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TIP PROJECT: I-5999

CONTRACT: C204656

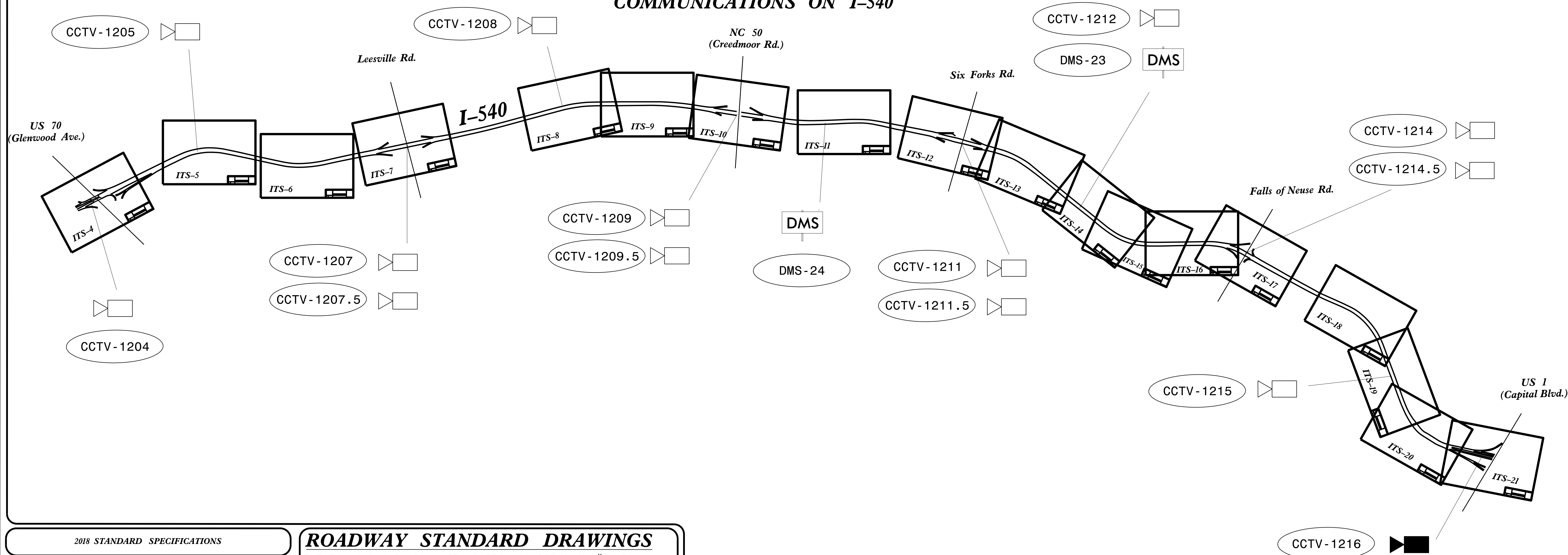
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

WAKE COUNTY

LOCATION: I-540 BETWEEN US 70 AND US 1

TYPE OF WORK: REPLACE CCTV, DMS AND WIRELESS COMMUNICATIONS ON I-540

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.	I-5999	ITS-1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
47954.3.GV1		CONST.



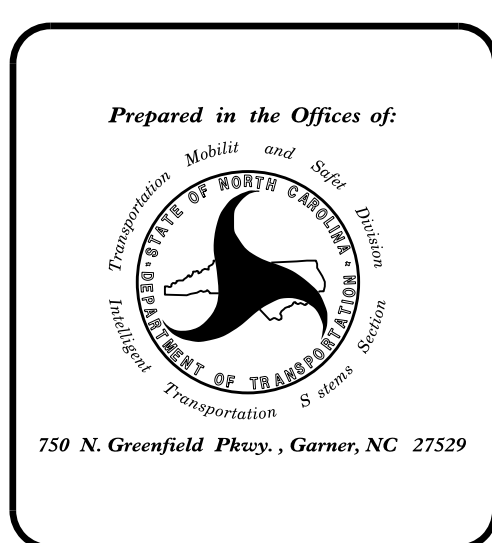
2018 STANDARD SPECIFICATIONS	
PROJECT LENGTH PROJECT LENGTH = 12 MILES	
LETTING DATE: DECEMBER 21, 2021	
INDEX OF SHEETS	
SHEET ITS 1	TITLE SHEET
SHEET ITS 2	LEGEND
SHEET ITS 3	SYSTEM LAYOUT
SHEET ITS 4-21	ITS PLANS
SHEET ITS 22	TYPICAL DETAILS

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" ROADWAY DESIGN UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2018 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1700.01	ELECTRICAL SERVICE OPTIONS
1700.02	ELECTRICAL SERVICE GROUNDING

NCDOT CONTACT:
TRANSPORTATION MOBILITY AND SAFETY
M.M. MCDIARMID, P.E., CPM
STATE TRANSPORTATION SYSTEMS
MANAGEMENT & OPERATIONS ENGINEER



ENGLISH

ALL DIMENSIONS IN THESE PLANS ARE IN FEET UNLESS OTHERWISE NOTED

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED


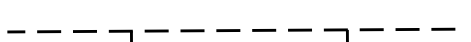


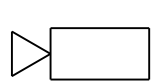

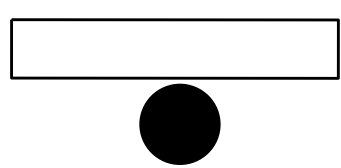
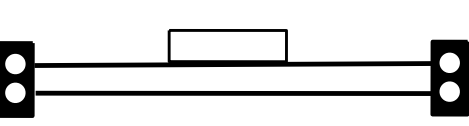
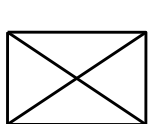
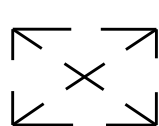
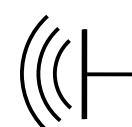

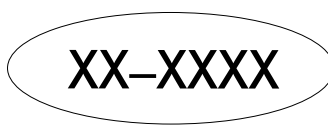


SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
050152
ENGINEER
ANDREW J. SKUCE

DocuSigned by:
Andrew J. Skuce
026288C85C464

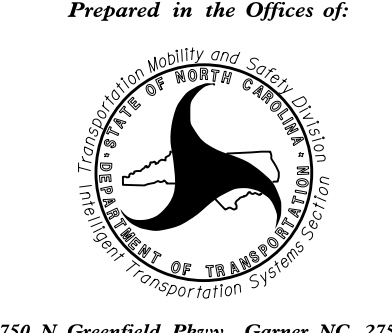
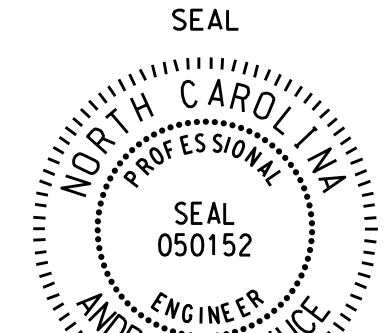
9/1/2021
DATE

2018 STANDARD SPECIFICATION

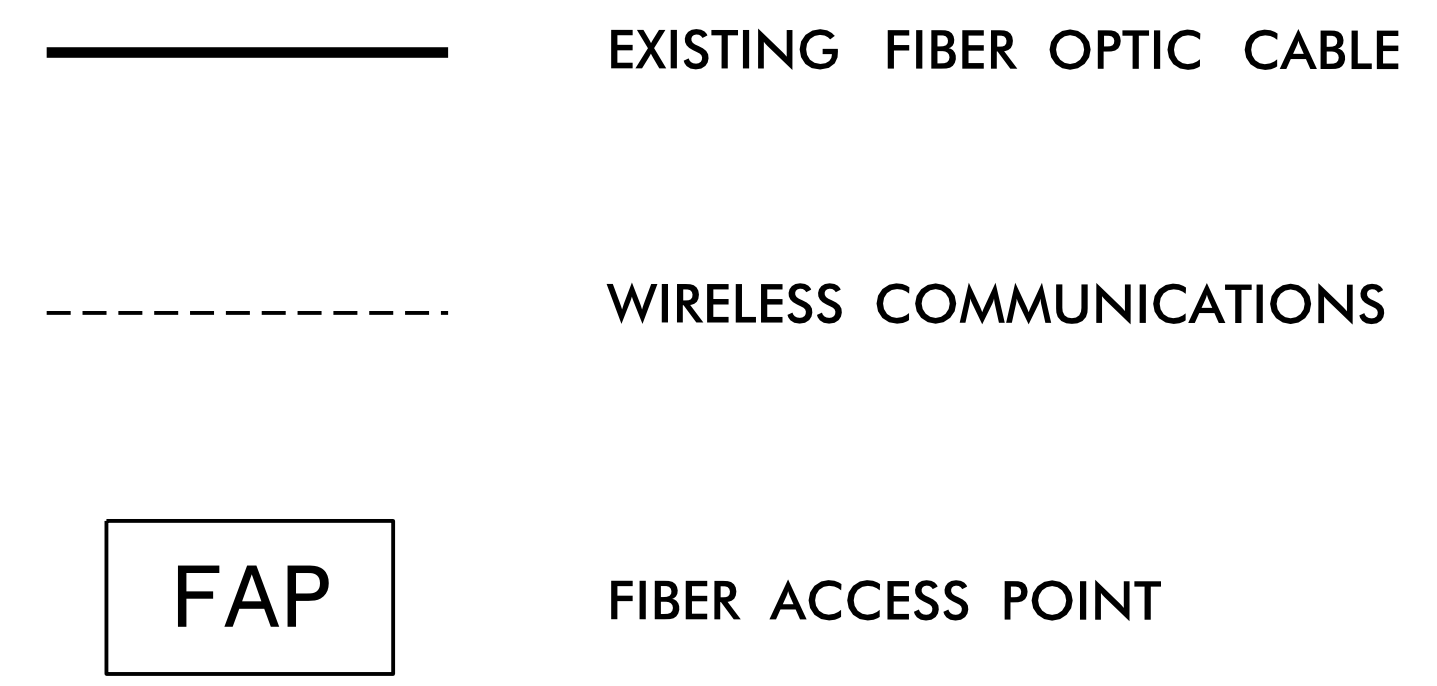
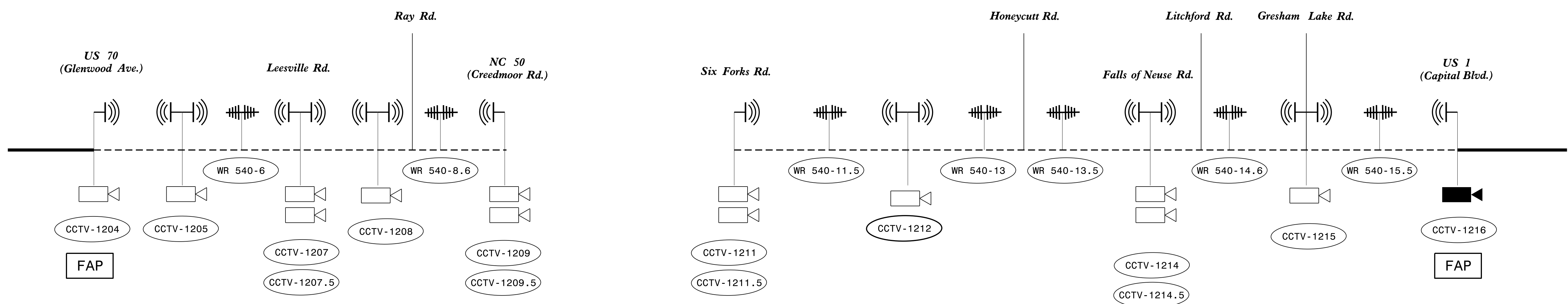
LEGEND

-  EXISTING CONDUIT
-  EXISTING GUARDRAIL
-  NEW CCTV WOOD POLE
-  EXISTING CCTV WOOD POLE
-  NEW CCTV CAMERA
-  EXISTING CCTV CAMERA
-  NEW DMS ON EXISTING PEDESTAL STRUCTURE
-  NEW DMS ON EXISTING OVERHEAD STRUCTURE
-  NEW ITS EQUIPMENT CABINET
-  EXISTING ITS EQUIPMENT CABINET
-  NEW WIRELESS ETHERNET SYSTEM
-  NEW WIRELESS ETHERNET REPEATER SYSTEM
-  ITS DEVICE NUMBER
-  NEW ELECTRICAL SERVICE
-  EXISTING ELECTRICAL SERVICE

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

 Prepared in the Offices of: 750 N. Greenfield Pkwy., Garner, NC 27529	ITS DEVICE REPLACEMENT		 SEAL 050152 ANDREW J. SKUCE ENGINEER 1/11/2021
	DIVISION 05 WAKE CO.		
	PLAN DATE: AUGUST 2021	REVIEWED BY: A. J. SKUCE, PE	
	PREPARED BY: J. WALDEN	REVIEWED BY:	
SCALE	REVISIONS	INIT.	DATE
0			

WIRELESS SYSTEM LAYOUT

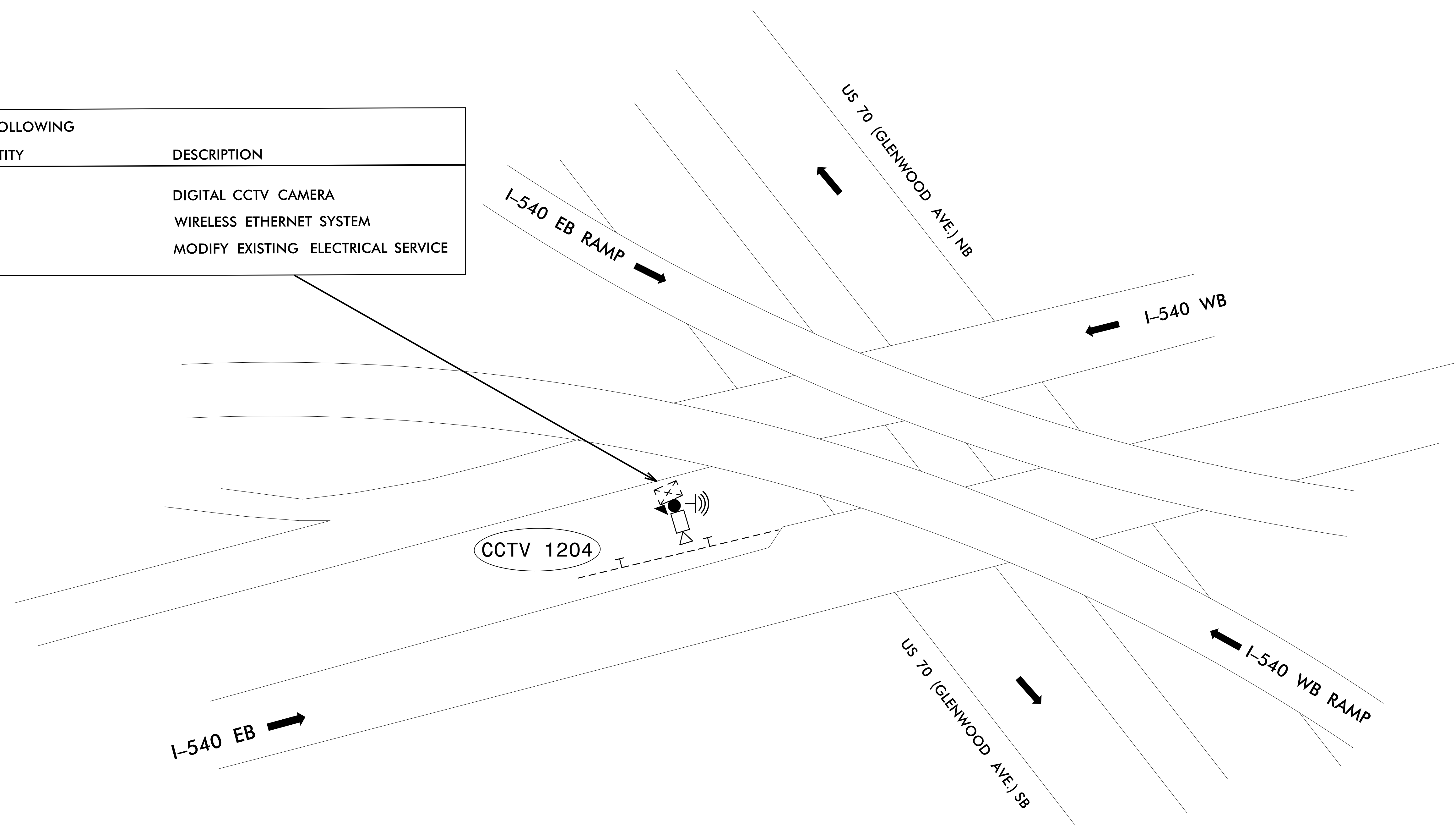


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	ITS DEVICE REPLACEMENT		
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 REVIEWED BY: A. J. SKUCE, PE. PREPARED BY: J. WALDEN REVIEWED BY:		
750 N. Greenfield Pkwy., Garner, NC 27529 	SCALE 	REVISIONS _____ _____ _____	INIT. DATE _____ _____

CCTV 1204 GPS COORDINATES
 35.90368 N
 -78.76852 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA
1	WIRELESS ETHERNET SYSTEM
1	MODIFY EXISTING ELECTRICAL SERVICE



NOTES

1. REMOVE EXISTING CCTV CAMERA AND WIRELESS SYSTEM.
2. INSTALL NEW CCTV CAMERA AND WIRELESS SYSTEM ON EXISTING CCTV WOOD POLE.
3. REMOVE EXISTING CELL MODEM AND RETURN TO DIVISION 5 REGIONAL ITS ENGINEER (919-825-2635).

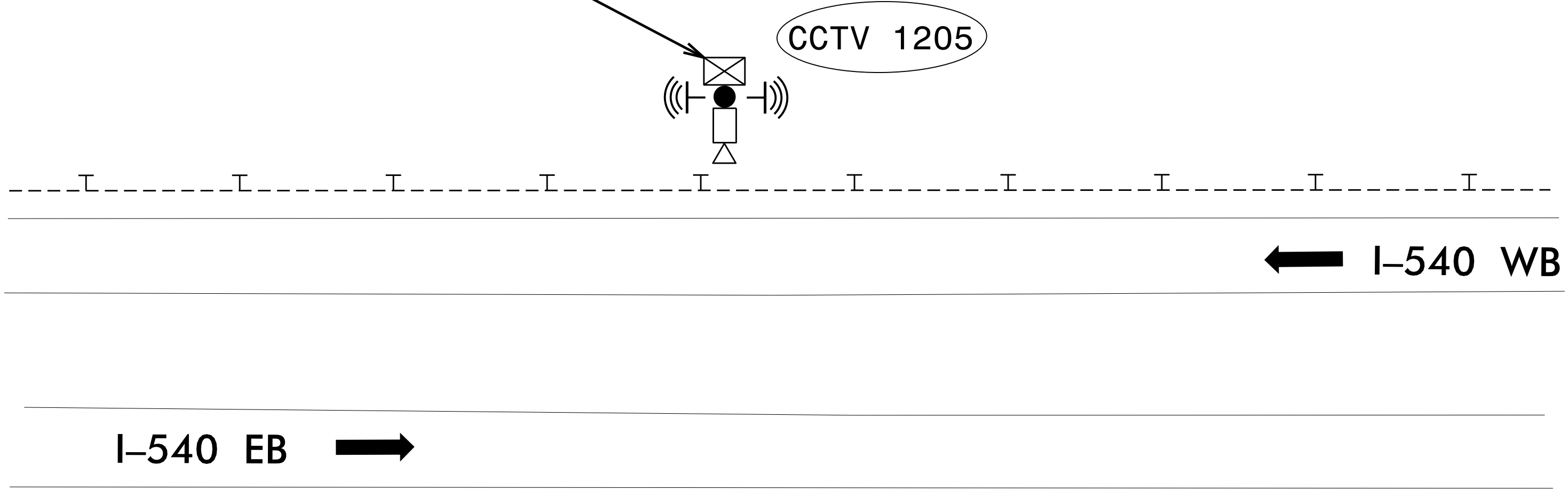
MM 4

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	ITS DEVICE REPLACEMENT		
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 PREPARED BY: J. WALDEN	REVIEWED BY: A. J. SKUCE, PE. REVIEWED BY:	
750 N. Greenfield Pkwy., Garner, NC 27529 	SCALE 	REVISIONS INIT. DATE	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 050152 ANDREW J. SKUCE 11/11/2021

CCTV 1205 GPS COORDINATES
 35.91434 N
 -78.74206 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA ASSEMBLY
1	FIELD EQUIPMENT CABINET
1	WIRELESS ETHERNET SYSTEM



NOTES

1. REMOVE EXISTING CCTV CAMERA, EQUIPMENT CABINET, AND WIRELESS SYSTEM.
2. INSTALL NEW CCTV CAMERA, EQUIPMENT CABINET, AND WIRELESS SYSTEM ON EXISTING WOOD POLE.
3. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.

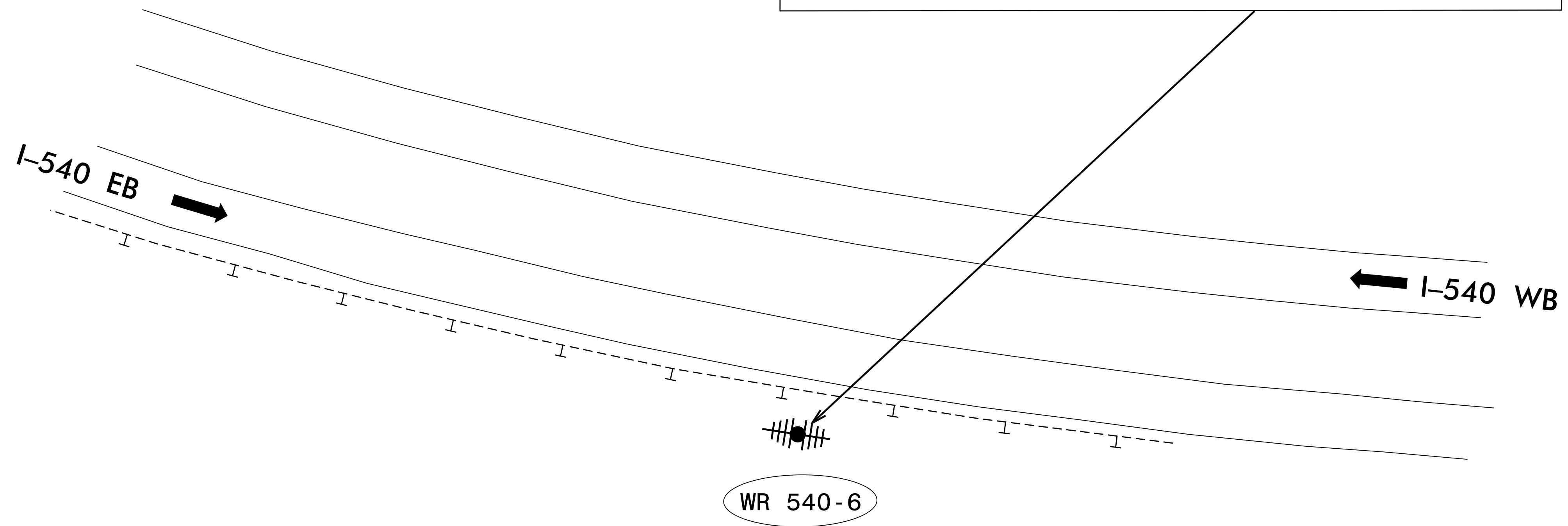
MM 5

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

	ITS DEVICE REPLACEMENT	
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 PREPARED BY: J. WALDEN	REVIEWED BY: A. J. SKUCE, PE. REVIEWED BY:
750 N. Greenfield Pkwy., Garner, NC 27529 	SCALE 	REVISIONS INIT. DATE _____ _____

REPEATER WR 540-6 GPS COORDINATES
 35.90881 N
 -78.74259 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	WIRELESS ETHERNET REPEATER SYSTEM

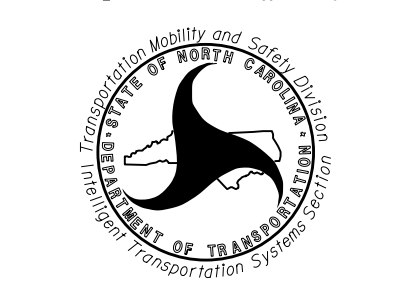

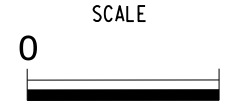


NOTES

1. REMOVE EXISTING WIRELESS REPEATER SYSTEM.
2. INSTALL NEW WIRELESS REPEATER SYSTEM ON EXISTING WOOD POLE.
3. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.

MM 6

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 <small>750 N. Greenfield Pkwy., Garner, NC 27529</small>	ITS DEVICE REPLACEMENT		
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 PREPARED BY: J. WALDEN		
SCALE 	REVISIONS	INIT.	DATE

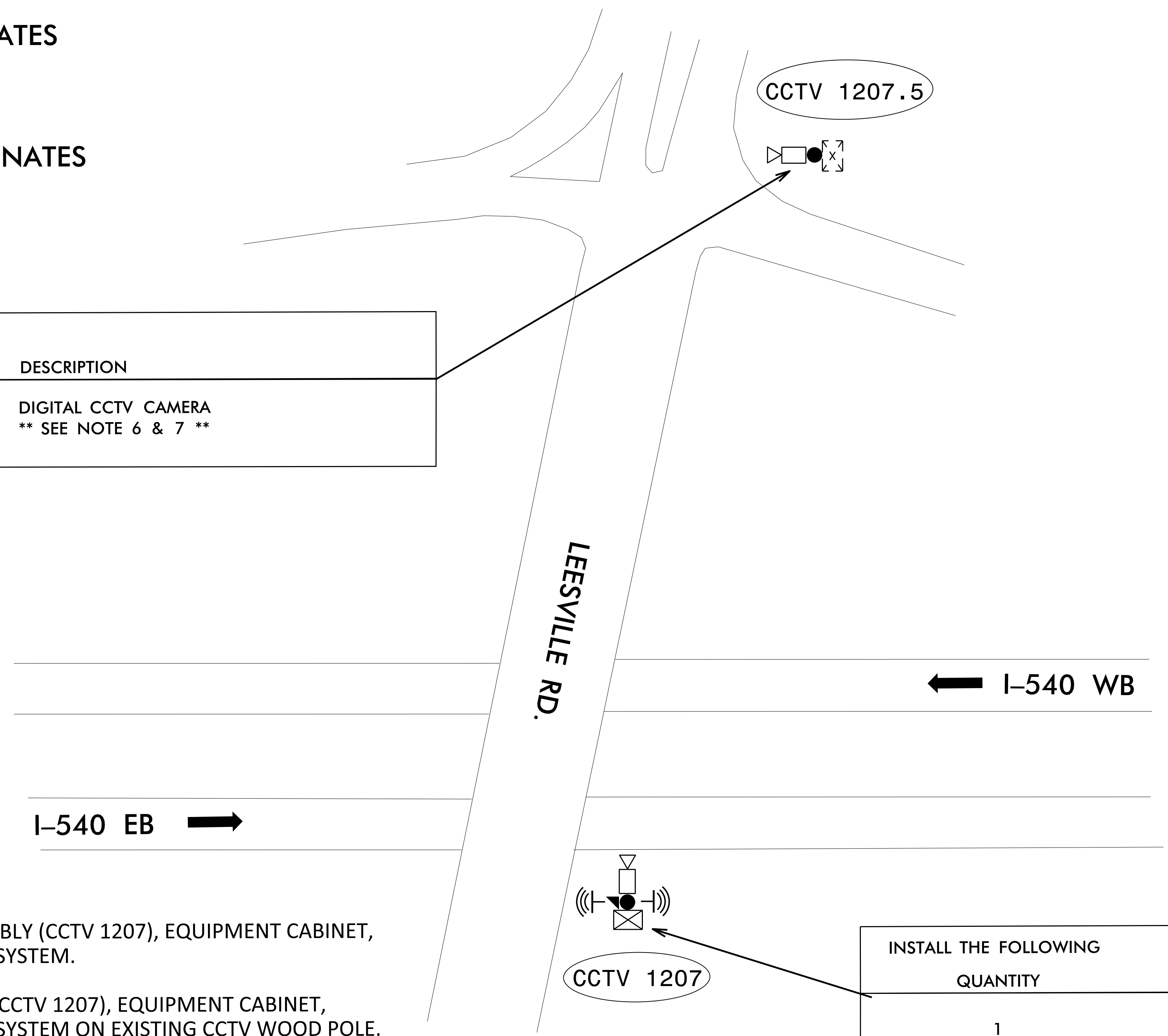
CCTV 1207 GPS COORDINATES

35.91099 N
-78.72815 W

CCTV 1207.5 GPS COORDINATES

35.91257 N
-78.72814 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA ** SEE NOTE 6 & 7 **



NOTES

1. REMOVE EXISTING CCTV CAMERA ASSEMBLY (CCTV 1207), EQUIPMENT CABINET, INTERCONNECT CENTER, AND WIRELESS SYSTEM.
2. INSTALL NEW CCTV CAMERA ASSEMBLY (CCTV 1207), EQUIPMENT CABINET, INTERCONNECT CENTER, AND WIRELESS SYSTEM ON EXISTING CCTV WOOD POLE.
3. RELOCATE EXISTING ETHERNET SWITCH INTO NEW EQUIPMENT CABINET.
4. REMOVE EXISTING CELL MODEM AT CCTV 1207 AND RETURN TO DIVISION 5 REGIONAL ITS ENGINEER (919-825-2635). RETAIN EXISTING CELL MODEM AT CCTV 1207.5.
5. ENSURE EXISTING FIBER OPTIC CABLE CONNECTIONS ARE LABELED BEFORE DISCONNECTING. RESPLICE OR RECONNECT FIBER OPTIC CABLE BASED ON EXISTING TERMINATION CONFIGURATION. WORK IS NOT COMPLETE UNTIL ALL FIBER OPTIC COMMUNICATIONS ARE OPERATIONAL.
6. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.
7. REMOVE EXISTING CCTV CAMERA (CCTV 1207.5).
8. INSTALL NEW CCTV CAMERA (CCTV 1207.5) ON EXISTING CCTV WOOD POLE.

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA ASSEMBLY
1	FIELD EQUIPMENT CABINET
1	WIRELESS ETHERNET SYSTEM
1	INTERCONNECT CENTER
1	MODIFY EXISTING ELECTRICAL SERVICE

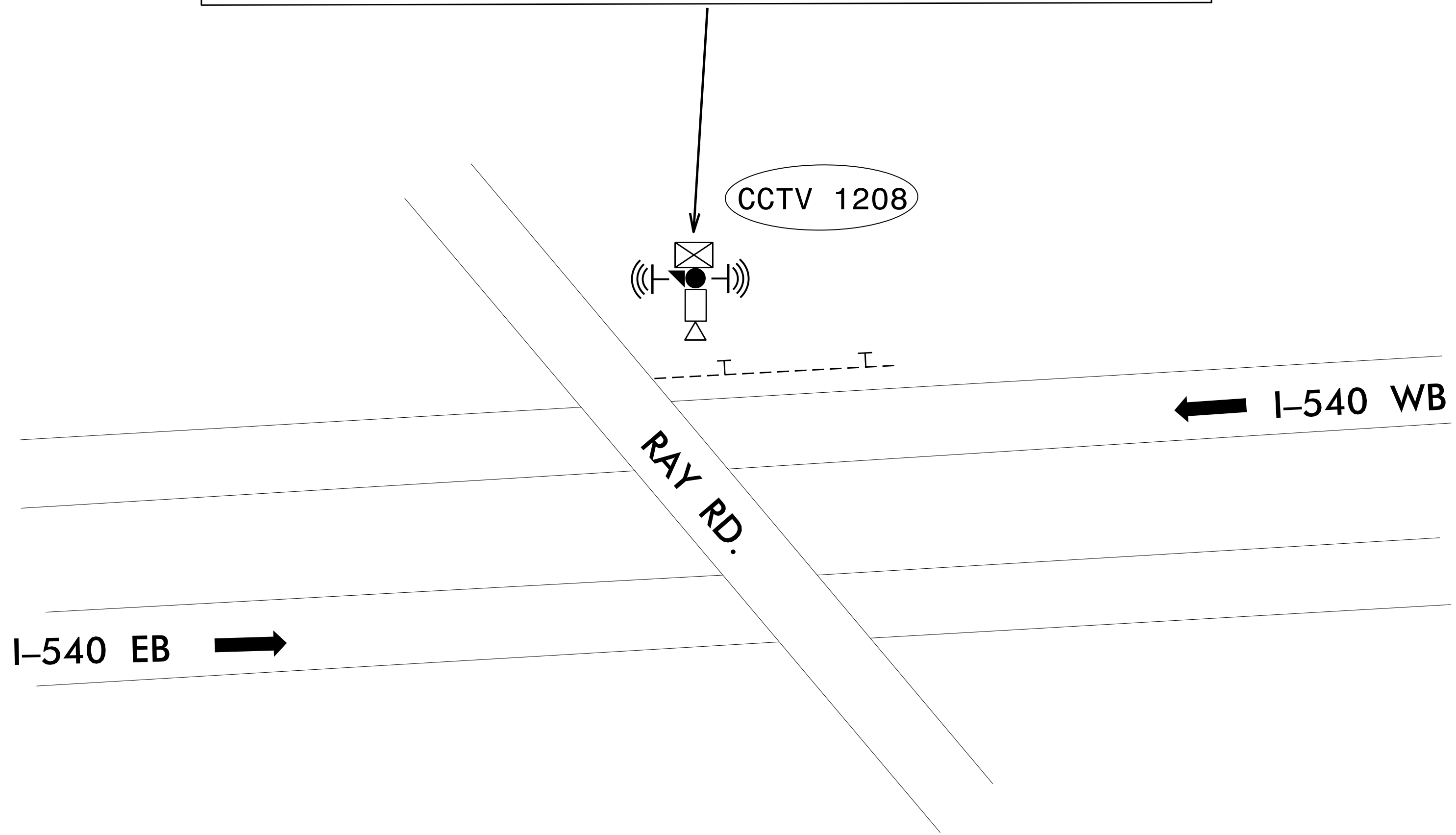
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	ITS DEVICE REPLACEMENT	
	DIVISION 05 WAKE CO.	
750 N. Greenfield Pkwy., Garner, NC 27529 	PLAN DATE: AUGUST 2021 PREPARED BY: J. WALDEN	REVIEWED BY: A. J. SKUCE, PE. REVIEWED BY:
SCALE: _____ DATE: _____	REVISIONS: _____ INIT.: _____ DATE: _____	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER ANDREW J. SKUCE 050152 8/11/2021

CCTV 1208 GPS COORDINATES
 35.91413 N
 -78.70630 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA ASSEMBLY
1	FIELD EQUIPMENT CABINET
1	WIRELESS ETHERNET SYSTEM
1	MODIFY EXISTING ELECTRICAL SERVICE



NOTES

1. REMOVE EXISTING CCTV CAMERA ASSEMBLY, EQUIPMENT CABINET, AND WIRELESS SYSTEM.
2. INSTALL NEW CCTV CAMERA ASSEMBLY, EQUIPMENT CABINET, AND WIRELESS SYSTEM ON EXISTING WOOD POLE.
3. REMOVE EXISTING CELL MODEM AND RETURN TO DIVISION 5 REGIONAL ITS ENGINEER (919-825-2635).
4. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.

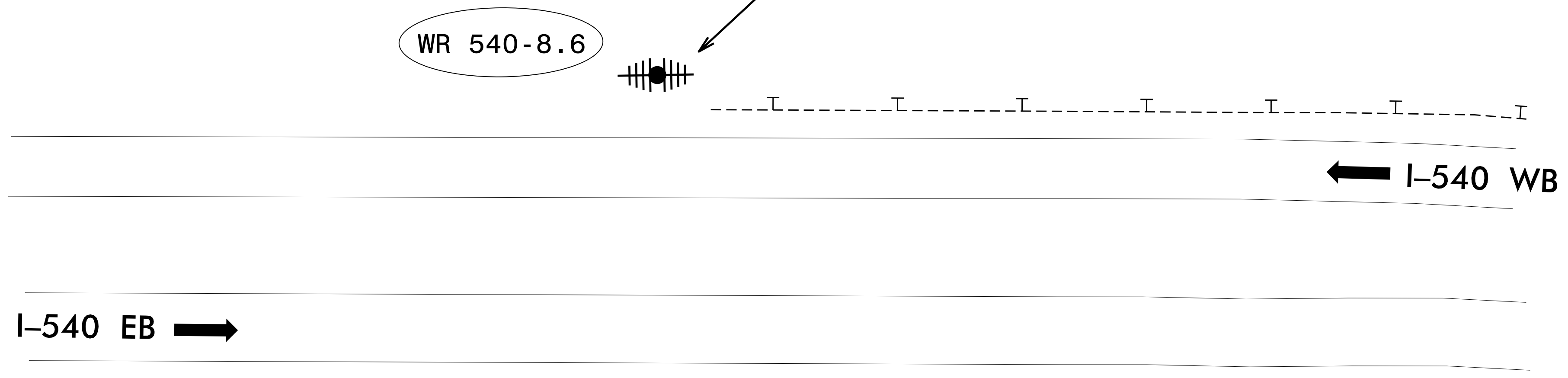
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	ITS DEVICE REPLACEMENT										
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 PREPARED BY: J. WALDEN	REVIEWED BY: A. J. SKUCE, PE. REVIEWED BY:									
750 N. Greenfield Pkwy., Garner, NC 27529 	SCALE 	<table border="1"> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	REVISIONS	INIT.	DATE						
REVISIONS	INIT.	DATE									

REPEATER WR 540-8.6 GPS COORDINATES
 35.91616 N
 -78.69577 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	WIRELESS ETHERNET REPEATER SYSTEM



NOTES

1. REMOVE EXISTING WIRELESS REPEATER SYSTEM.
2. INSTALL NEW WIRELESS REPEATER SYSTEM ON EXISTING WOOD POLE.
3. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.

MM 8.6

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	ITS DEVICE REPLACEMENT		
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 PREPARED BY: J. WALDEN	REVIEWED BY: A. J. SKUCE, PE REVIEWED BY:	
	SCALE: 0		DATE

CCTV 1209.5 GPS COORDINATES

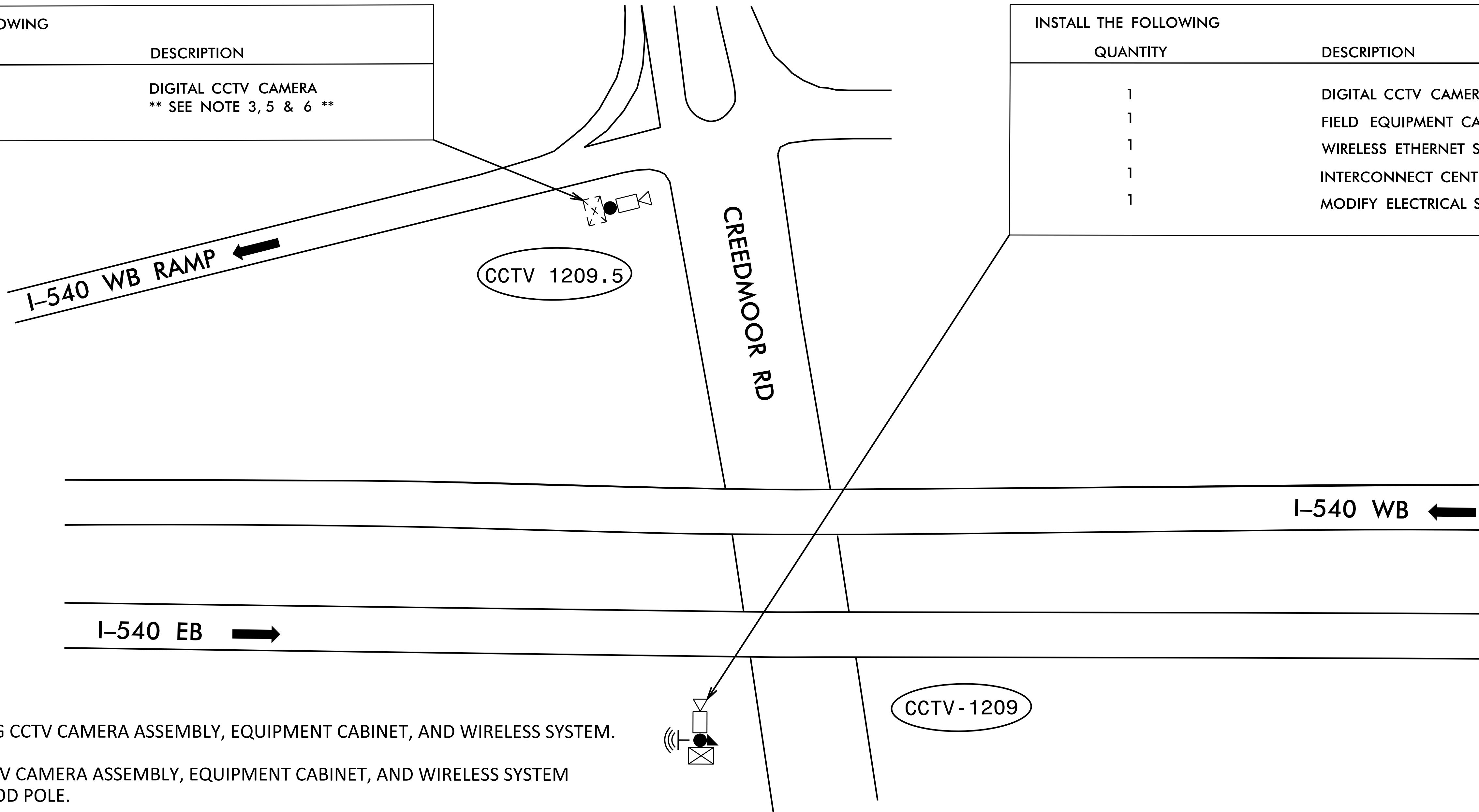
35.91560 N
-78.68200 W

CCTV 1209 GPS COORDINATES

35.91440 N
-78.68197 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA ** SEE NOTE 3, 5 & 6 **

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA ASSEMBLY
1	FIELD EQUIPMENT CABINET
1	WIRELESS ETHERNET SYSTEM
1	INTERCONNECT CENTER
1	MODIFY ELECTRICAL SERVICE



NOTES

1. REMOVE EXISTING CCTV CAMERA ASSEMBLY, EQUIPMENT CABINET, AND WIRELESS SYSTEM.
2. INSTALL NEW CCTV CAMERA ASSEMBLY, EQUIPMENT CABINET, AND WIRELESS SYSTEM ON EXISTING WOOD POLE.
3. REMOVE EXISTING CELL MODEM AND ETHERNET SWITCH AT CCTV 1209 AND RETURN TO DIVISION 5 REGIONAL ITS ENGINEER (919-825-2635). RETAIN EXISTING CELL MODEM AT CCTV 1209.5
4. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.
5. REMOVE EXISTING CCTV CAMERA AT CCTV 1209.5
6. INSTALL NEW CCTV CAMERA AT CCTV 1209.5 ON EXISTING CCTV WOOD POLE.
7. ENSURE EXISTING FIBER OPTIC CABLE CONNECTIONS ARE LABELED BEFORE DISCONNECTING. RESPLICE OR RECONNECT FIBER OPTIC CABLE BASED ON EXISTING TERMINATION CONFIGURATION. WORK IS NOT COMPLETE UNTIL ALL FIBER OPTIC COMMUNICATIONS ARE OPERATIONAL.

MM 9

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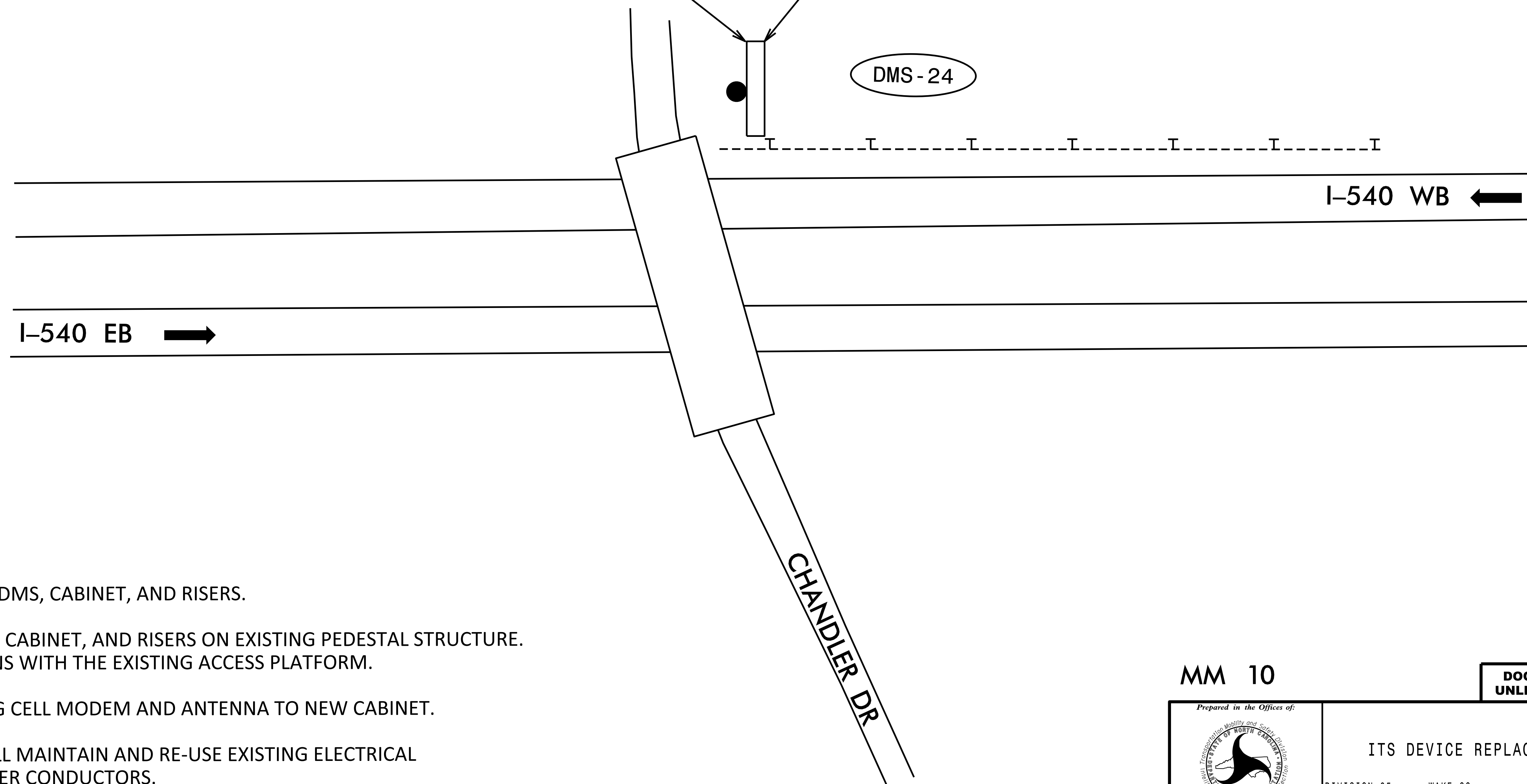
	ITS DEVICE REPLACEMENT		
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 PREPARED BY: B. CHRISTIAN	REVIEWED BY: A. J. SKUCE, PE REVIEWED BY:	
750 N. Greenfield Pkwy., Garner, NC 27529 	SCALE 	REVISIONS INIT. DATE	Andrew J. Skuce DATE: 8/11/2021

DMS 24 GPS COORDINATES

35.91396 N
-78.66864 W

REMOVE AND DISPOSE FOLLOWING	
QUANTITY	DESCRIPTION
1	EXISTING DMS COMPONENTS

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DYNAMIC MESSAGE SIGN (TYPE 2C)



NOTES

1. REMOVE EXISTING DMS, CABINET, AND RISERS.
2. INSTALL NEW DMS, CABINET, AND RISERS ON EXISTING PEDESTAL STRUCTURE. ENSURE DMS ALIGNS WITH THE EXISTING ACCESS PLATFORM.
3. RELOCATE EXISTING CELL MODEM AND ANTENNA TO NEW CABINET.
4. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.

MM 10

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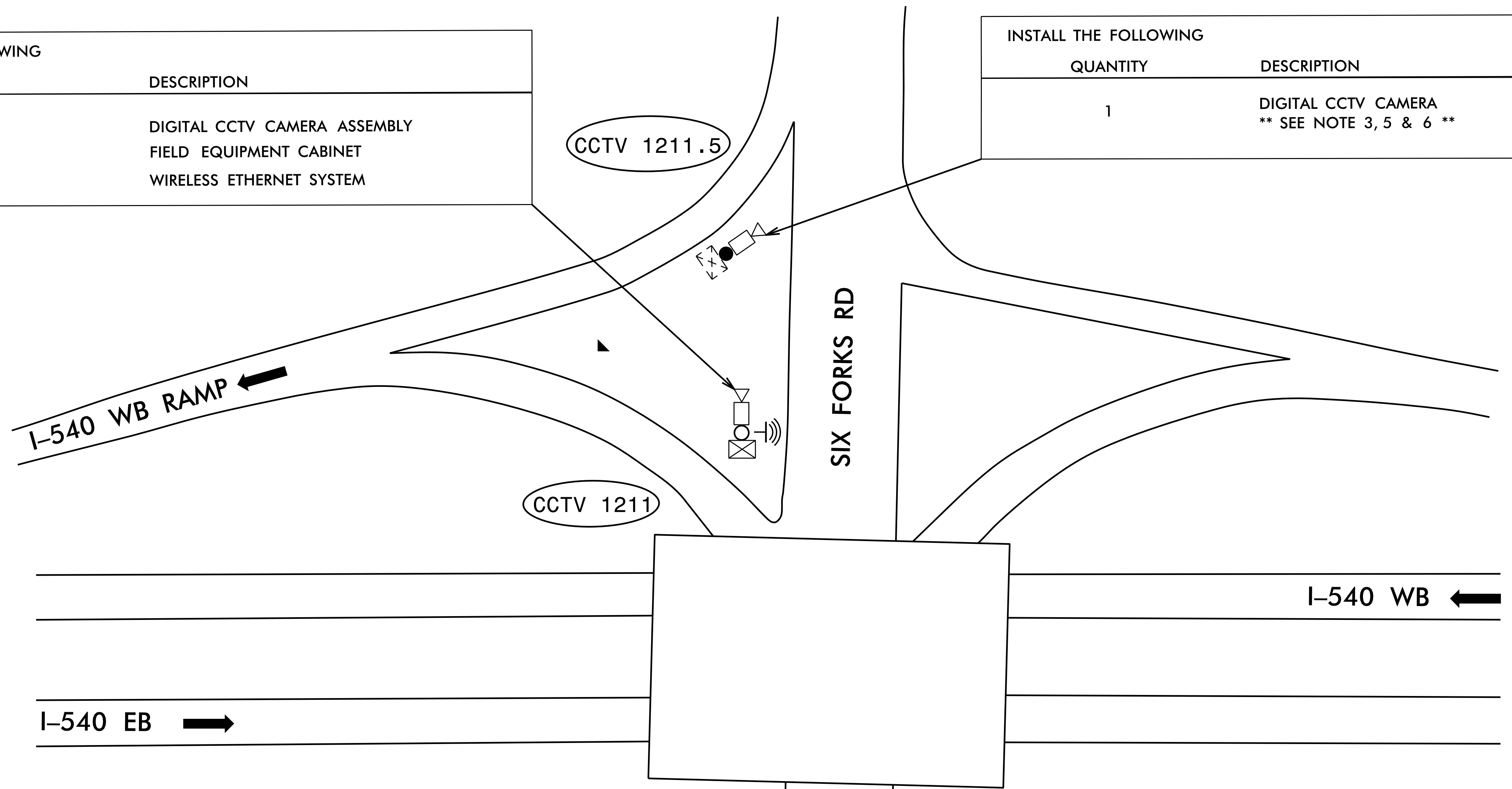
	ITS DEVICE REPLACEMENT	
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 PREPARED BY: B. CHRISTIAN	REVIEWED BY: A. J. SKUCE, PE REVIEWED BY:
750 N. Greenfield Pkwy., Garner, NC 27529 	REVISIONS INIT. DATE	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 050152 ANDREW J. SKUCE Andrew J. Skuce 08/11/2021

CCTV 1211 GPS COORDINATES
 35.91203 N
 -78.65152 W

CCTV 1211.5 GPS COORDINATES
 35.91266 N
 -78.65129 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA ASSEMBLY
1	FIELD EQUIPMENT CABINET
1	WIRELESS ETHERNET SYSTEM

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA ** SEE NOTE 3, 5 & 6 **



NOTES

1. REMOVE EXISTING CCTV CAMERA ASSEMBLY AT CCTV 1211, EQUIPMENT CABINET, AND WIRELESS SYSTEM.
2. INSTALL NEW CCTV CAMERA AT CCTV 1211, EQUIPMENT CABINET, AND WIRELESS SYSTEM ON EXISTING WOOD POLE.
3. REMOVE EXISTING CELL MODEM AT CCTV 1211, AND RETURN TO DIVISION 5 REGIONAL ITS ENGINEER (919-825-2635). RETAIN THE EXISTING CELL MODEM AT CCTV 1211.5
4. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.
5. REMOVE EXISTING CCTV CAMERA AT CCTV 1211.5
6. INSTALL NEW CCTV CAMERA AT CCTV 1211.5 ON EXISTING CCTV WOOD POLE.

MM 11

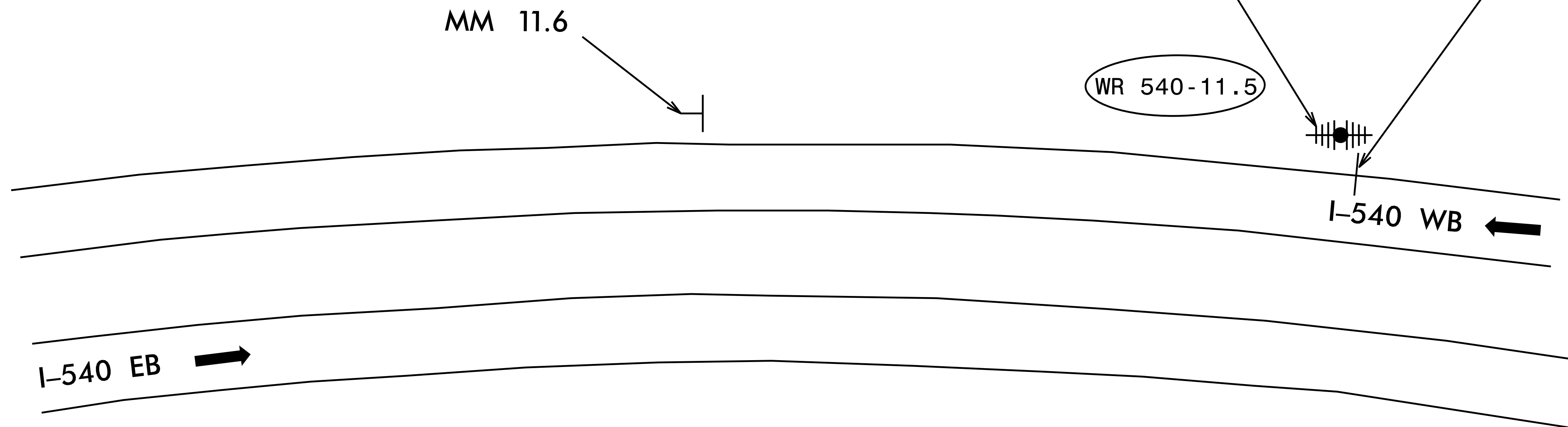
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	ITS DEVICE REPLACEMENT	
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 PREPARED BY: B. CHRISTIAN	REVIEWED BY: A. J. SKUCE, PE REVIEWED BY:
750 N. Greenfield Pkwy., Garner, NC 27529 	REVISIONS INIT. DATE	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER ANDREW J. SKUCE 050152 Andrew J. Skuce 8/12/2021

REPEATER WR 540-11.5 GPS COORDINATES
 35.90905 N
 -78.64192 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	WIRELESS ETHERNET REPEATER SYSTEM

EXIT 11
Six Forks Rd
EXIT ONLY



NOTES

1. REMOVE EXISTING WIRELESS REPEATER SYSTEM.
2. INSTALL NEW WIRELESS REPEATER SYSTEM ON EXISTING WOOD POLE.
3. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.

MM 11.6

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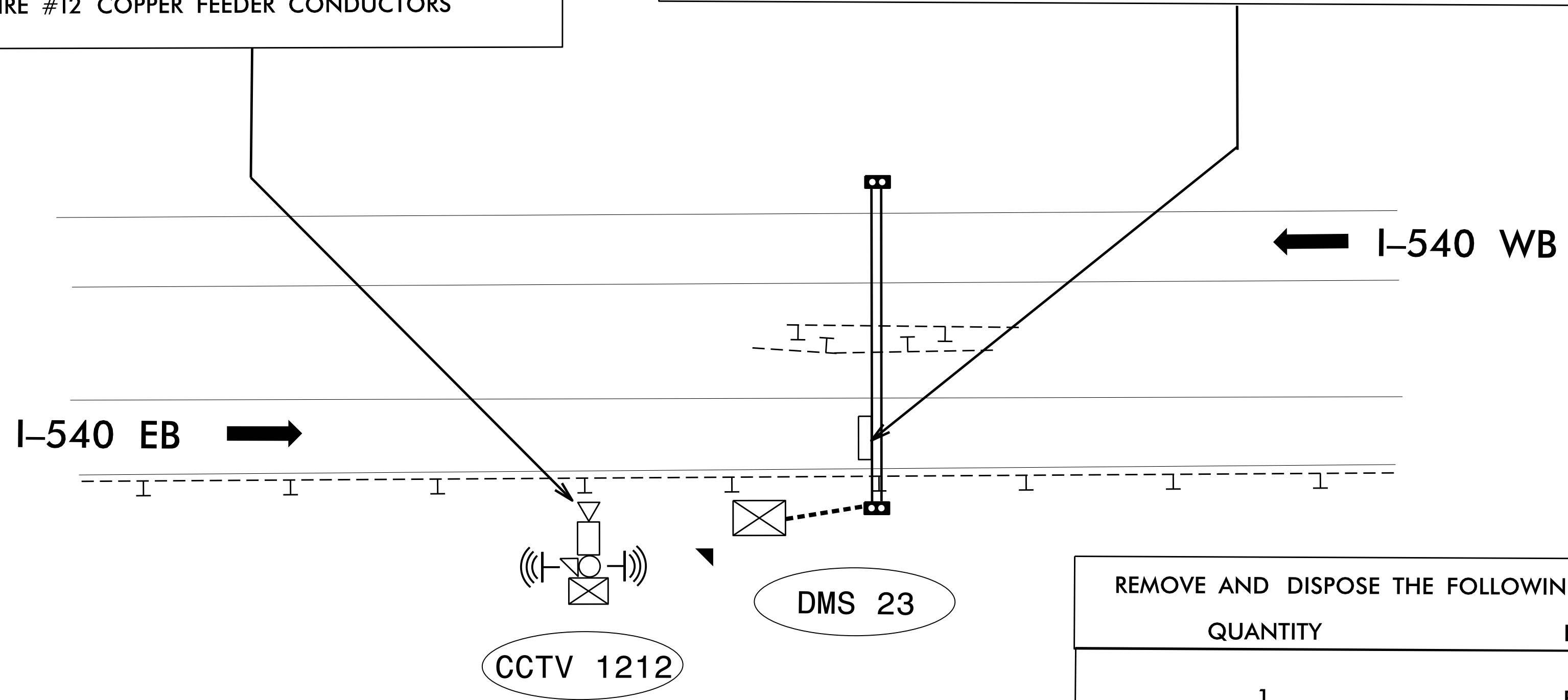
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750 N. Greenfield Pkwy., Garner, NC 27529 	REVISIONS _____ _____ _____	INIT. DATE _____ _____ _____

CCTV 1212 GPS COORDINATES
 35.90233 N
 -78.63245 W

DMS 23 GPS COORDINATES
 35.90212 N
 -78.63212 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA ASSEMBLY
1	FIELD EQUIPMENT CABINET
1	WIRELESS ETHERNET SYSTEM
1	CCTV WOOD POLE
1	METER BASE /DISCONNECT COMBINATION PANEL
5'	3-WIRE #12 COPPER FEEDER CONDUCTORS

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DYNAMIC MESSAGE SIGN (TYPE 2C)
1	DMS WALKWAY



REMOVE AND DISPOSE THE FOLLOWING	
QUANTITY	DESCRIPTION
1	EXISTING DMS COMPONENTS
1	EXISTING DMS WALKWAY

DMS NOTES

1. REMOVE EXISTING DMS AND CABINET.
2. REMOVE DAMAGED SECTION OF EXISTING WALKWAY, INCLUDING I-BEAM SUPPORTS. INSTALL NEW DMS ON EXISTING OVERHEAD STRUCTURE. INSTALL NEW WALKWAY ON EXISTING STRUCTURE AND ENSURE DMS ALIGNS WITH NEW WALKWAY.
3. INSTALL NEW DMS CABINET AND BASE EXTENDER ON EXISTING FOUNDATION. ROUTE NEW POWER AND COMMUNICATIONS CABLES THROUGH EXISTING CONDUITS AND RISERS TO THE NEW DMS.
4. RELOCATE EXISTING CELL MODEM AND ANTENNA TO NEW DMS CABINET.
5. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS FOR DMS.

CCTV NOTES

1. REMOVE EXISTING CCTV CAMERA ASSEMBLY, EQUIPMENT CABINET, WIRELESS SYSTEM, CCTV WOOD POLE, AND CCTV ELECTRICAL SERVICE.
2. INSTALL NEW CCTV CAMERA ASSEMBLY, EQUIPMENT CABINET, WIRELESS SYSTEM, CCTV WOOD POLE, AND CCTV ELECTRICAL SERVICE.
3. REMOVE EXISTING CELL MODEM FROM CCTV EQUIPMENT CABINET AND RETURN TO DIVISION 5 REGIONAL ITS ENGINEER (919-825-2635).

MM 12

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

	ITS DEVICE REPLACEMENT		
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 REVIEWED BY: A. J. SKUCE, PE PREPARED BY: J. WALDEN REVIEWED BY:		
750 N. Greenfield Pkwy., Garner, NC 27529 SCALE: 0	REVISIONS: _____ INIT. DATE _____ _____	_____	_____

REPEATER WR 540-13 GPS COORDINATES
 35.89969 N
 -78.62685 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	WIRELESS ETHERNET REPEATER SYSTEM



NOTES

1. REMOVE EXISTING WIRELESS REPEATER SYSTEM.
2. INSTALL NEW WIRELESS REPEATER SYSTEM ON EXISTING WOOD POLE.
3. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.

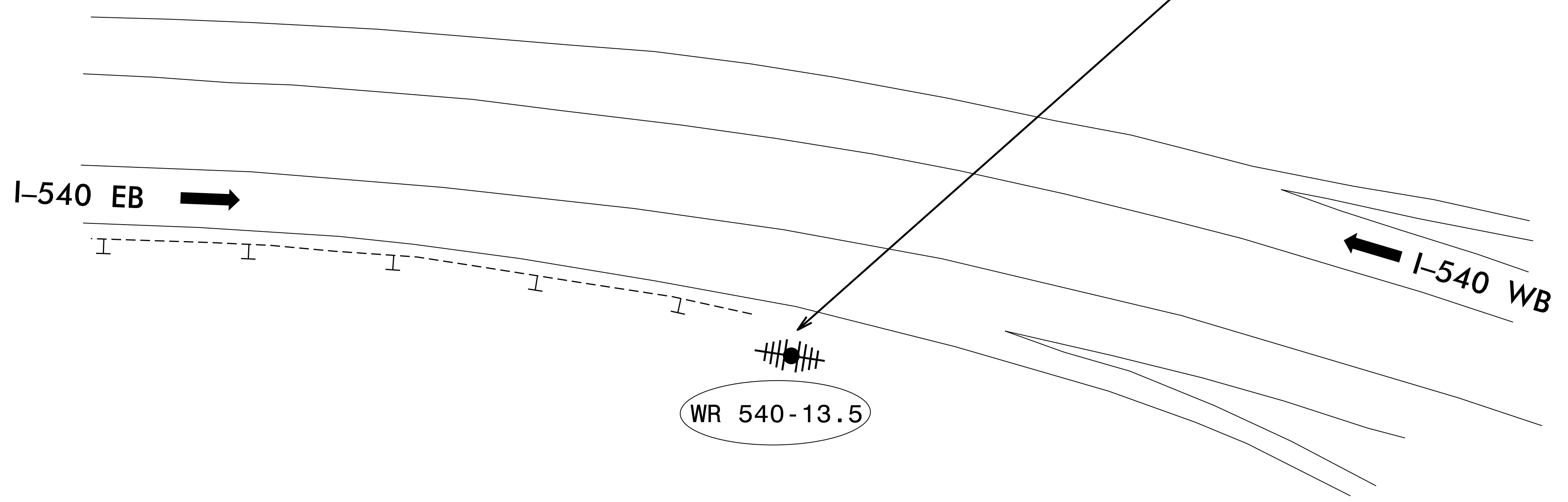
MM 13

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

	ITS DEVICE REPLACEMENT		
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 REVIEWED BY: A. J. SKUCE, PE PREPARED BY: J. WALDEN REVIEWED BY:		
750 N. Greenfield Pkwy., Garner, NC 27529 	REVISIONS _____ _____	INIT. _____ _____	DATE _____ _____

REPEATER WR 540-13.5 GPS COORDINATES
 35.89969 N
 -78.62685 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	WIRELESS ETHERNET REPEATER SYSTEM



NOTES

1. REMOVE EXISTING WIRELESS REPEATER SYSTEM.
2. INSTALL NEW WIRELESS REPEATER SYSTEM ON EXISTING WOOD POLE.
3. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.

MM 13.5

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

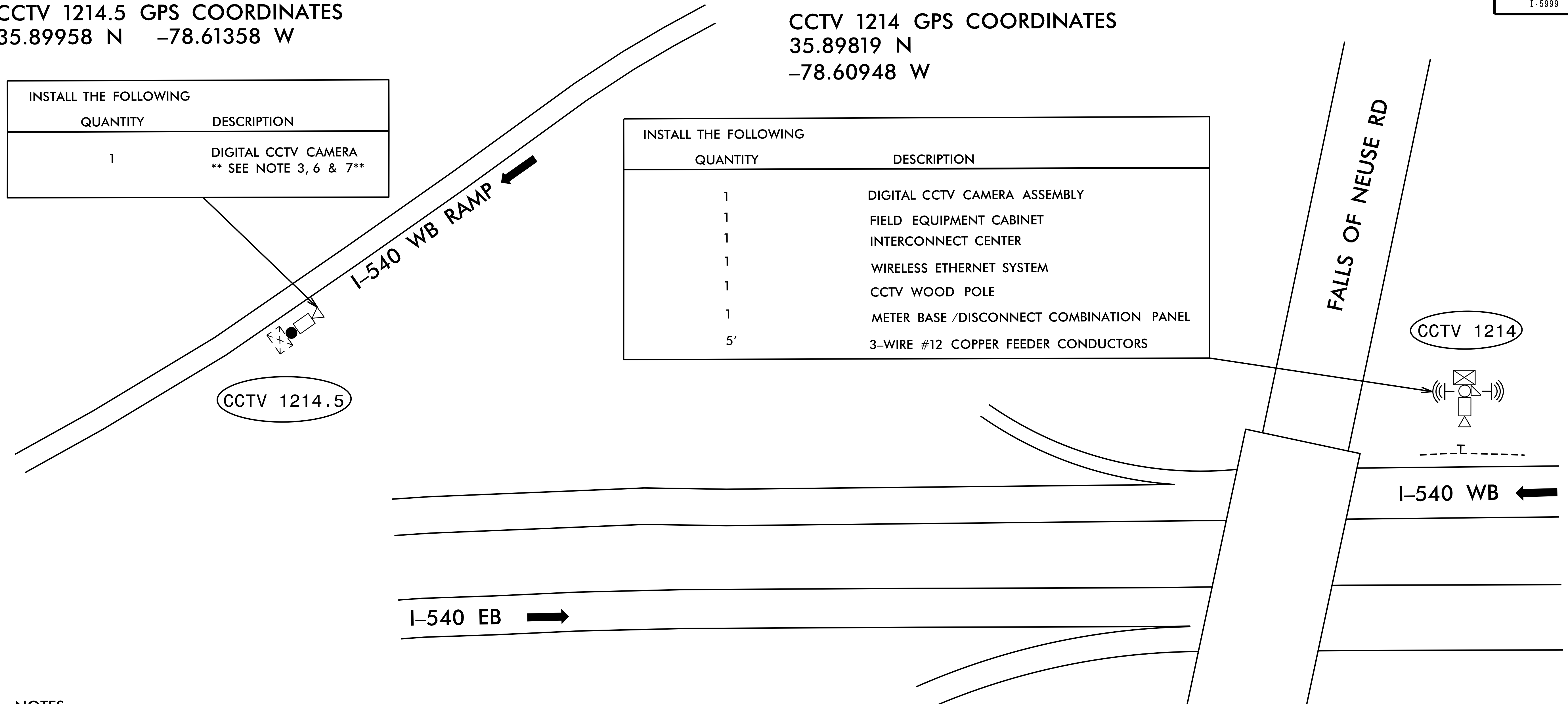
	ITS DEVICE REPLACEMENT	
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 PREPARED BY: J. WALDEN	REVIEWED BY: A. J. SKUCE, PE. REVIEWED BY:
750 N. Greenfield Pkwy., Garner, NC 27529 	REVISIONS INIT. DATE	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER ANDREW J. SKUCE 050152 9/1/2021

CCTV 1214.5 GPS COORDINATES
 35.89958 N -78.61358 W

CCTV 1214 GPS COORDINATES
 35.89819 N
 -78.60948 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA ** SEE NOTE 3, 6 & 7**

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA ASSEMBLY
1	FIELD EQUIPMENT CABINET
1	INTERCONNECT CENTER
1	WIRELESS ETHERNET SYSTEM
1	CCTV WOOD POLE
1	METER BASE /DISCONNECT COMBINATION PANEL
5'	3-WIRE #12 COPPER FEEDER CONDUCTORS



NOTES

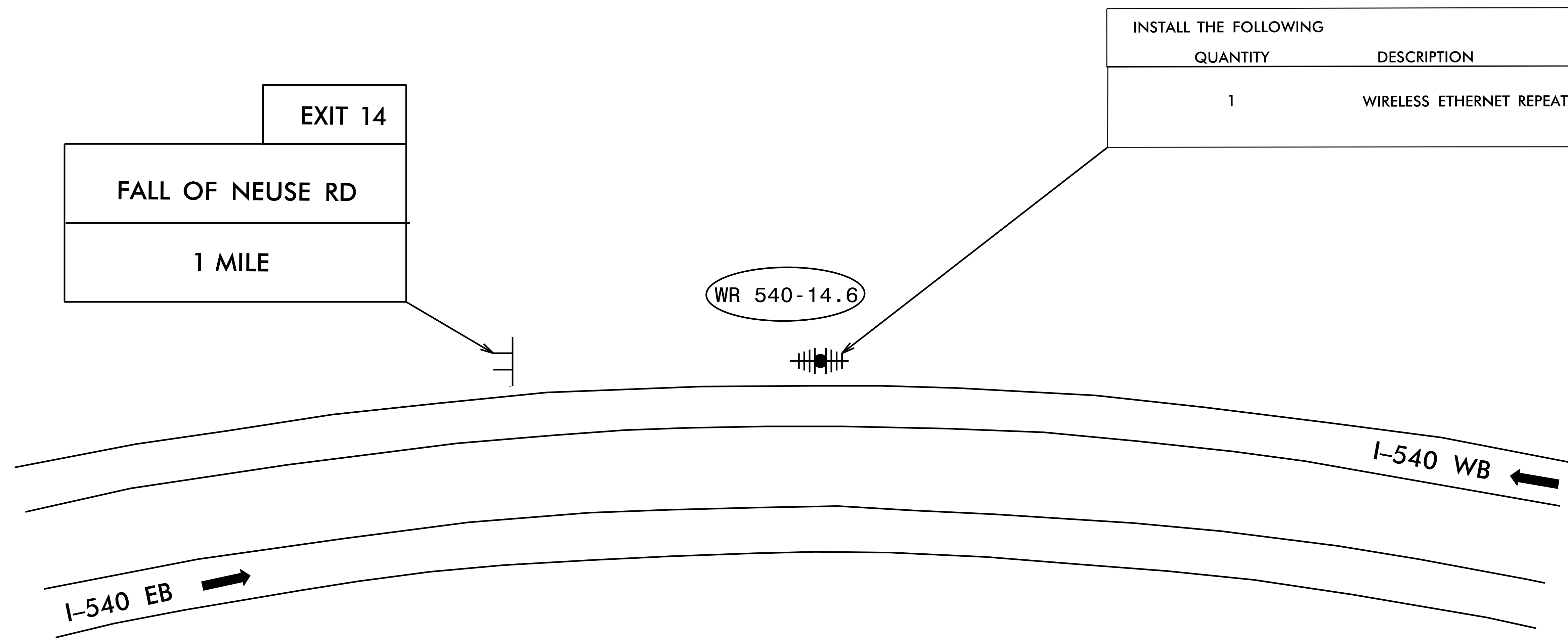
1. REMOVE EXISTING CCTV CAMERA AT CCTV 1214, EQUIPMENT CABINET, INTERCONNECT CENTER, AND WIRELESS SYSTEM.
2. INSTALL NEW CCTV CAMERA AT CCTV 1214, EQUIPMENT CABINET, INTERCONNECT CENTER, AND WIRELESS SYSTEM ON EXISTING CCTV WOOD POLE.
3. REMOVE EXISTING CELL MODEM AND ETHERNET SWITCH AT CCTV 1214 AND RETURN TO DIVISION 5 REGIONAL ITS ENGINEER (919-825-2635). RETAIN EXISTING CELL MODEM AT CCTV 1214.5
4. ENSURE EXISTING FIBER OPTIC CABLE CONNECTIONS ARE LABELED BEFORE DISCONNECTING. RESPLICE OR RECONNECT FIBER OPTIC CABLE BASED ON EXISTING TERMINATION CONFIGURATION. WORK IS NOT COMPLETE UNTIL ALL FIBER OPTIC COMMUNICATIONS ARE OPERATIONAL.
5. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.
6. REMOVE EXISTING CCTV CAMERA AT CCTV 1214.5
7. INSTALL NEW CCTV CAMERA AT CCTV 1214.5 ON EXISTING CCTV WOOD POLE.

MM 14

**DOCUMENT NOT CONSIDERED FINAL
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	ITS DEVICE REPLACEMENT		
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 REVIEWED BY: A. J. SKUCE, PE PREPARED BY: B. CHRISTIAN REVIEWED BY:		
750 N. Greenfield Pkwy., Garner, NC 27529 	REVISIONS _____ _____ _____	INIT. DATE _____ _____ _____	Documented by: Andrew J. Skuce 9/1/2021 DATE

REPEATER WR 540-14.6 GPS COORDINATES
 35.89051 N
 -78.59405 W



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	WIRELESS ETHERNET REPEATER SYSTEM

NOTES

1. REMOVE EXISTING WIRELESS REPEATER SYSTEM.
2. INSTALL NEW WIRELESS REPEATER SYSTEM ON EXISTING WOOD POLE.
3. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.

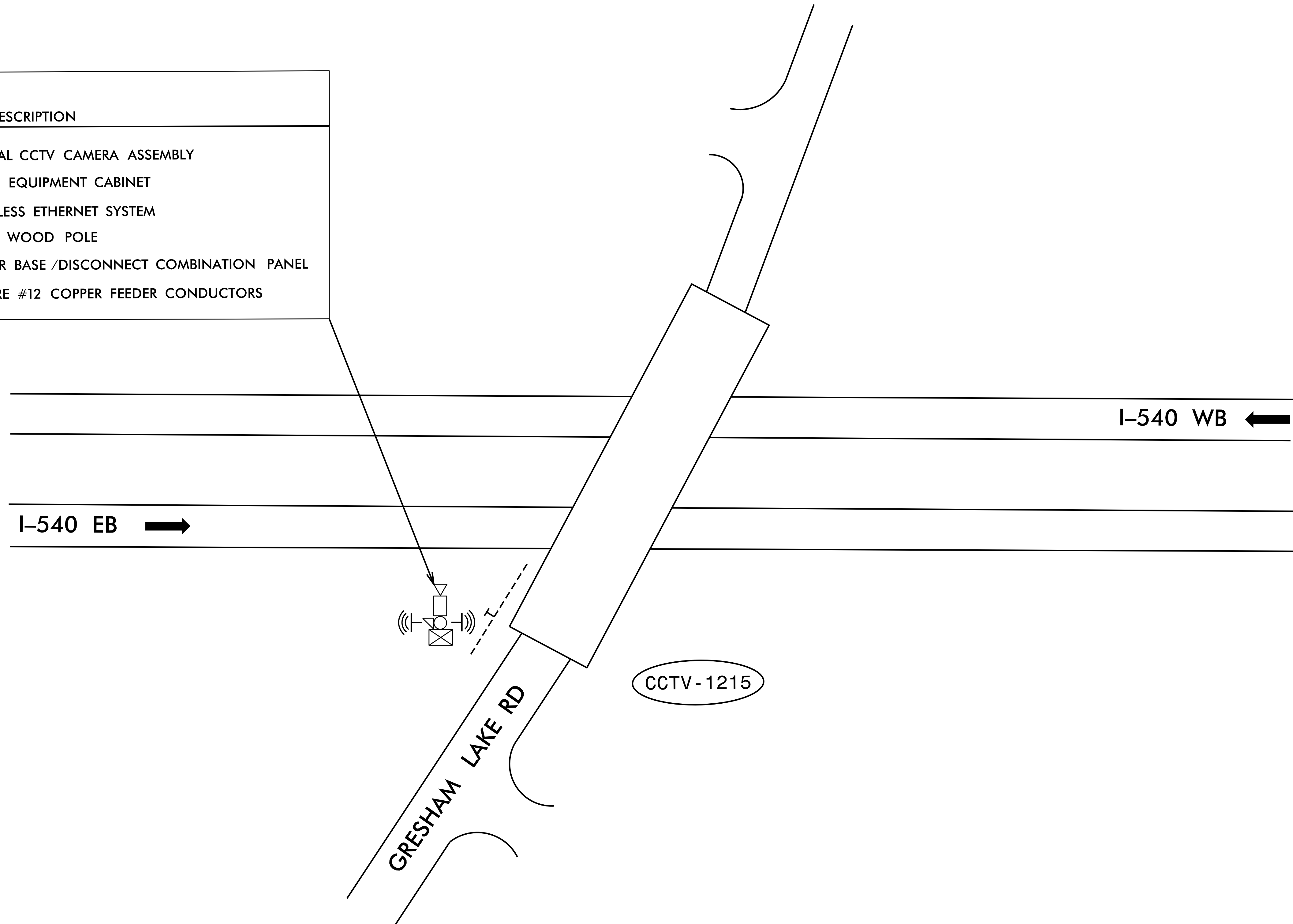
MM 14.6

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

	ITS DEVICE REPLACEMENT	
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 PREPARED BY: B. CHRISTIAN	REVIEWED BY: A. J. SKUCE, PE REVIEWED BY:
750 N. Greenfield Pkwy., Garner, NC 27529 	REVISIONS _____ _____ _____	INIT. DATE _____ _____ _____

CCTV 1215 GPS COORDINATES
 35.88414 N
 -78.59113 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DIGITAL CCTV CAMERA ASSEMBLY
1	FIELD EQUIPMENT CABINET
1	WIRELESS ETHERNET SYSTEM
1	CCTV WOOD POLE
1	METER BASE /DISCONNECT COMBINATION PANEL
5'	3-WIRE #12 COPPER FEEDER CONDUCTORS



NOTES

1. REMOVE EXISTING CCTV CAMERA ASSEMBLY, EQUIPMENT CABINET, WIRELESS SYSTEM, CCTV WOOD POLE, AND ELECTRICAL SERVICE.
2. INSTALL NEW CCTV CAMERA ASSEMBLY, EQUIPMENT CABINET, WIRELESS SYSTEM, AND NEW ELECTRICAL SERVICE ON NEW CCTV WOOD POLE.

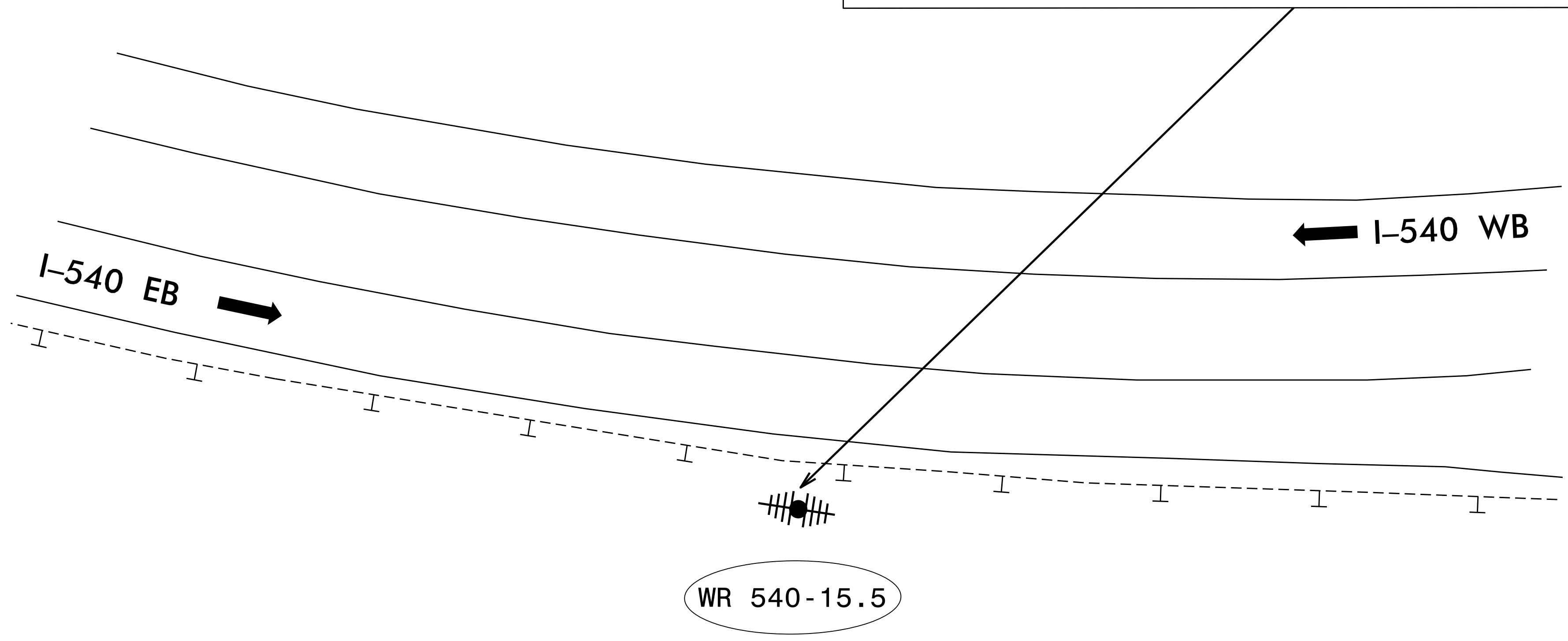
MM 15

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

	ITS DEVICE REPLACEMENT	
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 PREPARED BY: B. CHRISTIAN	REVIEWED BY: A. J. SKUCE, PE REVIEWED BY:
750 N. Greenfield Pkwy., Garner, NC 27529 SCALE: 0	REVISIONS _____ _____ _____	INIT. DATE _____ _____ _____

REPEATER WR 540-15.5 GPS COORDINATES
 35.87708 N
 -78.58529 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	WIRELESS ETHERNET REPEATER SYSTEM



NOTES

1. REMOVE EXISTING WIRELESS REPEATER SYSTEM.
2. INSTALL NEW WIRELESS REPEATER SYSTEM ON EXISTING WOOD POLE.
3. CONTRACTOR SHALL MAINTAIN AND RE-USE EXISTING ELECTRICAL SERVICE AND FEEDER CONDUCTORS.

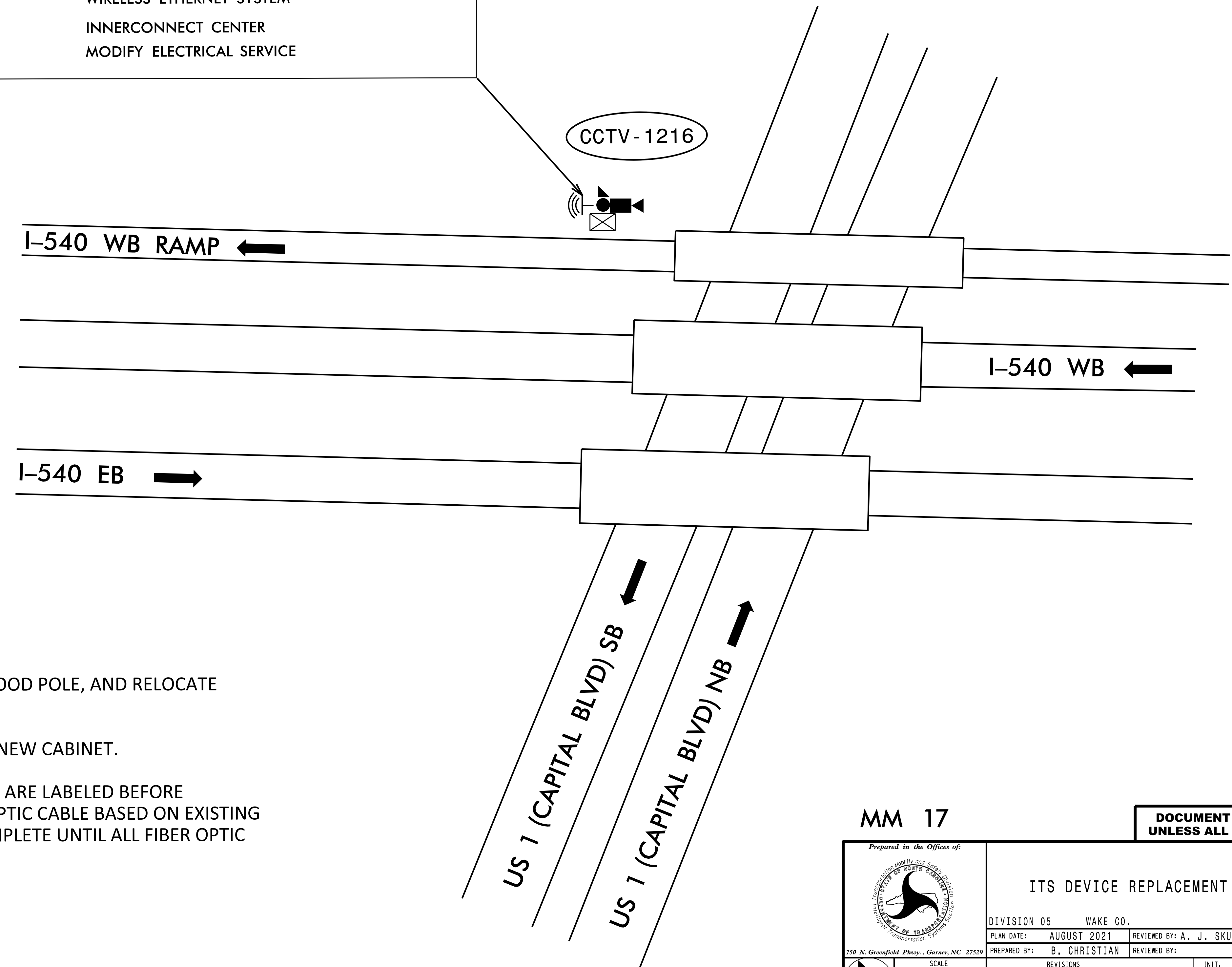
MM 15.5

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

	ITS DEVICE REPLACEMENT		
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 REVIEWED BY: A. J. SKUCE, PE. PREPARED BY: J. WALDEN REVIEWED BY:		
	REVISIONS _____ _____ _____	INIT. _____ _____ _____	DATE _____ _____ _____

CCTV 1216 GPS COORDINATES
 35.87577 N
 -78.57698 W

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	FIELD EQUIPMENT CABINET
1	WIRELESS ETHERNET SYSTEM
1	INNERCONNECT CENTER
1	MODIFY ELECTRICAL SERVICE



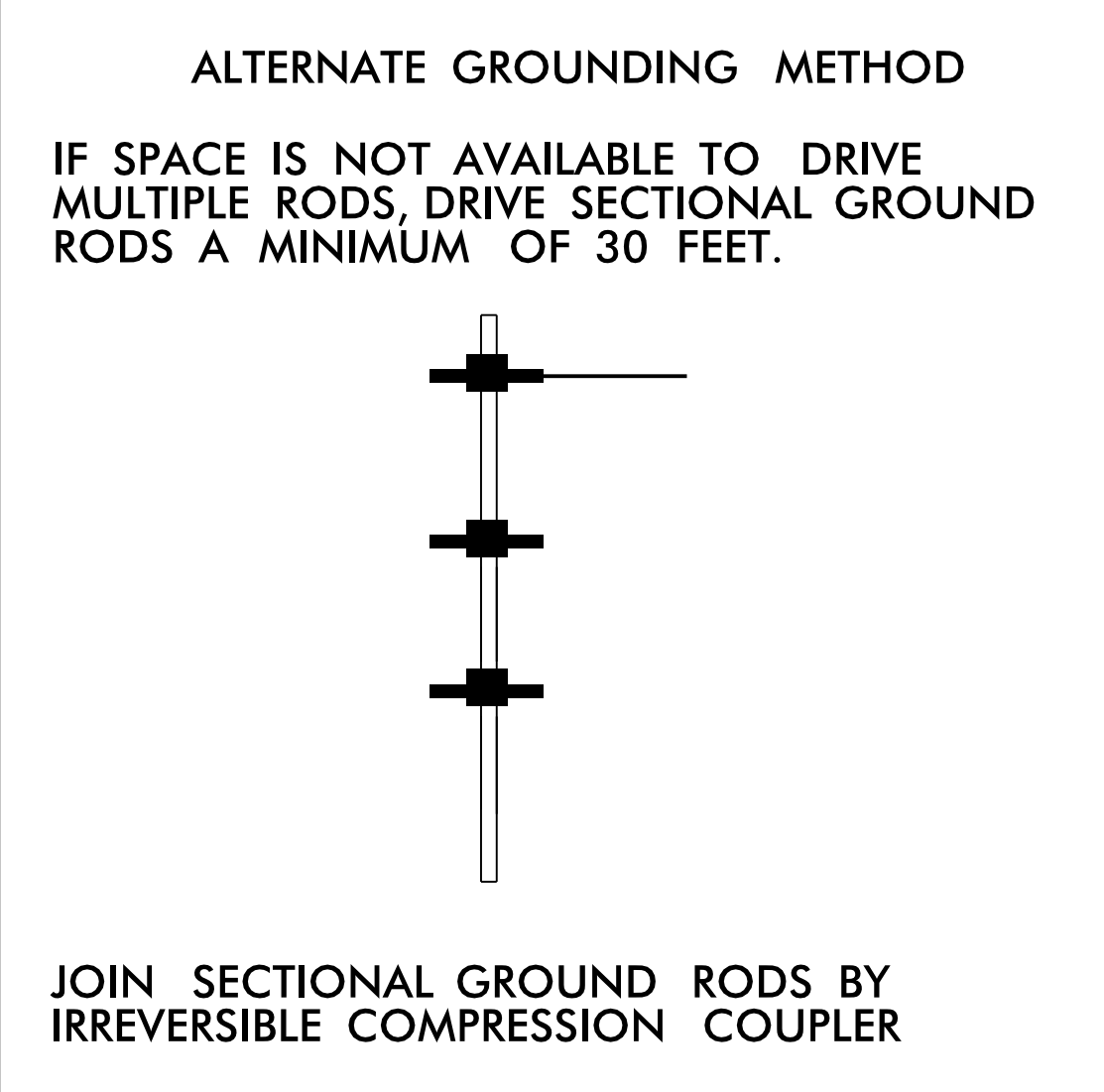
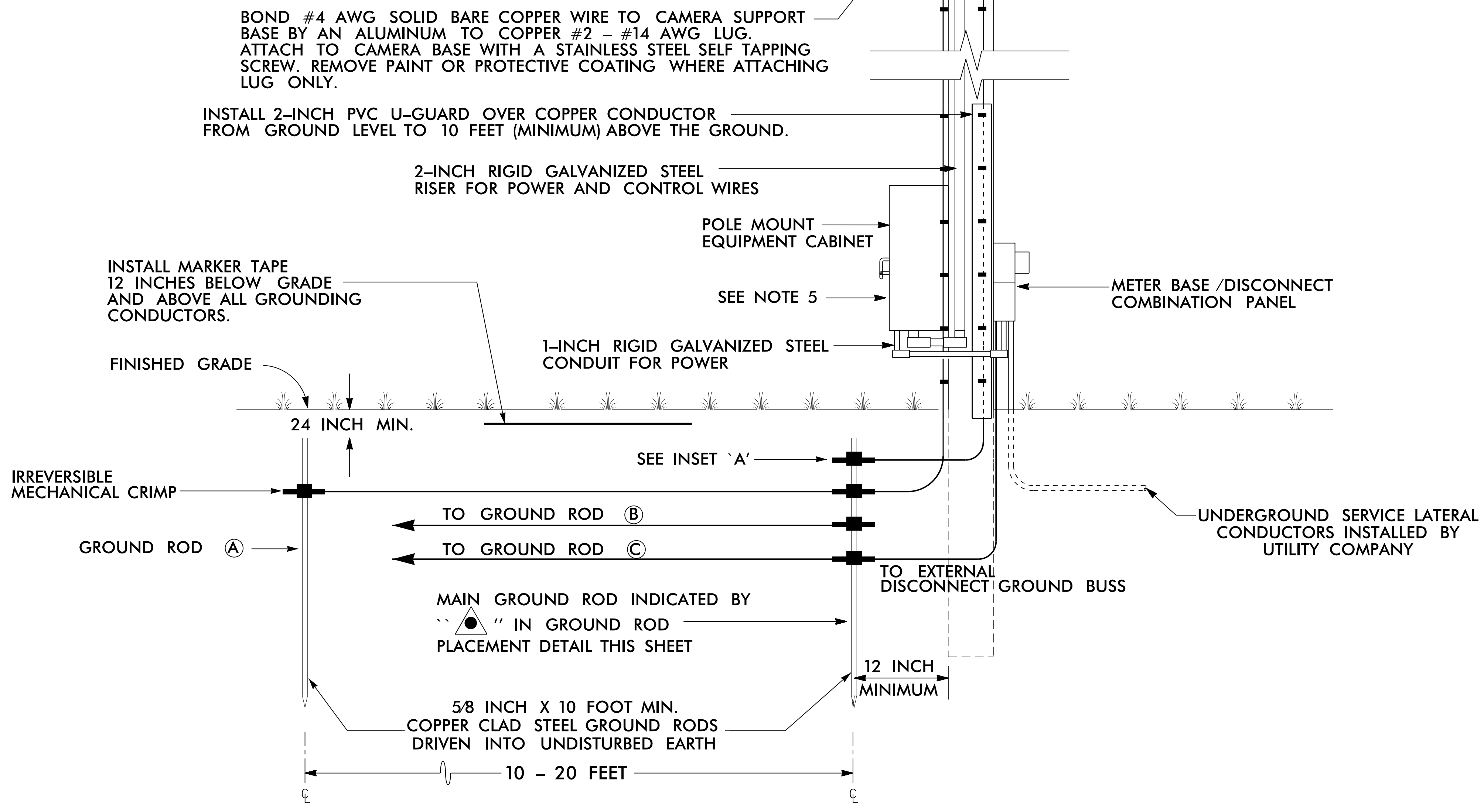
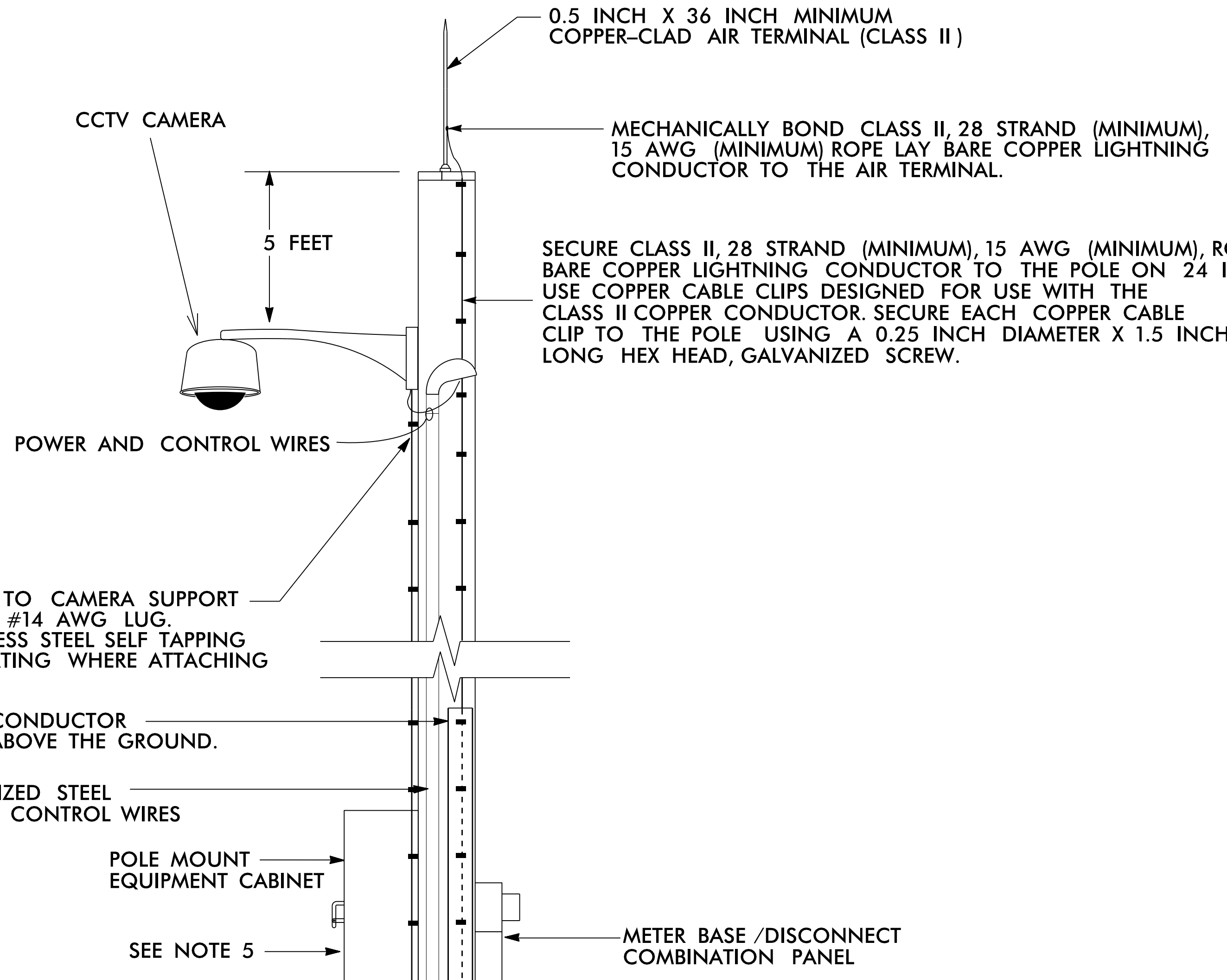
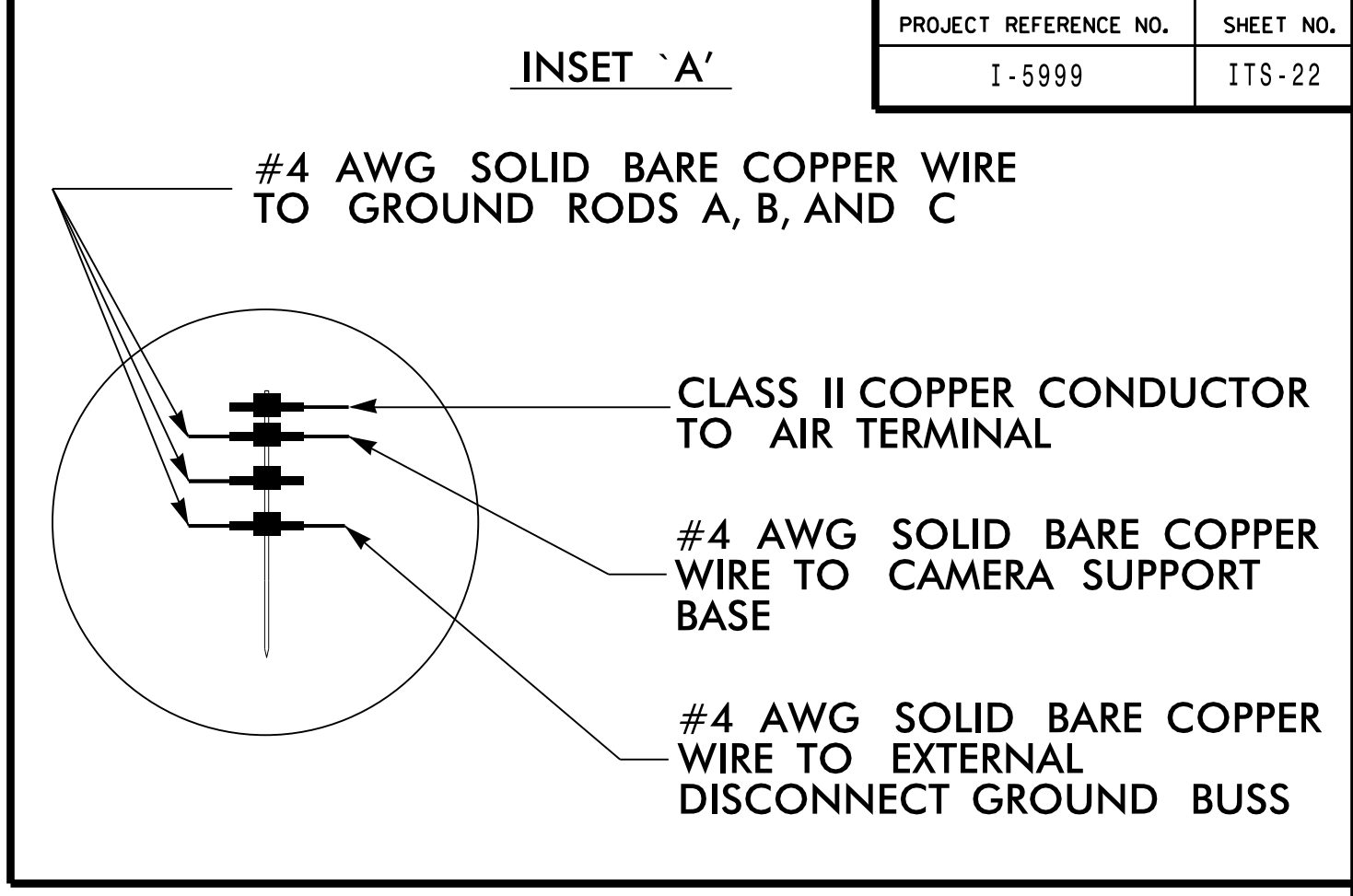
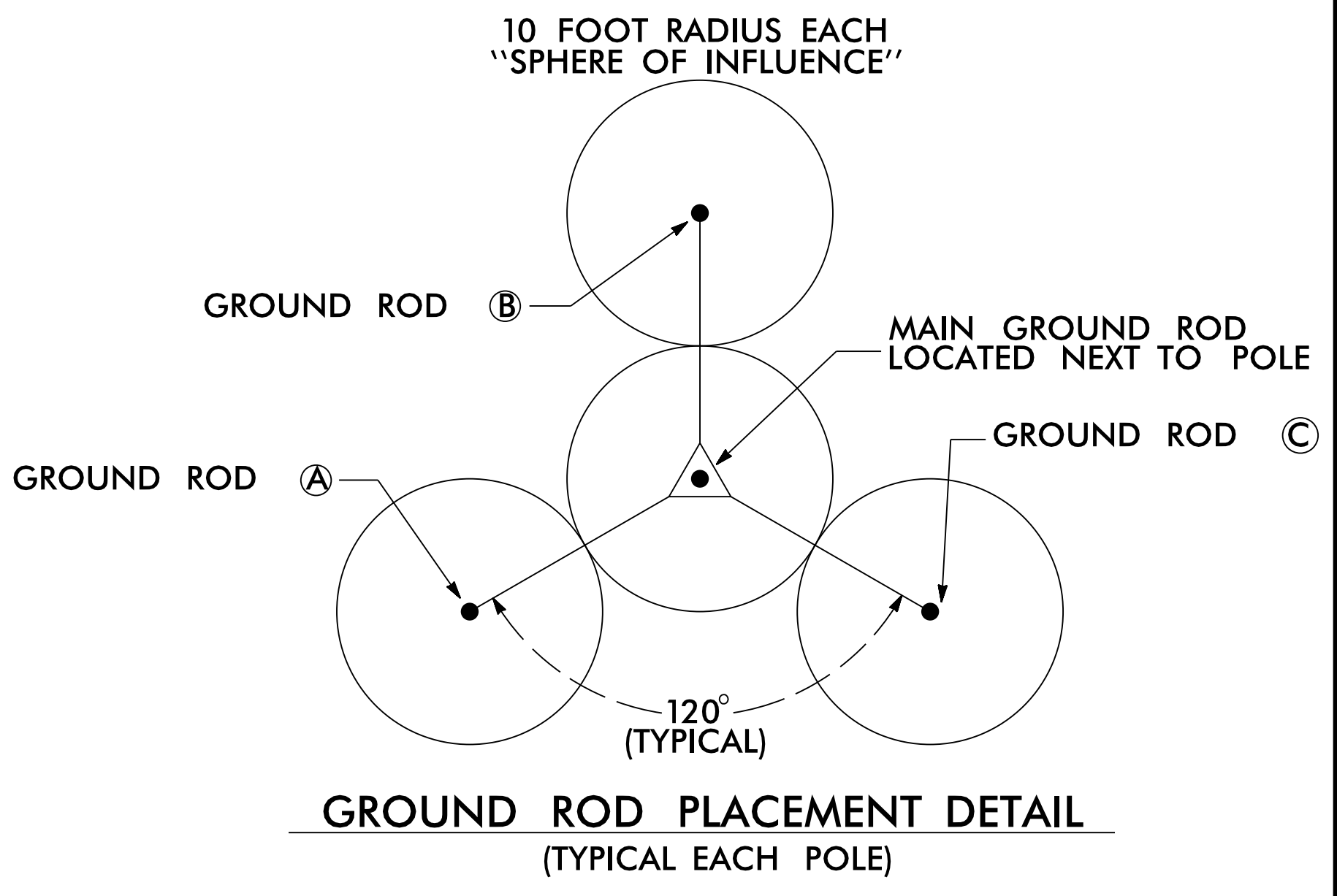
NOTES

1. REMOVE EXISTING EQUIPMENT CABINET.
2. INSTALL NEW EQUIPMENT CABINET ON EXISTING WOOD POLE, AND RELOCATE ETHERNET SWITCH TO NEW CABINET.
3. INSTALL NEW FIBER INTERCONNECT CENTER IN THE NEW CABINET.
4. ENSURE EXISTING FIBER OPTIC CABLE CONNECTIONS ARE LABELED BEFORE DISCONNECTING. RESPLICE OR RECONNECT FIBER OPTIC CABLE BASED ON EXISTING TERMINATION CONFIGURATION. WORK IS NOT COMPLETE UNTIL ALL FIBER OPTIC COMMUNICATIONS ARE OPERATIONAL.

MM 17

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

	ITS DEVICE REPLACEMENT	
	DIVISION 05 WAKE CO. PLAN DATE: AUGUST 2021 PREPARED BY: B. CHRISTIAN	REVIEWED BY: A. J. SKUCE, PE REVIEWED BY:
750 N. Greenfield Pkwy., Garner, NC 27529 	REVISIONS INIT. DATE	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER ANDREW J. SKUCE 050152 8/2/2021



NOTES

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.

Prepared in the Offices of:

CCTV CAMERA INSTALLATION FOR WOOD POLES WITH UNDERGROUND ELECTRICAL SERVICE TYPICAL DETAIL

SEAL NORTH CAROLINA PROFESSIONAL ENGINEER ANDREW J. SKUICE SEAL 050152

PLAN DATE: AUGUST 2021 REVIEWED BY:

PREPARED BY: REVIEWED BY:

REVISIONS

NO.	DESCRIPTION	INIT.	DATE
1	2018 STANDARD SPECIFICATIONS UPGRADE TO IRREVERSIBLE MECHANICAL CRIMP	A.J.S.	11/2017

250 N. Greenfield Place, Garner, NC 27529

SCALE: NONE

DocuSign by Andrew J. Skuice 1/2021