

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

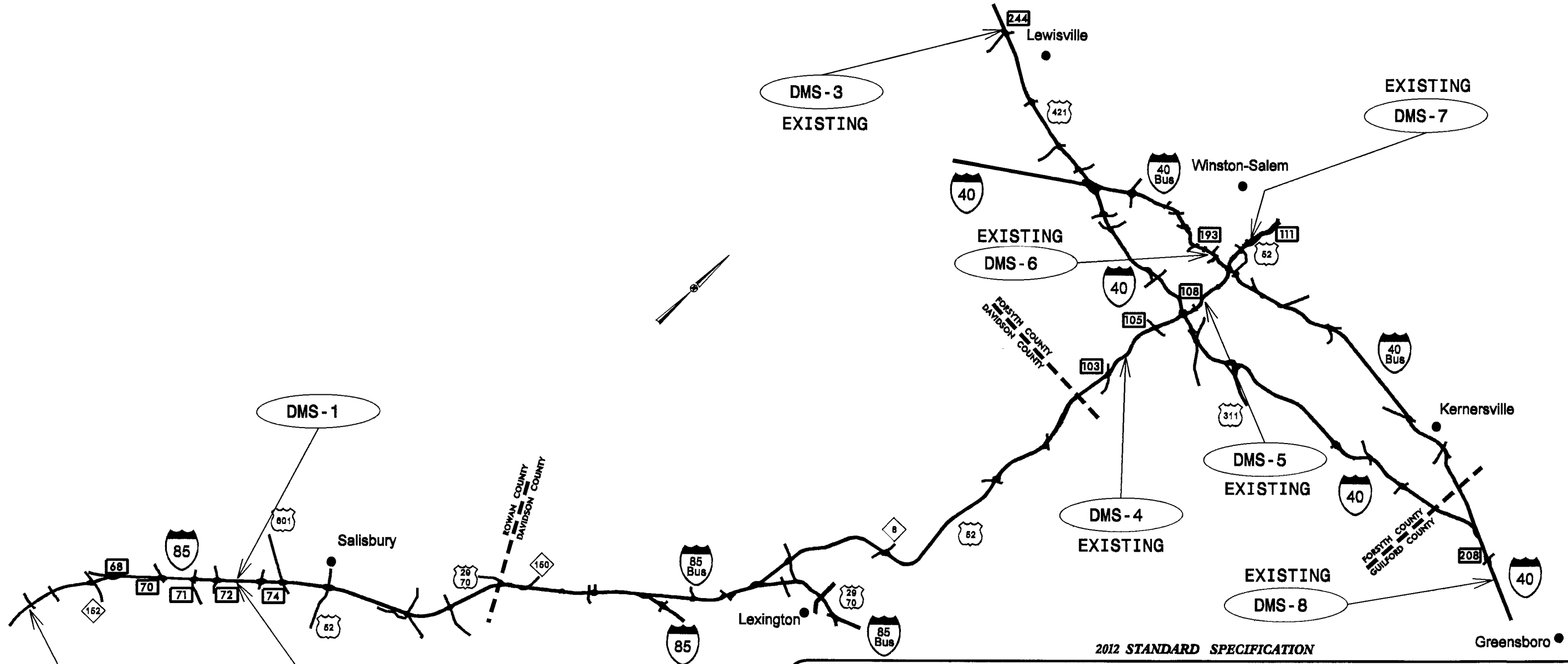
ROWAN, FORSYTH, AND GUILFORD COUNTIES

**PLANS FOR PROPOSED
DYNAMIC MESSAGE SIGN REPLACEMENT**

THIS PROJECT CONSISTS OF FURNISHING AND INSTALLING EQUIPMENT AND MATERIALS FOR THE REPLACEMENT OF THREE (3) DYNAMIC MESSAGE SIGNS ALONG I-85 IN ROWAN COUNTY, NORTH CAROLINA AND THE REPLACEMENT OF SIX (6) DMS WALKWAYS IN FORSYTH AND GUILFORD COUNTIES, NORTH CAROLINA. RELATED MATERIALS CONSIST OF DMS ASSEMBLIES, WALKWAYS, LOCAL CABINETS AND CONTROLLERS, AND ELECTRICAL SERVICE EQUIPMENT.

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.
N.C.		ITS-1
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION
		P.E. CONST.

PROJECT: 34601.3.19



NCDOT CONTACT:
TRANSPORTATION MOBILITY AND SAFETY

G.A. FULLER, P.E.
STATE ITS & SIGNALS ENGINEER



ENGLISH

ALL DIMENSIONS IN THESE
PLANS ARE IN FEET
UNLESS OTHERWISE NOTED

SEAL
NORTH CAROLINA
PROFESSIONAL
ENGINEER
GREGORY A. FULLER
023919
9/7/12

INDEX OF SHEETS




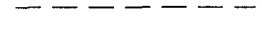










- SHEET 1 TITLE SHEET
- SHEET 2 INDEX OF SHEETS, ROADWAY STANDARD DRAWINGS, AND LEGEND
- SHEET 3-9 PLAN SHEETS
- SHEET 10 TYPICAL DETAILS



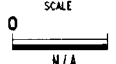
ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS". ROADWAY DESIGN UNIT - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 2012 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
1715.01	UNDERGROUND CONDUIT
1716.01	JUNCTION BOXES

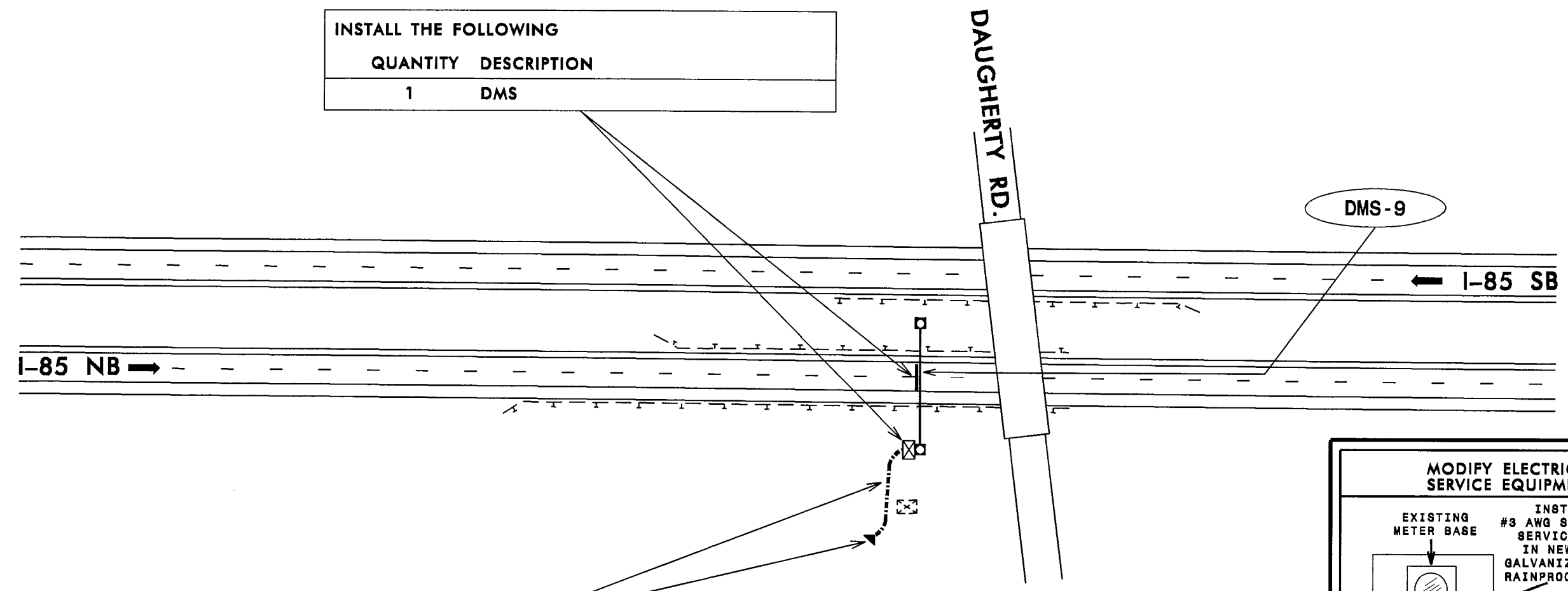
LEGEND

	NEW CONDUIT
	EXISTING CONDUIT
	EXISTING GUARDRAIL
	EXISTING PORTABLE CONCRETE BARRIER
	EXISTING ELECTRICAL SERVICE
	NEW ELECTRICAL SERVICE
	EXISTING WOOD POLE
	EXISTING EQUIPMENT CABINET
	NEW EQUIPMENT CABINET
	EXISTING GANTRY DMS STRUCTURE
	NEW UNDERGROUND SPLICE ENCLOSURE
	EXISTING UNDERGROUND SPLICE ENCLOSURE
	NEW OVERSIZED HEAVY DUTY JUNCTION BOX
	EXISTING OVERSIZED HEAVY DUTY JUNCTION BOX

 Prepared in the Office of Gregory & Fuller, Inc. 750 N. Greenfield Place, Greensboro, NC 27409	DMS REPLACEMENT INDEX OF SHEETS, ROADWAY STANDARD DRAWINGS, AND LEGEND	SEAL  SEAL 023919 ENGINEER GREGORY & FULLER, INC.							
	DIVISION 8 ROWAN, FORSYTH, & GUILFORD CO. PLAN DATE: SEPTEMBER 2012 REVIEWED BY: YOW/AGLAWI PREPARED BY: GREEN REVIEWED BY: PARKER		REVISIONS <table border="1"> <tr> <th>NO.</th> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	REVISIONS	INIT.	DATE		
NO.	REVISIONS	INIT.	DATE						
SCALE  N/A	SIGNATURE: <i>Gregory & Fuller</i> DATE: 9/7/12 CADD FILED:								

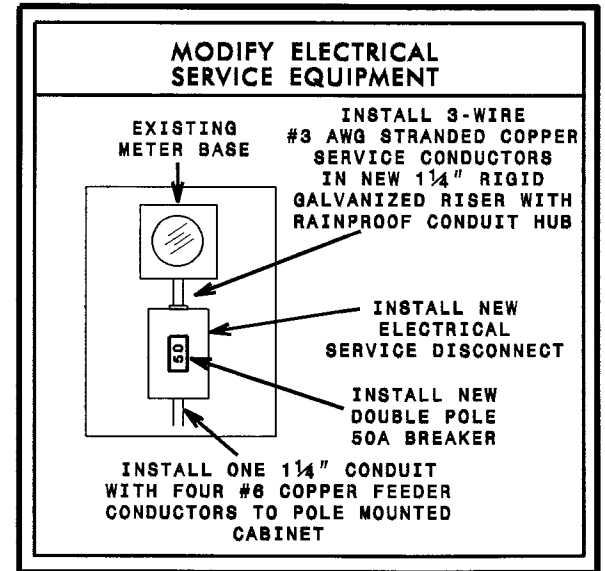
DMS-9 GPS COORDINATES

N 35° 32.479
W 80° 34.380



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	ELECTRICAL SERVICE DISCONNECT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR
90'	UNPAVED TRENCHING (1)(1 1/4")
100'	4-WIRE COPPER FEEDER CONDUCTORS



NOTES

1. REMOVE EXISTING DMS AND MOUNT NEW DMS ON EXISTING DMS STRUCTURE.
2. REMOVE EXISTING CABINET AND FOUNDATION.
3. INSTALL NEW DMS POLE MOUNTED CABINET ON EXISTING DMS STRUCTURE.
4. MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
5. INSTALL NEW GROUNDING SYSTEMS AS SHOWN ON SHEET ITS-10 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

SOUTH OF EXIT 68

	DMS REPLACEMENT		
	DIVISION 9 PLAN DATE: SEPTEMBER 2012 PREPARED BY: GREEN	ROWAN CO. REVIEWED BY: YON/ABLAWI REVIEWED BY: PARKER	
SCALE 0 N/A	REVISIONS _____ _____ _____	INIT. DATE _____ _____ _____	SIGNATURE <i>Gregory A. Fuller</i> 9/7/12 DATE

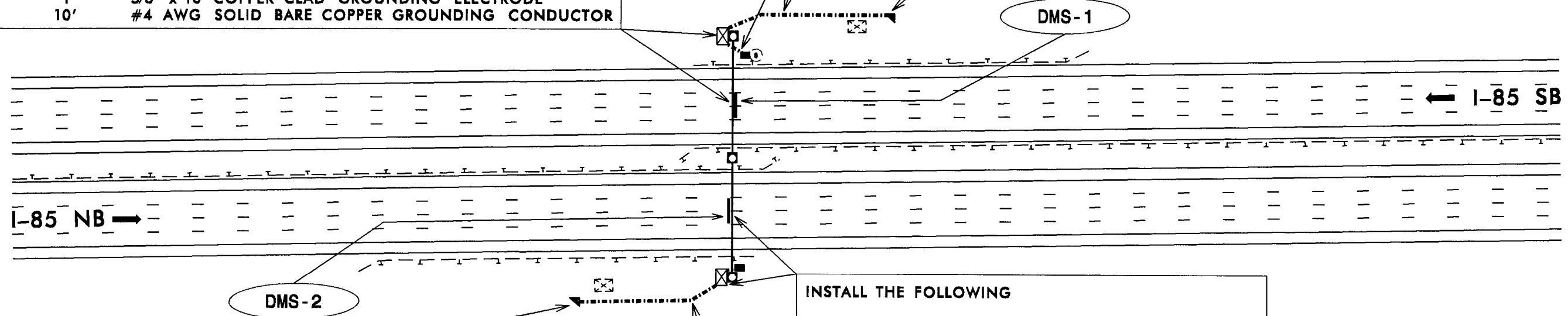
DMS-1 & 2 GPS COORDINATES

N 35° 37.435
W 80° 30.161

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
110'	UNPAVED TRENCHING (1)(1 1/4")
140'	4-WIRE COPPER FEEDER CONDUCTORS

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
1	INTERCONNECT CENTER
1	INDUSTRIAL ETHERNET SWITCH
1	EQUIPMENT CABINET DISCONNECT (ON STRUCTURE)
1	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
10'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

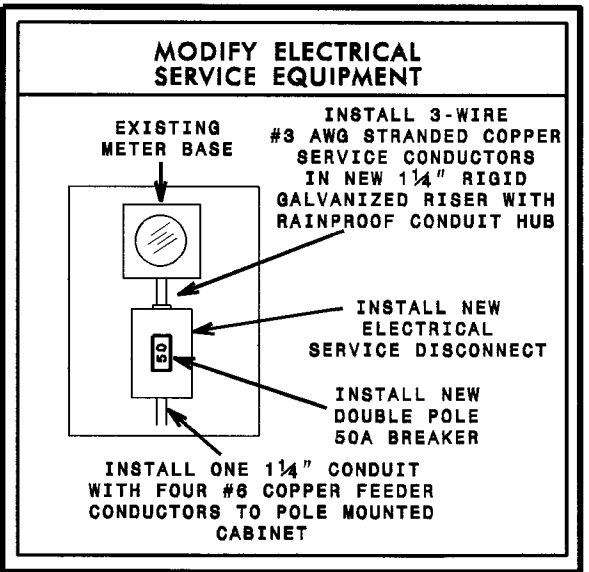
INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	ELECTRICAL SERVICE DISCONNECT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR



INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS
1	INTERCONNECT CENTER
1	INDUSTRIAL ETHERNET SWITCH
1	EQUIPMENT CABINET DISCONNECT (ON STRUCTURE)

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	ELECTRICAL SERVICE DISCONNECT
3	5/8" x 10' COPPER CLAD GROUNDING ELECTRODE
30'	#4 AWG SOLID BARE COPPER GROUNDING CONDUCTOR

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
120'	UNPAVED TRENCHING (1)(1 1/4")
140'	4-WIRE COPPER FEEDER CONDUCTORS



NOTES

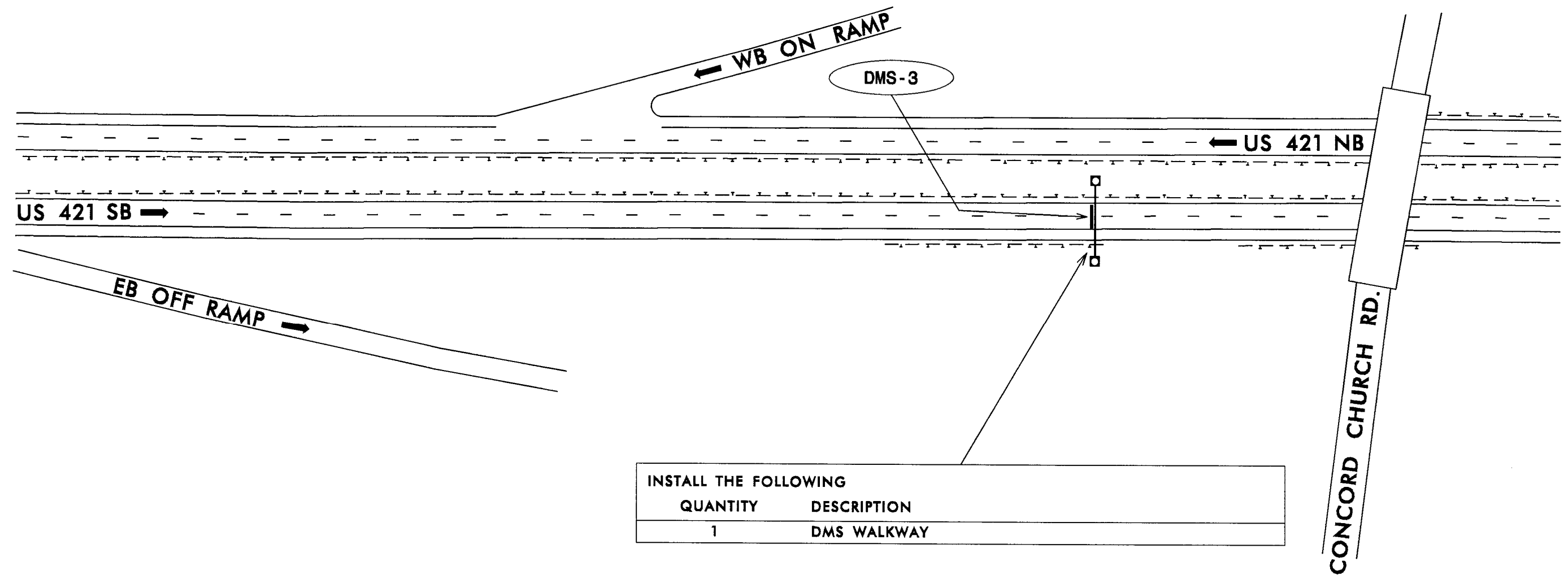
- REMOVE EXISTING DMSs (2) AND MOUNT NEW DMSs (2) ON EXISTING DMS STRUCTURE.
- REMOVE EXISTING CABINETS (2) AND FOUNDATIONS (2).
- INSTALL NEW DMS POLE MOUNTED CABINETS (2) ON EXISTING DMS STRUCTURE.
- MODIFY EXISTING RISERS ON DMS STRUCTURE AND INSTALL NEW DMS COMMUNICATIONS AND FEEDER CONDUCTORS THROUGH THESE RISERS.
- DMS-1 - PULL EXISTING 12-FIBER DROP CABLE BACK TO EXISTING OVERSIZED JUNCTION BOX WITH SPLICE ENCLOSURE AND ROUTE TO THE POLE MOUNTED CABINET THROUGH NEW CONDUIT.
- DMS-2 - PULL EXISTING 12-FIBER DROP CABLE BACK TO EXISTING OVERSIZED JUNCTION BOX NEAR STRUCTURE AND ROUTE TO THE POLE MOUNTED CABINET THROUGH NEW CONDUIT.
- CONTACT THE REGIONAL ITS ENGINEER AT (336) 315-7080 A MINIMUM OF 7 DAYS BEFORE DISCONNECTING FIBER OPTIC CABLE TERMINATIONS. ENSURE EXISTING FIBER CONNECTIONS ARE LABELED BEFORE DISCONNECTING.
- INSTALL NEW GROUNDING SYSTEMS AS SHOWN ON SHEET ITS-10 AND AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

NEAR MM 73

	DMS REPLACEMENT	
	DIVISION 9 PLAN DATE: SEPTEMBER 2012 PREPARED BY: GREEN	ROWAN CO. SALISBURY REVIEWED BY: YOW/ASLANI REVIEWED BY: PARKER
SCALE: 0 N/A	REVISIONS:	INIT. DATE:
Signature: <i>Gregory A. Fuller</i>		DATE: 9/7/12

DMS-3 GPS COORDINATES

N 36° 05.442
W 80° 25.889



INSTALL THE FOLLOWING

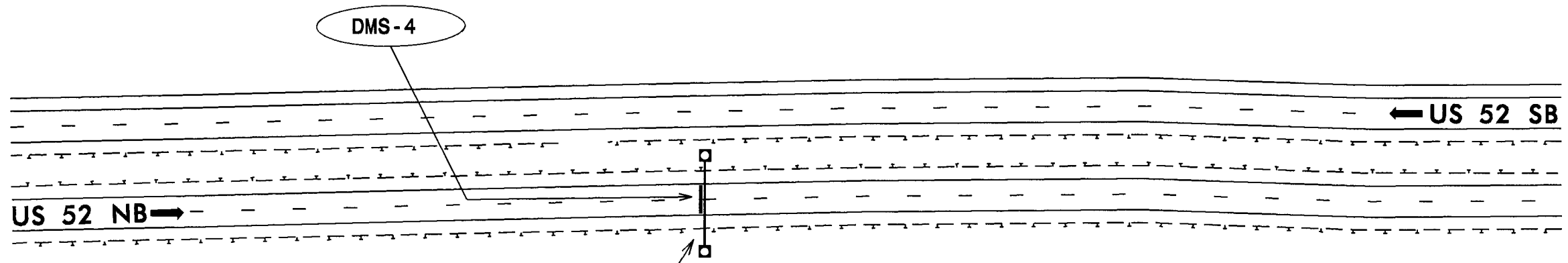
QUANTITY	DESCRIPTION
1	DMS WALKWAY

EXIT 244

<p>750 N. Greenfield Place, Greensboro, NC 27409</p>	<p>DMS REPLACEMENT</p>		<p>SEAL</p> <p>Gregory A. Fuller 9/7/12</p>								
	<p>DIVISION 9 FORBOTH CO. LEWISVILLE</p> <p>PLAN DATE: SEPTEMBER 2012 REVIEWED BY: YOW/ASLAMI</p> <p>PREPARED BY: GREEN REVIEWED BY: PARKER</p>	<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									

DMS-4 GPS COORDINATES

N 36° 02.050
W 80° 14.311



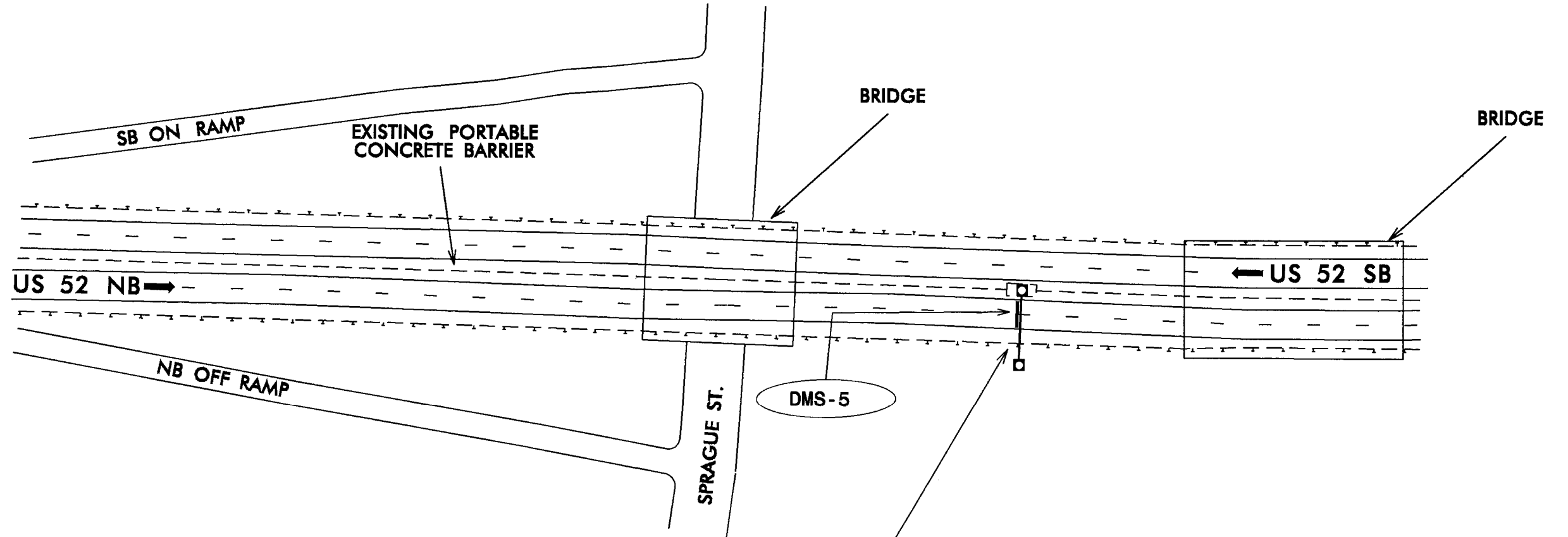
INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS WALKWAY

MM 104

	DMS REPLACEMENT	
	DIVISION 9 FORBYTH CO. WINSTON-SALEM	
	PLAN DATE: SEPTEMBER 2012 PREPARED BY: GREEN	REVIEWED BY: YOW/AGLAWI REVIEWED BY: PARKER
SCALE: 0 N/A	REVISIONS	INIT. DATE _____ _____
Signature: <i>Gregory A. Fuller</i> 9/7/12		SEAL

DMS-5 GPS COORDINATES

N 36° 04.177
W 80° 13.704



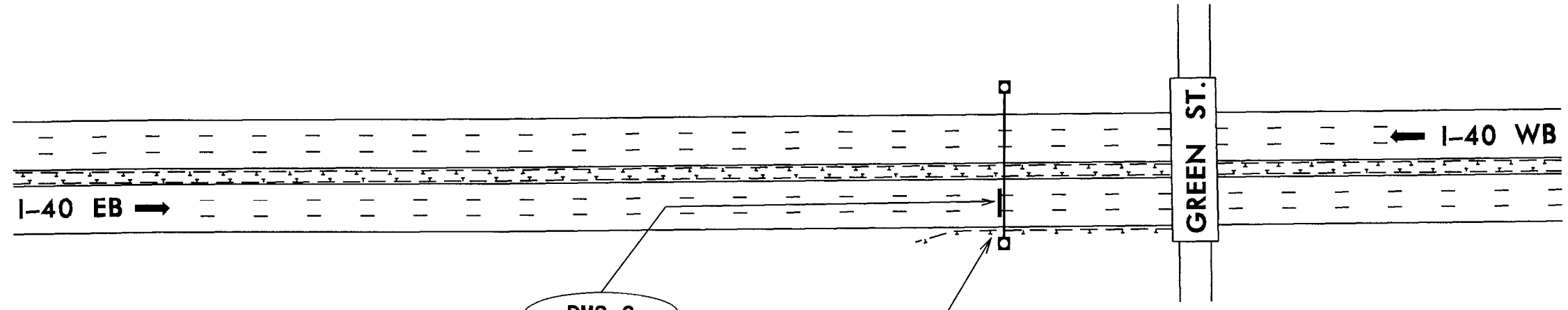
INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS WALKWAY

MM 108

	DMS REPLACEMENT	
	DIVISION 9 FORBYTH CO. WINSTON-SALEM PLAN DATE: SEPTEMBER 2012 REVIEWED BY: YOH/ASLAWI PREPARED BY: GREEN REVIEWED BY: PARKER	REVISIONS INIT. DATE
SCALE 0 N/A	Signature: <i>Gregory A. Fuller</i> 9/7/12 DATE	

DMS-6 GPS COORDINATES

N 36° 05.481
W 80° 15.171



INSTALL THE FOLLOWING

QUANTITY	DESCRIPTION
1	DMS WALKWAY

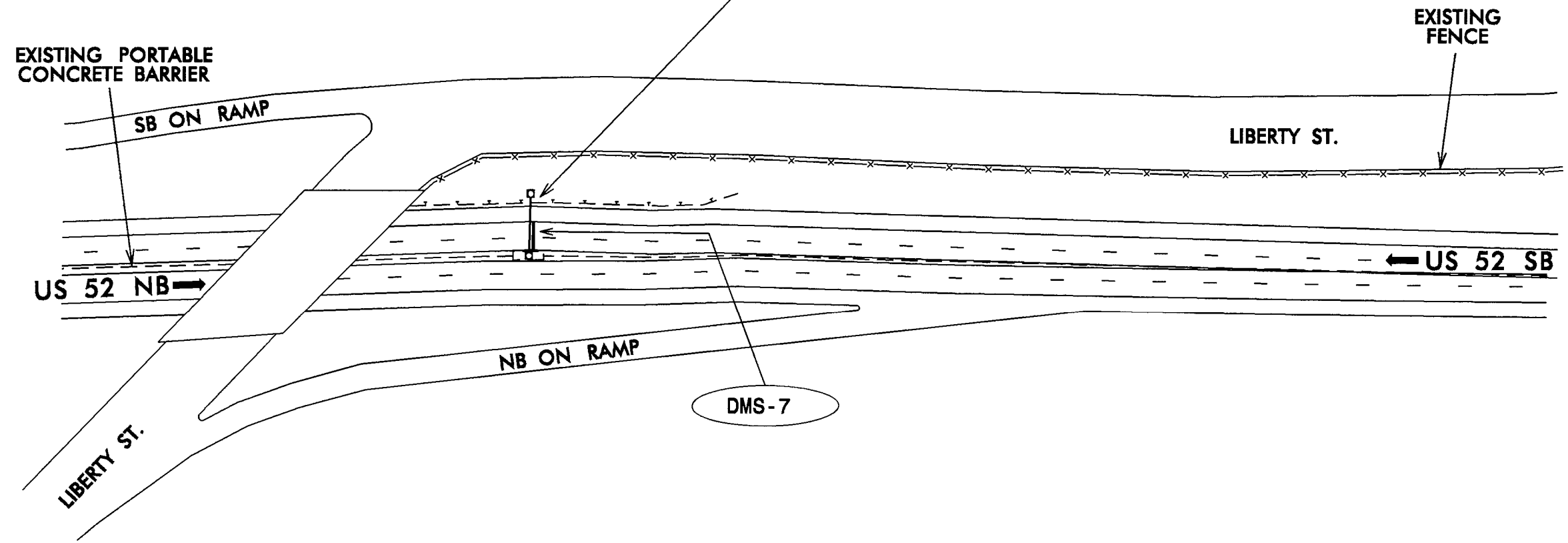
MM 5

	DMS REPLACEMENT							
	DIVISION 9 FORSYTH CO. WINSTON-SALEM PLAN DATE: SEPTEMBER 2012 REVIEWED BY: YOW/AGLANI PREPARED BY: GREEN REVIEWED BY: PARKER							
SCALE 0 N/A	<table border="1"> <thead> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	REVISIONS	INIT.	DATE				SIGNATURE: <i>Gregory A. Fuller</i> DATE: 9/7/12
REVISIONS	INIT.	DATE						



DMS-7 GPS COORDINATES

N 36° 07.091
W 80° 14.097

INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS WALKWAY



MM 110

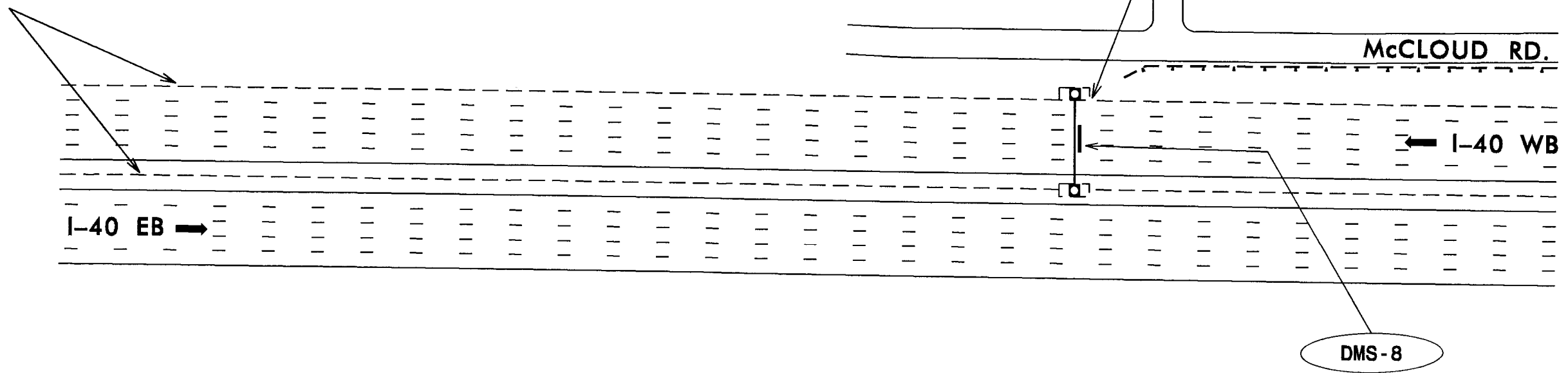
 <small>754 N. Greenfield Plaza, Greensboro, NC 27409</small>	DMS REPLACEMENT		 SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 023919 GREGORY A. FULLER								
	DIVISION 8 FORSYTH CO. WINSTON-SALEM PLAN DATE: SEPTEMBER 2012 REVIEWED BY: YON/ASLAWI PREPARED BY: GREEN REVIEWED BY: PARKER	<table border="1"> <thead> <tr> <th>REVISIONS</th> <th>INIT.</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		REVISIONS	INIT.	DATE					
REVISIONS	INIT.	DATE									
SCALE 0 _____ N/A	SIGNATURE: <i>Gregory A. Fuller</i> 9/7/12 DATE		CAD: F114.com								

DMS-8 GPS COORDINATES

N 36° 05.329
W 79° 59.101

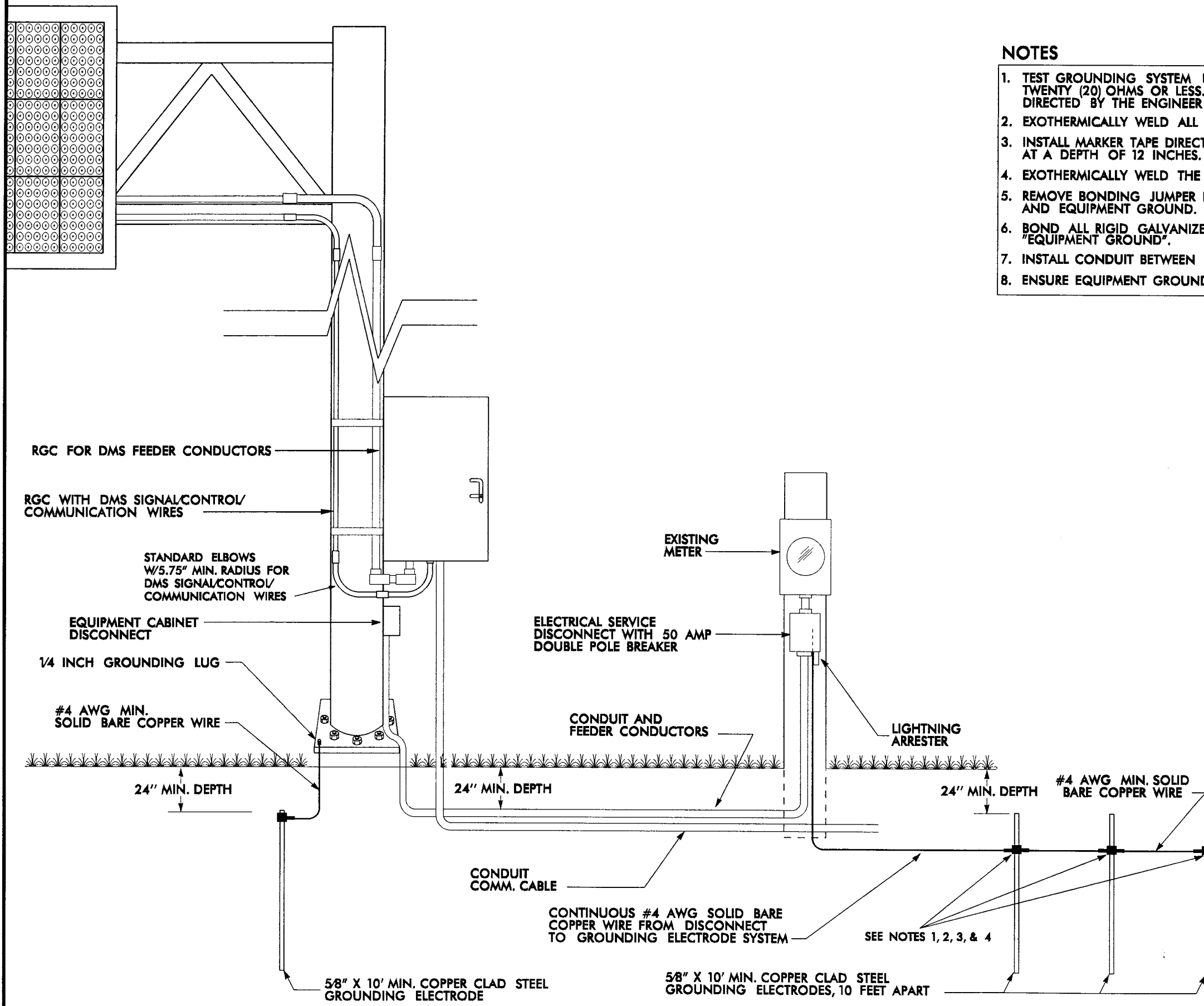
INSTALL THE FOLLOWING	
QUANTITY	DESCRIPTION
1	DMS WALKWAY

EXISTING PORTABLE
CONCRETE BARRIER



MM 208

	DMS REPLACEMENT	
	DIVISION 9 GUILFORD CO. COLFAX PLAN DATE: SEPTEMBER 2012 REVIEWED BY: YON/ASLAMI PREPARED BY: GREEN REVIEWED BY: PARKER	REVISIONS INIT. DATE _____ _____ _____
SCALE 0 N/A	SIGNATURE: <i>Gregory A. Fuller</i> DATE: 9/7/12 CAD FILE:	




NOTES

1. TEST GROUNDING SYSTEM USING AN APPROVED METHOD. SYSTEM SHOULD MEASURE TWENTY (20) OHMS OR LESS. ADDITIONAL GROUND RODS SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER TO MEET THIS REQUIREMENT.
2. EXOTHERMICALLY WELD ALL CONNECTIONS TO GROUND RODS.
3. INSTALL MARKER TAPE DIRECTLY ABOVE ALL GROUNDING ELECTRODES AND CONDUCTORS AT A DEPTH OF 12 INCHES.
4. EXOTHERMICALLY WELD THE SERVICE POLE GROUND WIRE TO THE GROUND ROD SYSTEM.
5. REMOVE BONDING JUMPER IN EQUIPMENT CABINET IF INSTALLED BETWEEN AC NEUTRAL AND EQUIPMENT GROUND.
6. BOND ALL RIGID GALVANIZED STEEL CONDUITS ENTERING THE CABINET TO "EQUIPMENT GROUND".
7. INSTALL CONDUIT BETWEEN DISCONNECT AND CABINET.
8. ENSURE EQUIPMENT GROUND IS ELECTRICALLY BONDED TO CABINET.

**DYNAMIC MESSAGE SIGN
EXISTING ELECTRICAL SERVICE
AND GROUNDING DETAIL**

PLAN DATE: SEPTEMBER 2012	REVIEWED BY: YOW/ABLAMI
PREPARED BY: GREEN	REVIEWED BY: PARKER
REVISIONS	INIT. DATE

Prepared in the Office of



780 N. Greenfield Pl., Garner, NC 27529

SCALE: 0 N/A

SEAL

Gregory A. Fuller 9/7/12

CADD FILE: [unclear]