL OF THE ENGINEER, INSTALL A 30-FOOT SECTIONAL GROUND ROD FOR INSTANCES WHEN CONDITIONS WILL NOT ALLOW FOR THE INSTALLATION OF THE 3 - RADIAL GROUND RODS.
4. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.
5. REMOVE BONDING JUMPER BETWEEN EQUIPMENT CABINET GROUND BUSS AND NEUTRAL BUSS.

	<p>CCTV CAMERA INSTALLATION FOR WOOD POLES WITH UNDERGROUND ELECTRICAL SERVICE</p> <p>TYPICAL DETAIL</p>		<p>SEAL</p> <p>STATE OF NORTH CAROLINA</p> <p>PROFESSIONAL ENGINEER</p> <p>BETSY L. WATSON</p> <p>29449</p> <p>11/30/2017</p>
	<p>PLAN DATE: 2017</p> <p>PREPARED BY: J. INGRAM</p>	<p>REVIEWED BY: D. HARRIS</p> <p>REVIEWED BY: B. WATSON</p>	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



"TOWN OF CARY" TMP PHASE I FOR THE PORTION OF AVIATION PKWY.



"TOWN OF CARY" TMP FINAL PHASE FOR THE NORTH PORTION OF AVIATION PKWY.

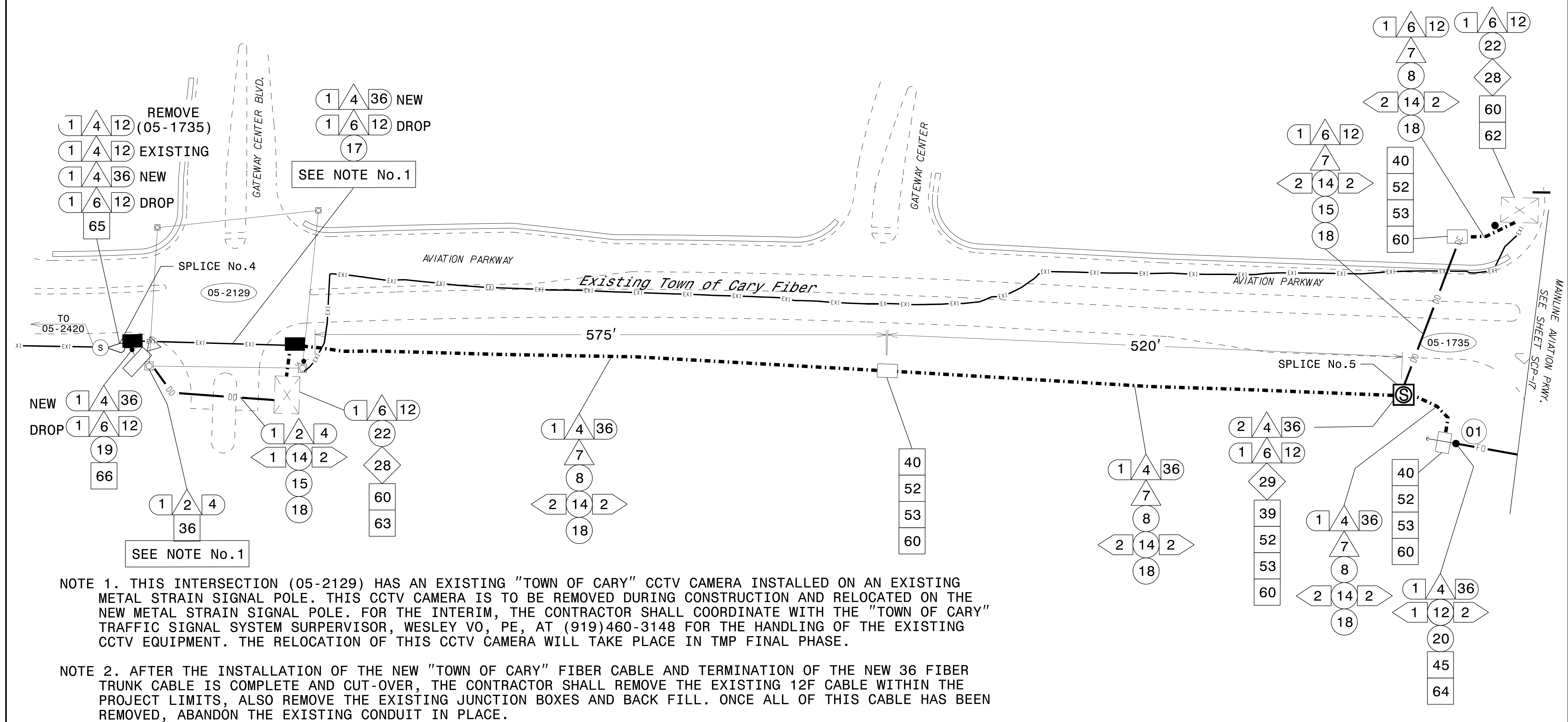
NOTE 1. CONTRACTOR TO FAMILIARIZE THEMSELVES WITH "INTERMEDIATE CONTRACT TIME (ICT)" FOR THIS WORK.

LEGEND:

NETWORK SWITCH =	SW
NETWORK SWITCH /PoE =	SW/PoE
CAT 5e (STP) CABLE (PoE) =	-----
SM FO DROP CABLE =	-----
EXISTING PULL BOX =	■
FLAT PANEL ANTENNA =	⎓

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

	ONE LINE DIAGRAM TOWN OF CARY TMP PHASE I/FINAL		
	DIV 5 WAKE COUNTY TOWN OF CARY PLAN DATE: 2017 PREPARED BY: J. INGRAM SCALE: NTS	REVIEWED BY: D. HARRIS REVIEWED BY: B. WATSON REVISIONS: _____ INIT. DATE	



NOTE 1. THIS INTERSECTION (05-2129) HAS AN EXISTING "TOWN OF CARY" CCTV CAMERA INSTALLED ON AN EXISTING METAL STRAIN SIGNAL POLE. THIS CCTV CAMERA IS TO BE REMOVED DURING CONSTRUCTION AND RELOCATED ON THE NEW METAL STRAIN SIGNAL POLE. FOR THE INTERIM, THE CONTRACTOR SHALL COORDINATE WITH THE "TOWN OF CARY" TRAFFIC SIGNAL SYSTEM SUPERVISOR, WESLEY VO, PE, AT (919)460-3148 FOR THE HANDLING OF THE EXISTING CCTV EQUIPMENT. THE RELOCATION OF THIS CCTV CAMERA WILL TAKE PLACE IN TMP FINAL PHASE.

NOTE 2. AFTER THE INSTALLATION OF THE NEW "TOWN OF CARY" FIBER CABLE AND TERMINATION OF THE NEW 36 FIBER TRUNK CABLE IS COMPLETE AND CUT-OVER, THE CONTRACTOR SHALL REMOVE THE EXISTING 12F CABLE WITHIN THE PROJECT LIMITS, ALSO REMOVE THE EXISTING JUNCTION BOXES AND BACK FILL. ONCE ALL OF THIS CABLE HAS BEEN REMOVED, ABANDON THE EXISTING CONDUIT IN PLACE.

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|--|--|--|---|---|
| <ul style="list-style-type: none"> 1 INSTALL REA, PE - 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE 2 INSTALL CAT 5e, (PoE) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE 3 INSTALL 3-CONDUCTOR, CLASS B, STRANDED UNDERGROUND POWER CABLE 4 INSTALL SMFO CABLE 5 INSTALL MMFO 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 FIBER OPTIC CABLE SEAL 13 INSTALL OUTER-DUCT POLYETHYLENE CONDUIT 14 INSTALL POLYETHYLENE CONDUIT | <ul style="list-style-type: none"> 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 STUBOUTS 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 EXISTING POLE MOUNTED CABINET 25 INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET 26 TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET 27 INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET 28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPlice CABLE IN CABINET 29 INSTALL UNDERGROUND SPlice ENCLOSURE | <ul style="list-style-type: none"> 30 INSTALL AERIAL SPlice ENCLOSURE 31 INSTALL POLE MOUNTED SPlice CABINET 32 INSTALL BASE MOUNTED SPlice CABINET (336) WITH EXTEND BASE 33 REMOVE EXISTING 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 SPECIAL OVERSIZED JUNCTION BOX 36"(L)x36"(W)x24"(D) WITH 100 FEET OF COMMUNICATIONS CABLE 40 INSTALL OVERSIZED JUNCTION BOX 41 REUSE EXISTING METAL CCTV CAMERA POLE WITH NEW POLE FOUNDATION 42 INSTALL WOOD POLE 43 REMOVE EXISTING WOOD POLE 44 INSTALL AERIAL GUY ASSEMBLY | <ul style="list-style-type: none"> 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 ETHERNET NETWORK SWITCH 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 NEW BASE MOUNTED CABINET (336) | <ul style="list-style-type: none"> 60 SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND SIGNAL/CCTV CONTROL CABINETS WITH MOLDABLE DUCT SEAL 61 RELOCATE EXISTING CCTV CAMERA AND POLE MOUNTED CABINET TO NEW POLE LOCATION. 62 BOND TRACER WIRE TO EQUIPMENT GROUND BUS 63 DO NOT BOND TRACER WIRE TO EQUIPMENT GROUND BUS 64 BOND MESSENGER CABLE AND RISER TO POLE GROUND 65 MODIFY EXISTING SPlice CLOSURE AND RESEAL 66 RESEAL EXISTING RISER USING HEAT SHRINK TUBING |
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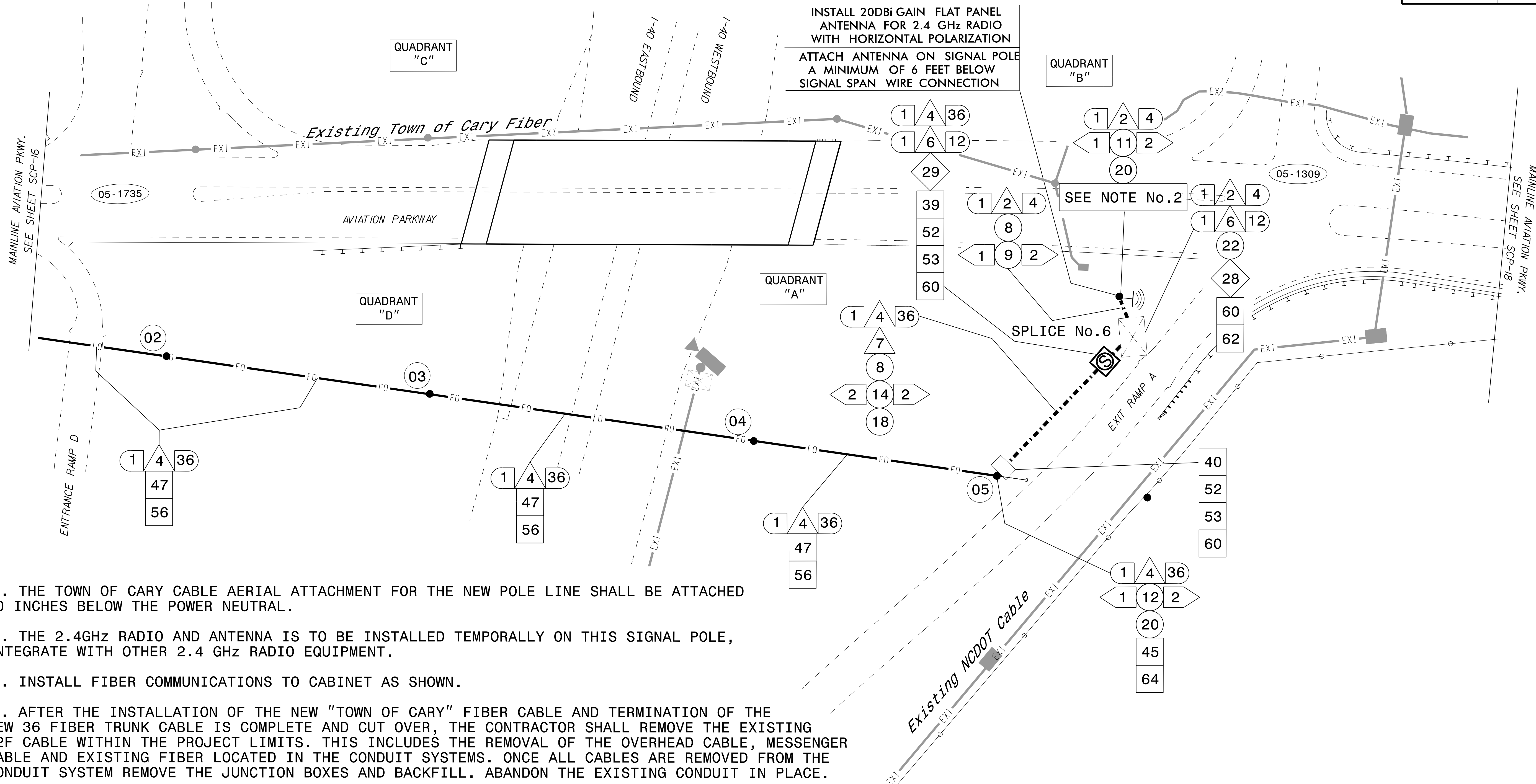
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TMP Phase I/(Final)

CONTRACTOR SHALL REFERENCE THE ITS ICT FOR THE COMMUNICATIONS INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES

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I-40 AND AVIATION PKWY. ITS FIBER CABLE ROUTING		SEAL
DIV 5 WAKE CO. TOWN OF CARY		11/30/2017 SIGNATURE _____ DATE _____ CADD FILE NAME _____
PLAN DATE: 2017 PREPARED BY: J. INGRAM	REVIEWED BY: D. HARRIS REVIEWED BY: B. WATSON	
SCALE: NTS		REVISIONS: _____ INIT. DATE _____



NOTE 1. THE TOWN OF CARY CABLE AERIAL ATTACHMENT FOR THE NEW POLE LINE SHALL BE ATTACHED 40 INCHES BELOW THE POWER NEUTRAL.

NOTE 2. THE 2.4GHZ RADIO AND ANTENNA IS TO BE INSTALLED TEMPORALLY ON THIS SIGNAL POLE, INTEGRATE WITH OTHER 2.4 GHZ RADIO EQUIPMENT.

NOTE 3. INSTALL FIBER COMMUNICATIONS TO CABINET AS SHOWN.

NOTE 4. AFTER THE INSTALLATION OF THE NEW "TOWN OF CARY" FIBER CABLE AND TERMINATION OF THE NEW 36 FIBER TRUNK CABLE IS COMPLETE AND CUT OVER, THE CONTRACTOR SHALL REMOVE THE EXISTING 12F CABLE WITHIN THE PROJECT LIMITS. THIS INCLUDES THE REMOVAL OF THE OVERHEAD CABLE, MESSENGER CABLE AND EXISTING FIBER LOCATED IN THE CONDUIT SYSTEMS. ONCE ALL CABLES ARE REMOVED FROM THE CONDUIT SYSTEM REMOVE THE JUNCTION BOXES AND BACKFILL. ABANDON THE EXISTING CONDUIT IN PLACE.

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|---|---|---|--|--|
| <ul style="list-style-type: none"> 1. INSTALL REA, PE - 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE 2. INSTALL CAT 5e (PoE) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE 3. INSTALL 3-CONDUCTOR, CLASS B, STRANDED UNDERGROUND POWER CABLE 4. INSTALL SMFO CABLE 5. INSTALL MMFO 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 FIBER OPTIC CABLE SEAL 13. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT 14. INSTALL POLYETHYLENE CONDUIT | <ul style="list-style-type: none"> 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 STUBOUTS 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 EXISTING POLE MOUNTED CABINET 25. INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET 26. TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET 27. INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET 28. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPlice CABLE IN CABINET 29. INSTALL UNDERGROUND SPlice ENCLOSURE | <ul style="list-style-type: none"> 30. INSTALL AERIAL SPlice ENCLOSURE 31. INSTALL POLE MOUNTED SPlice CABINET 32. INSTALL BASE MOUNTED SPlice CABINET (336) WITH EXTEND BASE 33. REMOVE EXISTING 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 SPECIAL OVERSIZED JUNCTION BOX 36"(L)x36"(W)x24"(D) WITH 100 FEET OF COMMUNICATIONS CABLE 40. INSTALL OVERSIZED JUNCTION BOX 41. REUSE EXISTING METAL CCTV CAMERA POLE WITH NEW POLE FOUNDATION 42. INSTALL WOOD POLE 43. REMOVE EXISTING WOOD POLE 44. INSTALL AERIAL GUY ASSEMBLY | <ul style="list-style-type: none"> 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 ETHERNET NETWORK SWITCH 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 NEW BASE MOUNTED CABINET (336) | <ul style="list-style-type: none"> 60. SEAL ALL CONDUIT ENTERING JUNCTION BOXES AND SIGNAL/CCTV CONTROL CABINETS WITH MOLDABLE DUCT SEAL 61. RELOCATE EXISTING CCTV CAMERA AND POLE MOUNTED CABINET TO NEW POLE LOCATION. 62. BOND TRACER WIRE TO EQUIPMENT GROUND BUS 63. DO NOT BOND TRACER WIRE TO EQUIPMENT GROUND BUS 64. BOND MESSENGER CABLE AND RISER TO POLE GROUND 65. MODIFY EXISTING SPlice CLOSURE AND RESEAL 66. RESEAL EXISTING RISER USING HEAT SHRINK TUBING |
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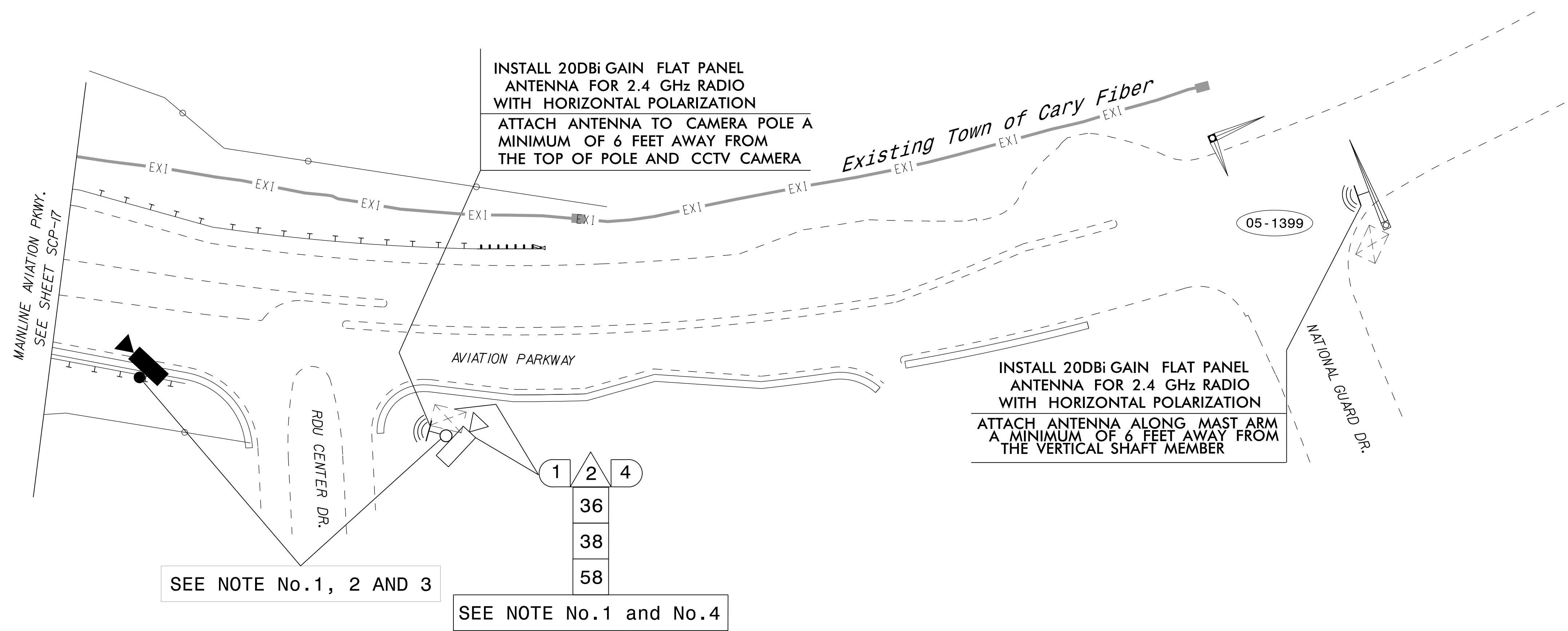
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TMP Phase I

CONTRACTOR SHALL REFERENCE THE ITS ICT FOR THE COMMUNICATIONS INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

	I-40 AND AVIATION PKWY. ITS FIBER CABLE ROUTING		SEAL NORTH CAROLINA PROFESSIONAL ENGINEER Betsy L. Watson No. 29449
	DIV 5 WAKE CO. TOWN OF CARY PLAN DATE: 2017 REVIEWED BY: D. HARRIS PREPARED BY: J. INGRAM REVIEWED BY: B. WATSON	REVISIONS _____ INIT. DATE _____ INIT. DATE _____ INIT. DATE	



SEE NOTE No.1, 2 AND 3

SEE NOTE No.1 and No.4

- NOTE 1.** REMOVE THE EXISTING TOWN OF CARY DIGITAL CCTV CAMERA (INCLUDING THE CABINET, METAL POLE AND FOUNDATION). INSTALL A NEW DIGITAL CCTV CAMERA, EQUIPMENT CABINET, METAL POLE AND FOUNDATION IN THE NORTHEAST QUADRANT. OBTAIN APPROVAL FROM THE TOWN OF CARY'S TRAFFIC SIGNAL SYSTEM MANAGER, WESLEY VO, (919) 460-3148 ON NEW POLE LOCATION.
- NOTE 2.** UPON IDENTIFYING AN APPROVED LOCATION, SUBMIT FOUNDATION AND METAL POLE DETAILS FOR APPROVAL AND ESTABLISH ELECTRICAL SERVICE FOR NEW DIGITAL CCTV CAMERA.
- NOTE 3.** RETURN CCTV CAMERA, EQUIPMENT CABINET, AND METAL POLE TO THE TOWN OF CARY. REMOVE FOUNDATION TO 2 FEET BELOW GRADE.
- NOTE 4.** INSTALL 2.4 GHZ RADIO EQUIPMENT AND INTEGRATE WITH OTHER 2.4 GHZ RADIO EQUIPMENT, PERFORM CUT-OVER TO NEW NETWORK.
- NOTE 5.** THE CONTRACTOR SHALL REMOVE THE EXISTING 12 FIBER CABLE WITHIN THE PROJECT LIMITS, ALSO REMOVE THE EXISTING JUNCTION BOXES AND BACK FILL. ONCE ALL CABLE AND JUNCTION BOXES ARE REMOVED, ABANDON THE EXISTING CONDUIT 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.
 - INSTALL WIRELESS SERIAL RADIO MODEM WITH EXTERIOR DISCONNECT SWITCH LOCATED ON CABINET.
(NOTE: RF ANTENNA DISCONNECT SWITCH AND DECAL ARE NOT REQUIRED WHEN THE ANTENNA IS INSTALLED ON AN NCDOT-OWNED POLE.)
 - REFERENCE "WIRELESS RADIO ANTENNA TYPICAL DETAILS."

1. INSTALL REA, PE - 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	15. DIRECTIONAL DRILL CONDUIT	30. INSTALL AERIAL SPLICE ENCLOSURE	45. INSTALL STANDARD GUY ASSEMBLY
2. INSTALL CAT 5e, (PoE) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	16. BORE AND JACK CONDUIT	31. INSTALL POLE MOUNTED SPLICE CABINET	46. INSTALL SIDEWALK GUY ASSEMBLY
3. INSTALL 3-CONDUCTOR, CLASS B, STRANDED UNDERGROUND POWER CABLE	17. INSTALL CABLE(S) IN EXISTING CONDUIT	32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE	47. INSTALL MESSENGER CABLE
4. INSTALL SMFO CABLE	18. INSTALL CABLE(S) IN NEW CONDUIT	33. REMOVE EXISTING CABINET	48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE
5. INSTALL MMFO CABLE	19. INSTALL CABLE(S) IN EXISTING RISER	34. INSTALL CABINET FOUNDATION	49. REMOVE EXISTING COMMUNICATIONS CABLE
6. INSTALL FIBER OPTIC DROP CABLE	20. INSTALL CABLE(S) IN NEW RISER	35. REMOVE EXISTING CABINET FOUNDATION	50. INSTALL ETHERNET NETWORK SWITCH
7. INSTALL TRACER WIRE	21. INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	36. INSTALL CCTV CAMERA ASSEMBLY	51. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE
8. TRENCH	22. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	37. INSTALL CCTV CAMERA WOOD POLE	52. INSTALL DELINEATOR MARKER
9. INSTALL PVC CONDUIT	23. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	38. INSTALL CCTV CAMERA METAL POLE AND FOUNDATION	53. STORE 50 FEET OF COMMUNICATIONS CABLE
10. INSTALL RIGID, GALVANIZED STEEL CONDUIT	24. INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET	39. INSTALL SPECIAL OVERSIZED JUNCTION BOX 36"(L)x36"(W)x24"(D) WITH 100 FEET OF COMMUNICATIONS CABLE	54. LASH CABLE(S) TO EXISTING SIGNAL / COMMUNICATIONS CABLE
11. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	25. INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET	40. INSTALL OVERSIZED JUNCTION BOX	55. LASH CABLE(S) TO EXISTING MESSENGER CABLE
12. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL	26. TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET	41. REUSE EXISTING METAL CCTV CAMERA POLE WITH NEW POLE FOUNDATION	56. LASH CABLE(S) TO NEW MESSENGER CABLE
13. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	27. INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET	42. INSTALL WOOD POLE	57. MODIFY EXISTING ELECTRICAL SERVICE
14. INSTALL POLYETHYLENE CONDUIT	28. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPICE CABLE IN CABINET	43. REMOVE EXISTING WOOD POLE	58. INSTALL NEW ELECTRICAL SERVICE
	29. INSTALL UNDERGROUND SPLICE ENCLOSURE	44. INSTALL AERIAL GUY ASSEMBLY	59. INSTALL NEW BASE MOUNTED CABINET (336)

TMP Phase I

CONTRACTOR SHALL REFERENCE THE ITS ICT FOR THE COMMUNICATIONS INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES

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ITS FIBER CABLE ROUTING

DIV 5 WAKE CO. TOWN OF CARY

PLAN DATE: 2017 REVIEWED BY: D. HARRIS

PREPARED BY: J. INGRAM REVIEWED BY: B. WATSON

REVISIONS	INIT.	DATE

SEAL

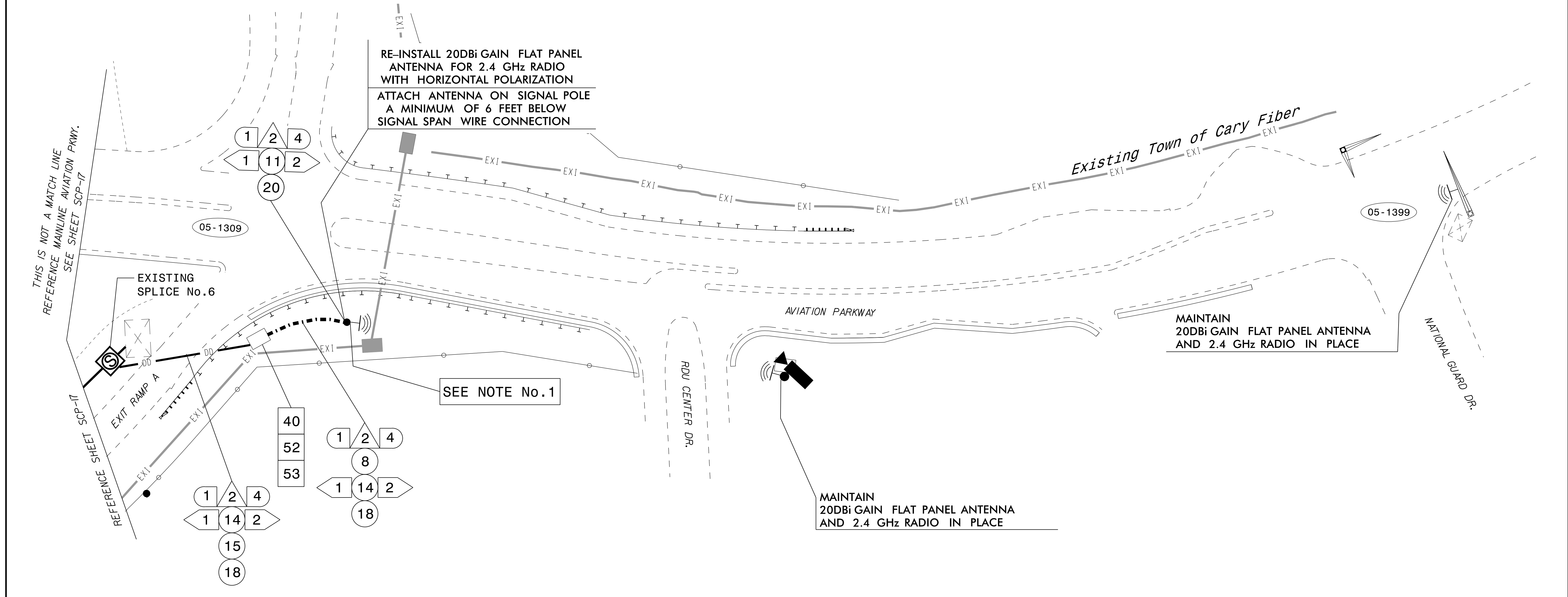
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CADD FILE NAME: _____

750 N. Greenfield Plaza, Garner, NC 27529

SCALE: NTS



NOTE 1. FOR TMP PHASE II - THE CONTRACTOR SHALL RELOCATE THE 2.4GHZ RADIO AND ANTENNA TO THE TEMPORARY SIGNAL POLE AS SHOWN.

NOTE 2. THE CONTRACTOR SHALL REALIGN THE FLAT PANEL ANTENNAS AND COORDINATE ALL ACTIVITIES WITH THE "TOWN OF CARY" TRAFFIC SIGNAL SYSTEM SUPERVISOR, WESLEY VO, PE AT (919)460-3148.

NCDOT CONTACT, REGIONAL ITS ENGINEER, CLIFF BRAAM, PE AT (919)825-2635

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|---|--|--|---|---|
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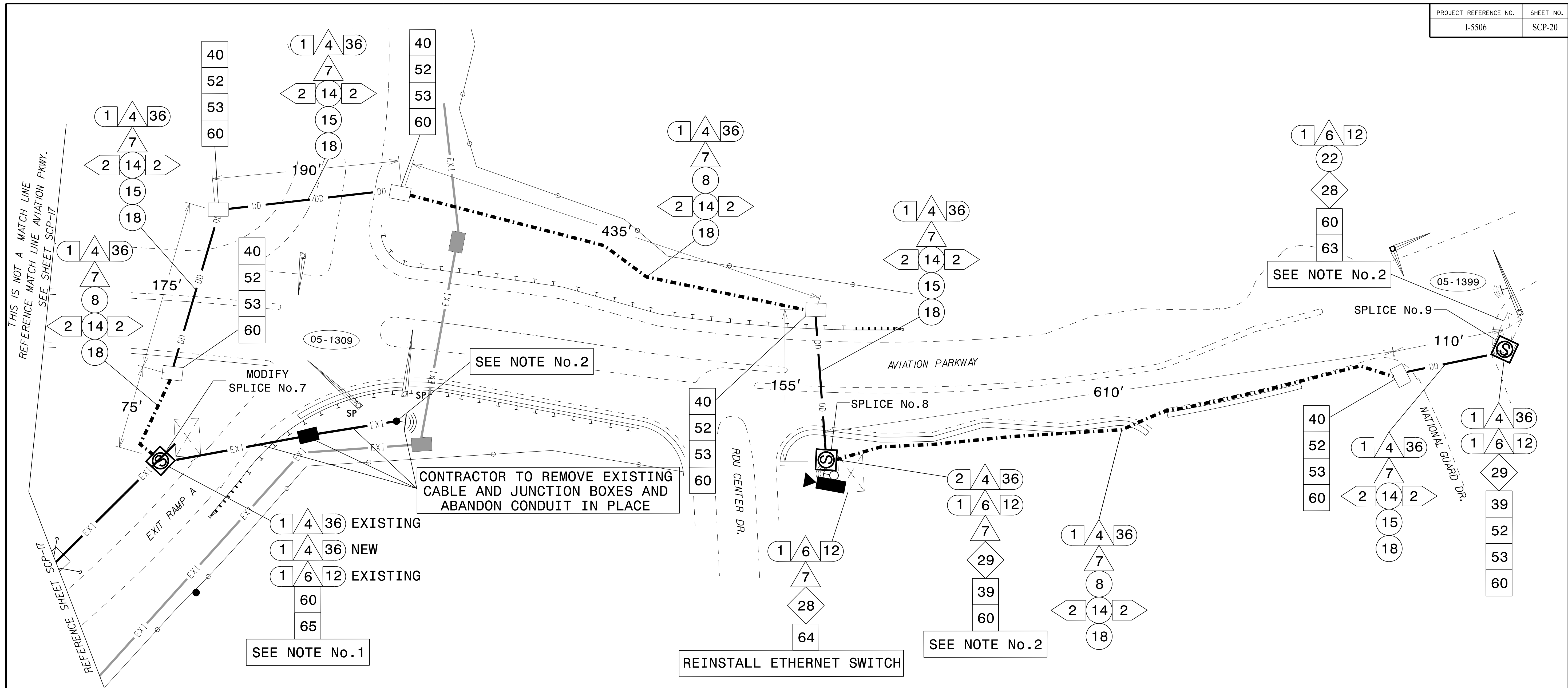
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TMP Phase II

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Prepared for the Offices of:		I-40 AND AVIATION PKWY.		SEAL
		ITS FIBER CABLE ROUTING (TMP PHASE II - CABLE ROUTING) DIV 5 WAKE CO. TOWN OF CARY		
PLAN DATE: 2017 PREPARED BY: J. INGRAM		REVIEWED BY: D. HARRIS REVIEWED BY: B. WATSON		
SCALE: NTS		REVISIONS:		SIGNATURE: _____ DATE: 11/30/2017 CADD FILE NAME:



NOTE 1. THE CONTRACTOR SHALL INSTALL NEW CONDUIT AND CABLE AS SHOWN ON THIS DESIGN PLAN SHEET, ALLOWING THE WIRELESS SYSTEM TO STAY ACTIVE UNTIL CUTOVER.

NOTE 2. THE CONTRACTOR SHALL REMOVE ALL EXISTING WIRELESS EQUIPMENT, INCLUDING FLAT PANEL ANTENNAS, 2.4GHz RADIOS AND DELIVER THIS EQUIPMENT TO THE "TOWN OF CARY" TRAFFIC SIGNAL SYSTEM SUPERVISOR, WESLEY VO, PE AT (919)460-3148.

NCDOT CONTACT, REGIONAL ITS ENGINEER, CLIFF BRAAM, PE AT (919)825-2635

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2. INSTALL CAT 5e (PoE) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE	16. BORE AND JACK CONDUIT	31. INSTALL POLE MOUNTED SPLICE CABINET	46. INSTALL SIDEWALK GUY ASSEMBLY	61. RELOCATE EXISTING CCTV CAMERA AND POLE MOUNTED CABINET TO NEW POLE LOCATION.
3. INSTALL 3-CONDUCTOR, CLASS B, STRANDED UNDERGROUND POWER CABLE	17. INSTALL CABLE(S) IN EXISTING CONDUIT	32. INSTALL BASE MOUNTED SPLICE CABINET (336) WITH EXTEND BASE	47. INSTALL MESSENGER CABLE	62. BOND TRACER WIRE TO EQUIPMENT GROUND BUS
4. INSTALL SMFO CABLE	18. INSTALL CABLE(S) IN NEW CONDUIT	33. REMOVE EXISTING CABINET	48. REMOVE EXISTING COMMUNICATIONS CABLE AND MESSENGER CABLE	63. DO NOT BOND TRACER WIRE TO EQUIPMENT GROUND BUS
5. INSTALL MMFO CABLE	19. INSTALL CABLE(S) IN EXISTING RISER	34. REMOVE EXISTING CABINET FOUNDATION	49. REMOVE EXISTING COMMUNICATIONS CABLE	64. BOND MESSENGER CABLE AND RISER TO POLE GROUND
6. INSTALL FIBER OPTIC DROP CABLE	20. INSTALL CABLE(S) IN NEW RISER	35. REMOVE EXISTING CABINET FOUNDATION	50. INSTALL ETHERNET NETWORK SWITCH	65. MODIFY EXISTING SPLICE CLOSURE AND RESEAL
7. INSTALL TRACER WIRE	21. INSTALL CABLE(S) IN EXISTING CONDUIT STUBOUTS	36. INSTALL CCTV CAMERA ASSEMBLY	51. INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE	66. RESEAL EXISTING RISER USING HEAT SHRINK TUBING
8. TRENCH	22. INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	37. INSTALL CCTV CAMERA WOOD POLE	52. INSTALL DELINEATOR MARKER	
9. INSTALL PVC CONDUIT	23. INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB-OUTS WHEN AVAILABLE)	38. INSTALL CCTV CAMERA METAL POLE AND FOUNDATION	53. STORE 50 FEET OF COMMUNICATIONS CABLE	
10. INSTALL RIGID, GALVANIZED STEEL CONDUIT	24. INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET	39. INSTALL SPECIAL OVERSIZED JUNCTION BOX 36"(L)x36"(W)x24"(D) WITH 100 FEET OF COMMUNICATIONS CABLE	54. LASH CABLE(S) TO EXISTING SIGNAL / COMMUNICATIONS CABLE	
11. INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD	25. INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET	40. INSTALL OVERSIZED JUNCTION BOX	55. LASH CABLE(S) TO EXISTING MESSENGER CABLE	
12. INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL	26. TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET	41. REUSE EXISTING METAL CCTV CAMERA POLE WITH NEW POLE FOUNDATION	56. LASH CABLE(S) TO NEW MESSENGER CABLE	
13. INSTALL OUTER-DUCT POLYETHYLENE CONDUIT	27. INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET	42. INSTALL WOOD POLE	57. MODIFY EXISTING ELECTRICAL SERVICE	
14. INSTALL POLYETHYLENE CONDUIT	28. INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS, AND FUSION SPLICE CABLE IN CABINET	43. REMOVE EXISTING WOOD POLE	58. INSTALL NEW ELECTRICAL SERVICE	
	29. INSTALL UNDERGROUND SPLICE ENCLOSURE	44. INSTALL AERIAL GUY ASSEMBLY	59. INSTALL NEW BASE MOUNTED CABINET (336)	

TMP Final Phase

CONTRACTOR SHALL REFERENCE THE ITS ICT FOR THE COMMUNICATIONS INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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www.stantec.com
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Prepared for the Offices of:

750 N. Greenfield Plaza, Garner, NC 27529

SCALE: NTS

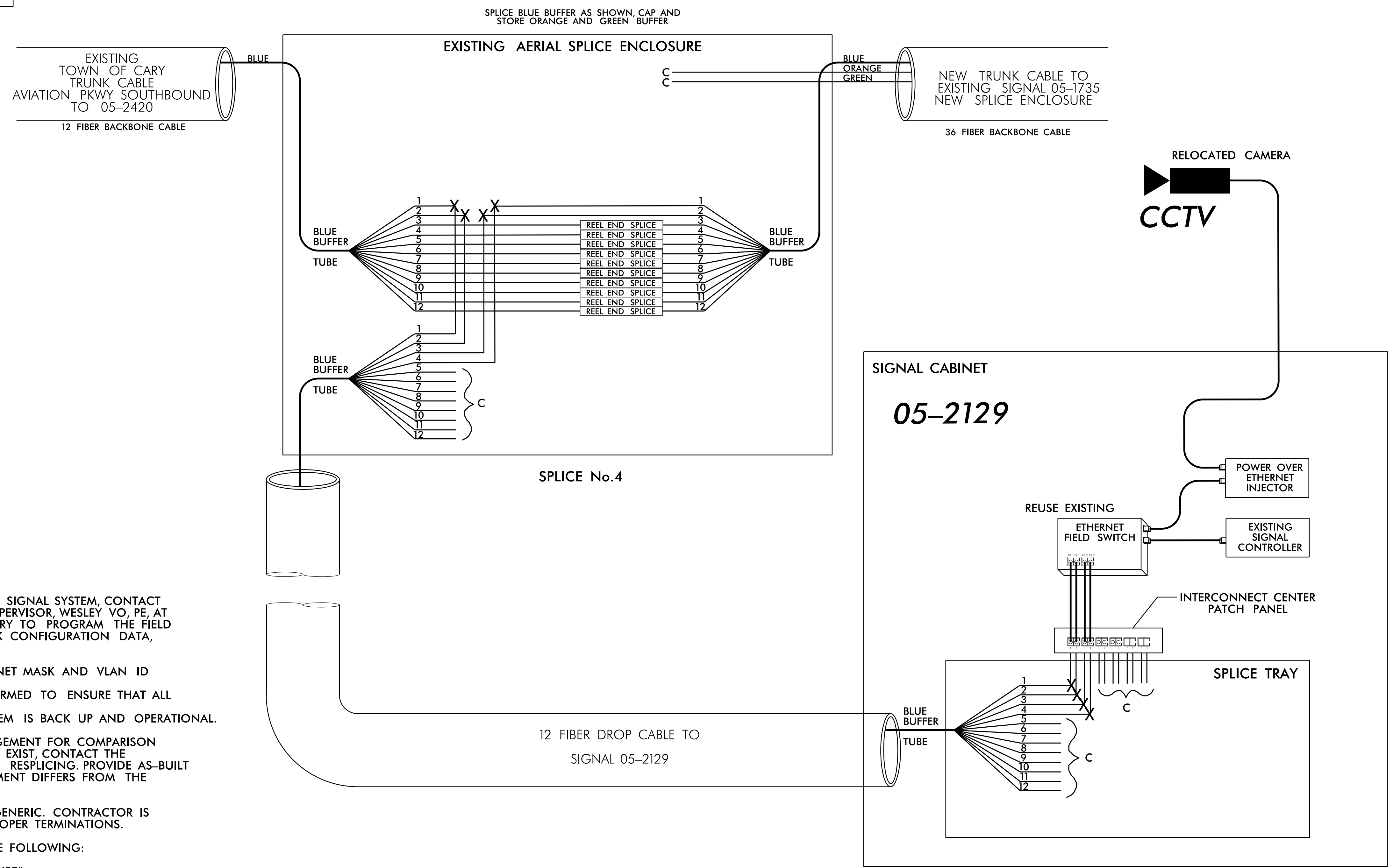
PLANNING: J. INGRAM

DESIGN: B. WATSON

DATE: 12/5/2017

05-2129
 AVIATION PARKWAY
 AT
 GATEWAY CENTER BLVD.

SPLICE No.4



- 1.) FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE "TOWN OF CARY" TRAFFIC SIGNAL SYSTEM SUPERVISOR, WESLEY VO, PE, AT (919)460-3148 TO ARRANGE FOR THE TOWN OF CARY TO PROGRAM THE FIELD ETHERNET SWITCHES WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - 1.) THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION.
 - 2.) NOTIFY THE ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY.
 - 3.) WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
- 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.) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND 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

TMP Phase I/(Final)

CONTRACTOR SHALL REFERENCE THE ITS ICT FOR THE COMMUNICATIONS INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

COLOR CODE TIA/EIA 598-A		LEGEND	
(1) BLUE	(7) RED	X = FUSION SPLICE	
(2) ORANGE	(8) BLACK	C = CAP IN TRAY	
(3) GREEN	(9) YELLOW	EXPRESS = EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING	
(4) BROWN	(10) VIOLET	REEL END SPLICE = SPLICE ENTIRE BUFFER TUBE SPLICE LIKE FIBER TO LIKE FIBER	
(5) SLATE	(11) ROSE		
(6) WHITE	(12) AQUA		

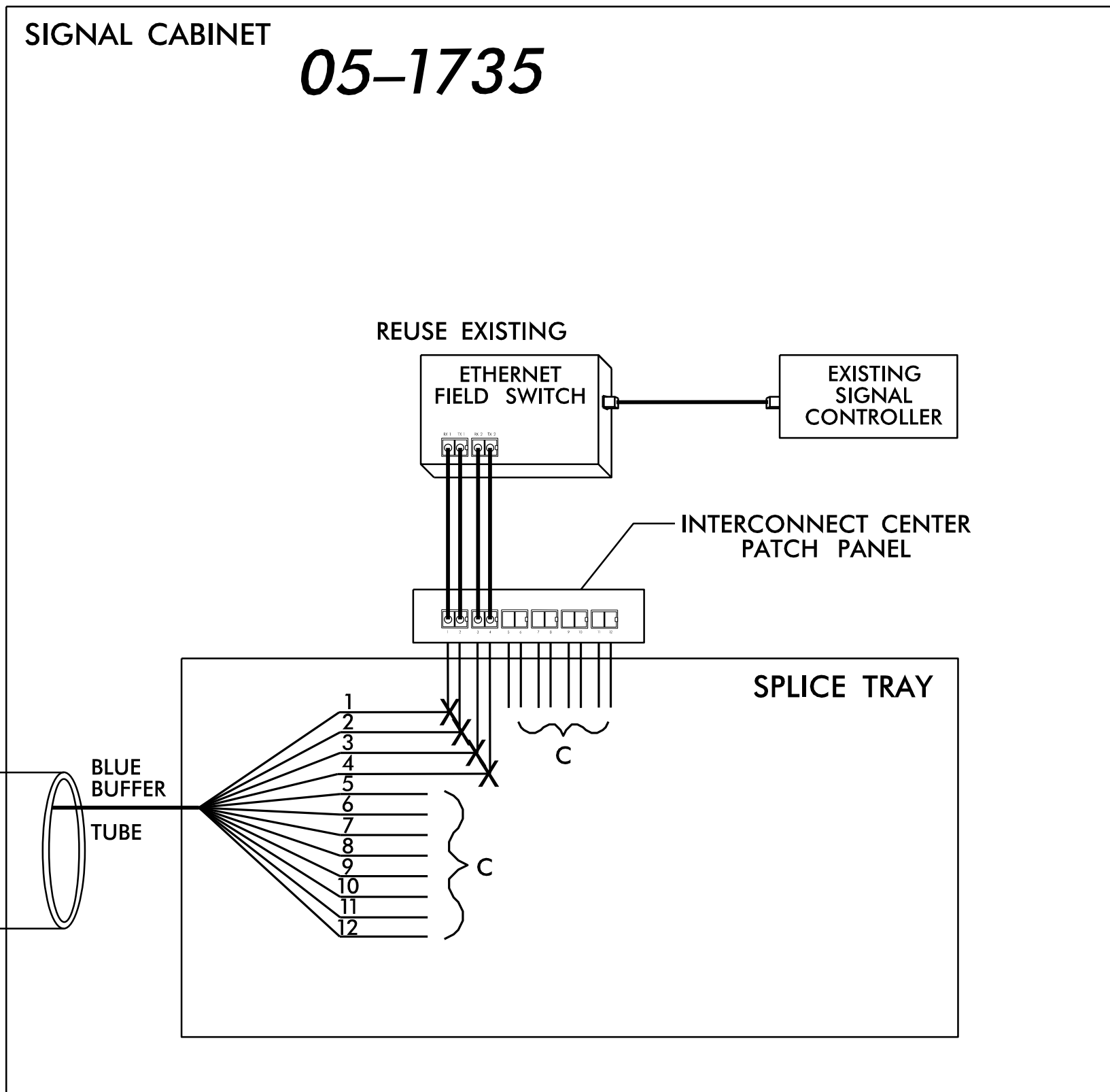
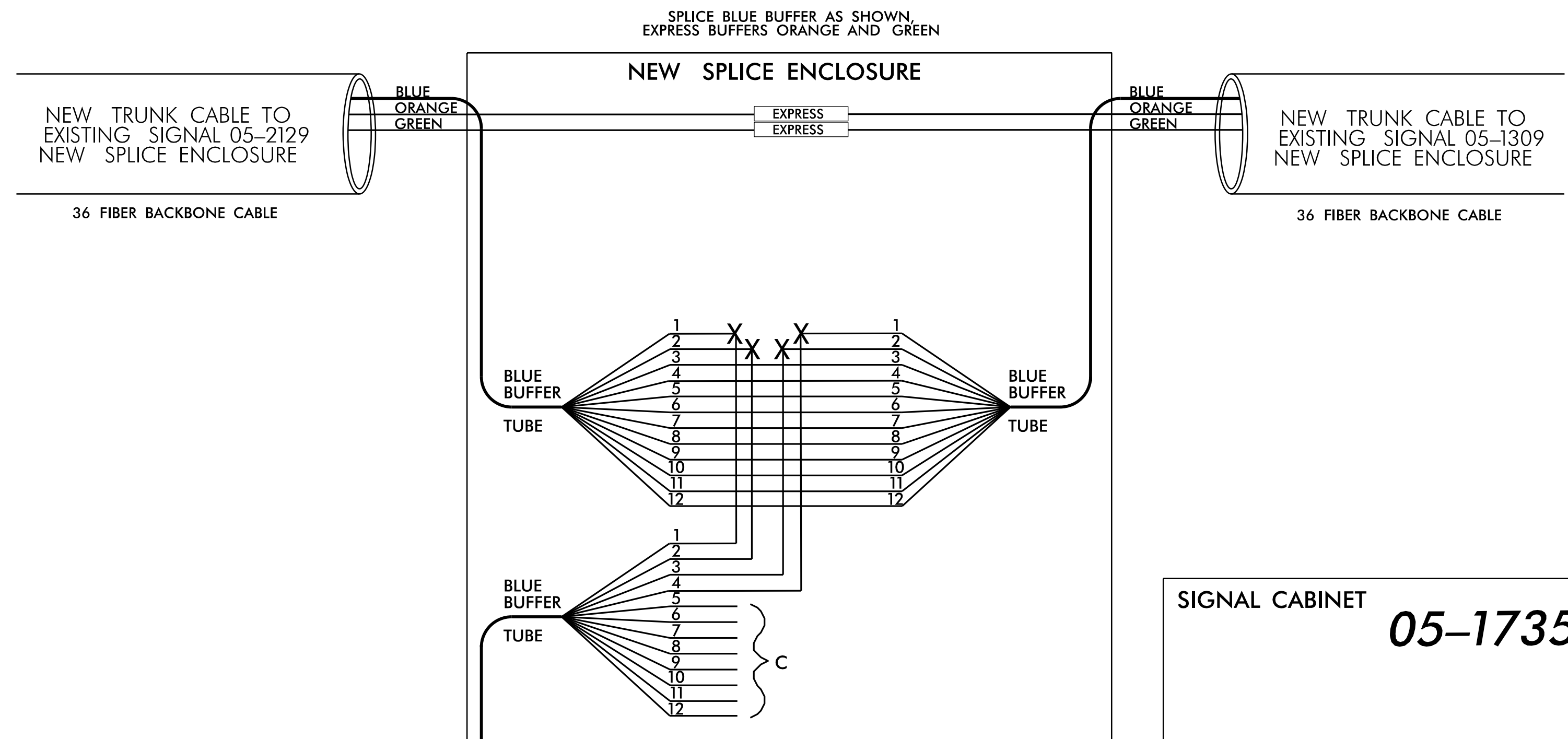
- STANDARD NOTES:
1. UNUSED FIBER SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
 2. UNUSED BUFFER TUBES SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
 3. ETHERNET TERMINATION CONFIGURATIONS ARE GENERIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND ENSURING PROPER TERMINATION.

Stantec

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 Fax. (919) 851-7024
 www.stantec.com
 License No. F-0672

Prepared in the Offices of: 	
FIBER OPTIC SPLICE DETAILS SIGNAL 05-2129	
DIV 5 WAKE CO. TOWN OF CARY	
PLAN DATE: 2017	REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM	REVIEWED BY: BETSY L. WATSON
SCALE: NTS	
REVISIONS	INIT. DATE
SIGNATURE	DATE
CADD Filename:	

05-1735
 AVIATION PARKWAY
 AT
 I-40 EASTBOUND RAMP
 SPLICE No.5



- 1) FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE "TOWN OF CARY" TRAFFIC SIGNAL SYSTEM SUPERVISOR, WESLEY VO, PE, AT (919)460-3148 TO ARRANGE FOR THE TOWN OF CARY TO PROGRAM THE FIELD ETHERNET SWITCHES WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - 1.) THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION.
 - 2.) NOTIFY THE ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY.
 - 3.) WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
- 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) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND 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

TMP Phase I/(Final)

CONTRACTOR SHALL REFERENCE THE ITS
 ICT FOR THE COMMUNICATIONS
 INTERMEDIATE CONTRACT
 TIME AND LIQUIDATED DAMAGES

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

COLOR CODE
 TIA/EIA 598-A

- | | |
|------------|-------------|
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| (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
 EXPRESS = EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING

NOTES

1. UNUSED FIBER SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
2. UNUSED BUFFER TUBES SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
3. ETHERNET TERMINATION CONFIGURATIONS ARE GENERIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND ENSURING PROPER TERMINATION.

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 www.stantec.com
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Prepared in the Offices of: 	
FIBER OPTIC SPLICE DETAILS SIGNAL 05-1735	
DIV 5 WAKE CO. TOWN OF CARY	
PLAN DATE: 2017	REVIEWED BY: DEAN HARRIS
PREPARED BY: J. INGRAM	REVIEWED BY: BETSY L. WATSON
SCALE: NTS	SIGNATURE: _____ DATE: _____
CADD Filename: _____	

05-1309
AVIATION PARKWAY
AT
I-40 WESTBOUND RAMP

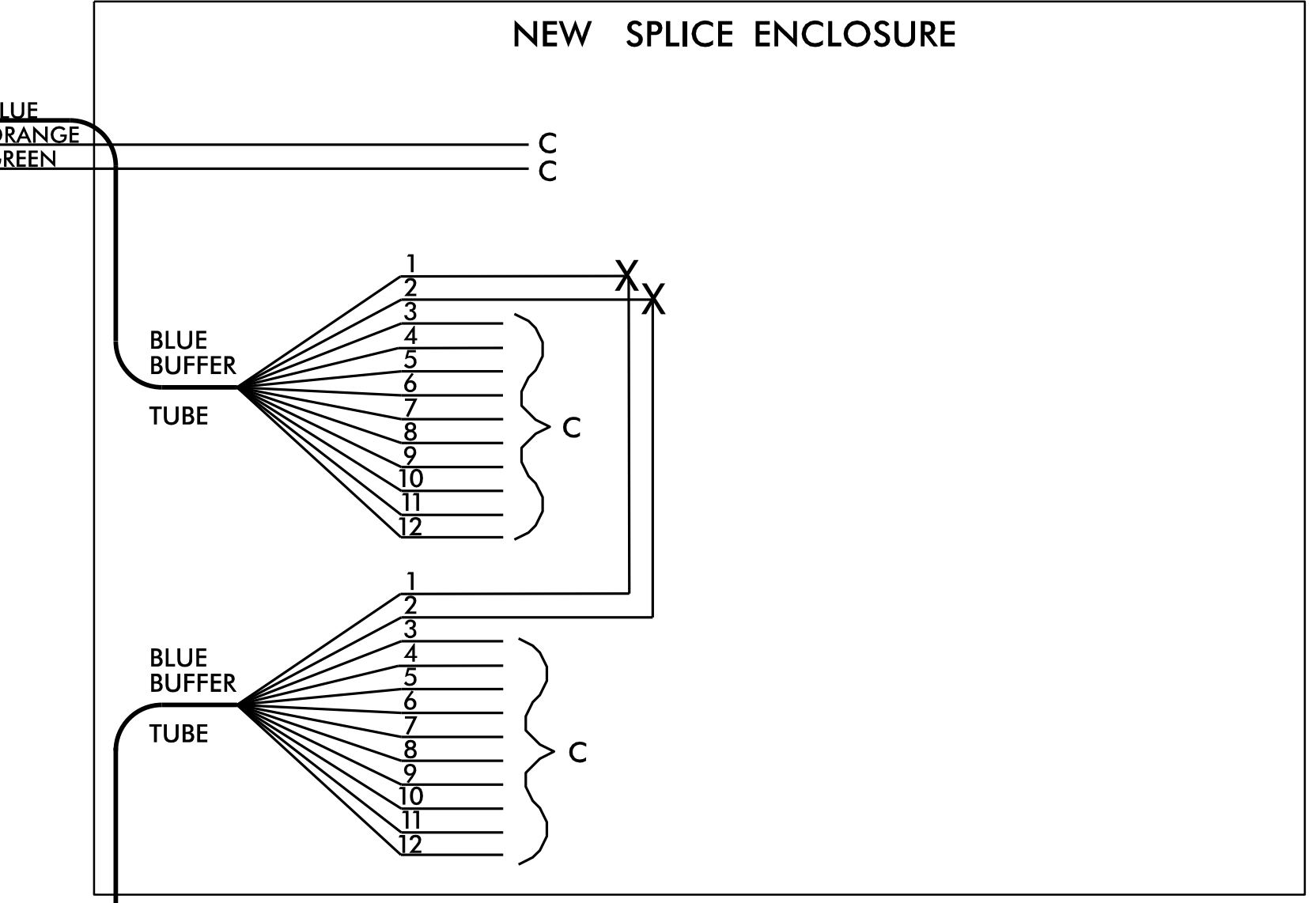
SPLICE No.6

NEW TRUNK CABLE TO EXISTING SIGNAL 05-1735
NEW SPLICE ENCLOSURE

36 FIBER BACKBONE CABLE

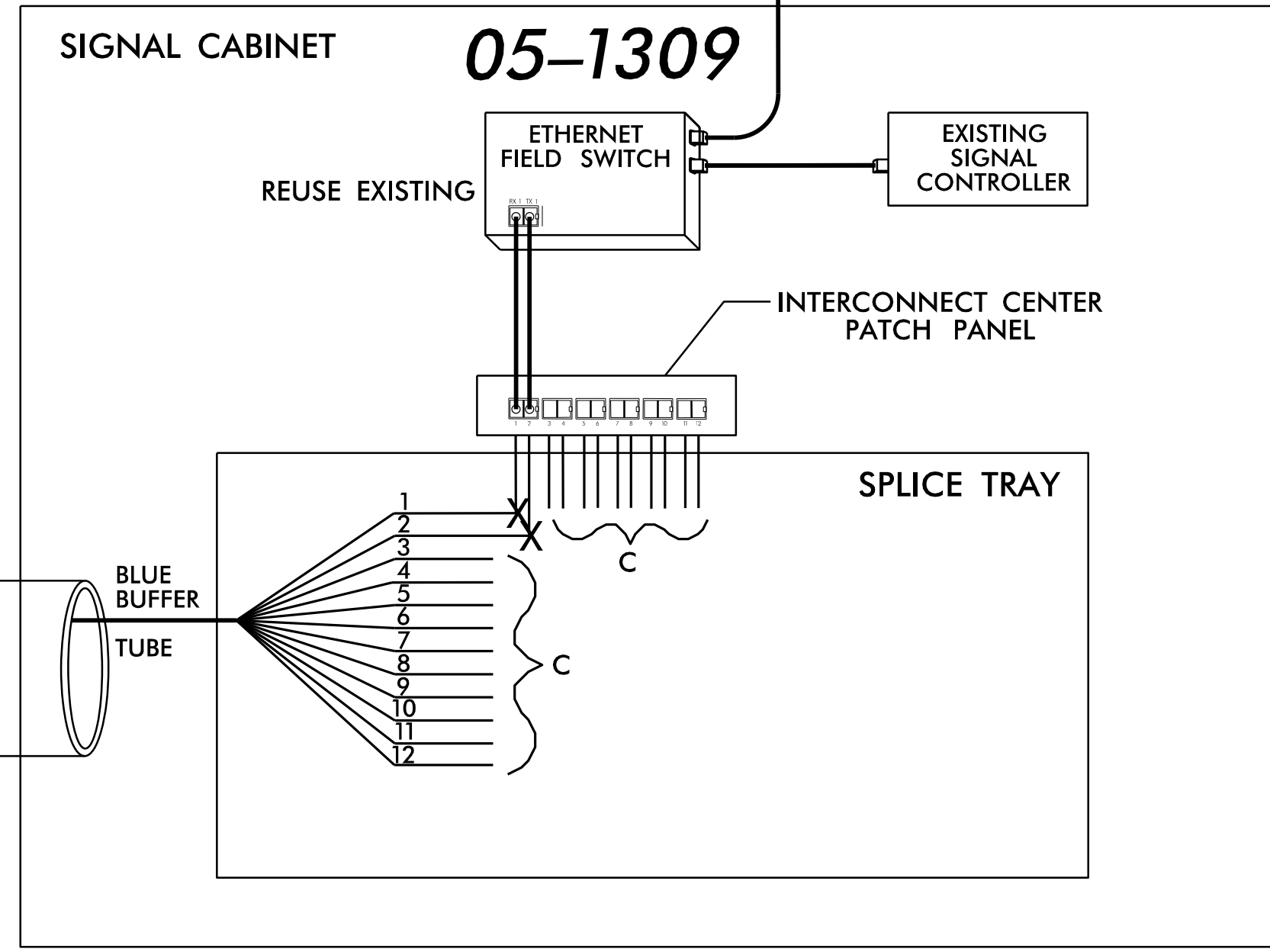
SPLICE BLUE BUFFER AS SHOWN,
CUT AND STORE BUFFERS ORANGE AND GREEN

NEW SPLICE ENCLOSURE



SPLICE No.6

12 FIBER DROP CABLE TO
SIGNAL 05-1309



2.4 WIRELESS
RADIO

TO NEW CCTV CAMERA
AT RDU DRIVE AND
SIGNAL CONTROLLER 05-1399
(SEE "TOWN OF CARY" BLOCK DIAGRAM)

POWER OVER
ETHERNET
INJECTOR

1) FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE "TOWN OF CARY" TRAFFIC SIGNAL SYSTEM SUPERVISOR, WESLEY VO, PE, AT (919)460-3148 TO ARRANGE FOR THE TOWN OF CARY TO PROGRAM THE FIELD ETHERNET SWITCHES WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

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- 2.) NOTIFY THE ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY.
- 3.) WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.

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) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND 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

TMP Phase I and TMP Phase II

CONTRACTOR SHALL REFERENCE THE ITS
ICT FOR THE COMMUNICATIONS
INTERMEDIATE CONTRACT
TIME AND LIQUIDATED DAMAGES

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

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
EXPRESS = EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING

NOTES

1. UNUSED FIBER SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
2. UNUSED BUFFER TUBES SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
3. ETHERNET TERMINATION CONFIGURATIONS ARE GENERIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND ENSURING PROPER TERMINATION.

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License No. F-0672

Prepared in the Offices of:		FIBER OPTIC SPLICE DETAILS SIGNAL 05-1309/WIRELESS		
PLAN DATE:	2017	REVIEWED BY:	DEAN HARRIS	
PREPARED BY:	J. INGRAM	REVIEWED BY:	BETSY L. WATSON	SIGNATURE: _____ DATE: 11/30/2017 CADD Filename:
SCALE:	NTS	REVISIONS:	INIT. DATE	

05-1309
 AVIATION PARKWAY
 AT
 I-40 WESTBOUND RAMP

SPLICE No.7

TRUNK CABLE TO
 EXISTING SIGNAL 05-2129
 SPLICE ENCLOSURE (IN PLACE)

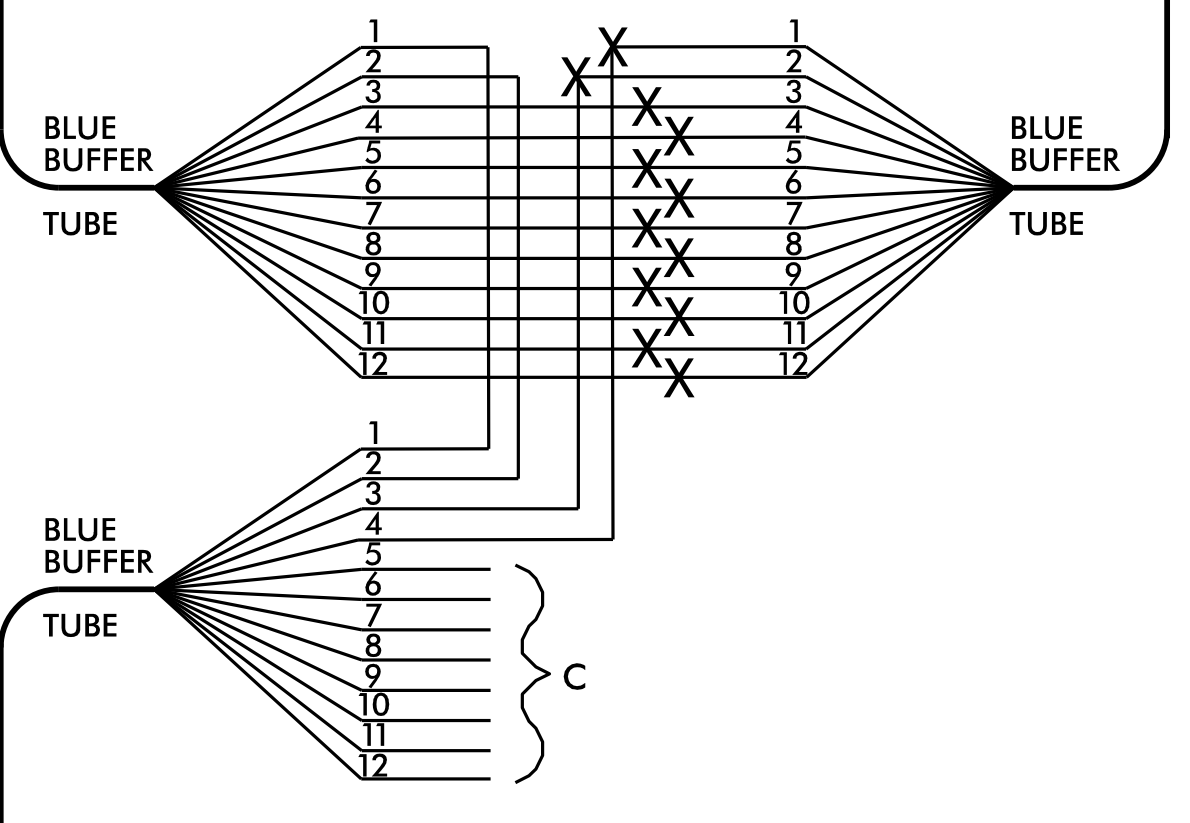
36 FIBER BACKBONE CABLE

SPLICE BLUE BUFFER AS SHOWN,
 REEL END SPLICE BUFFERS ORANGE AND GREEN

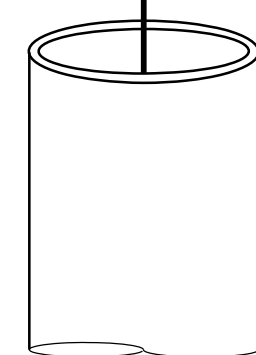
EXISTING SPLICE ENCLOSURE

NEW TRUNK CABLE TO
 EXISTING CCTV INSTALLATION
 NEW SPLICE ENCLOSURE

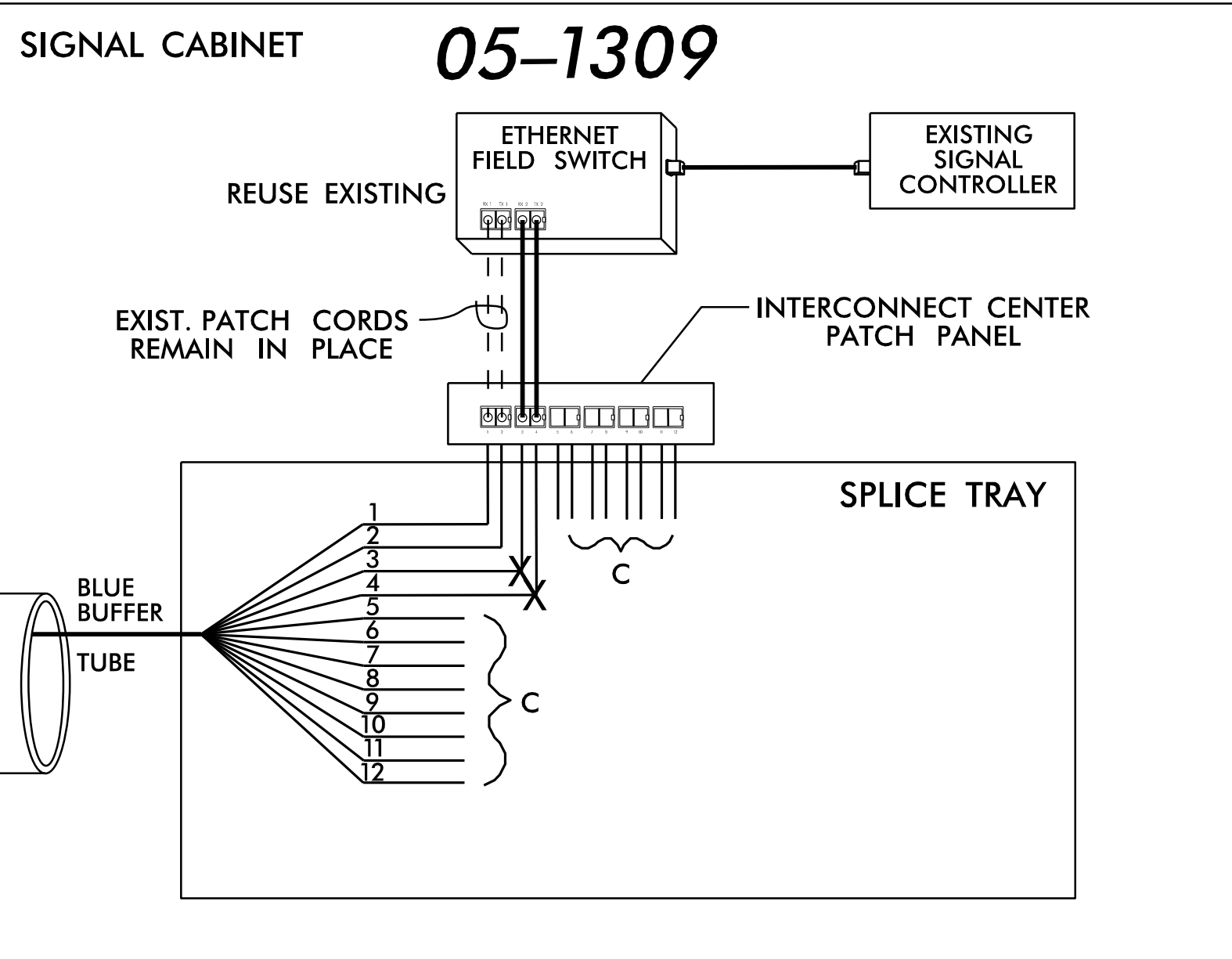
36 FIBER BACKBONE CABLE



SPLICE No.7



12 FIBER DROP CABLE TO
 SIGNAL 05-1309



**REMOVE
 WIRELESS**
 (SEE SCP-15 BLOCK DIAGRAM)

- 1) FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE "TOWN OF CARY" TRAFFIC SIGNAL SYSTEM SUPERVISOR, WESLEY VO, PE, AT (919)460-3148 TO ARRANGE FOR THE TOWN OF CARY TO PROGRAM THE FIELD ETHERNET SWITCHES WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
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 - 2.) NOTIFY THE ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY.
 - 3.) WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
- 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) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND 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

TMP Final Phase

CONTRACTOR SHALL REFERENCE THE ITS
 ICT No.13, (SHEET SCP-26) FOR THE
 COMMUNICATIONS INTERMEDIATE CONTRACT
 TIME AND LIQUIDATED DAMAGES

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

COLOR CODE
 TIA/EIA 598-A

LEGEND

- X = FUSION SPLICE
 C = CAP IN TRAY
 EXPRESS = EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING

NOTES

1. UNUSED FIBER SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
2. UNUSED BUFFER TUBES SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
3. ETHERNET TERMINATION CONFIGURATIONS ARE GENERIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND ENSURING PROPER TERMINATION.

- | | |
|------------|-------------|
| (1) BLUE | (7) RED |
| (2) ORANGE | (8) BLACK |
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Prepared in the Offices of:		SEAL	
		FIBER OPTIC SPLICE DETAILS SIGNAL 05-1309/WIRELESS	
		DIV 5 WAKE CO. TOWN OF CARY	
PLAN DATE: 2017	REVIEWED BY: DEAN HARRIS	SIGNATURE: _____ DATE: 11/30/2017	
PREPARED BY: J. INGRAM	REVIEWED BY: BETSY L. WATSON	CADD Filename: _____	
SCALE: NTS	REVISIONS:	INIT.	DATE

AVIATION PARKWAY
AT CCTV CAMERA
RDU CENTER DRIVE

SPLICE No.8

NEW TRUNK CABLE TO
EXISTING SIGNAL 05-1309
SPLICE ENCLOSURE

36 FIBER BACKBONE CABLE

SPLICE BLUE BUFFER AS SHOWN AND
EXPRESS ALL OTHER BUFFERS

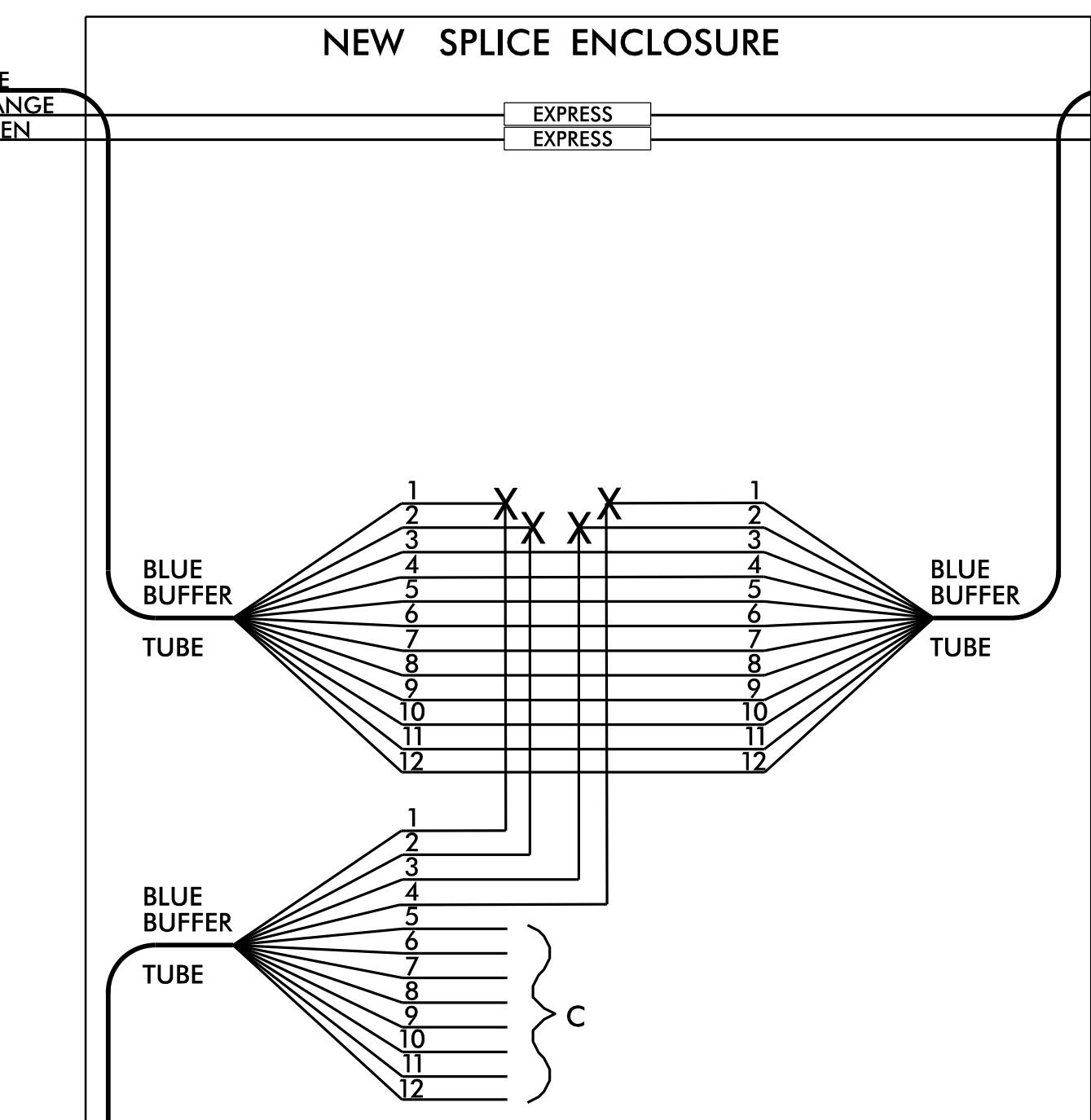
NEW SPLICE ENCLOSURE

EXPRESS
EXPRESS

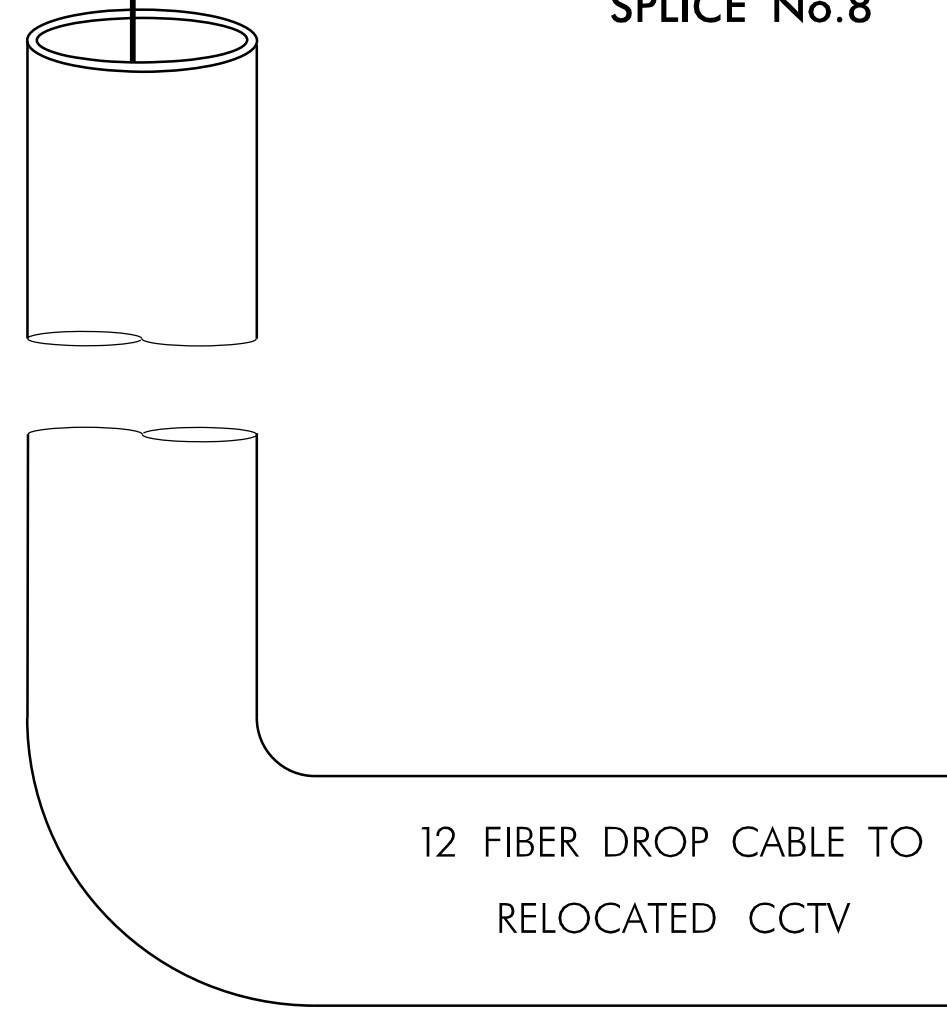
NEW TRUNK CABLE TO
NEW SPLICE ENCLOSURE
AT SIGNAL 05-1399

36 FIBER BACKBONE CABLE

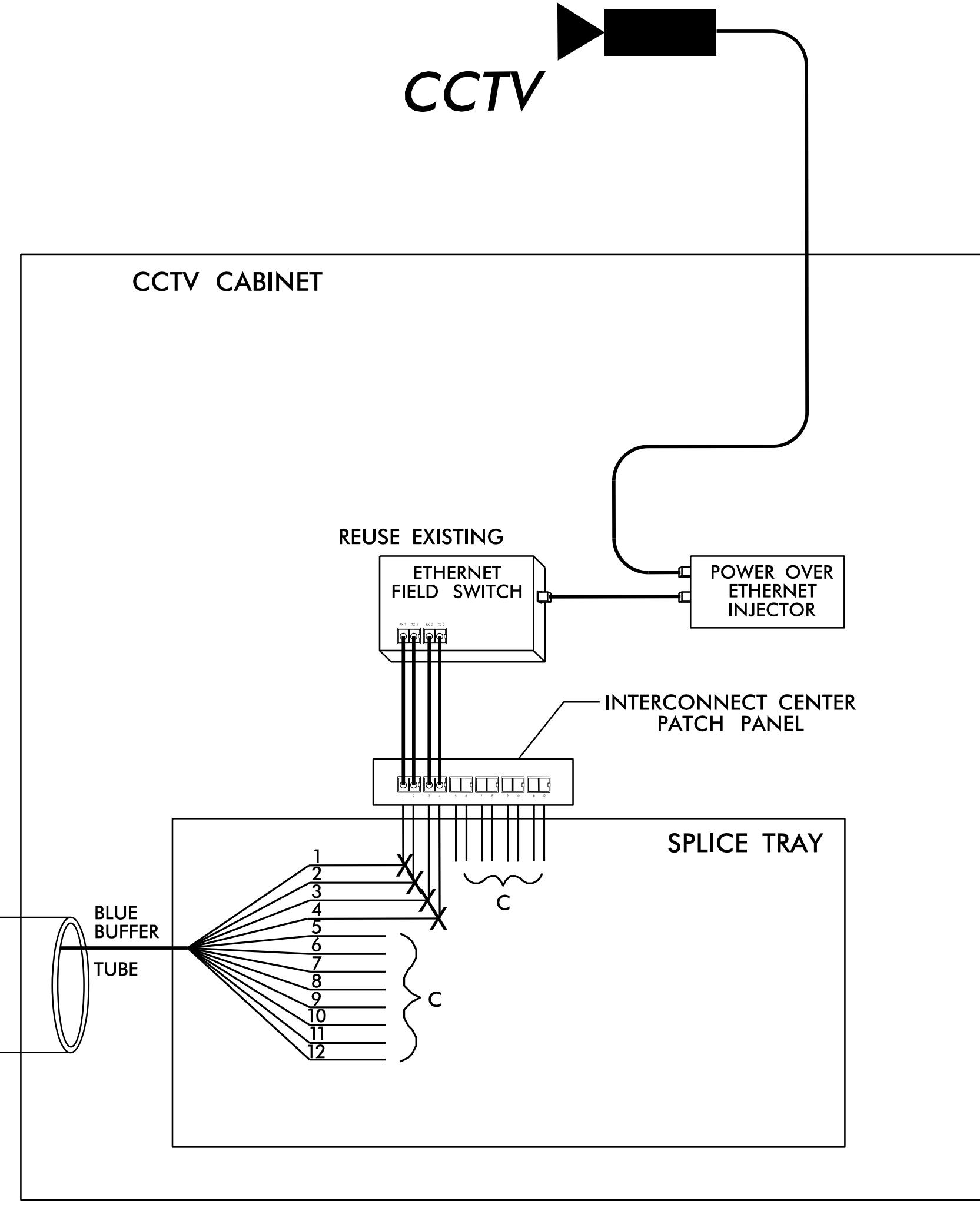
**REMOVE
WIRELESS**
(SEE SCP-15 BLOCK DIAGRAM)



SPLICE No.8



12 FIBER DROP CABLE TO
RELOCATED CCTV



TMP Final Phase

CONTRACTOR SHALL REFERENCE THE ITS
ICT FOR THE COMMUNICATIONS
INTERMEDIATE CONTRACT
TIME AND LIQUIDATED DAMAGES

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

- 1) FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE "TOWN OF CARY" TRAFFIC SIGNAL SYSTEM SUPERVISOR, WESLEY VO, PE, AT (919)460-3148 TO ARRANGE FOR THE TOWN OF CARY TO PROGRAM THE FIELD ETHERNET SWITCHES WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
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- 3) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND 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

COLOR CODE
TIA/EIA 598-A

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| (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
EXPRESS = EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING

NOTES

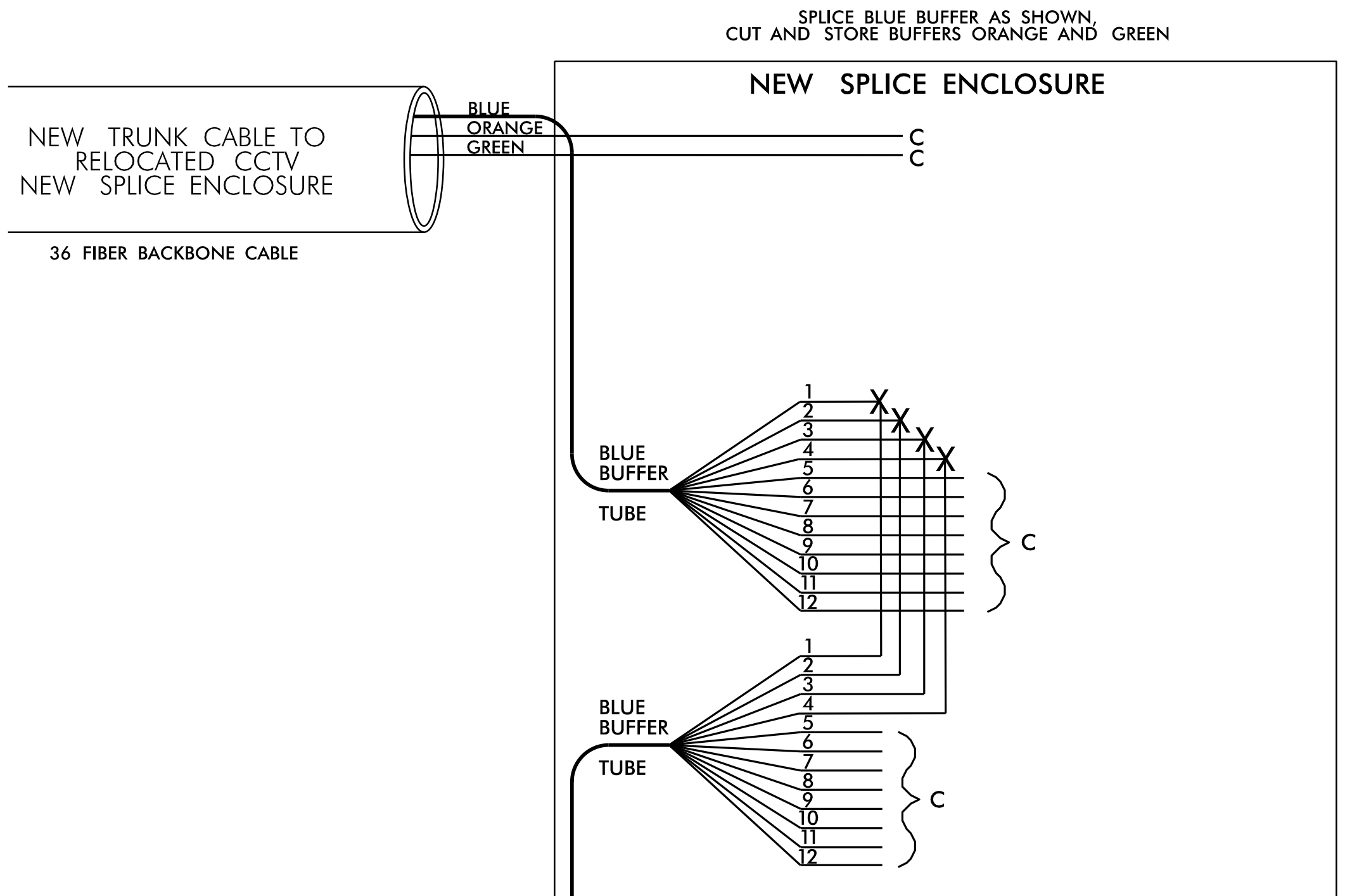
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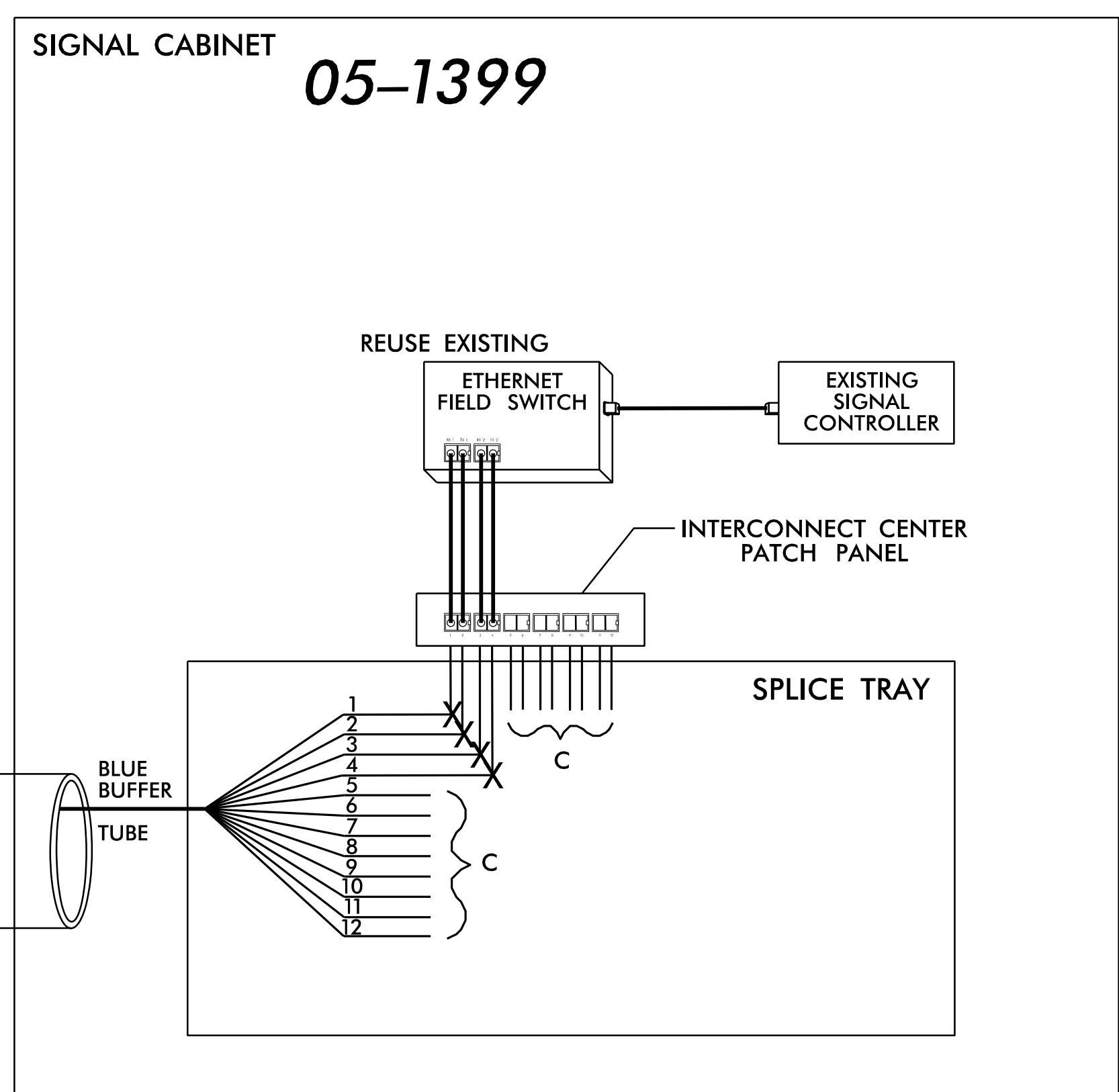
Prepared in the Offices of:		FIBER OPTIC SPLICE DETAILS TOWN OF CARY RELOCATED CCTV-CAMERA		
		DIV 5 WAKE CO. TOWN OF CARY PLAN DATE: 2017 REVIEWED BY: DEAN HARRIS PREPARED BY: J. INGRAM REVIEWED BY: BETSY L. WATSON		
750 N. Greenfield Pkwy., Garner, NC 27529	SCALE	REVISIONS	INIT.	DATE
	NTS			
SIGNATURE		DATE		
CADD Filename:				

05-1399
 AVIATION PARKWAY
 AT
 NATIONAL GUARD DRIVE

SPLICE No.9



REMOVE WIRELESS
 (SEE SCP-15 BLOCK DIAGRAM)



- 1) FIVE (5) DAYS PRIOR TO BEGINNING WORK ON THE SIGNAL SYSTEM, CONTACT THE "TOWN OF CARY" TRAFFIC SIGNAL SYSTEM SUPERVISOR, WESLEY VO, PE, AT (919)460-3148 TO ARRANGE FOR THE TOWN OF CARY TO PROGRAM THE FIELD ETHERNET SWITCHES WITH THE NECESSARY NETWORK CONFIGURATION DATA, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - 1.) THE PROJECT IP ADDRESS, DEFAULT GATEWAY, SUBNET MASK AND VLAN ID INFORMATION.
 - 2.) NOTIFY THE ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY.
 - 3.) WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.
- 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) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND 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

TMP Final Phase

CONTRACTOR SHALL REFERENCE THE ITS ICT FOR THE COMMUNICATIONS INTERMEDIATE CONTRACT TIME AND LIQUIDATED DAMAGES

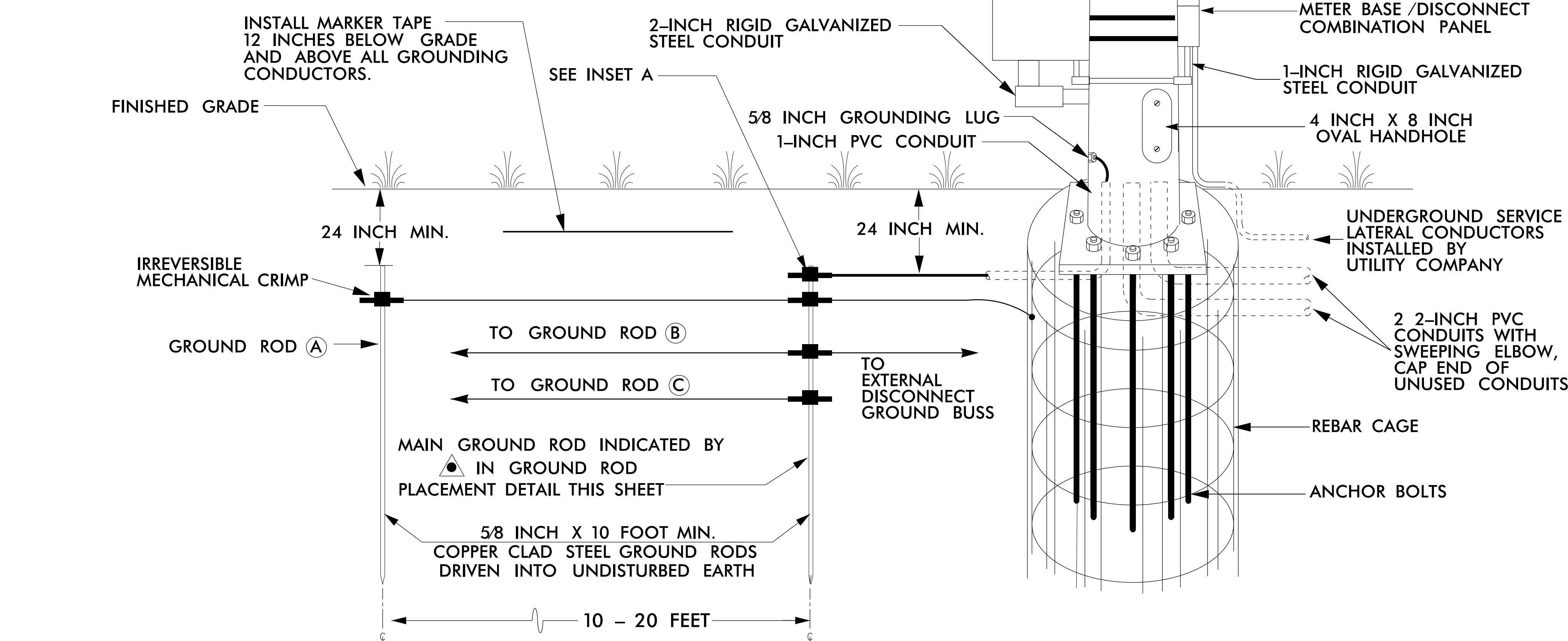
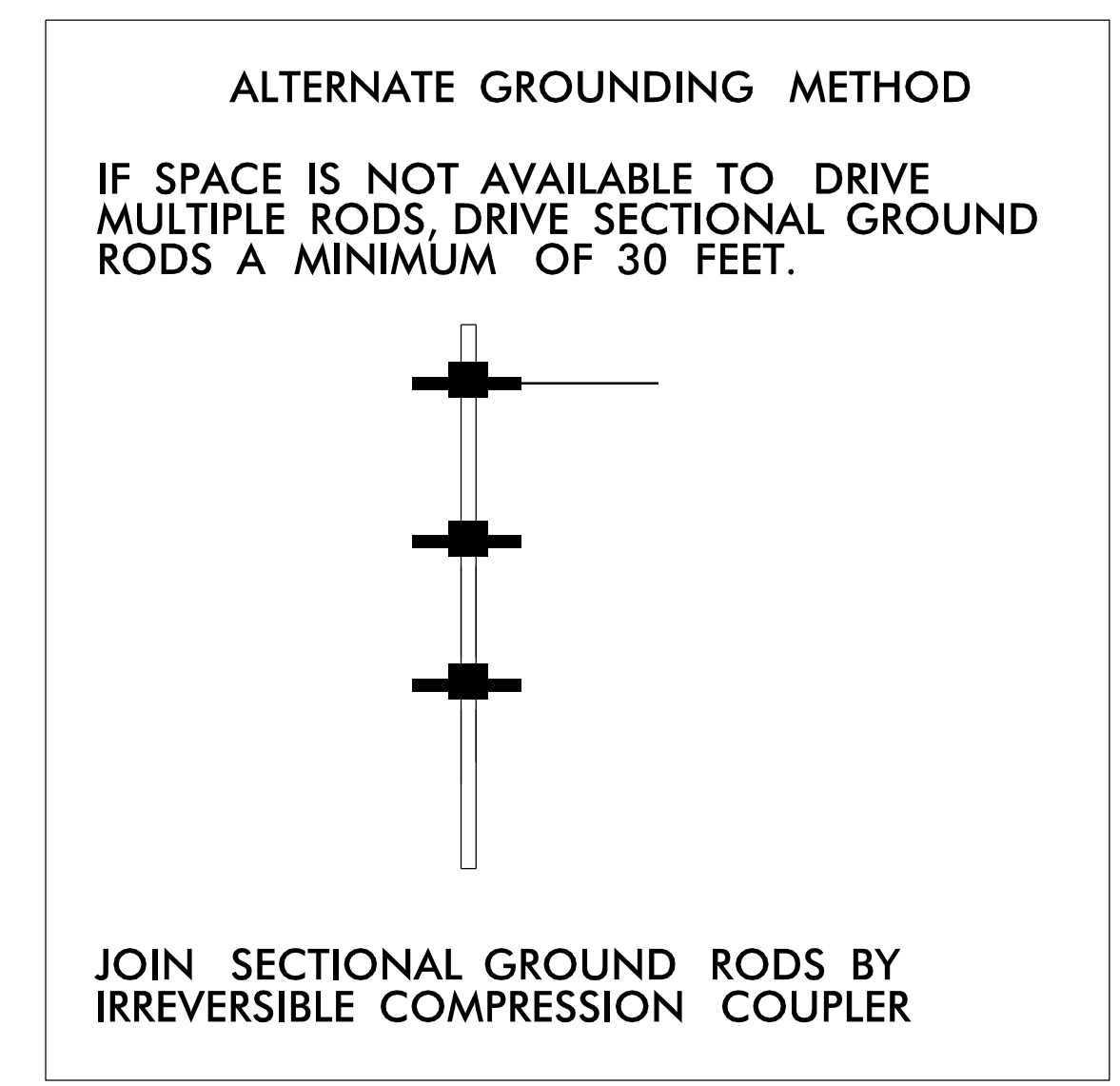
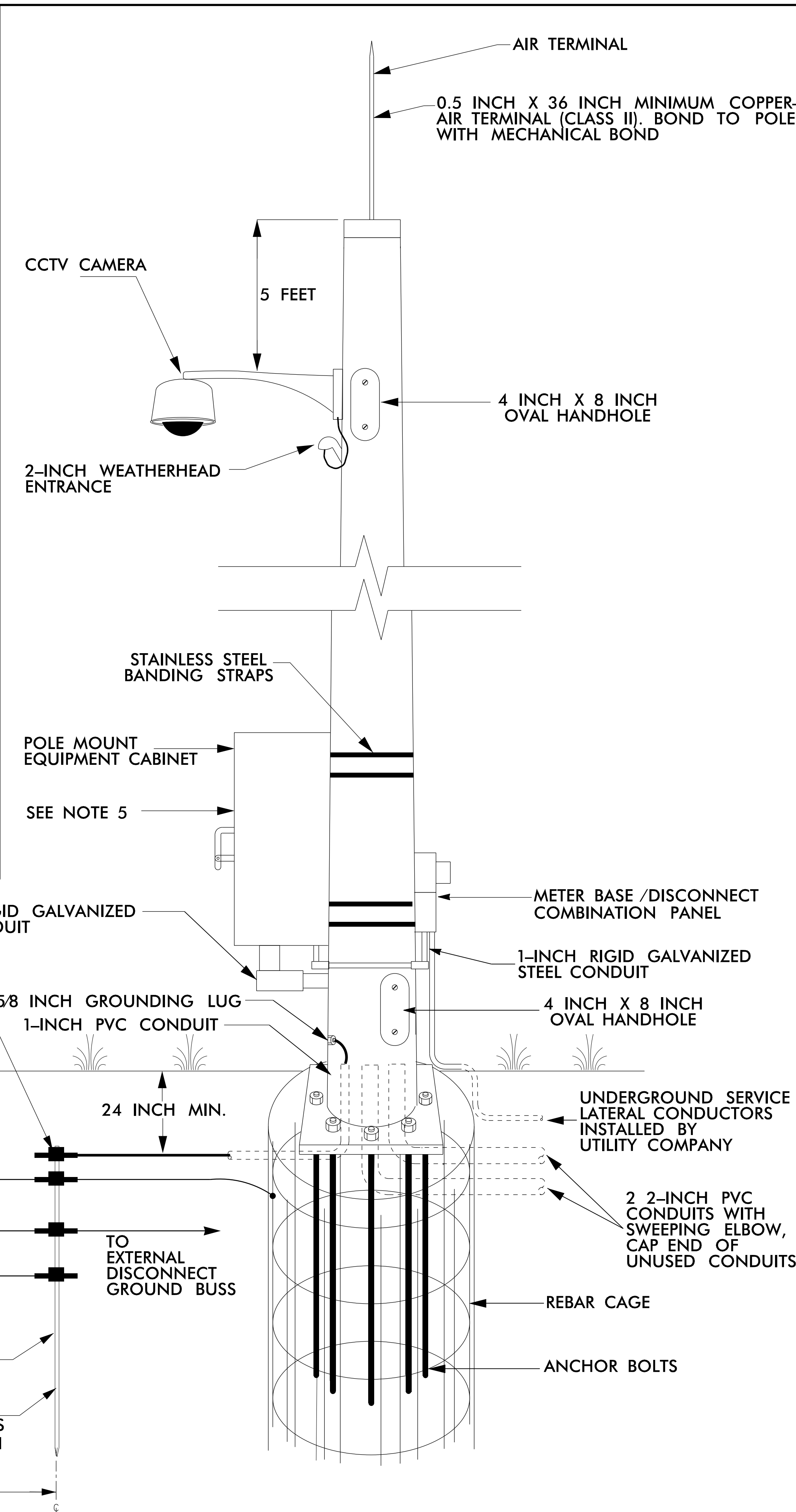
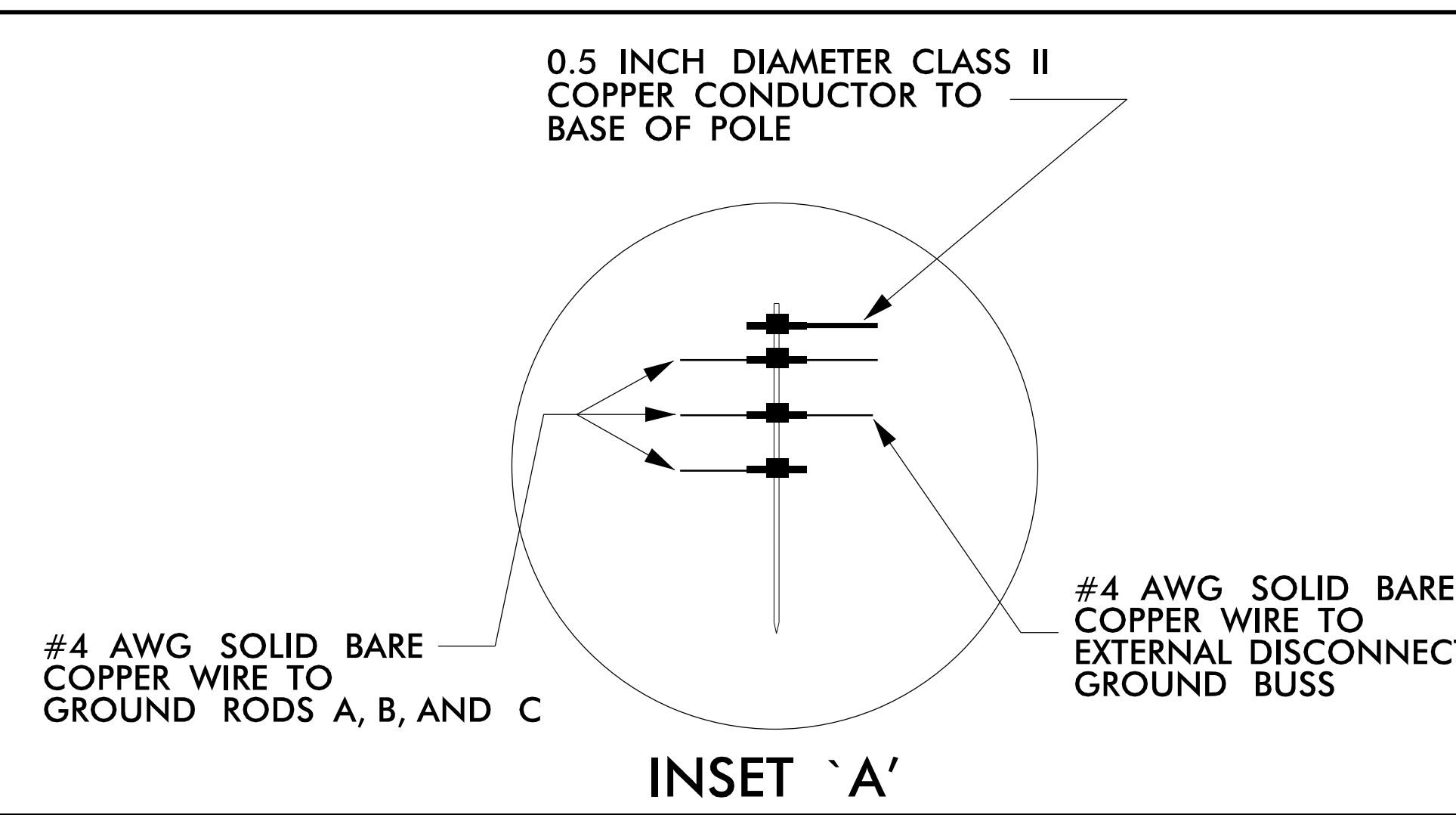
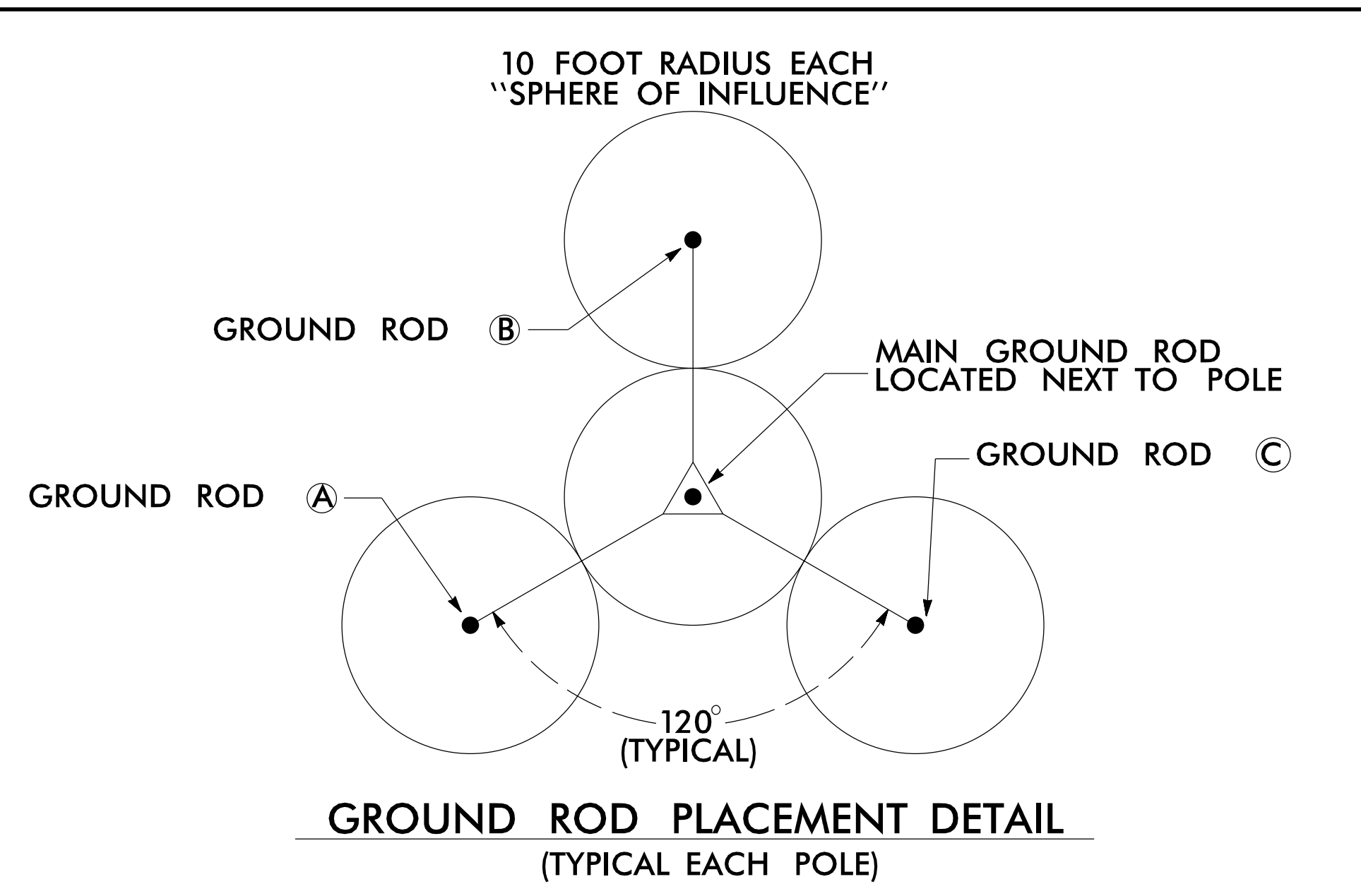
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

COLOR CODE TIA/EIA 598-A		LEGEND	
(1) BLUE	(7) RED	X = FUSION SPLICE	
(2) ORANGE	(8) BLACK	C = CAP IN TRAY	
(3) GREEN	(9) YELLOW	EXPRESS = EXPRESS ENTIRE BUFFER TUBE THROUGH WITHOUT CUTTING	
(4) BROWN	(10) VIOLET	REEL END SPLICE = SPLICE ENTIRE BUFFER TUBE SPLICE LIKE FIBER TO LIKE FIBER	
(5) SLATE	(11) ROSE		
(6) WHITE	(12) AQUA		

- NOTES**
1. UNUSED FIBER SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
 2. UNUSED BUFFER TUBES SHALL BE LEFT COILED AND STORED IN THE SPLICE TRAY.
 3. ETHERNET TERMINATION CONFIGURATIONS ARE GENERIC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND ENSURING PROPER TERMINATION.

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 License No. F-0672

Prepared in the Offices of:			
FIBER OPTIC SPLICE DETAILS			
SIGNAL 05-1399			
DIV 5 WAKE CO. TOWN OF CARY		SEAL	
PLAN DATE: 2017	REVIEWED BY: DEAN HARRIS	DATE: 11/30/2017	
PREPARED BY: J. INGRAM	REVIEWED BY: BETSY L. WATSON	SIGNATURE: _____ DATE: _____	
SCALE: NTS	REVISIONS:	INIT.	DATE
CADD Filename:			



NOTES

1. BOND 0.5 INCH DIAMETER, 28 STRAND (MINIMUM) CLASS II COPPER CONDUCTOR TO THE MAIN GROUND ROD BY AN IRREVERSIBLE MECHANICAL CRIMP METHOD.
2. ALL CONNECTIONS TO GROUND RODS SHOULD BE MADE WITH AN IRREVERSIBLE MECHANICAL CRIMP METHOD.
3. BOND #4 AWG SOLID BARE COPPER WIRE TO REBAR CAGE AND THE MAIN GROUND ROD BY AN IRREVERSIBLE MECHANICAL CRIMP.
4. ENSURE CAMERA HOUSING, CAMERA, AND PAN -TILT UNIT ARE BONDED TO POLE.
5. REMOVE BONDING JUMPER BETWEEN EQUIPMENT CABINET GROUND BUSS AND NEUTRAL BUSS.
6. THE CONTRACTOR MAY, UPON APPROVAL OF THE ENGINEER, INSTALL A 30-FOOT SECTIONAL GROUND ROD WHEN CONDITIONS WILL NOT ALLOW FOR THE INSTALLATION OF THE 3 - RADIAL GROUND RODS.
7. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.

	CCTV CAMERA INSTALLATION FOR METAL POLE WITH UNDERGROUND ELECTRICAL SERVICE TYPICAL DETAIL	
	PLAN DATE: JANUARY 2008 PREPARED BY:	REVIEWED BY:
REVISIONS 2018 STANDARD SPECIFICATIONS UPGRADE TO IRREVERSIBLE MECHANICAL CRIMP	INIT. DATE A.J.S. 11/2017	SIGNATURE DATE 11/30/2017