

SCIIP GRANT #A-23-C042 FUNDED RURAL WATER SYSTEM IMPROVEMENTS - PHASE 5

FOR
**CLARENDON COUNTY
SOUTH CAROLINA**
CLARENDON COUNTY WATER AND SEWER DEPT.
Clarendon County Engineering

411 SUNSET DR. - MANNING, S.C. 29102
(803) 433-3256 FAX: (803) 435-2208

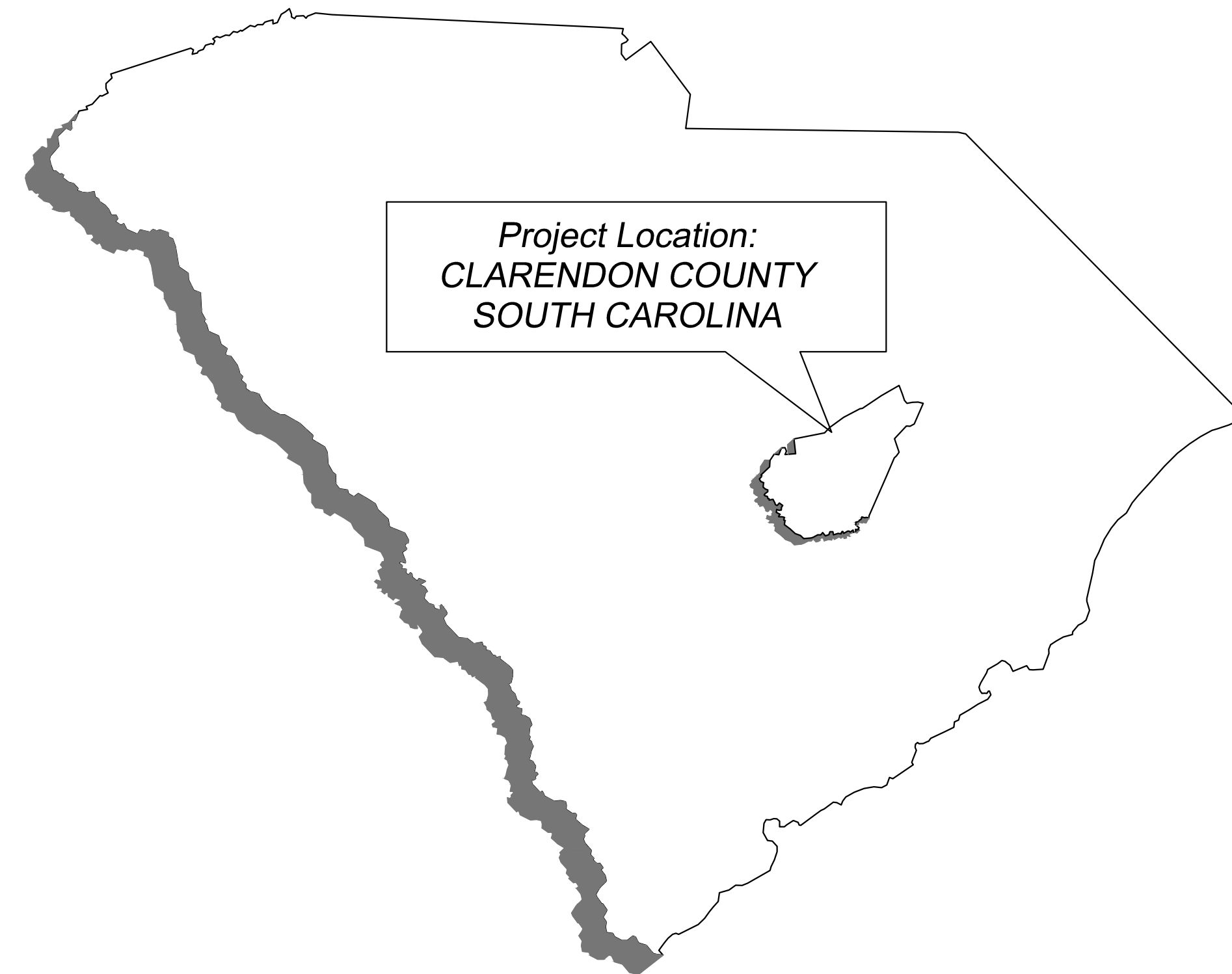
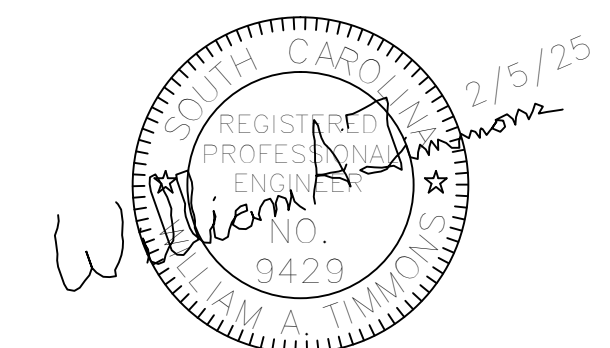
October 1, 2024

Revised: December 6, 2024

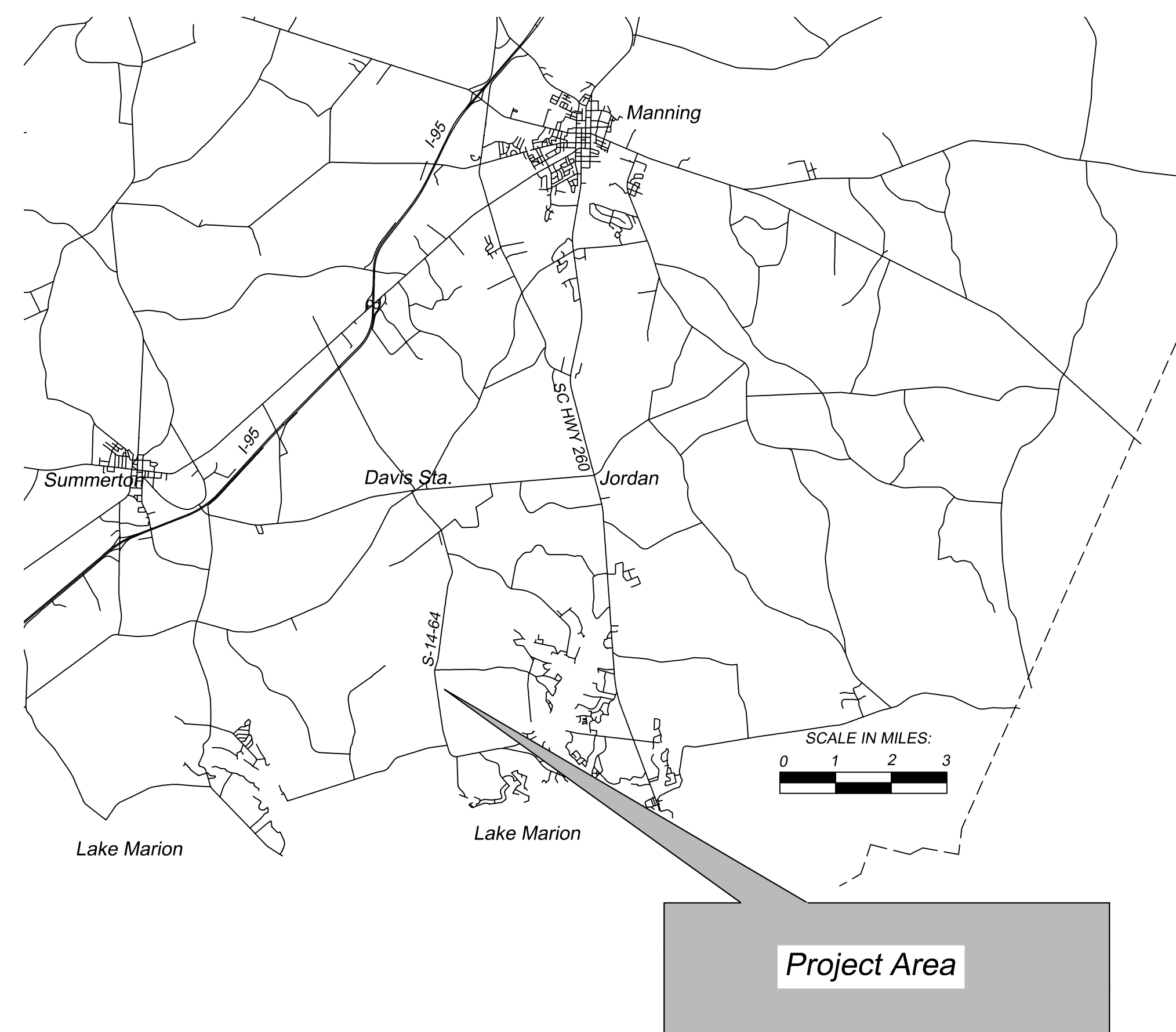
Certification Statement:

"I have placed my signature and seal on the design documents submitted signifying that I accept responsibility for the design of the system. Further, I certify to the best of my knowledge and belief that the design is consistent with the requirements of Title 48, Chapter 14 of the Code of Laws of SC, 1976 as amended, pursuant to Regulation 72-300 et seq. (if applicable), and in accordance with the terms and conditions of SCR100000."

Name: William A. Timmons, PE
Title: County Engineer
Date: February 5, 2025



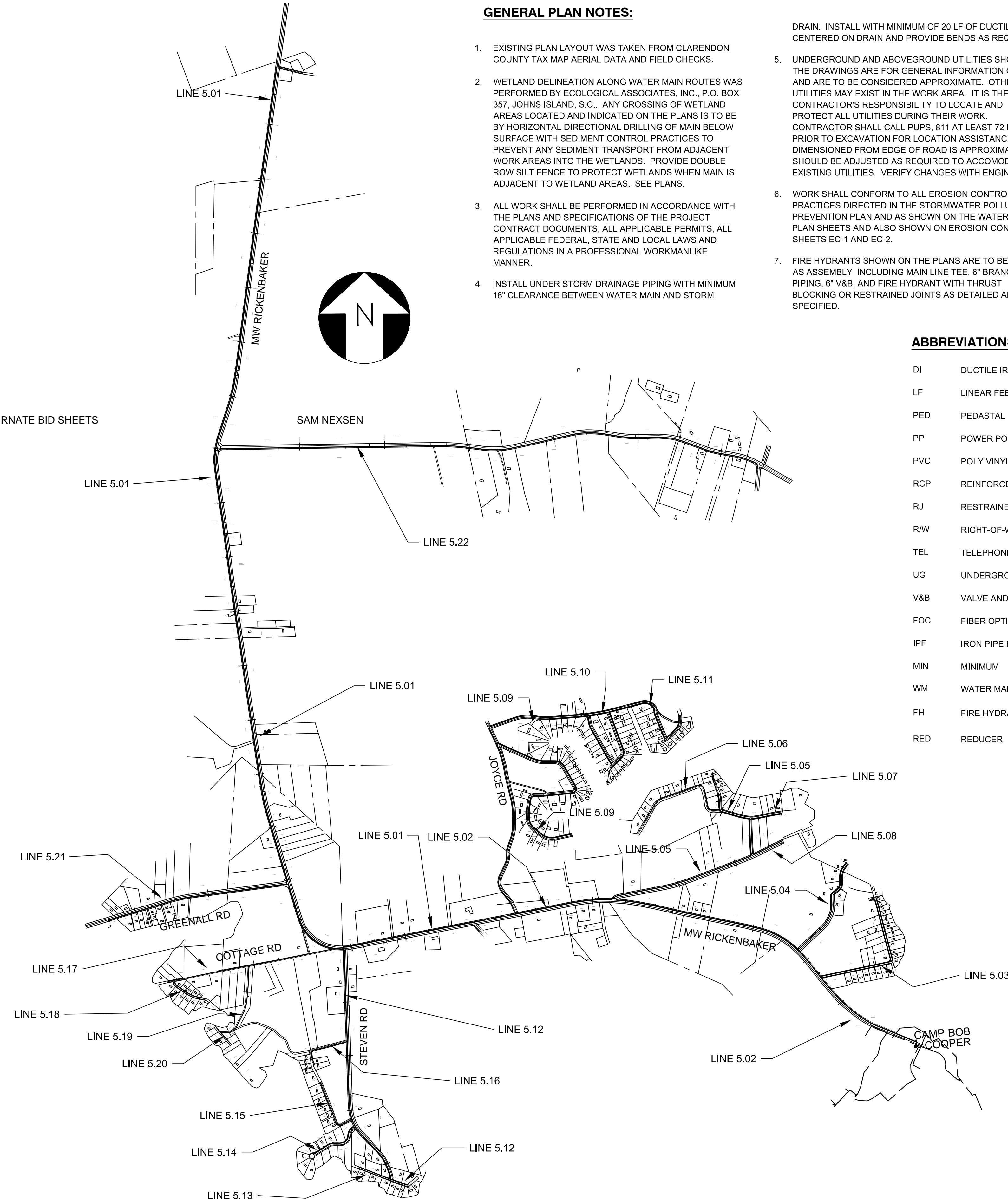
Project Location:
CLARENDON COUNTY
SOUTH CAROLINA



Project Area

SHEET INDEX					
SHEET NUMBER	DESCRIPTION	MAIN NUMBER	FROM STATION	TO STATION	STREET / ROAD
L-1	WATER MAIN LAYOUT				
INDEX-1	WATER MAIN PROPERTY INDEX				
INDEX-2	WATER MAIN PROPERTY INDEX				
P-1	WATER MAIN PLAN	5.01	0+00	27+00	MW RICKENBAKER, S-14-64
P-2	WATER MAIN PLAN	5.01	27+00	54+00	MW RICKENBAKER, S-14-64
P-3	WATER MAIN PLAN	5.01	54+00	81+00	MW RICKENBAKER, S-14-64
P-4	WATER MAIN PLAN	5.01	81+00	108+00	MW RICKENBAKER, S-14-64
P-5	WATER MAIN PLAN	5.01	108+00	135+00	MW RICKENBAKER, S-14-64
P-6	WATER MAIN PLAN	5.01	135+00	162+00	MW RICKENBAKER, S-14-64
P-7	WATER MAIN PLAN	5.01	162+00	172+60	MW RICKENBAKER, S-14-64
P-7	WATER MAIN PLAN	5.02	0+00	12+50	MW RICKENBAKER, S-14-64
P-8	WATER MAIN PLAN	5.02	12+50	39+50	MW RICKENBAKER, S-14-64
P-9	WATER MAIN PLAN	5.02	39+50	59+00	MW RICKENBAKER, S-14-64
P-10	WATER MAIN PLAN	5.02	59+00	73+00	MW RICKENBAKER, S-14-64
P-11	WATER MAIN PLAN	5.03	0+00	22+30	HAMMOND RD, S-14-509
P-12	WATER MAIN PLAN	5.04	0+00	16+50	HOWLER RD, S-14-807
P-13	WATER MAIN PLAN	5.05	0+00	21+00	WATERGATE DR, S-14-727
P-14	WATER MAIN PLAN	5.05	21+00	34+50	WATERGATE, CABIN ACKERMAN
P-14	WATER MAIN PLAN	5.07	0+00	5+25	ACKERMAN DR, S-14-729
P-14	WATER MAIN PLAN	5.08	0+00	5+70	WATERGATE DR, S-14-727
P-15	WATER MAIN PLAN	5.05	34+50	40+65	ACKERMAN DR, S-14-729
P-15	WATER MAIN PLAN	5.06	0+00	17+85	KIMBETH LANE
P-16	WATER MAIN PLAN	5.09	0+00	7+00	LIZZY CREEK
P-16, P-17	WATER MAIN PLAN	5.09	0+00	26+40	HUDSON RD
P-18	WATER MAIN PLAN	5.09	26+40	35+85	HUDSON RD
P-19	WATER MAIN PLAN	5.10	0+00	25+00	LIZZIE CK, DOVE LN, RED FERN LN
P-20	WATER MAIN PLAN	5.11	0+00	16+45	LIZZIE CK, DENWOOD, CLUBHOUSE
P-21	WATER MAIN PLAN	5.12	0+00	26+50	STEVEN RD, S-14-589
P-22	WATER MAIN PLAN	5.12	26+50	42+85	STEVEN RD, S-14-589, SPUR
P-22	WATER MAIN PLAN	5.13	0+00	5+25	LION HEART LANE, S-14-589 SPUR
P-23	WATER MAIN PLAN	5.14	0+00	8+90	CUDDO POINT DR
P-24	WATER MAIN PLAN	5.15	0+00	10+10	FITCH RD
P-24	WATER MAIN PLAN	5.16	0+00	8+28	FALCON LANE
P-25	WATER MAIN PLAN	5.17	0+00	27+50	COTTAGE DR
P-25	WATER MAIN PLAN	5.18	0+00	2+60	COTTAGE DR
P-25	WATER MAIN PLAN	5.19	0+00	4+35	PENNY LANE
P-26	WATER MAIN PLAN	5.18	2+60	6+30	COTTAGE DR
P-26	WATER MAIN PLAN	5.19	4+35	13+34	PENNY LANE
P-26	WATER MAIN PLAN	5.20	0+00	3+50	PENNY LANE
P-27	WATER MAIN PLAN	5.21	0+00	25+35	GREENALL RD, S-14-260
P-28	WATER MAIN PLAN	5.21	25+35	30+00	GREENALL RD, S-14-260
P-28	WATER MAIN PLAN	5.22	0+00	14+00	SAM NEXSEN RD, S-14-344
P-29	WATER MAIN PLAN	5.22	14+00	42+00	SAM NEXSEN RD, S-14-344
P-30	WATER MAIN PLAN	5.22	42+00	70+00	SAM NEXSEN RD, S-14-344
P-31	WATER MAIN PLAN	5.22	70+00	91+05	SAM NEXSEN RD, S-14-344
D-1	WATER MAIN DETAILS				
EC-1	EROSION CONTROL PLAN				
EC-2	EROSION CONTROL PLAN				

ALTERNATE BID SHEETS



GENERAL PLAN NOTES:

- EXISTING PLAN LAYOUT WAS TAKEN FROM CLARENDON COUNTY TAX MAP AERIAL DATA AND FIELD CHECKS.
- WETLAND DELINEATION ALONG WATER MAIN ROUTES WAS PERFORMED BY ECOLOGICAL ASSOCIATES, INC., P.O. BOX 357, JOHNS ISLAND, S.C. ANY CROSSING OF WETLAND AREAS LOCATED AND INDICATED ON THE PLANS IS TO BE BY HORIZONTAL DIRECTIONAL DRILLING OF MAIN BELOW SURFACE WITH SEDIMENT CONTROL PRACTICES TO PREVENT ANY SEDIMENT TRANSPORT FROM ADJACENT WORK AREAS INTO THE WETLANDS. PROVIDE DOUBLE ROW SILT FENCE TO PROTECT WETLANDS WHEN MAIN IS ADJACENT TO WETLAND AREAS. SEE PLANS.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS OF THE PROJECT CONTRACT DOCUMENTS. ALL APPLICABLE PERMITS, ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS IN A PROFESSIONAL WORKMANLIKE MANNER.
- INSTALL UNDER STORM DRAINAGE PIPING WITH MINIMUM 18" CLEARANCE BETWEEN WATER MAIN AND STORM DRAIN. INSTALL WITH MINIMUM OF 20 LF OF DUCTILE IRON CENTERED ON DRAIN AND PROVIDE BENDS AS REQUIRED.
- UNDERGROUND AND ABOVEGROUND UTILITIES SHOWN ON THE DRAWINGS ARE FOR GENERAL INFORMATION ONLY AND ARE TO BE CONSIDERED APPROXIMATE. OTHER UTILITIES MAY EXIST IN THE WORK AREA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND PROTECT ALL UTILITIES DURING THEIR WORK. CONTRACTOR SHALL CALL PUPS, 811 AT LEAST 72 HOURS PRIOR TO EXCAVATION FOR LOCATION ASSISTANCE. PIPE DIMENSIONED FROM EDGE OF ROAD IS APPROXIMATE AND SHOULD BE ADJUSTED AS REQUIRED TO ACCOMMODATE EXISTING UTILITIES. VERIFY CHANGES WITH ENGINEER.
- WORK SHALL CONFORM TO ALL EROSION CONTROL PRACTICES DIRECTED IN THE STORMWATER POLLUTION PREVENTION PLAN AND AS SHOWN ON THE WATER MAIN PLAN SHEETS AND ALSO SHOWN ON EROSION CONTROL SHEETS EC-1 AND EC-2.
- FIRE HYDRANTS SHOWN ON THE PLANS ARE TO BE PRICED AS ASSEMBLY INCLUDING MAIN LINE TEE, 8" BRANCH DI PIPING, 6" V&B, AND FIRE HYDRANT WITH THRUST BLOCKING OR RESTRAINED JOINTS AS DETAILED AND SPECIFIED.

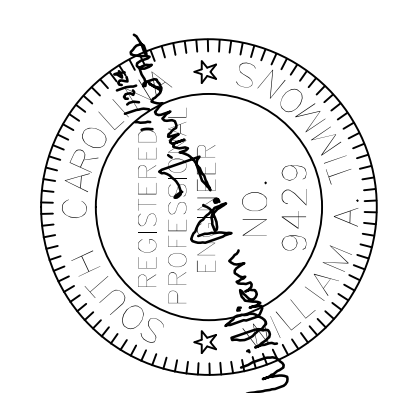
ABBREVIATIONS

- DI DUCTILE IRON
- LF LINEAR FEET
- PED PEDASTAL
- PP POWER POLE
- PVC POLY VINYL CHLORIDE
- RCP REINFORCED CONCRETE PIPE
- RJ RESTRAINED JOINT
- R/W RIGHT-OF-WAY
- TEL TELEPHONE
- UG UNDERGROUND
- V&B VALVE AND VALVE BOX
- FOC FIBER OPTIC CABLE
- IPF IRON PIPE FOUND
- MIN MINIMUM
- WM WATER MAIN
- FH FIRE HYDRANT ASSEMBLY
- RED REDUCER

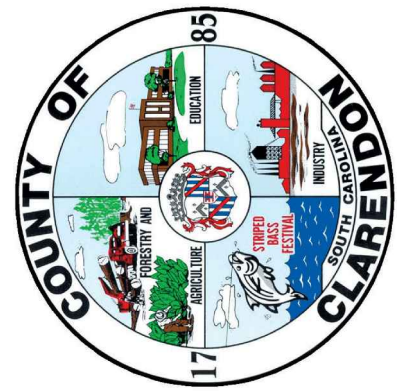
SYMBOL LEGEND

DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL
WATER MAIN (NUMBER IS SIZE)	—6W—	LAND GRADING:	LG
UNDERGROUND UTILITY	—UG—	TOPSOILING:	TS
POWER POLE	PP OR	TEMPORARY SEEDING:	TS
MAILBOX	M	MULCHING:	M
PEDASTAL	PH OR	EROSION CONTROL BLANKET	PS
FIRE HYDRANT ASSEMBLY	FH	PERMANENT SEEDING:	PS
2" FLUSHING HYDRANT, POST STYLE	2FH	SILT FENCE:	SF
VALVE AND BOX (V&B)	V&B	SEDIMENT TUBE:	ST
		FABRIC INLET PROTECTION:	FIP
		SEDIMENT TUBE INLET PROTECTION:	STIP

WATER MAIN PLAN LAYOUT AND NOTES



ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	ADDED NORTH ARROW	2/15/2025	
	2	REVISED LAYOUT	2/14/2025	



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Clarendon County
 Water and Sewer Department
PHASE 5 WATER MAINS

DATE	APPROVED	DATE	APPROVED
OCT 1, 2024	[Signature]		

AS SHOWN

SCALE: AS SHOWN

SHEET L-1 OF 1

THESE TABLES PROVIDE PROPERTY OWNERSHIP DATA FOR TAX MAP NUMBERS SHOWN ON THE WATER PLANS. NOT ALL PROPERTIES WILL BE CONNECTED TO THE SYSTEM.

TABLE 1

Table with columns: TAX MAP NO, OWNER 1, OWNER 2, MAIL ADDRESS, MAIL CITY, MAIL STATE, MAIL ZIP, LOC NUMBER, LOC STREET, LOC CITY, LOC ZIP. Contains property data for various locations in South Carolina.

TABLE 2

Table with columns: TAX MAP NO, OWNER 1, OWNER 2, MAIL ADDRESS, MAIL CITY, MAIL STATE, MAIL ZIP, LOC NUMBER, LOC STREET, LOC CITY, LOC ZIP. Contains property data for various locations in South Carolina.

WATER MAIN PROPERTY INDEX

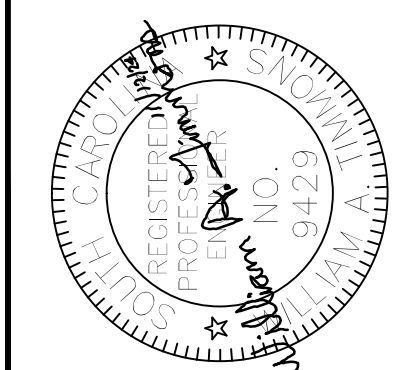
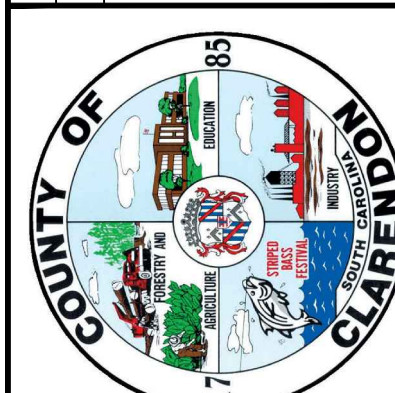


Table with columns: DATE, APPROVED, REVISIONS, RESUBMISSION, ZONE, REV. Includes a revision log and approval information.



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REVISION INDEX-1 OF 1

DATE: AUG 1, 2024
DWG NO: ENG407-01

AS SHOWN

APPROVED

DATE

REVISIONS

RESUBMISSION

ZONE REV

THESE TABLES PROVIDE PROPERTY OWNERSHIP DATA FOR TAX MAP NUMBERS SHOWN ON THE WATER PLANS. NOT ALL PROPERTIES WILL BE CONNECTED TO THE SYSTEM.

TABLE 3

TABLE 4

Table with columns: TAX MAP NO, OWNER 1, OWNER 2, MAIL ADDRESS, MAIL CITY, MAIL STATE, MAIL ZIP, LOC NUMBER, LOC STREET, LOC CITY, LOC ZIP. Contains property data for Table 3.

Table with columns: TAX MAP NO, OWNER 1, OWNER 2, MAIL ADDRESS, MAIL CITY, MAIL STATE, MAIL ZIP, LOC NUMBER, LOC STREET, LOC CITY, LOC ZIP. Contains property data for Table 4.

WATER MAIN PROPERTY INDEX

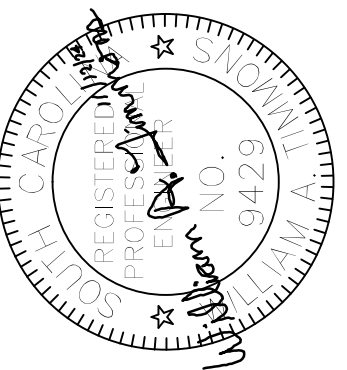
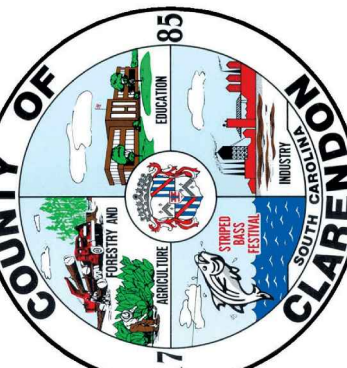


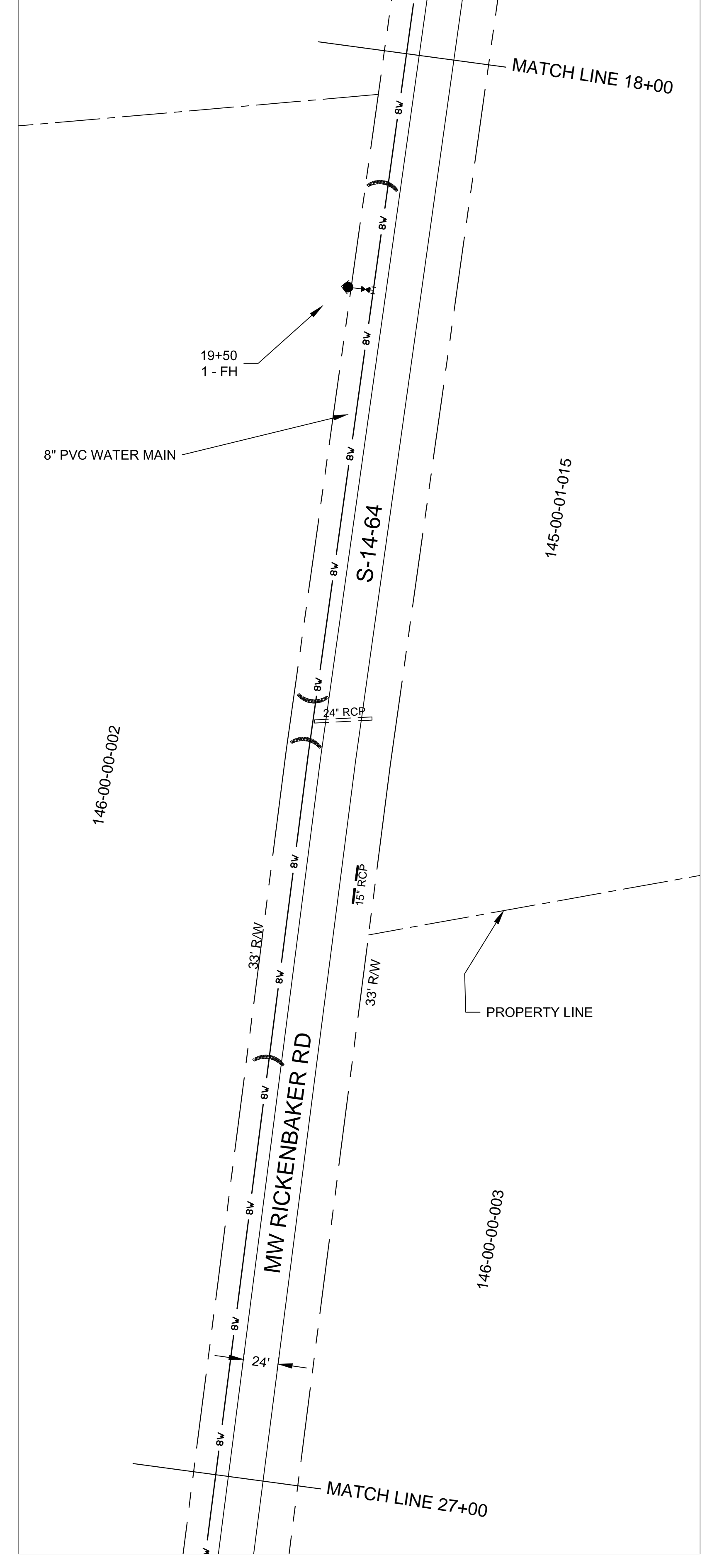
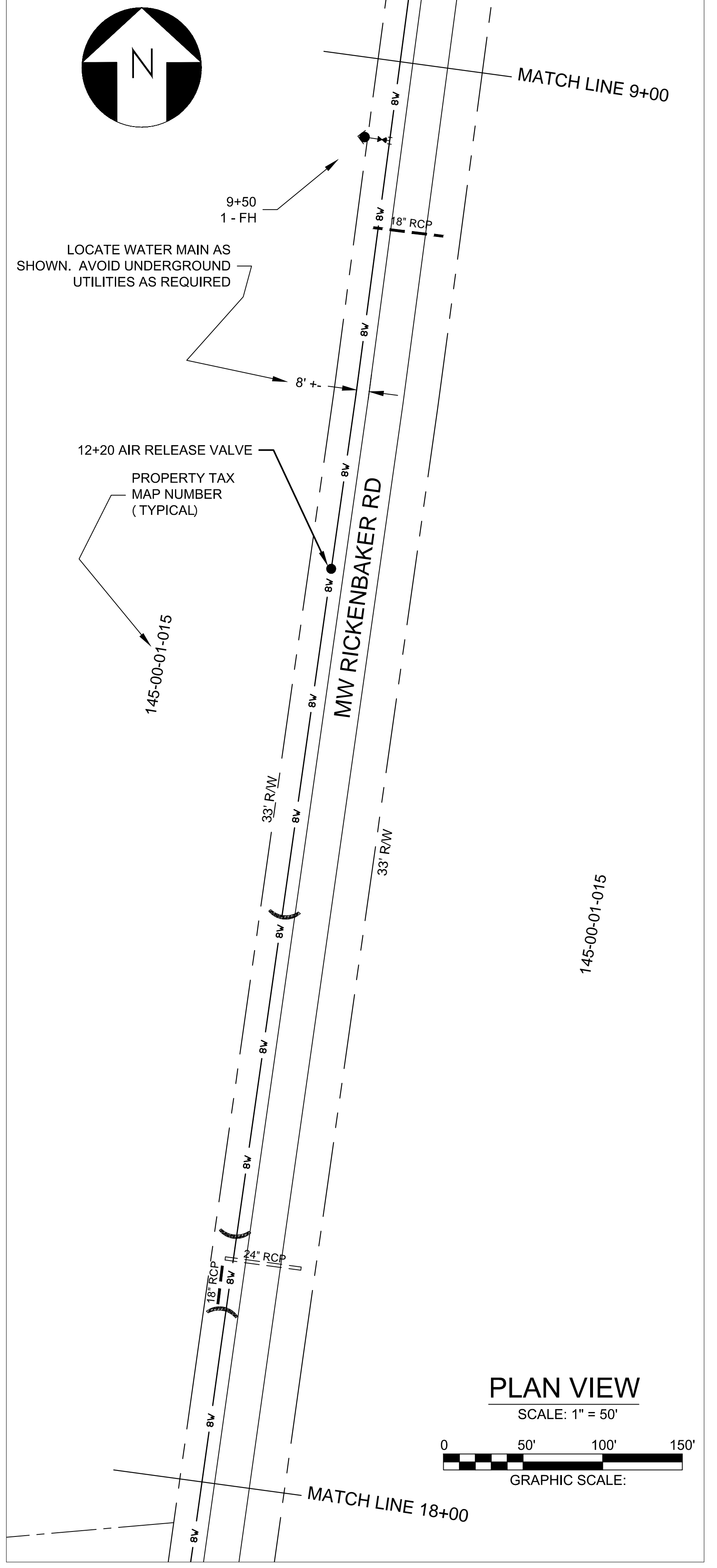
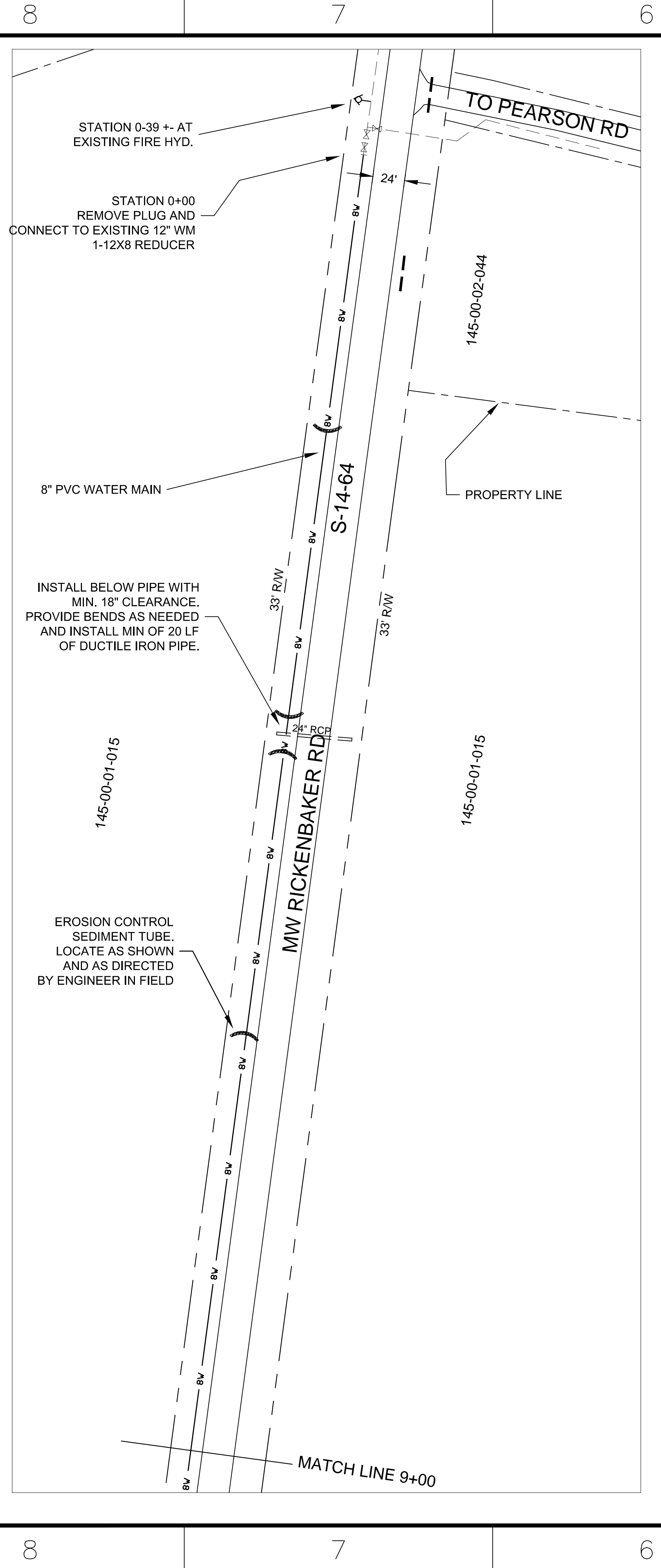
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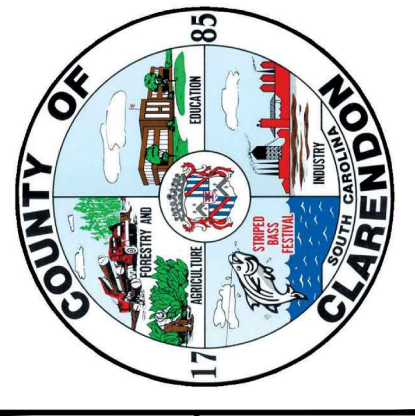
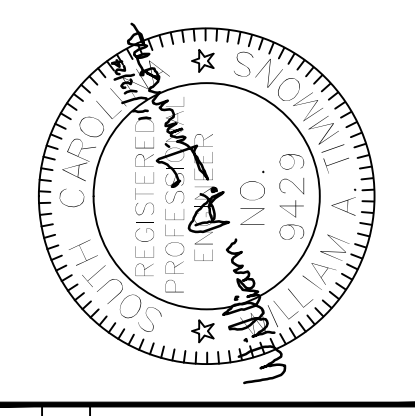


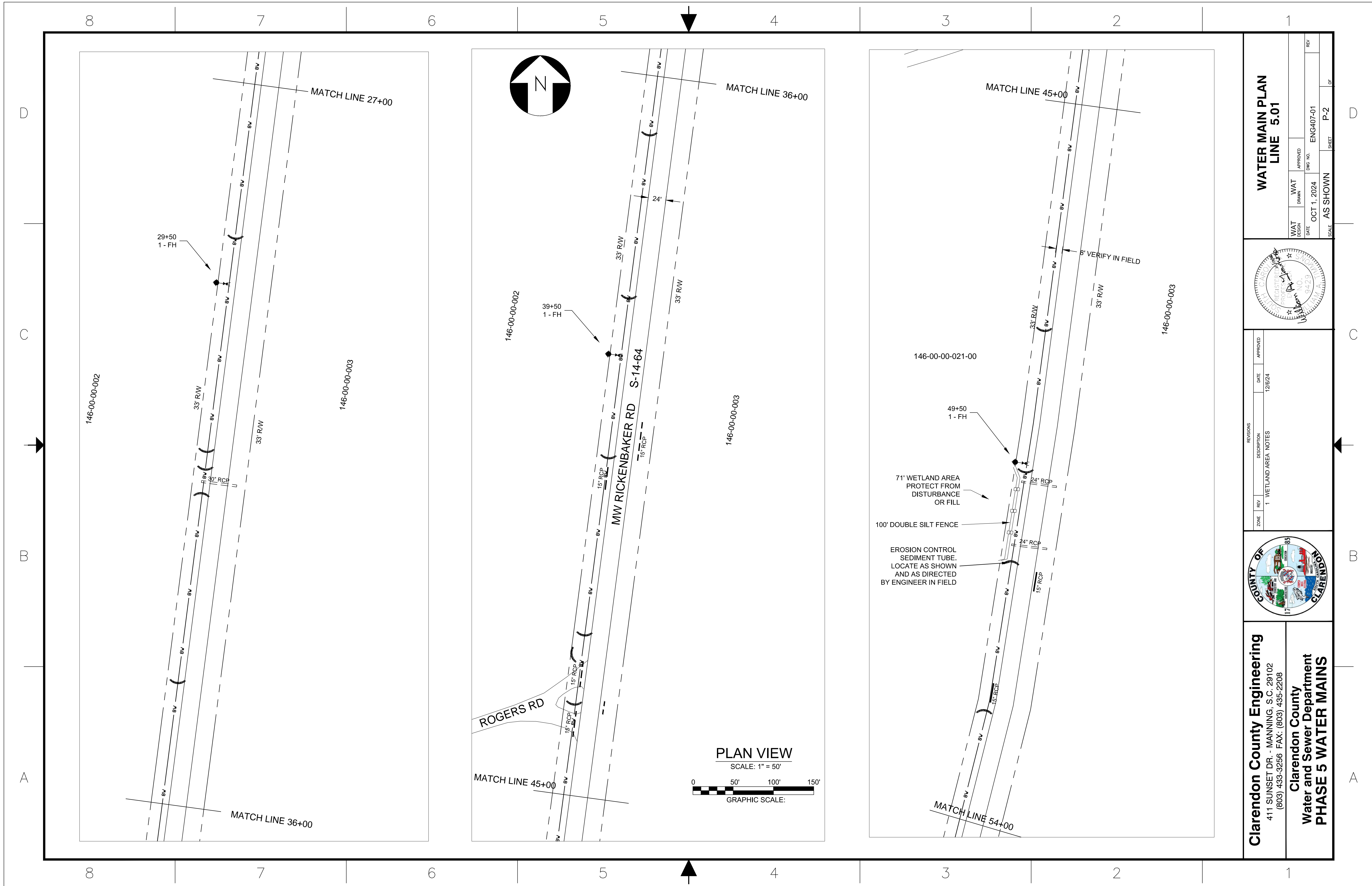
Clarendon County Engineering 411 SUNSET DR. - MANNING, S.C. 29102 (803) 433-3256 FAX: (803) 435-2208 Clarendon County Water and Sewer Department PHASE 5 WATER MAINS

WAT DRAWN DATE AUG 1, 2024 WAT DESIGN DATE AUG 1, 2024 WAT APPROVED DATE AUG 1, 2024 WAT CHECKED DATE AUG 1, 2024 WAT IN CHARGE DATE AUG 1, 2024

ENG407-01 INDEX-2

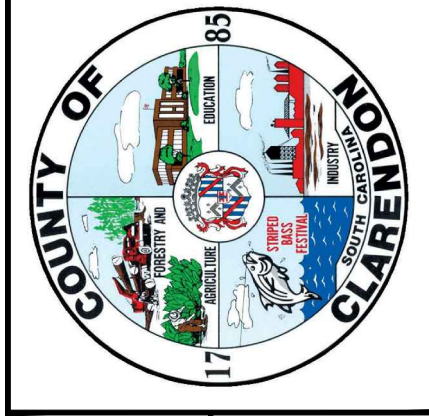


Clarendon County Engineering 411 SUNSET DR. - MANNING, S.C. 29102 (803) 433-3256 FAX: (803) 435-2208		Clarendon County Water and Sewer Department PHASE 5 WATER MAINS																			
																					
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REVISIONS	DATE	APPROVED																			
WAT DESIGN	DATE	WAT DRAWN	APPROVED	ENG NO.	REV																
	OCT 1, 2024			ENG401-01																	
<p>WATER MAIN PLAN</p> <p>LINE 5.01</p>		<p>SCALE: AS SHOWN</p> <p>SHEET: P-1 OF</p>																			

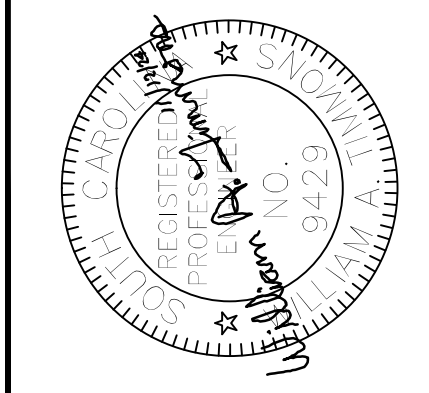


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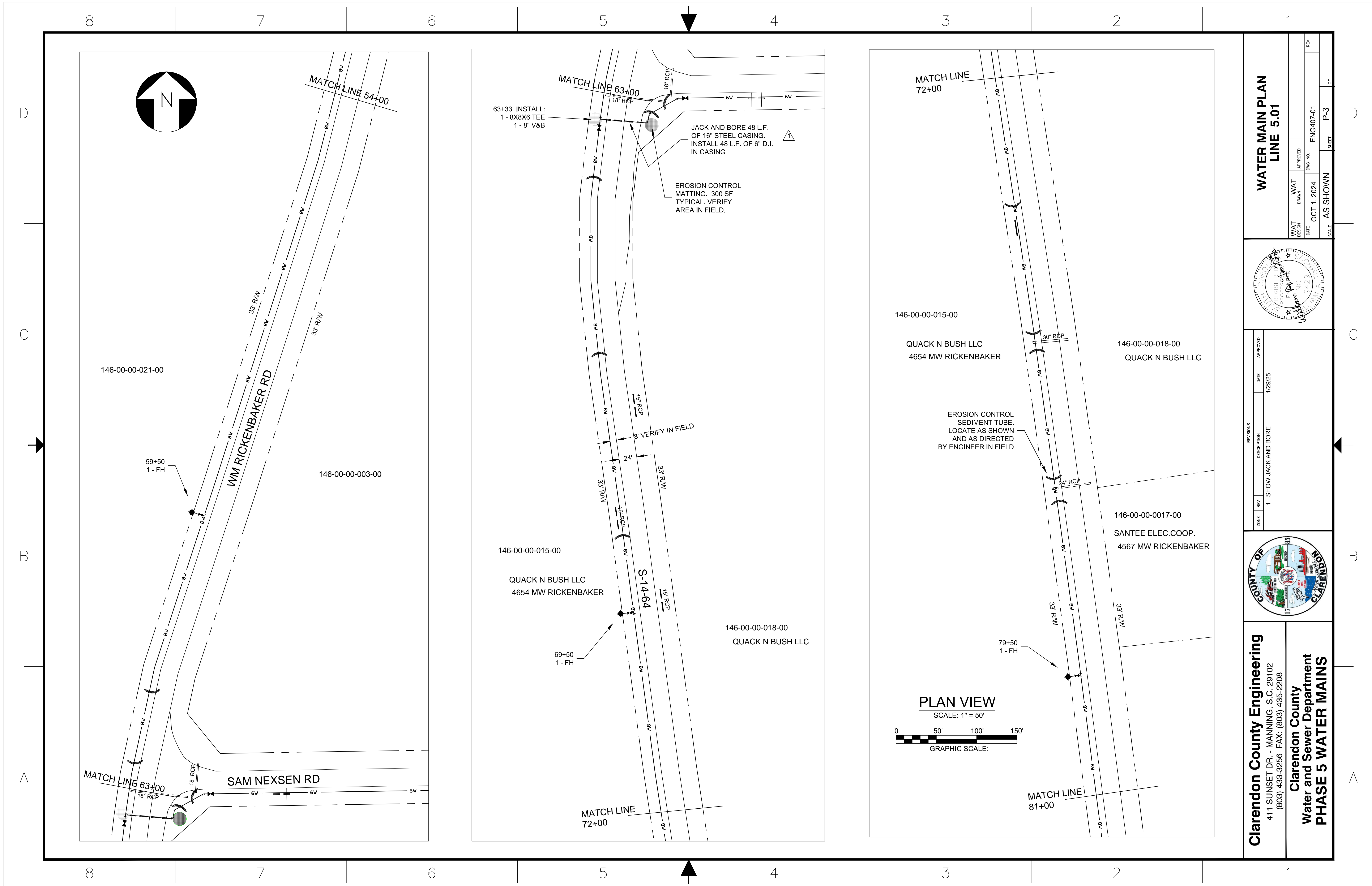
Clarendon County
 Water and Sewer Department
PHASE 5 WATER MAINS



ZONE	REV	DESCRIPTION	DATE	APPROVED
1		WETLAND AREA NOTES	12/6/24	

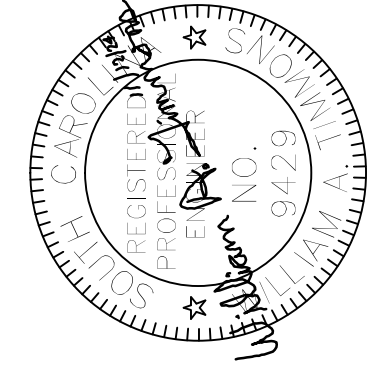


WATER MAIN PLAN		LINE 5.01	
WAT DESIGN DATE	WAT DRAWN	APPROVED	REV
OCT 1, 2024	AS SHOWN	ENG407-01	P-2
SCALE		SHEET	

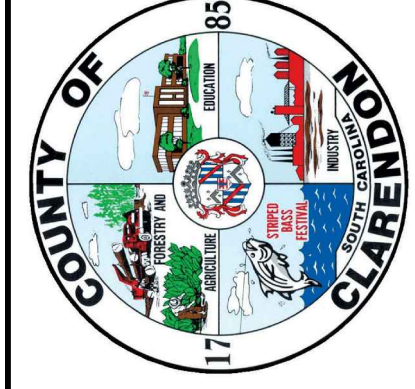


**WATER MAIN PLAN
LINE 5.01**

WAT DESIGN	DATE	APPROVED	DWG NO.	REV
WAT DRAWN	DATE	APPROVED	DWG NO.	REV
SCALE	SHEET			
AS SHOWN	P-3			
		OCT 1, 2024		
		ENG407-01		

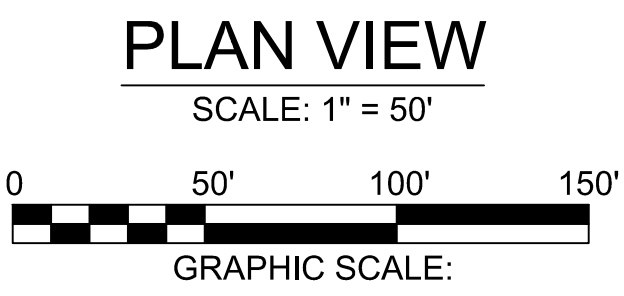


ZONE	REV	DESCRIPTION	DATE	APPROVED
1		SHOW JACK AND BORE	1/29/25	



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PHASE 5 WATER MAINS**



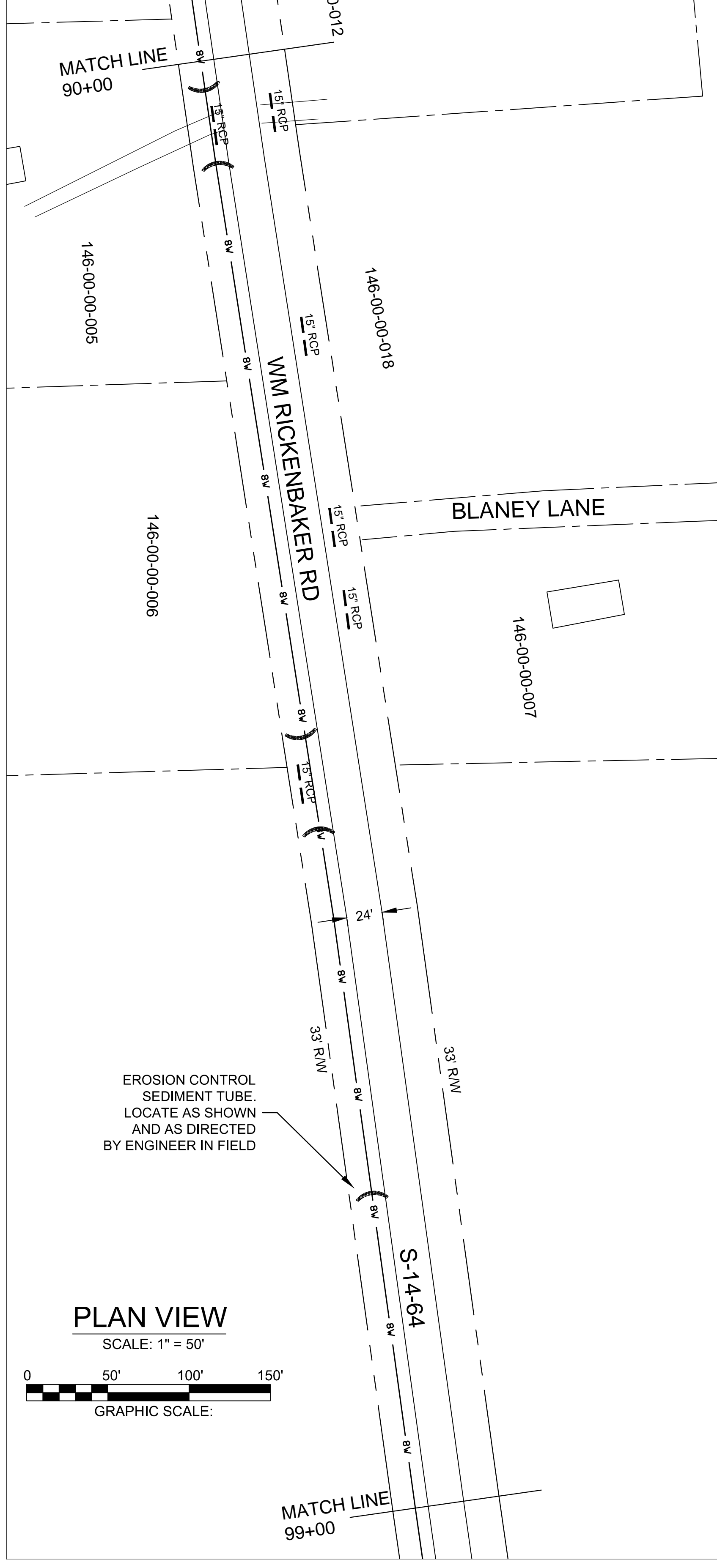
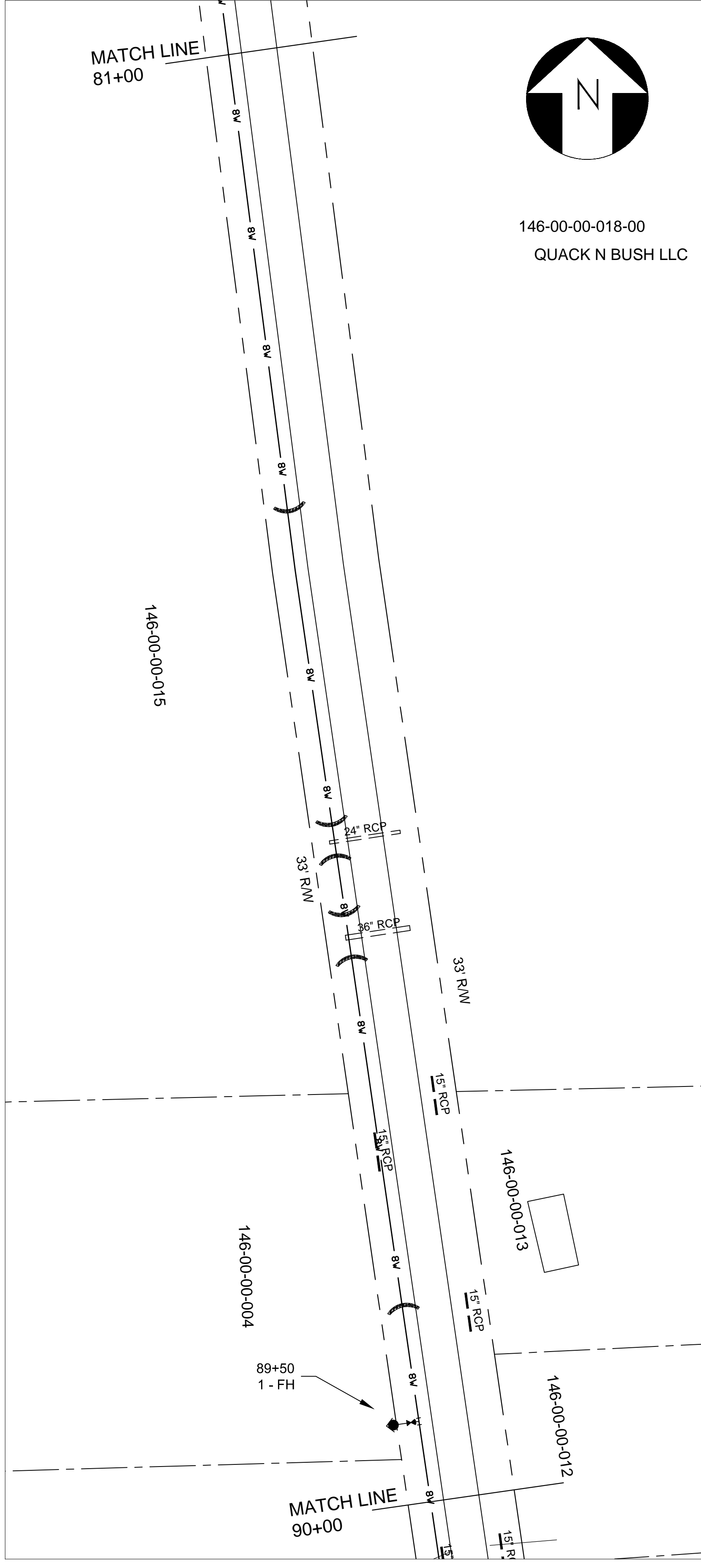
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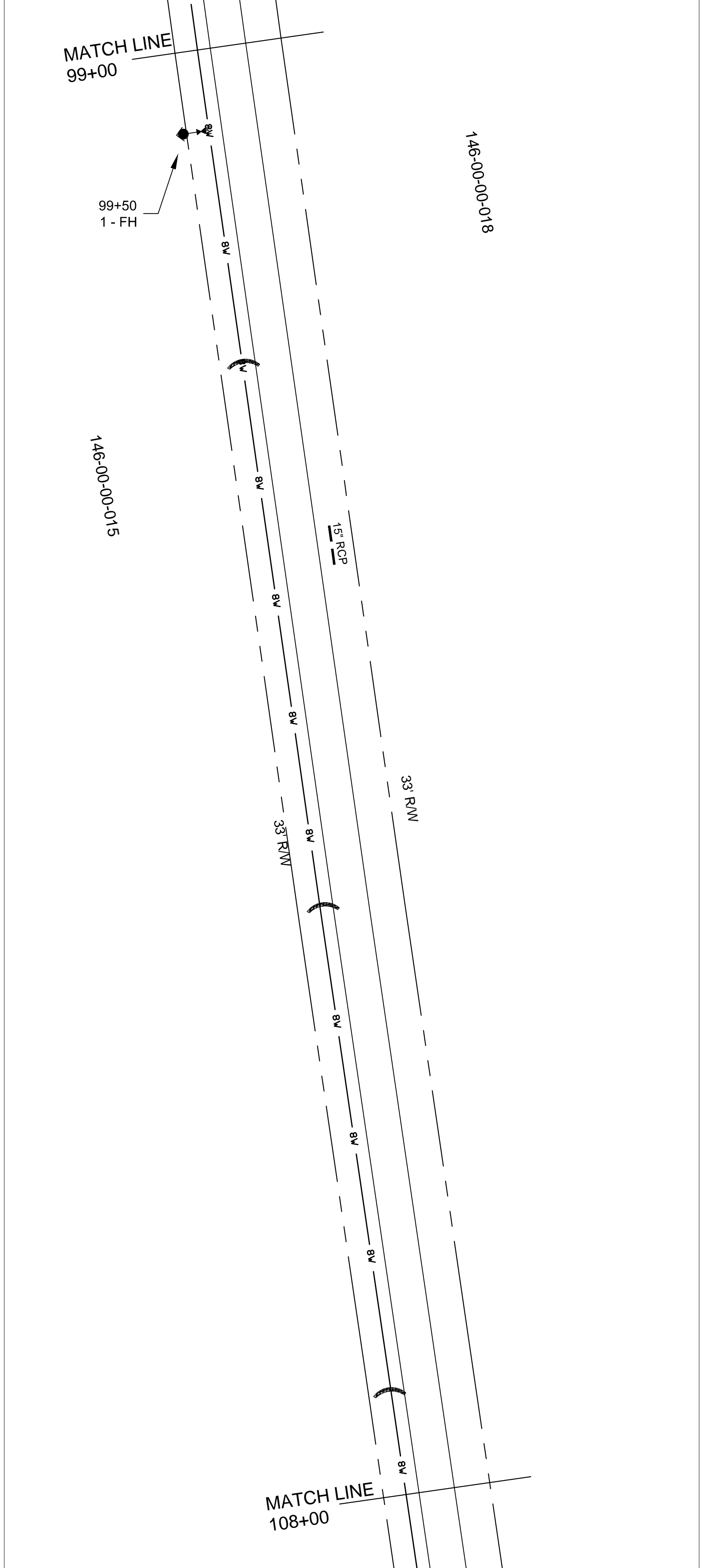
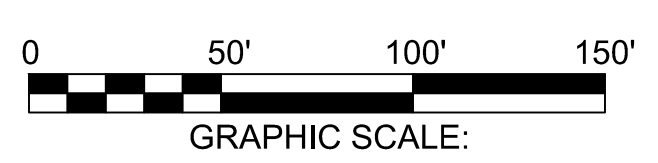
C

B

A



PLAN VIEW
SCALE: 1" = 50'



		WATER MAIN PLAN LINE 5.01											
Clarendon County Engineering 411 SUNSET DR. - MANNING, S.C. 29102 (803) 433-3256 FAX: (803) 435-2208	Clarendon County Water and Sewer Department PHASE 5 WATER MAINS	REVISIONS <table border="1"> <thead> <tr> <th>ZONE</th> <th>REV</th> <th>DESCRIPTION</th> <th>DATE</th> <th>APPROVED</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	ZONE	REV	DESCRIPTION	DATE	APPROVED						WAT DESIGN DATE: OCT 1, 2024 WAT DRAWN: AS SHOWN WAT APPROVED: [Signature] DWG NO.: ENG407-01 SHEET: P-4 OF
ZONE	REV	DESCRIPTION	DATE	APPROVED									

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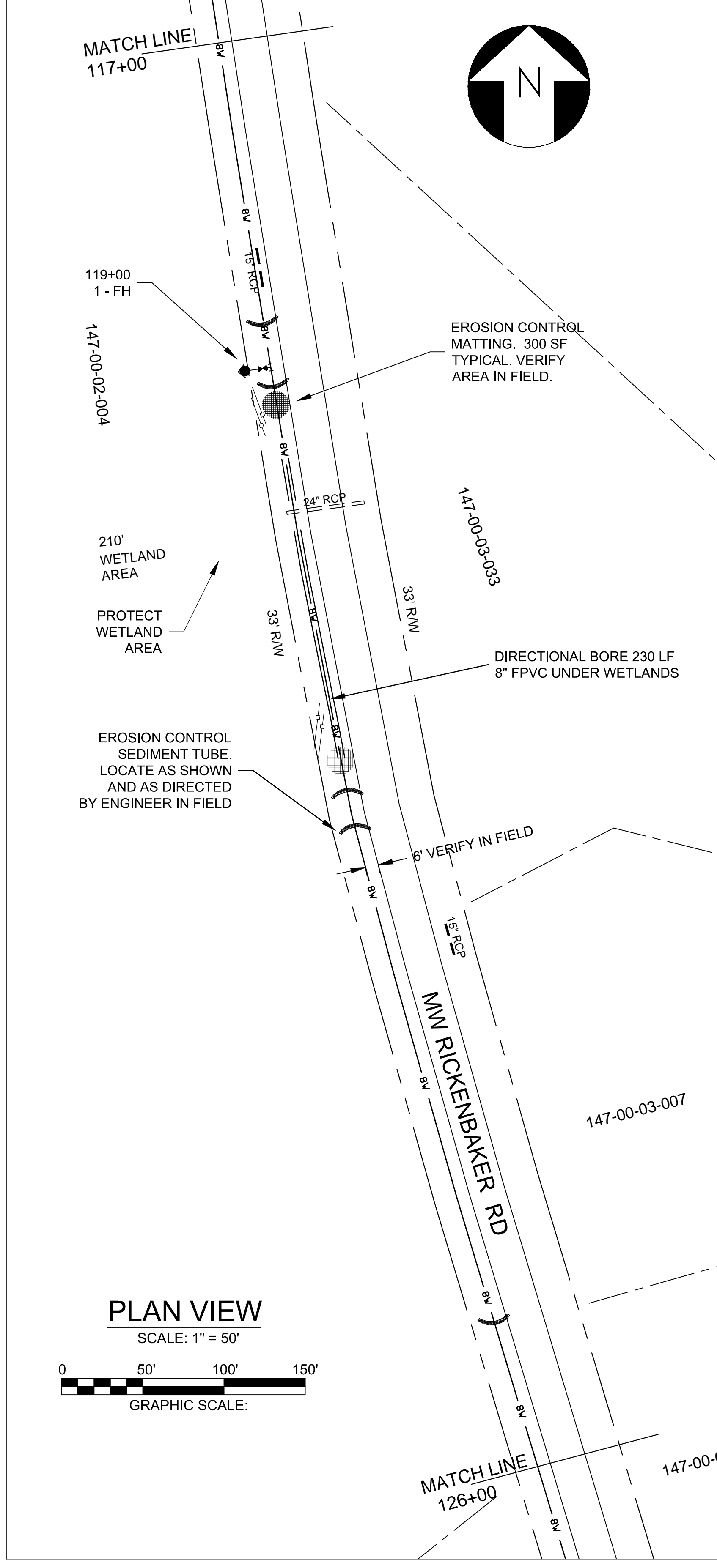
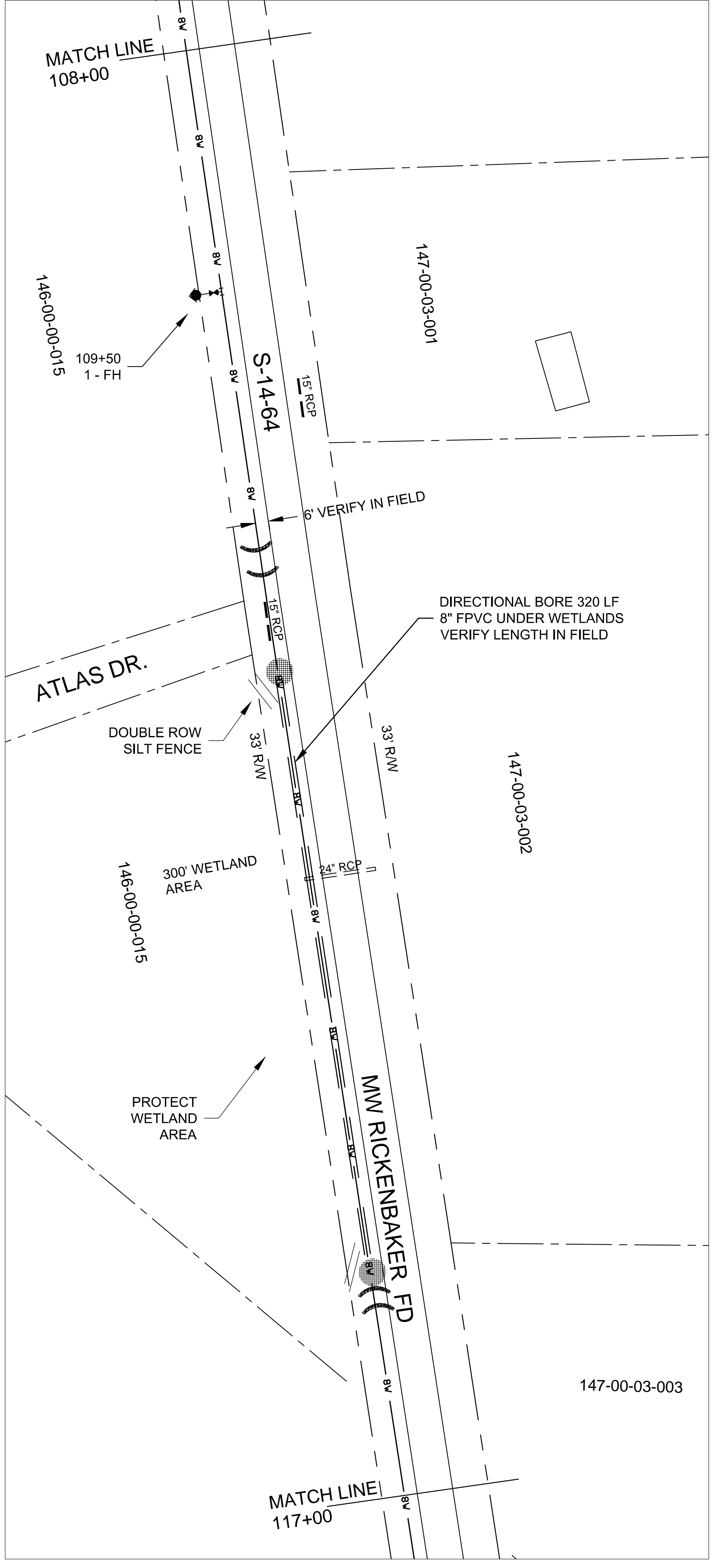
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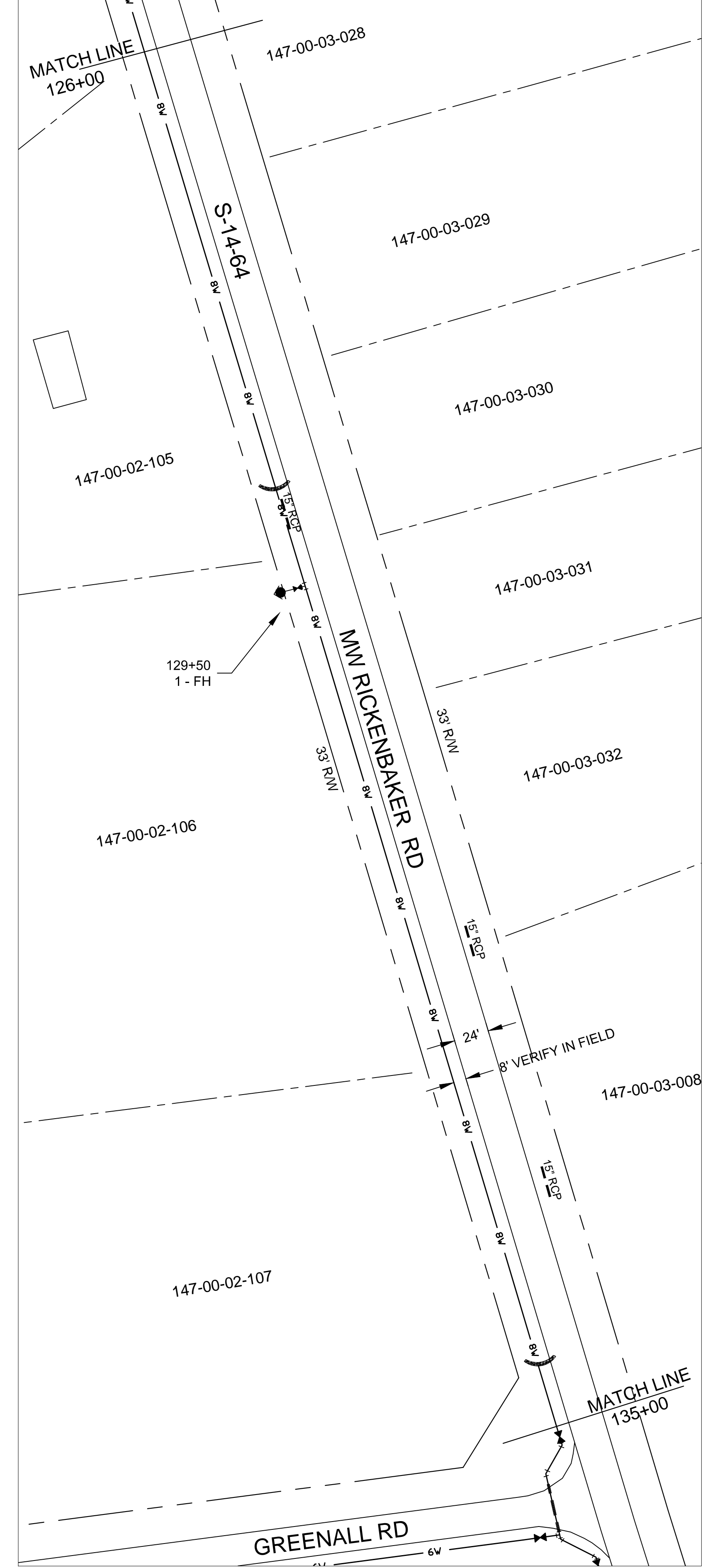
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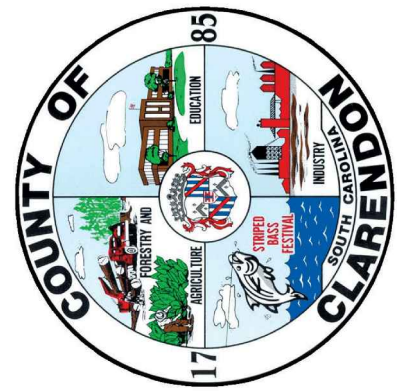

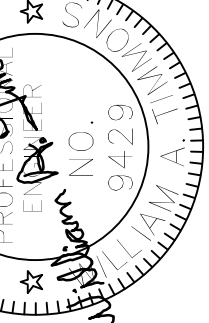
D
C
B
A



PLAN VIEW
SCALE: 1" = 50'
0 50' 100' 150'
GRAPHIC SCALE:

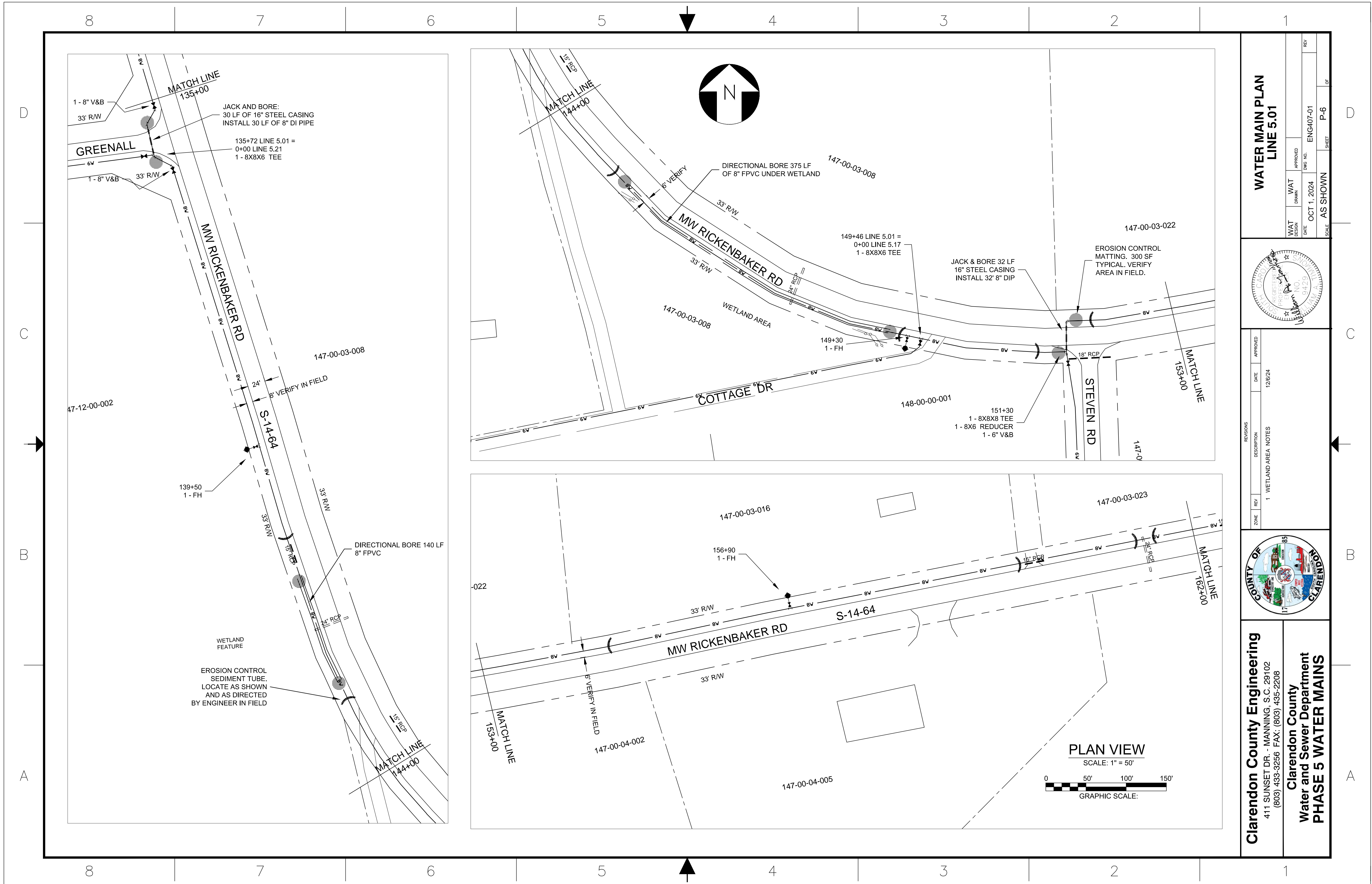


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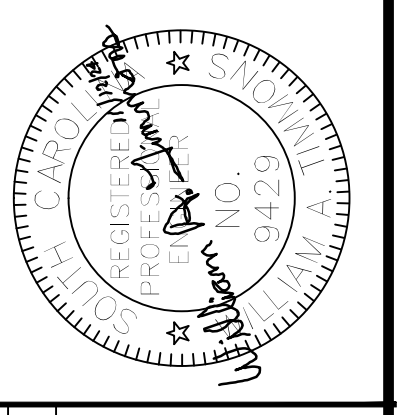
		Clarendon County Engineering 411 SUNSET DR. - MANNING, S.C. 29102 (803) 433-3256 FAX: (803) 435-2208 Clarendon County Water and Sewer Department PHASE 5 WATER MAINS	
REVISIONS ZONE REV DESCRIPTION 1 WETLAND AREA NOTES	DATE 12/6/24	APPROVED 	APPROVED 
WATER MAIN PLAN LINE 5.01		WAT DESIGN DATE OCT 1, 2024	WAT DRAWN BY AS SHOWN
PROJECT NO. 9429		DWG NO. ENG407-01	SHEET P-5 OF

D
C
B
A

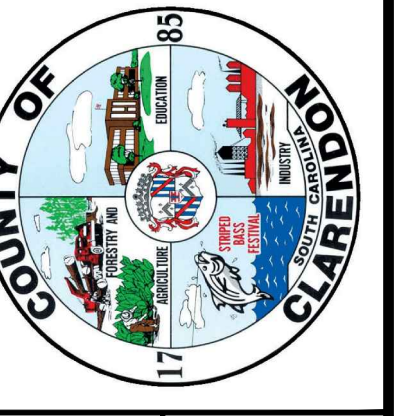
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WATER MAIN PLAN LINE 5.01



ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	1 WETLAND AREA NOTES	12/6/24	



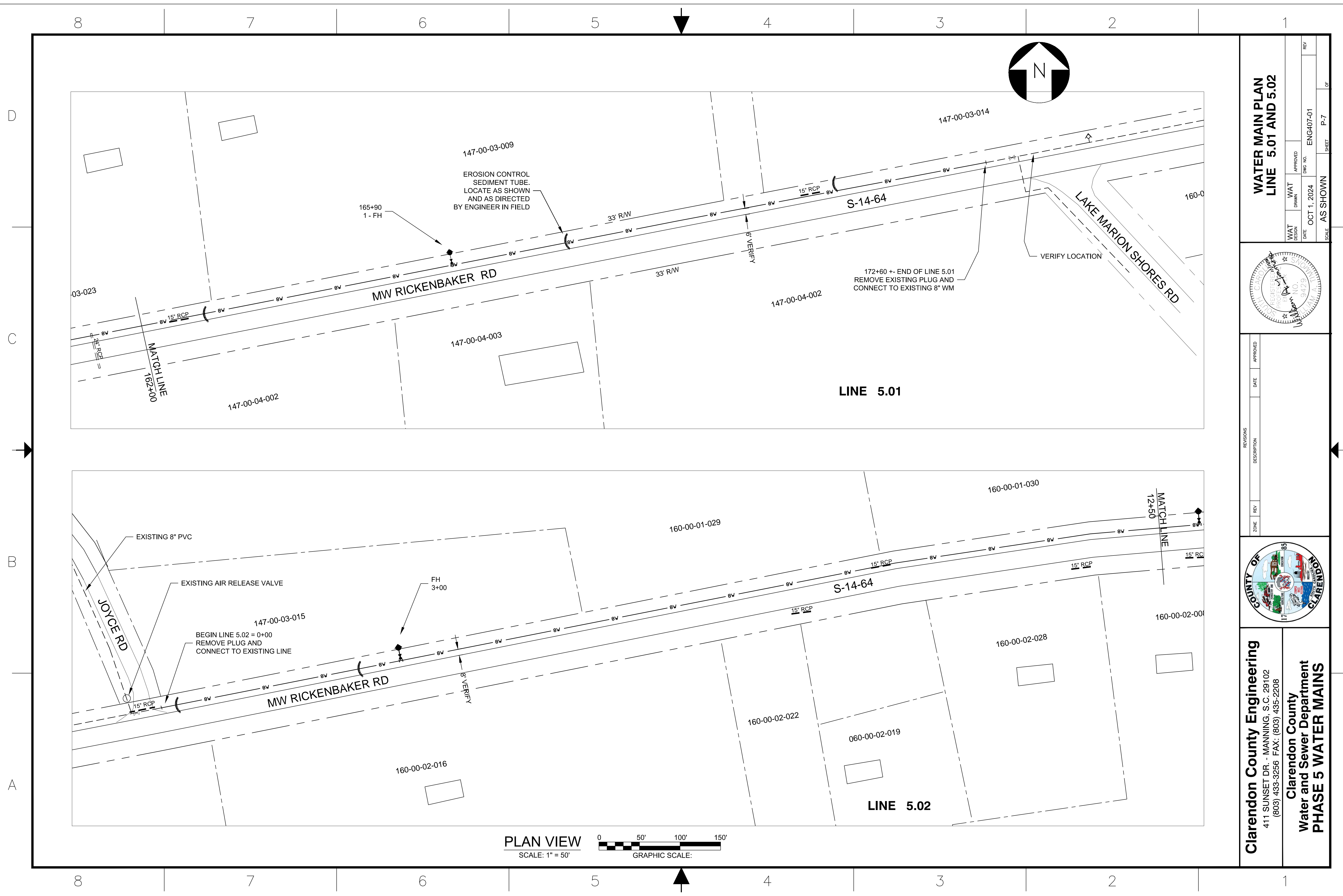
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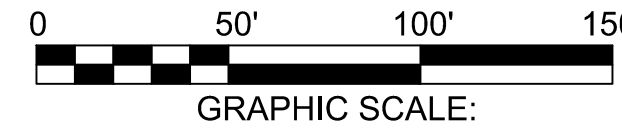
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			OCT 1, 2024	ENG407-01	P-6	

SCALE: AS SHOWN
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 OF: 6

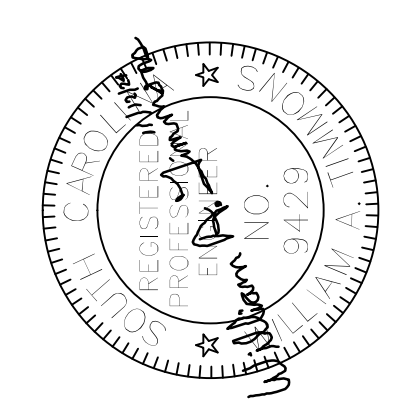
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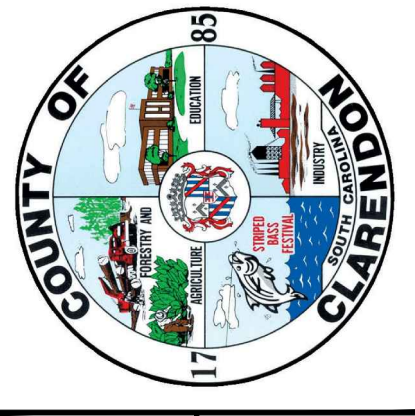
PLAN VIEW
SCALE: 1" = 50'



**WATER MAIN PLAN
LINE 5.01 AND 5.02**



REVISIONS	DATE	APPROVED
ZONE	REV	DESCRIPTION

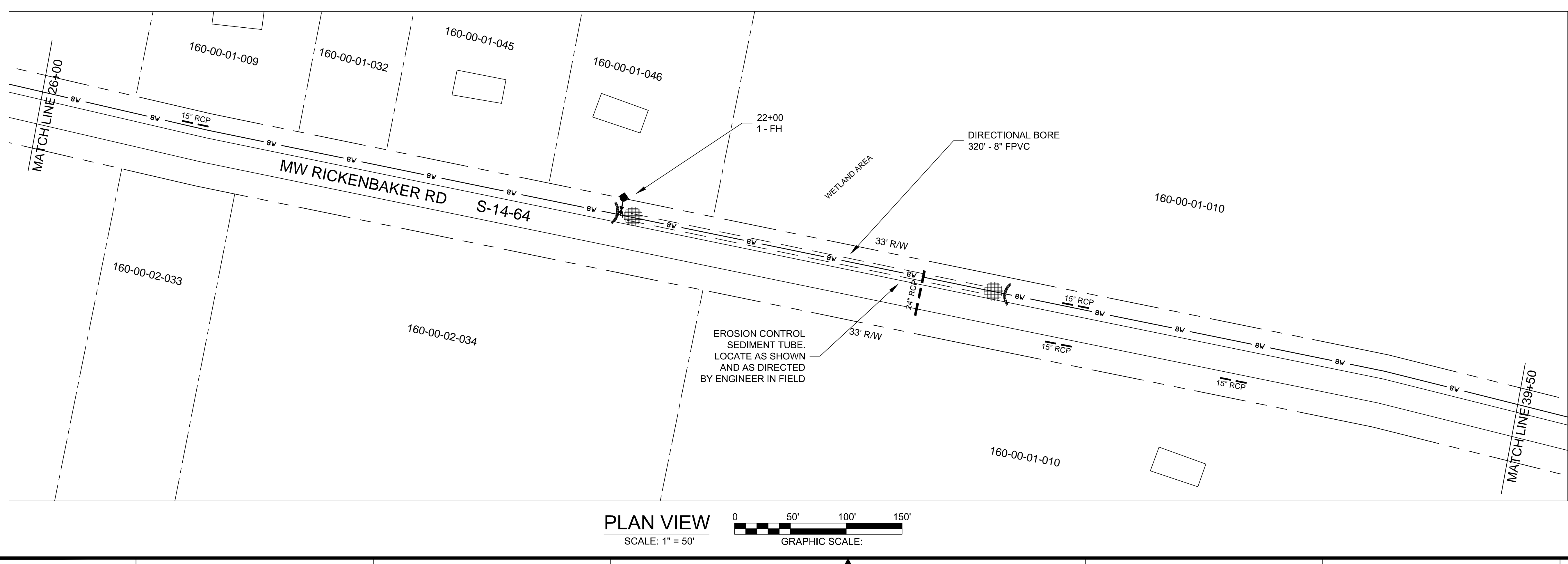
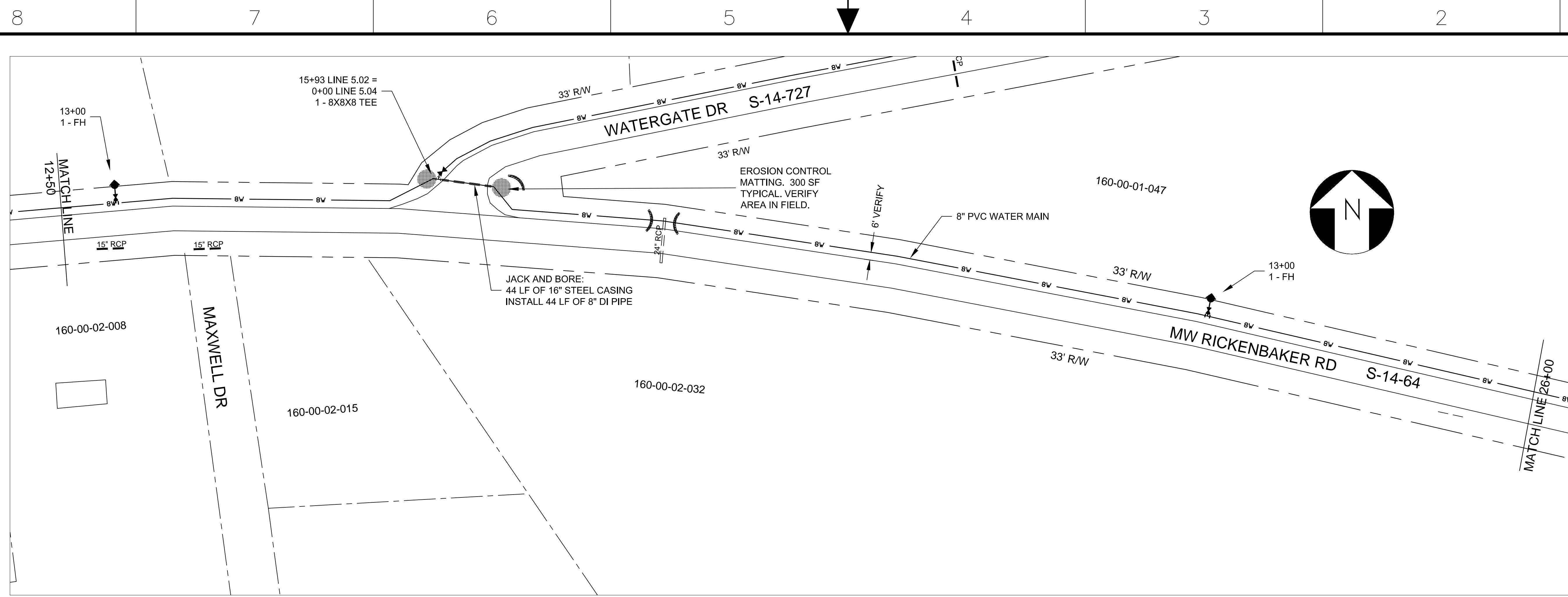


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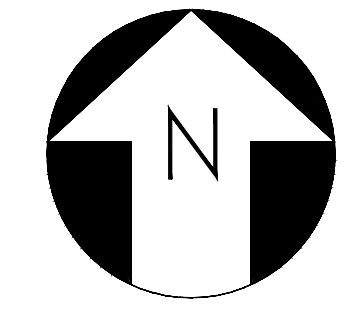
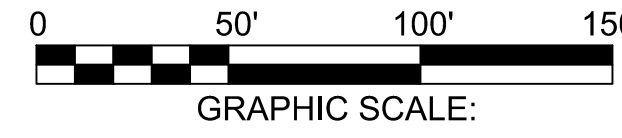
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	OCT 1, 2024		ENG407-01	
SCALE	AS SHOWN	SHEET	P-7	OF

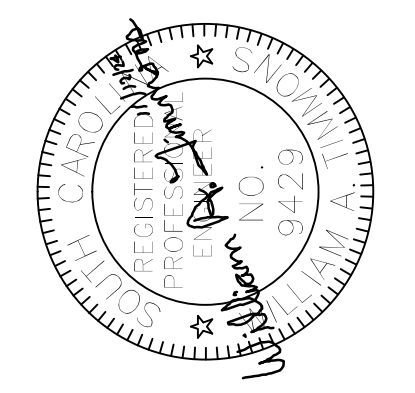
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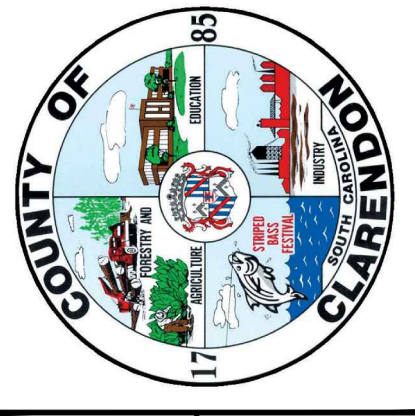
PLAN VIEW
SCALE: 1" = 50'



**WATER MAIN PLAN
LINE 5.02**



ZONE	REV	DESCRIPTION	DATE	APPROVED
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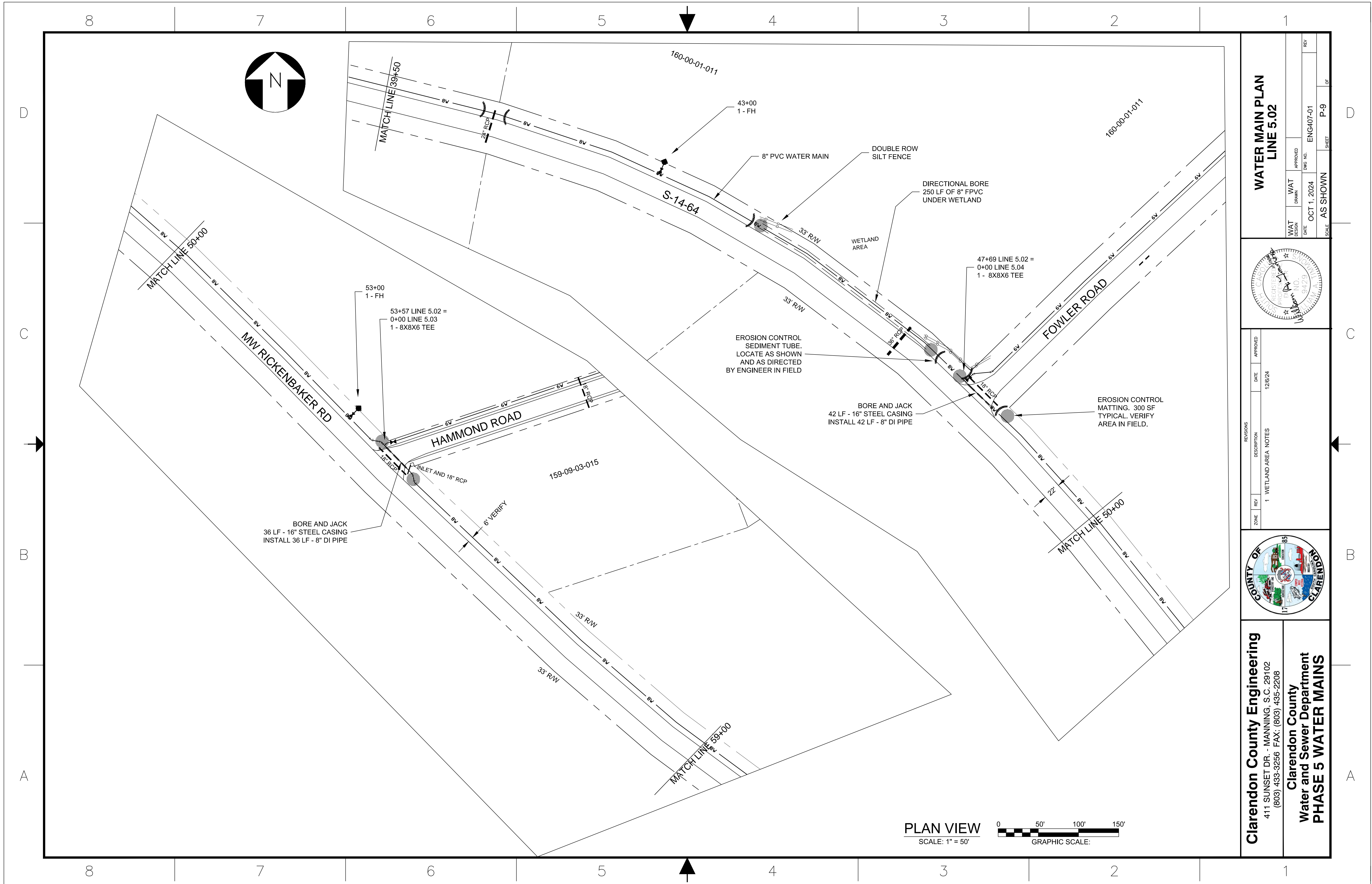
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WAT DESIGN	DATE	WAT DRAWN	APPROVED	DWG NO.	REV
	OCT 1, 2024			ENG407-01	

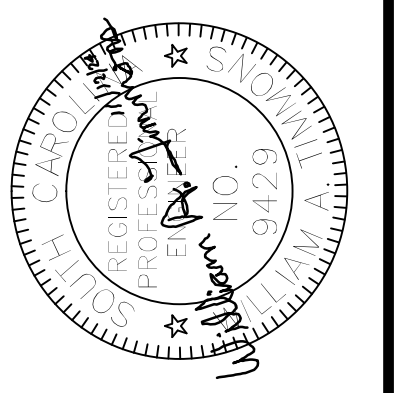
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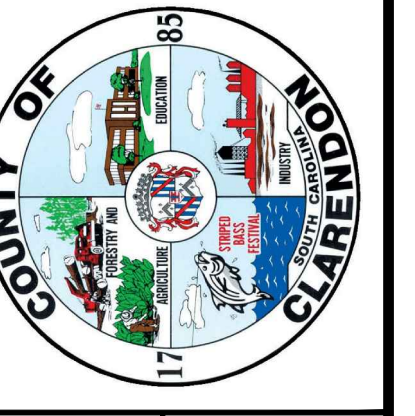


**WATER MAIN PLAN
LINE 5.02**

WAT DESIGN	DATE	APPROVED	NO.	REV
WAT DRAWN	DATE	APPROVED	NO.	REV
DATE	OCT 1, 2024	DATE	ENG407-01	
SCALE	AS SHOWN	SHEET	P-9	OF

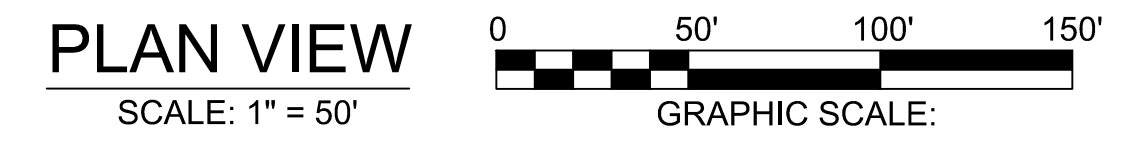


ZONE	REV	DESCRIPTION	DATE	APPROVED
1		WETLAND AREA NOTES	12/6/24	

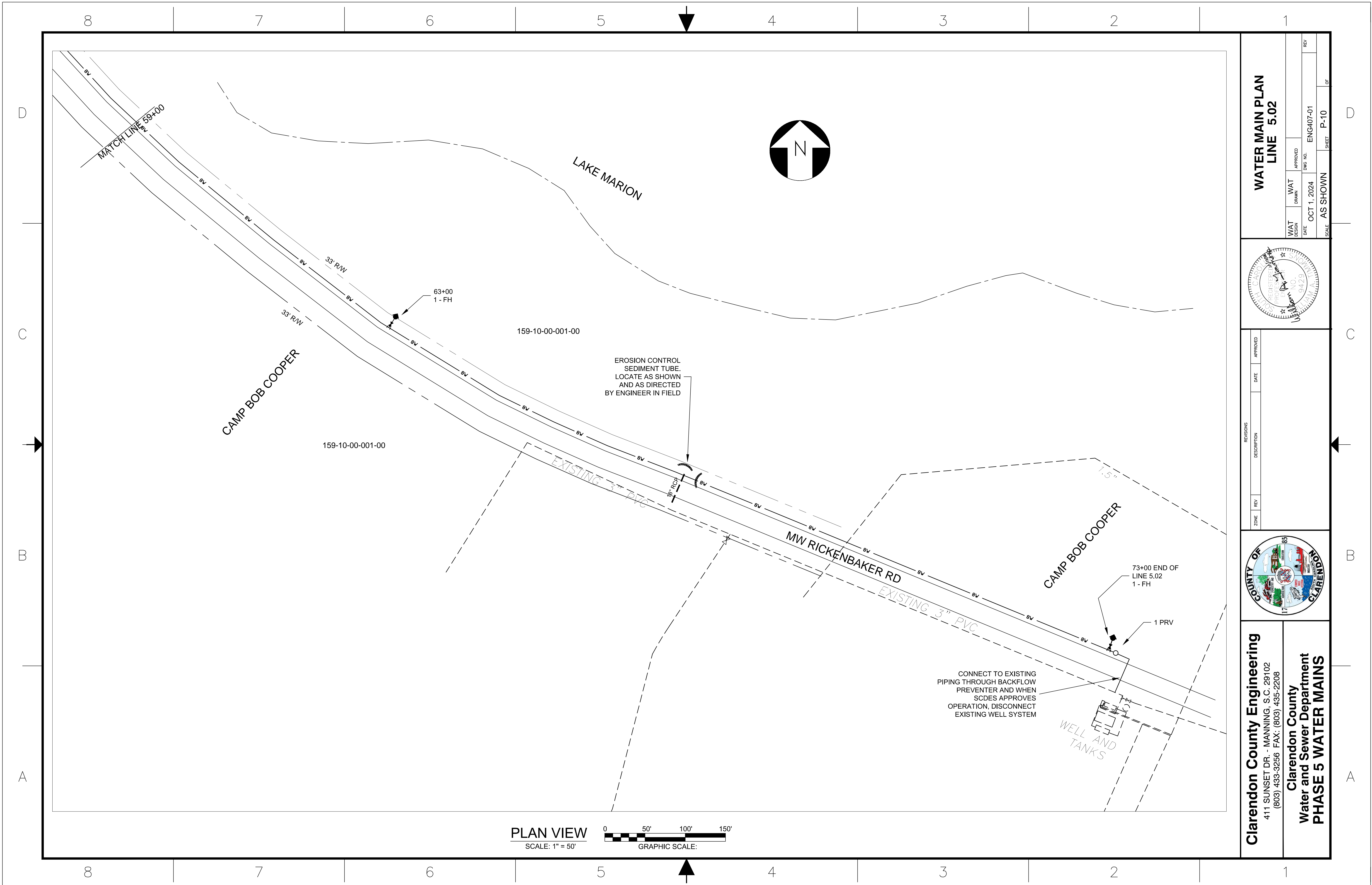


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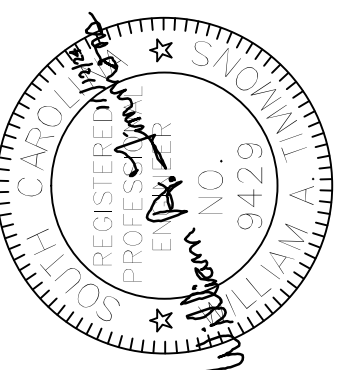


PLAN VIEW
SCALE: 1" = 50'

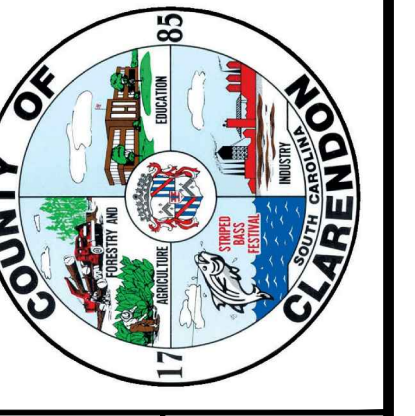
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GRAPHIC SCALE:

**WATER MAIN PLAN
LINE 5.02**

WAT DESIGN	DATE	APPROVED	ENG NO.	REV
WAT DRAWN	OCT 1, 2024	AS SHOWN	ENG407-01	
SCALE			SHEET	OF
			P-10	10



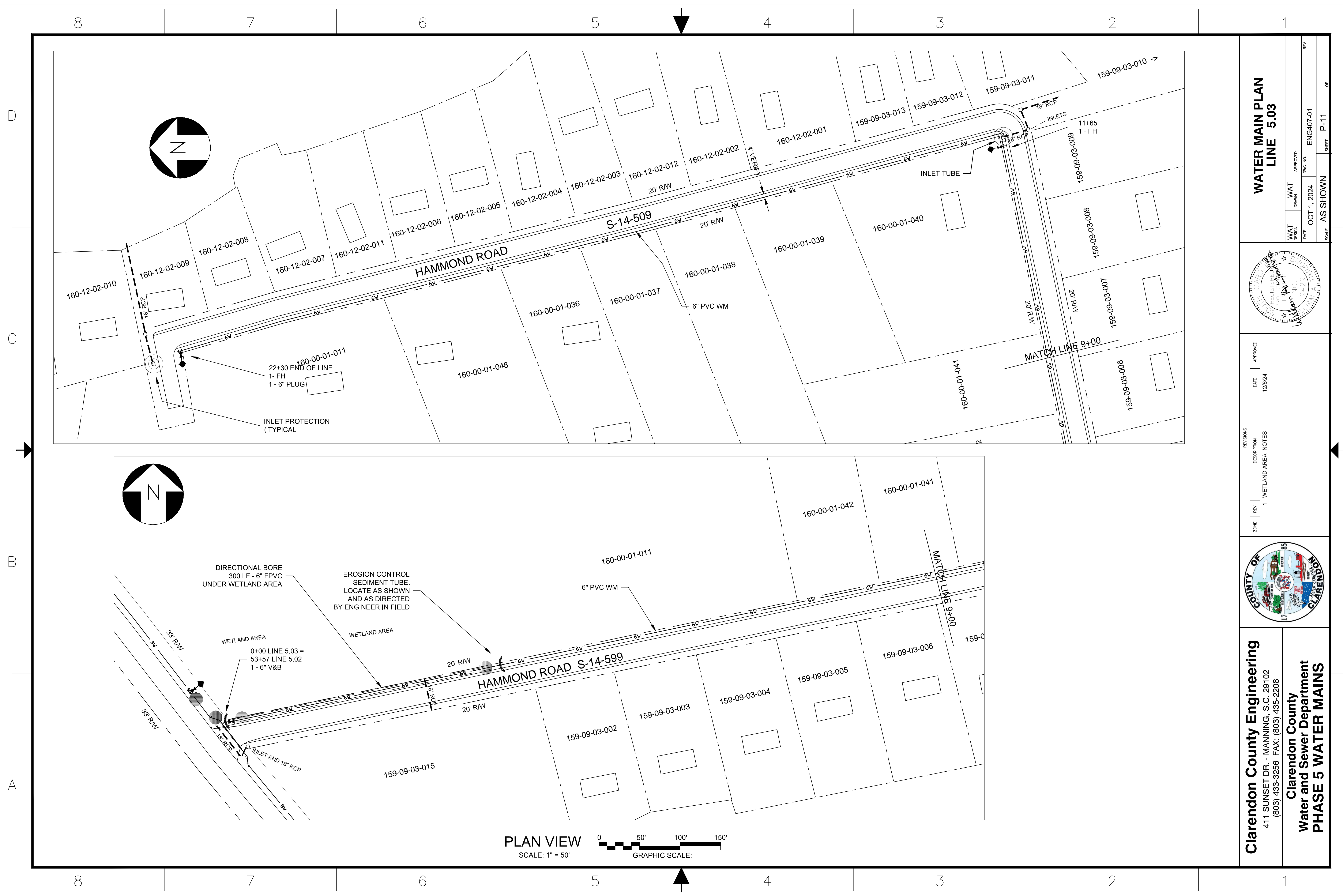
ZONE	REV	DESCRIPTION	DATE	APPROVED



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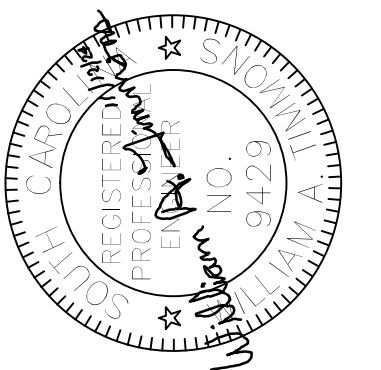
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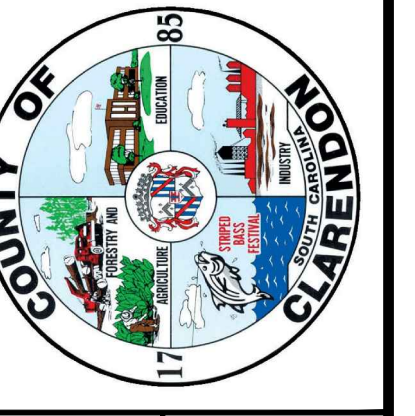


**WATER MAIN PLAN
LINE 5.03**

WAT DESIGN	DATE	APPROVED	DWG NO.	REV
	OCT 1, 2024		ENG407-01	
WAT DRAWN				
SCALE	AS SHOWN	SHEET	P-11	OF



ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	WETLAND AREA NOTES	12/6/24	

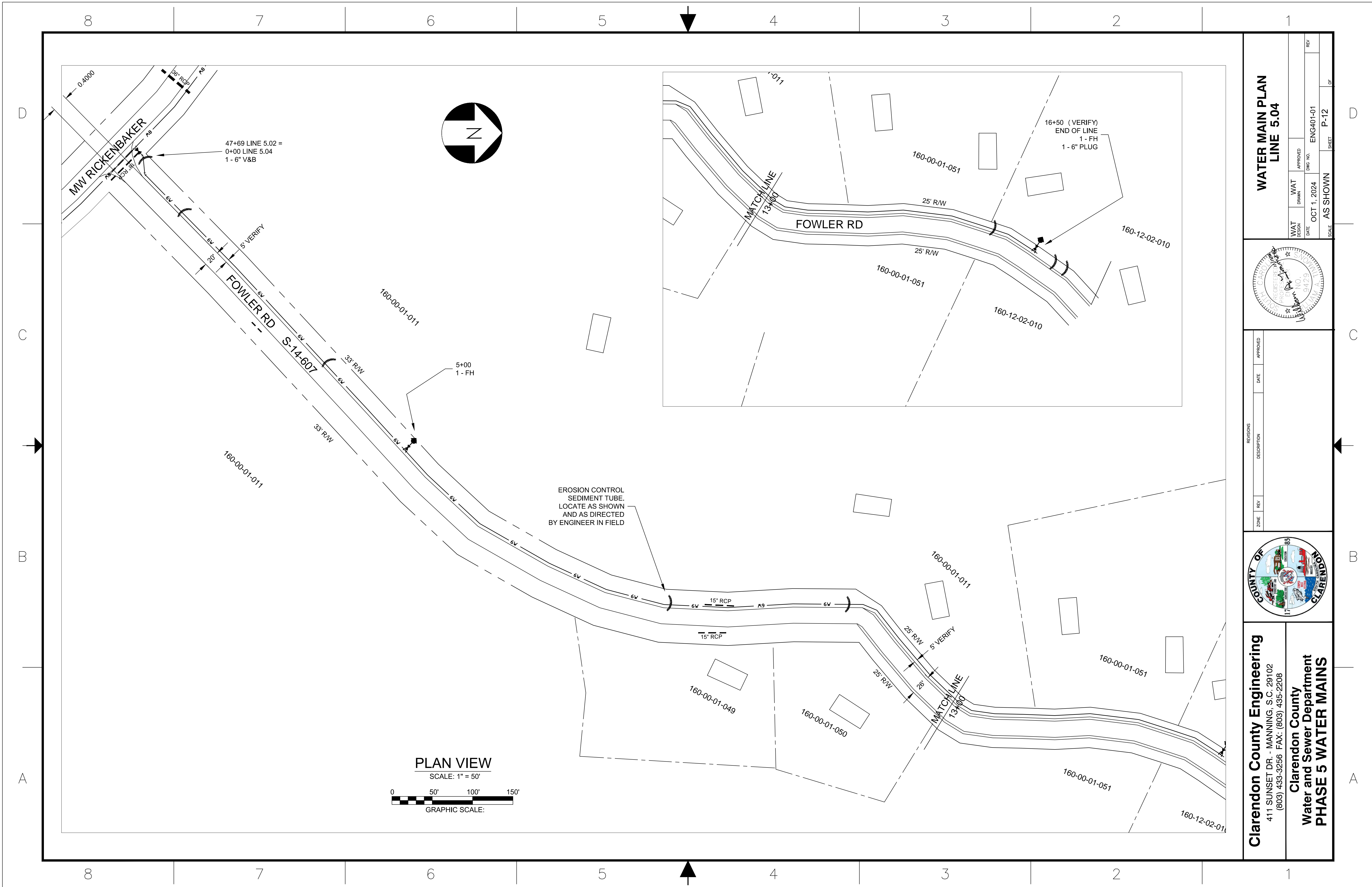


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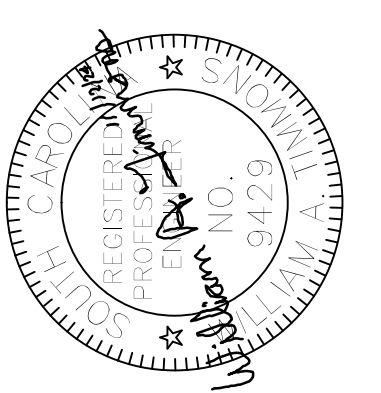
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 PHASE 5 WATER MAINS**

PLAN VIEW
 SCALE: 1" = 50'

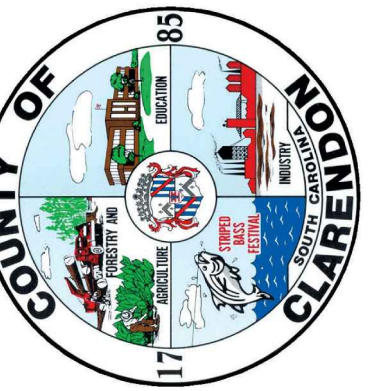
GRAPHIC SCALE:



**WATER MAIN PLAN
LINE 5.04**



ZONE	REV	DESCRIPTION	DATE	APPROVED



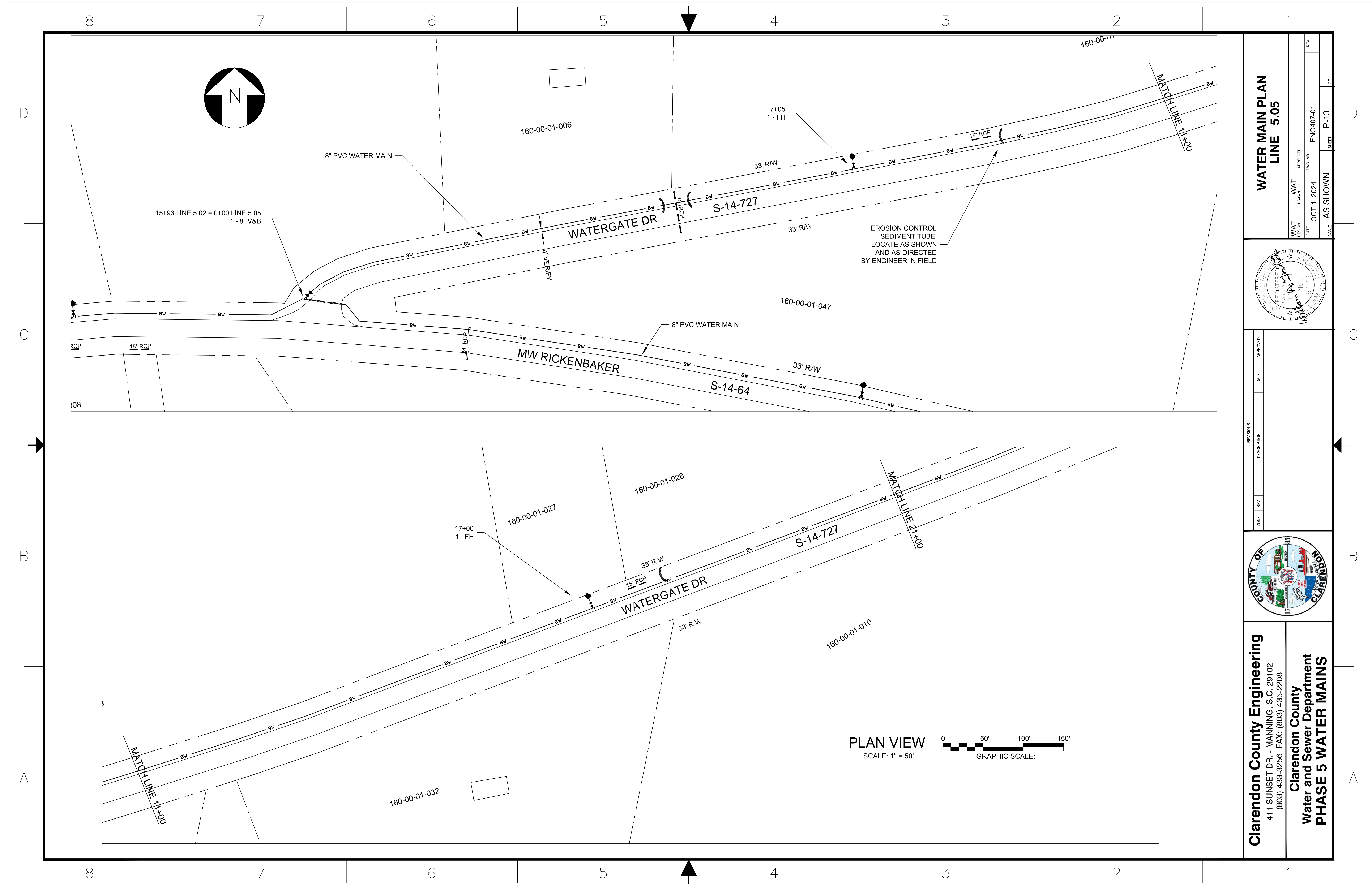
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WAT	WAT	APPROVED	REV
DESIGN	DRAWN	DWG NO.	

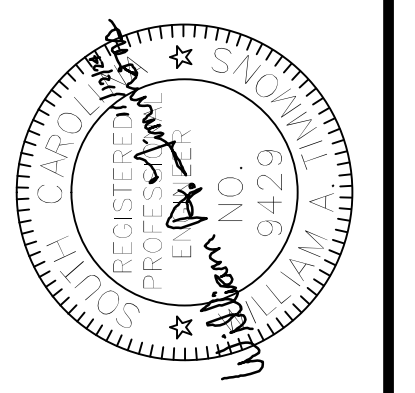
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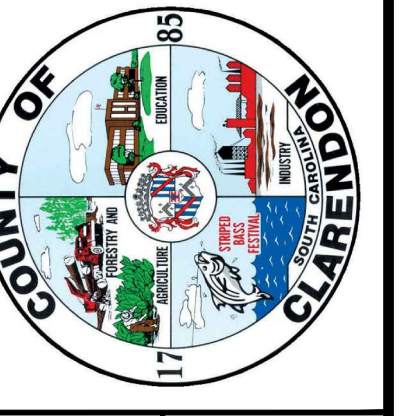


**WATER MAIN PLAN
LINE 5.05**

WAT DESIGN	DATE	APPROVED	REV
AS SHOWN	OCT 1, 2024	ENG407-01	P-13
WAT DRAWN	DATE	APPROVED	REV



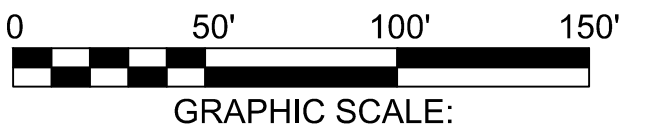
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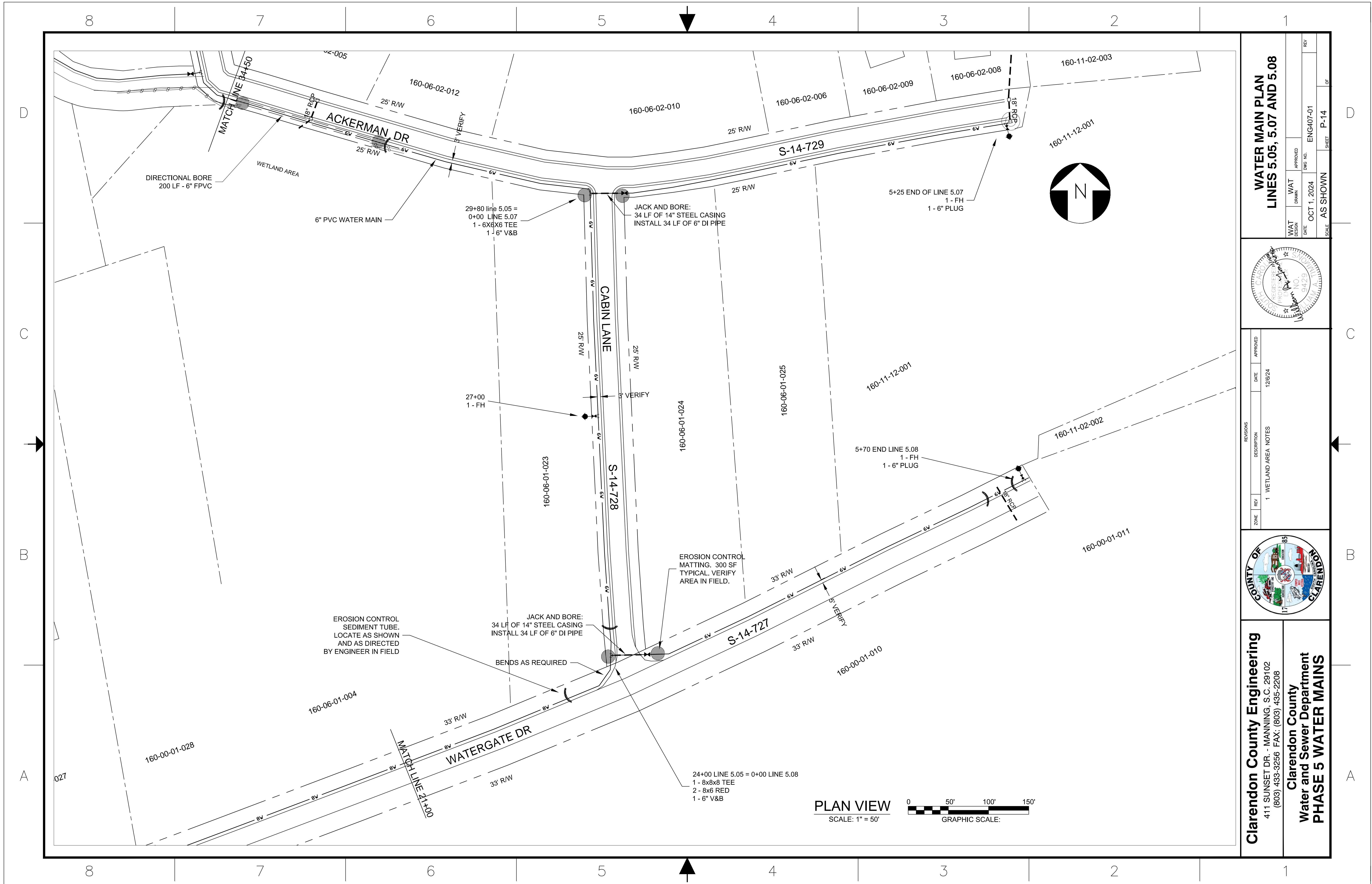
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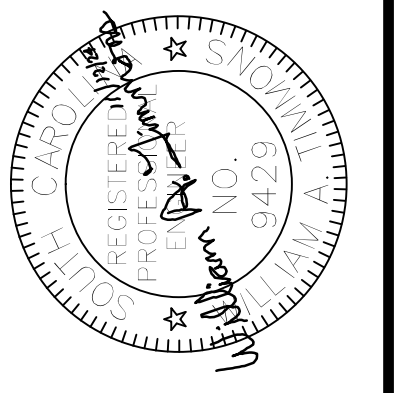
PLAN VIEW
SCALE: 1" = 50'



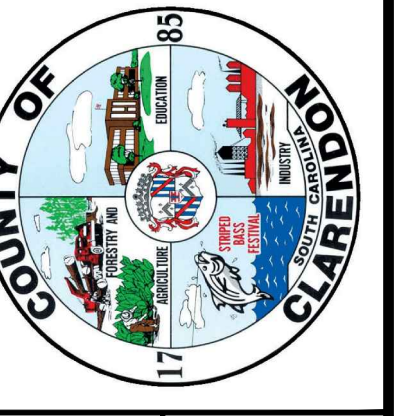
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WAT DESIGN	DATE	APPROVED	DWG NO.	REV
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WAT DRAWN				
SCALE	SHEET			
	P-14			

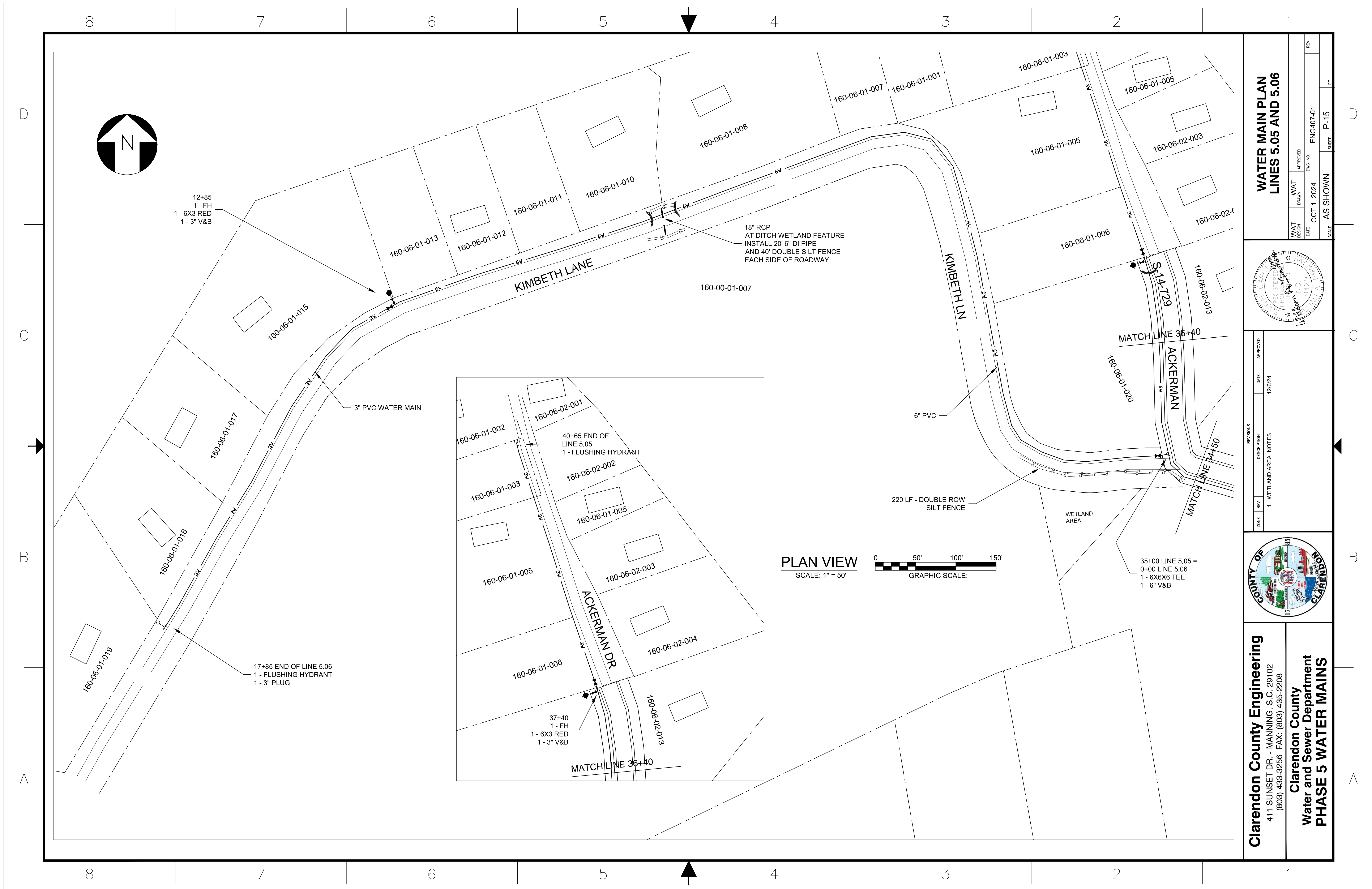


ZONE	REV	DESCRIPTION	DATE	APPROVED
1		WETLAND AREA NOTES	12/6/24	

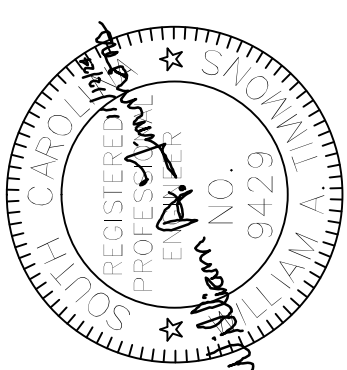


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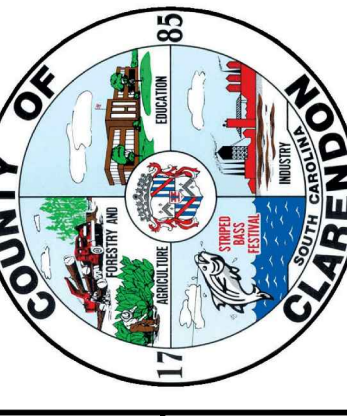
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**WATER MAIN PLAN
LINES 5.05 AND 5.06**



ZONE	REV	DATE	APPROVED
1		12/6/24	

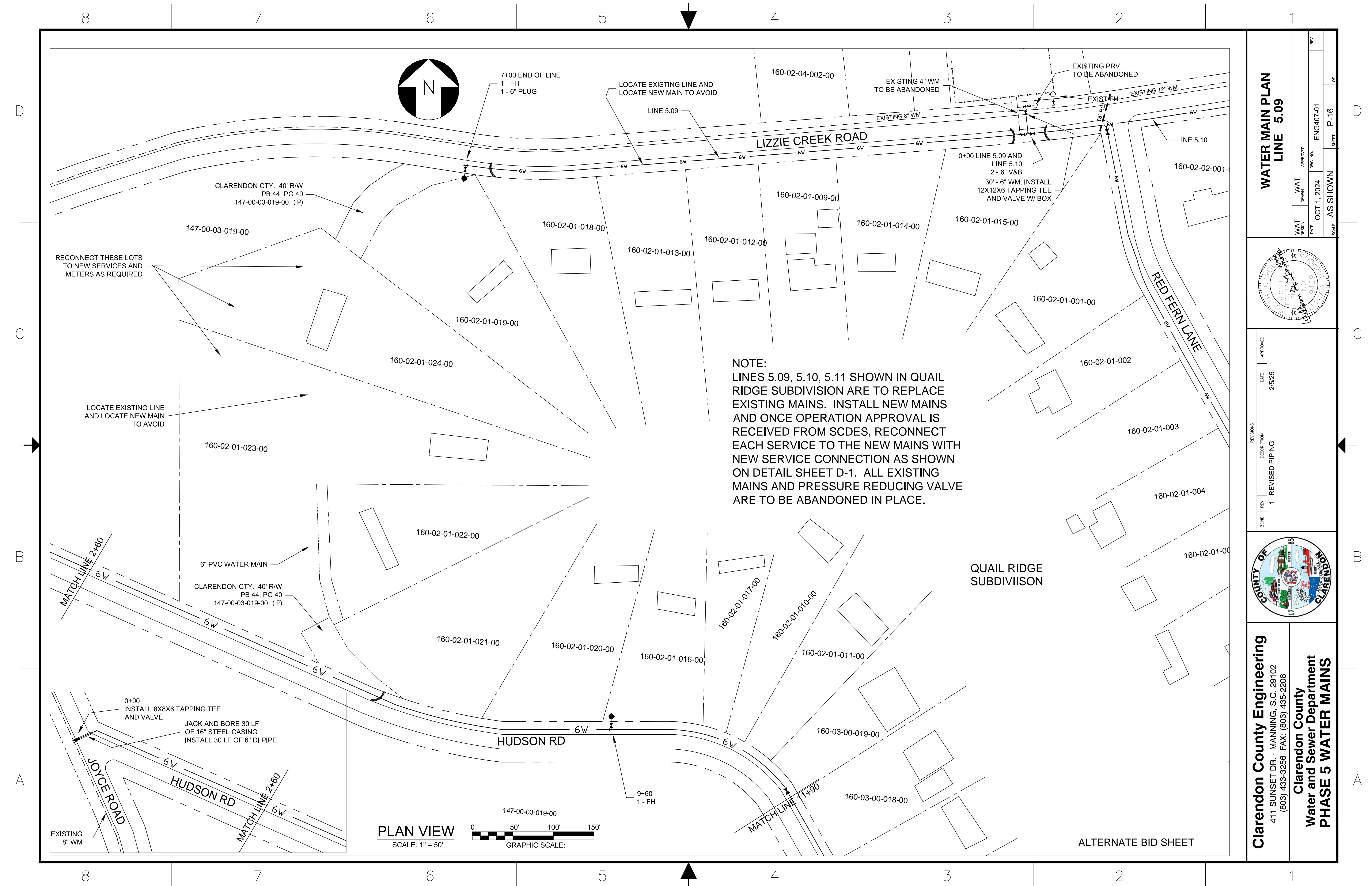


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WAT DESIGN	WAT DRAWN	WAT APPROVED	REV
DATE	DATE	DATE	NO.
OCT 1, 2024	AS SHOWN	ENG407-01	
SCALE	SHEET	P-15	OF

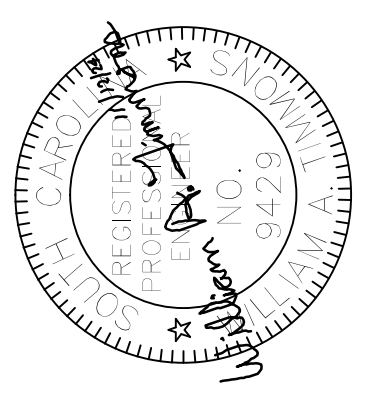
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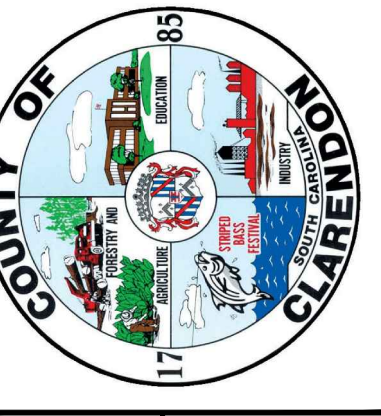
PLAN VIEW
SCALE: 1" = 50'
GRAPHIC SCALE: 0 50' 100' 150'

NOTE:
LINES 5.09, 5.10, 5.11 SHOWN IN QUAIL RIDGE SUBDIVISION ARE TO REPLACE EXISTING MAINS. INSTALL NEW MAINS AND ONCE OPERATION APPROVAL IS RECEIVED FROM SCDES, RECONNECT EACH SERVICE TO THE NEW MAINS WITH NEW SERVICE CONNECTION AS SHOWN ON DETAIL SHEET D-1. ALL EXISTING MAINS AND PRESSURE REDUCING VALVE ARE TO BE ABANDONED IN PLACE.

**WATER MAIN PLAN
LINE 5.09**



ZONE	REV	DESCRIPTION	DATE	APPROVED
1	1	REVISED PIPING	2/5/25	



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WAT DESIGN DATE	WAT DRAWN	APPROVED	DWG NO.	ENG407-01	REV
OCT 1, 2024	AS SHOWN				

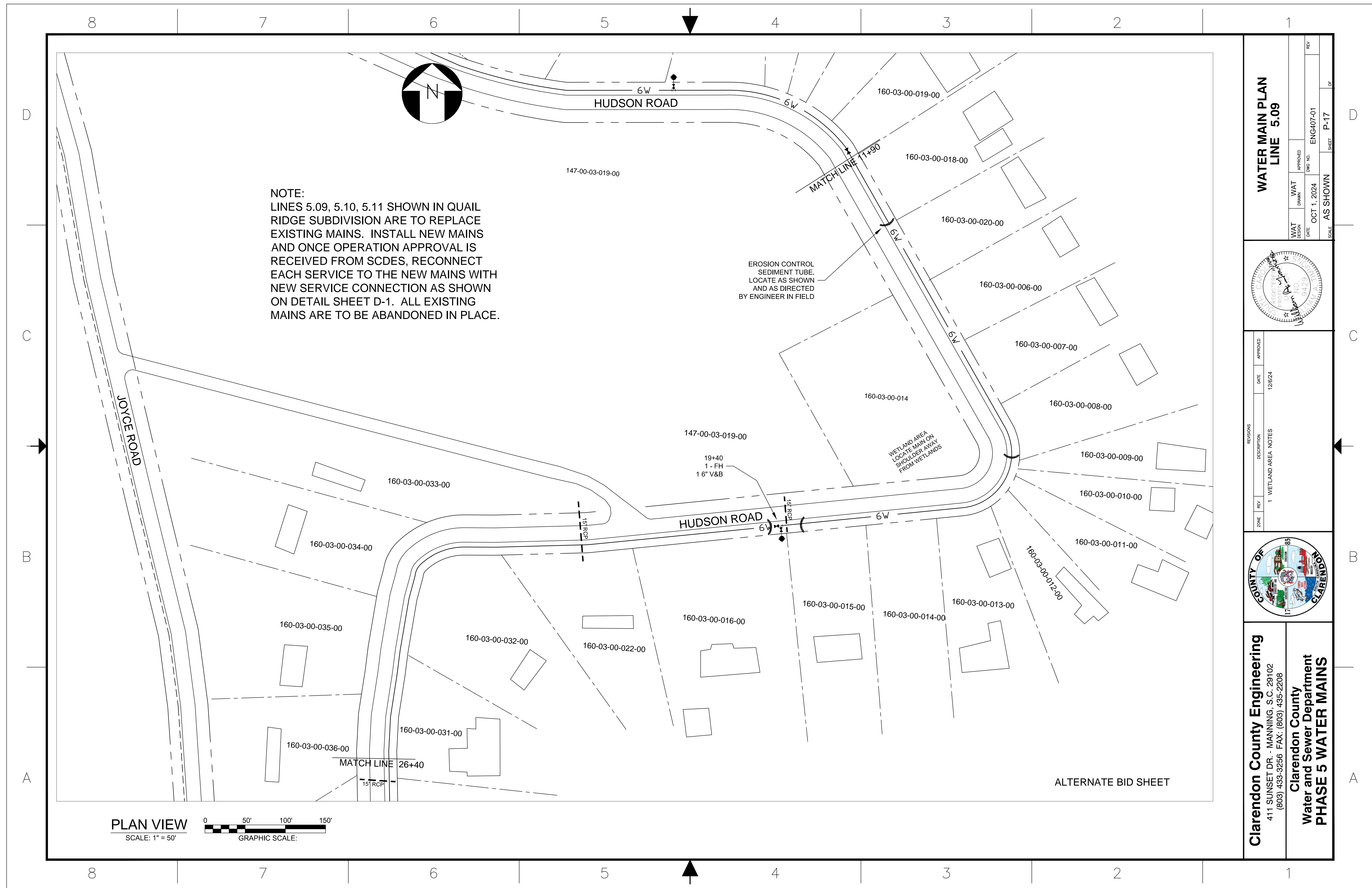
SCALE: AS SHOWN

SHEET: P-16

CLARENDON COUNTY

ALTERNATE BID SHEET

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NOTE:
LINES 5.09, 5.10, 5.11 SHOWN IN QUAIL RIDGE SUBDIVISION ARE TO REPLACE EXISTING MAINS. INSTALL NEW MAINS AND ONCE OPERATION APPROVAL IS RECEIVED FROM SCDES, RECONNECT EACH SERVICE TO THE NEW MAINS WITH NEW SERVICE CONNECTION AS SHOWN ON DETAIL SHEET D-1. ALL EXISTING MAINS ARE TO BE ABANDONED IN PLACE.

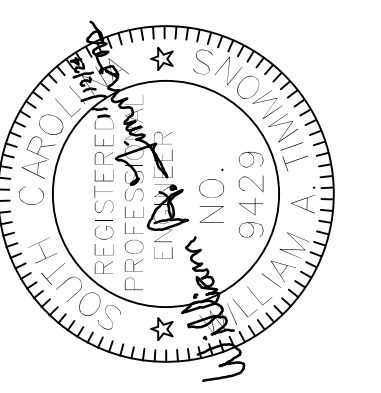
EROSION CONTROL SEDIMENT TUBE. LOCATE AS SHOWN AND AS DIRECTED BY ENGINEER IN FIELD

WETLAND AREA. LOCATE MAIN ON SHOULDER AWAY FROM WETLANDS

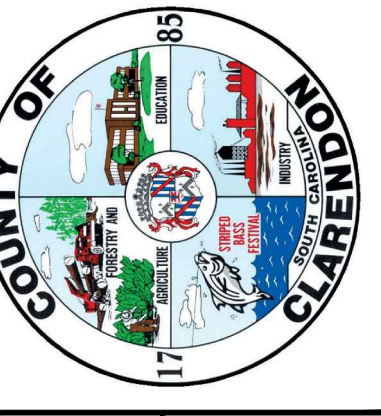
PLAN VIEW
SCALE: 1" = 50'
GRAPHIC SCALE: 0 50' 100' 150'

**WATER MAIN PLAN
LINE 5.09**

WAT DESIGN	DATE	WAT DRAWN	APPROVED	REV
	OCT 1, 2024		ENG407-01	
SCALE AS SHOWN				SHEET P-17 OF



REVISIONS	DATE	APPROVED
1 WETLAND AREA NOTES	12/6/24	

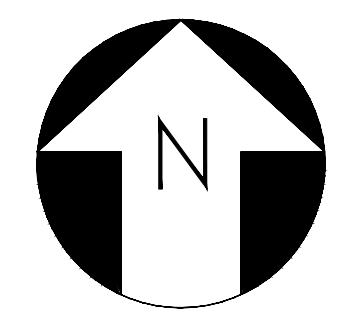
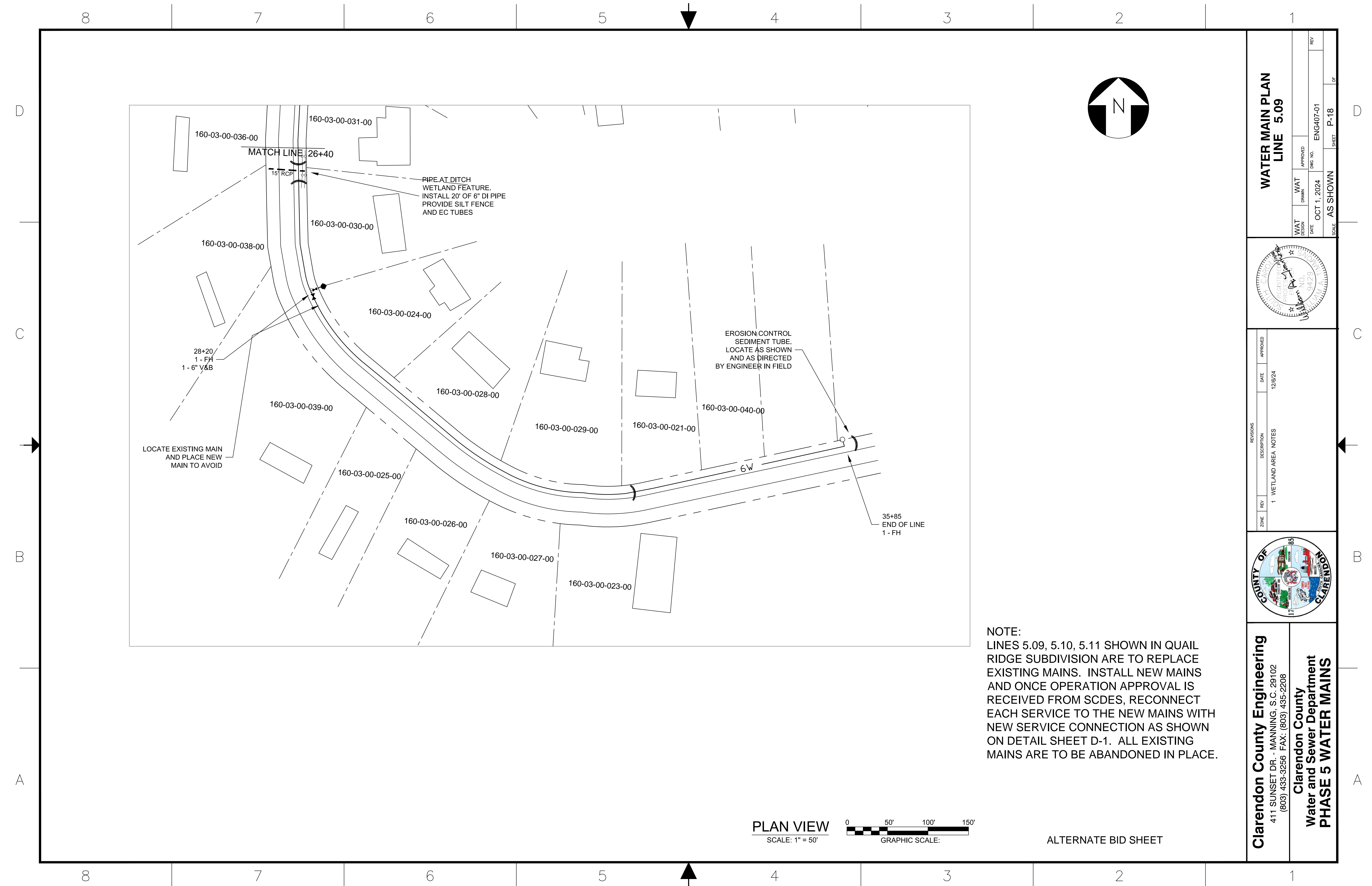


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ALTERNATE BID SHEET

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NOTE:
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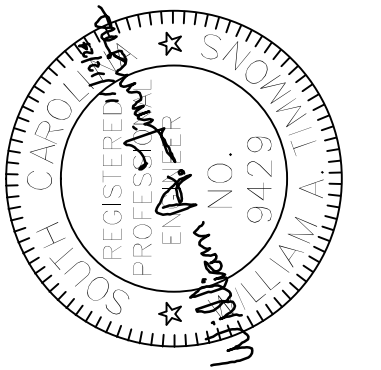
PLAN VIEW
SCALE: 1" = 50'



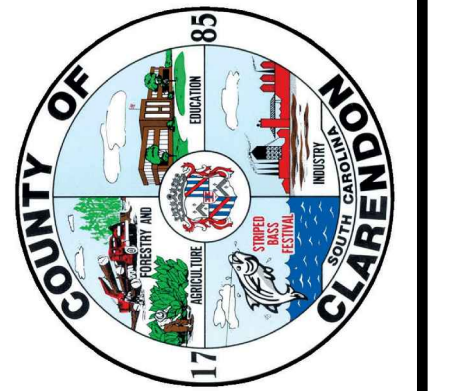
ALTERNATE BID SHEET

**WATER MAIN PLAN
LINE 5.09**

WAT DESIGN	DATE	WAT DRAWN	APPROVED	REV
	OCT 1, 2024			
SCALE			SHEET	
AS SHOWN			P-18 OF	
DWG NO.			ENG407-01	



ZONE	REV	DESCRIPTION	DATE	APPROVED
1		WETLAND AREA NOTES	12/6/24	

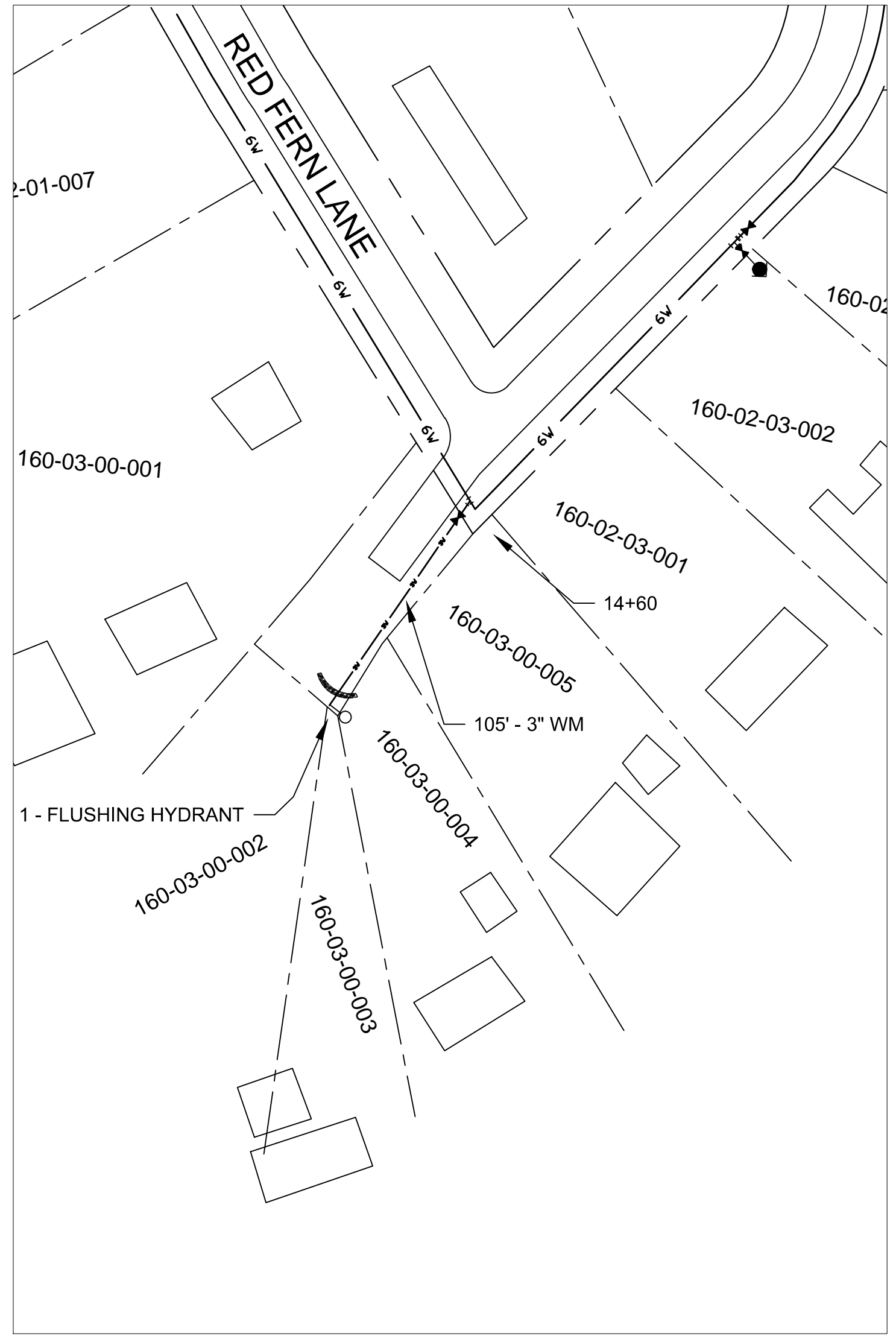


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NOTE:
 LINES 5.09, 5.10, 5.11 SHOWN IN QUAIL RIDGE SUBDIVISION ARE TO REPLACE EXISTING MAINS. INSTALL NEW MAINS AND ONCE OPERATION APPROVAL IS RECEIVED FROM SCDES, RECONNECT EACH SERVICE TO THE NEW MAINS WITH NEW SERVICE CONNECTION AS SHOWN ON DETAIL SHEET D-1. ALL EXISTING MAINS AND PRESSURE REDUCING VALVE ARE TO BE ABANDONED IN PLACE.

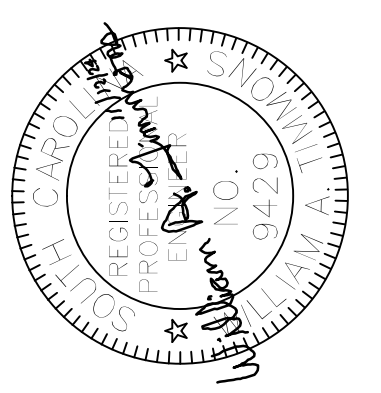


PLAN VIEW
 SCALE: 1" = 50'

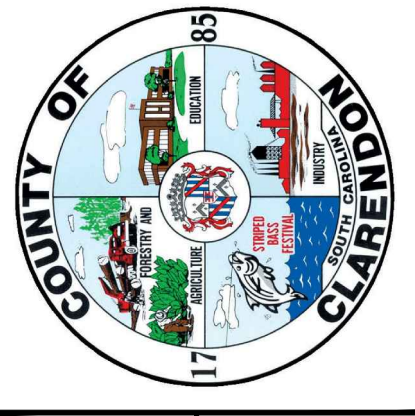
0 50' 100' 150'
 GRAPHIC SCALE:

**WATER MAIN PLAN
 LINE 5.10**

WAT DESIGN	DATE	APPROVED	REV
WAT DRAWN	OCT 1, 2024	ENG407-01	
AS SHOWN			P-19



REVISIONS	DATE	APPROVED
1 WETLAND AREA NOTES	12/6/24	

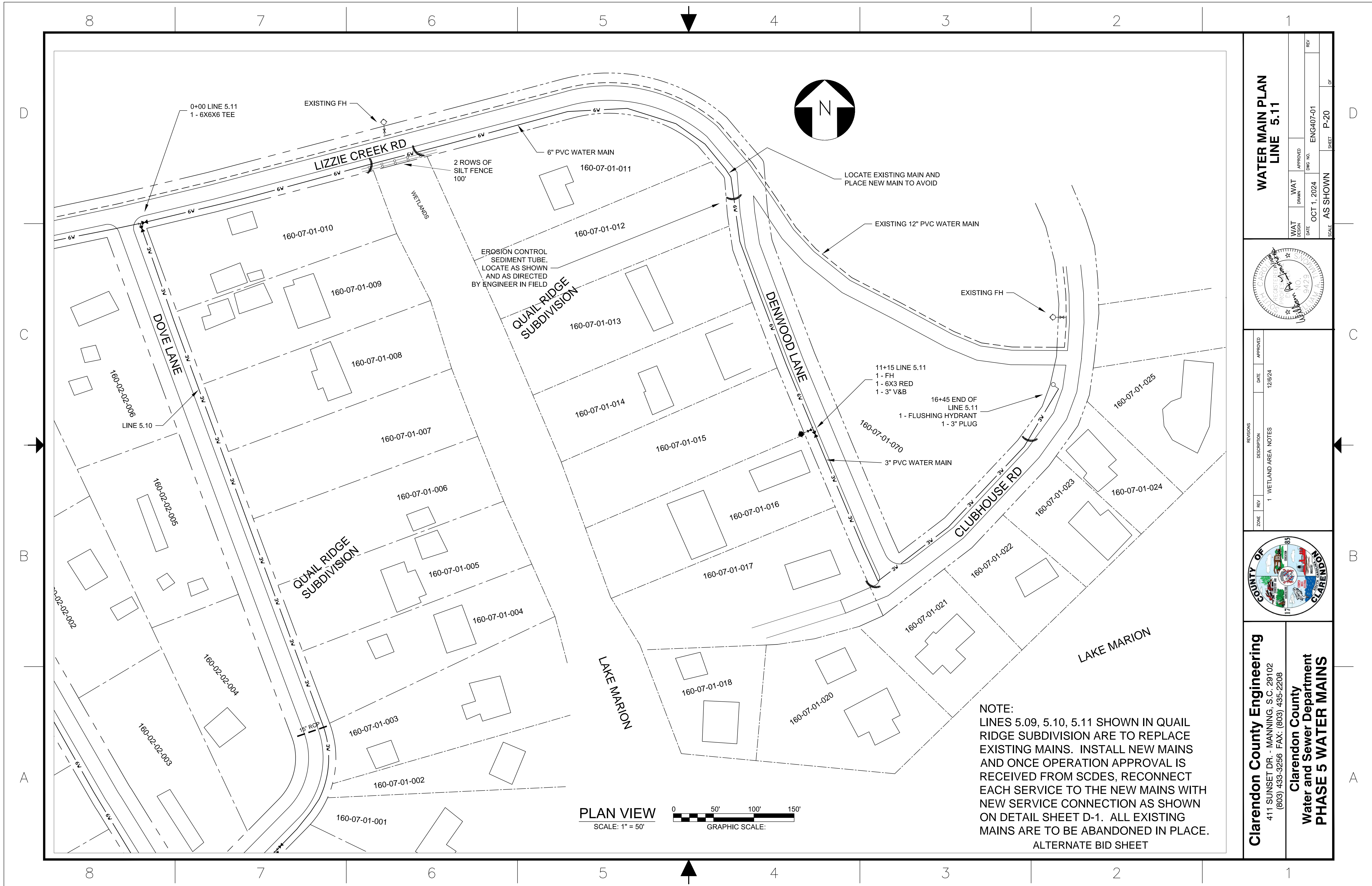


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ALTERNATE BID SHEET

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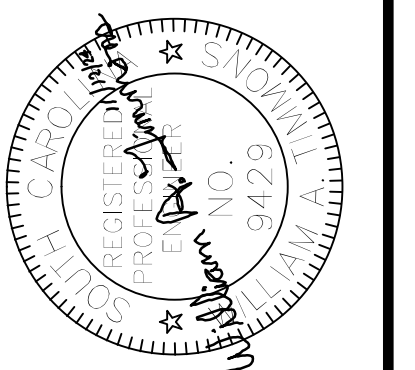
PLAN VIEW
SCALE: 1" = 50'

0 50' 100' 150'
GRAPHIC SCALE:

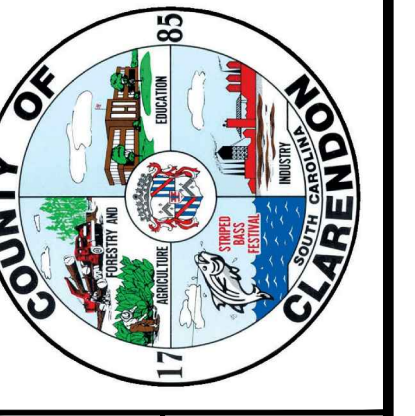
NOTE:
LINES 5.09, 5.10, 5.11 SHOWN IN QUAIL RIDGE SUBDIVISION ARE TO REPLACE EXISTING MAINS. INSTALL NEW MAINS AND ONCE OPERATION APPROVAL IS RECEIVED FROM SCDES, RECONNECT EACH SERVICE TO THE NEW MAINS WITH NEW SERVICE CONNECTION AS SHOWN ON DETAIL SHEET D-1. ALL EXISTING MAINS ARE TO BE ABANDONED IN PLACE.
ALTERNATE BID SHEET

**WATER MAIN PLAN
LINE 5.11**

WAT DESIGN	DATE	APPROVED	REV
WAT DRAWN	DATE	APPROVED	REV
DATE	OCT 1, 2024	DWG NO.	ENG407-01
SCALE	AS SHOWN	SHEET	P-20

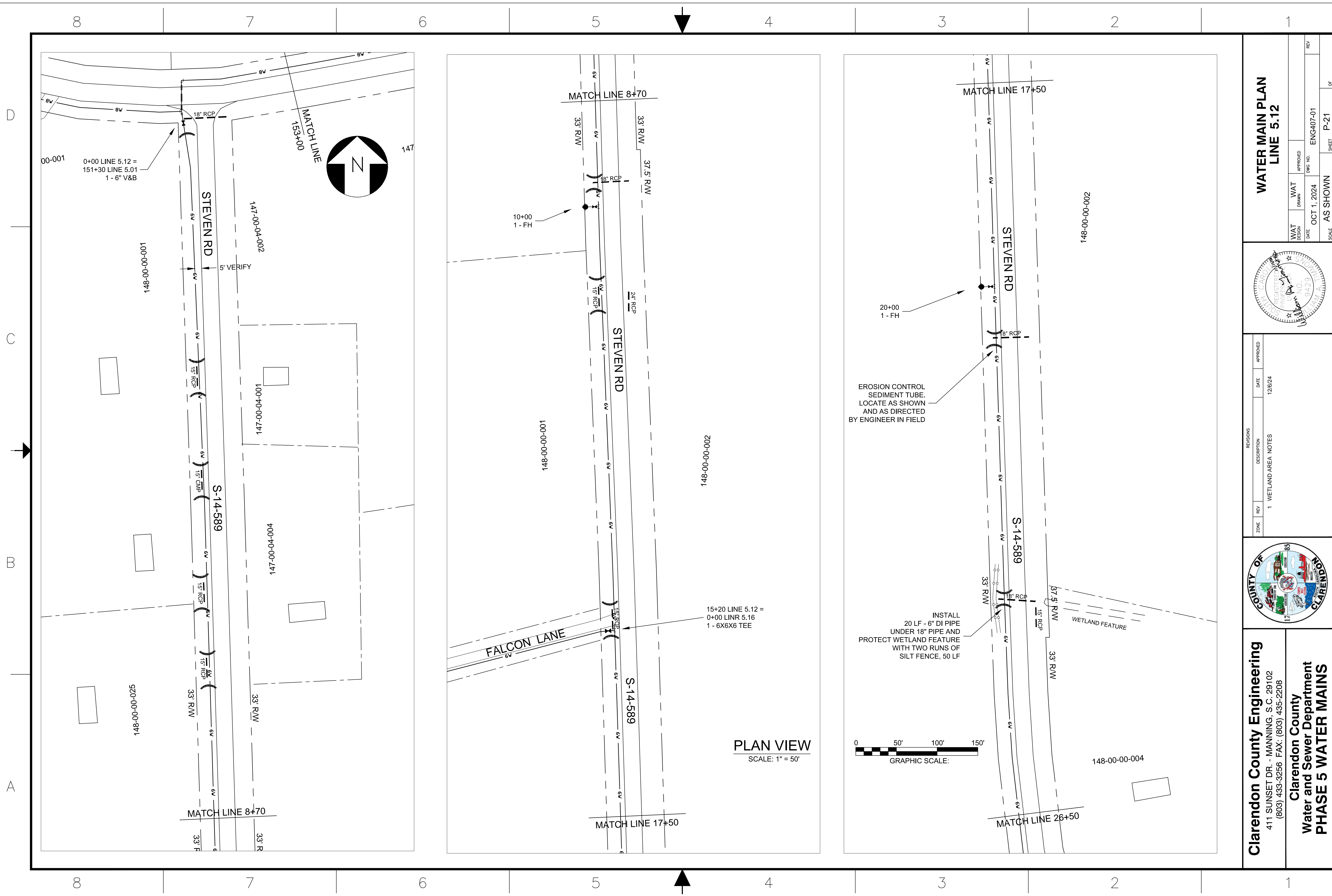


ZONE	REV	DESCRIPTION	DATE	APPROVED
1	1	WETLAND AREA NOTES	12/6/24	

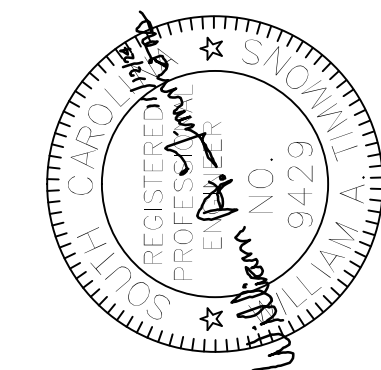


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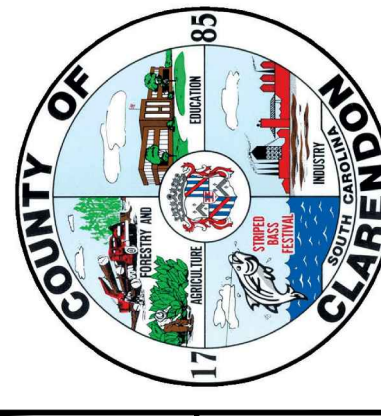
**Clarendon County
Water and Sewer Department
PHASE 5 WATER MAINS**



**WATER MAIN PLAN
LINE 5.12**



ZONE	REV	DESCRIPTION	DATE	APPROVED
1		WETLAND AREA NOTES	12/8/24	

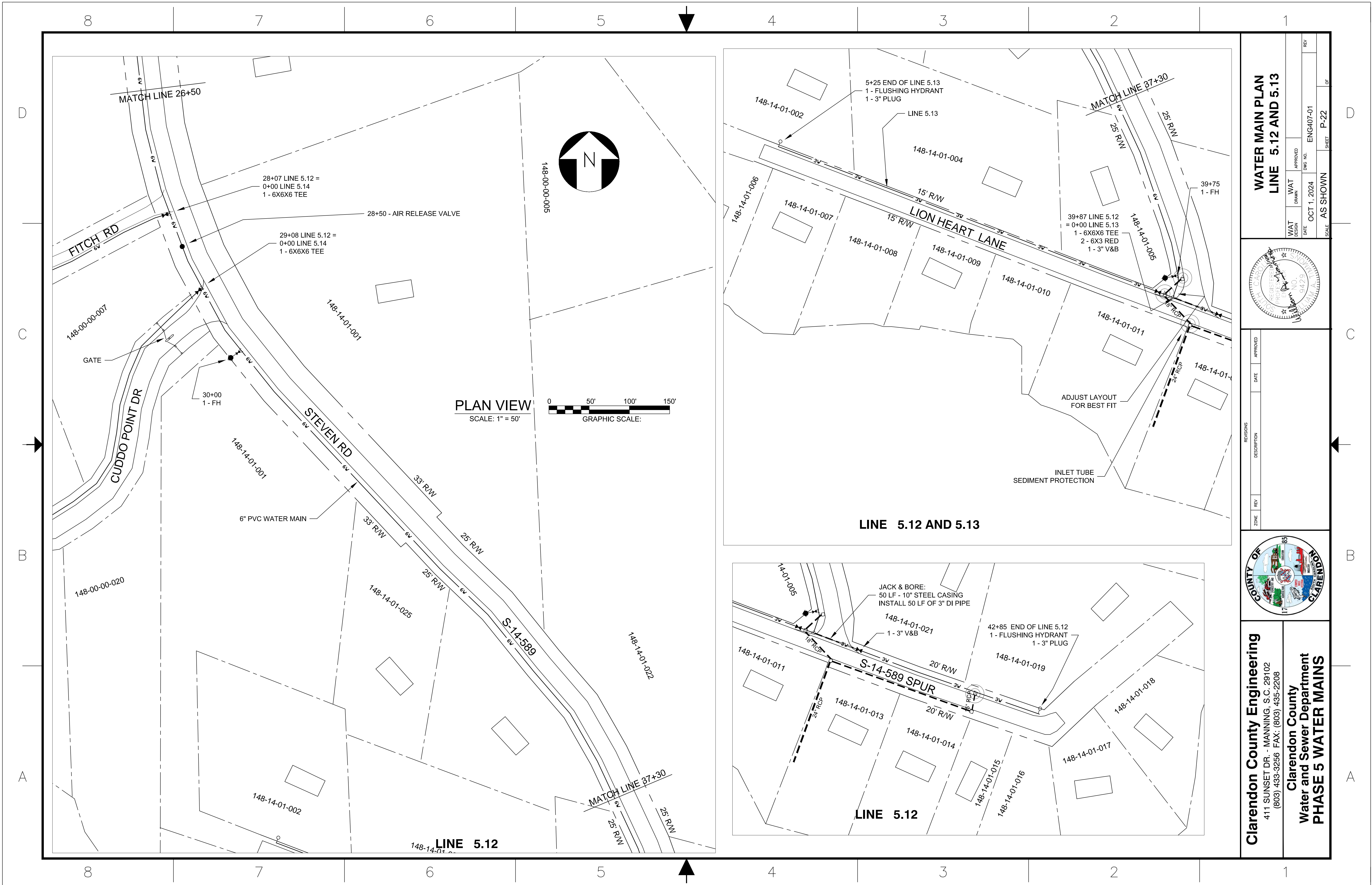


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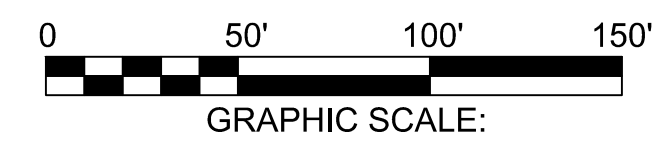
**Clarendon County
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WAT DESIGN	WAT DRAWN	WAT APPROVED	DATE	DATE	DATE	DATE
			OCT 1, 2024	ENG407-01	P-21	

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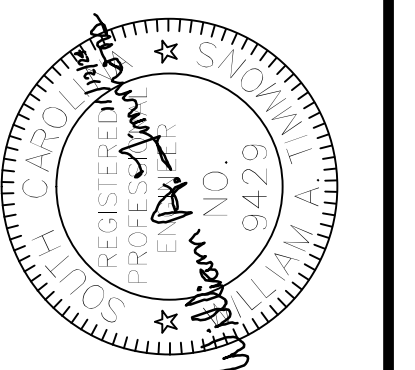


PLAN VIEW
SCALE: 1" = 50'

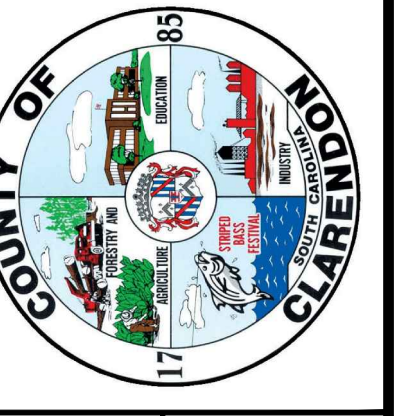


WATER MAIN PLAN
LINE 5.12 AND 5.13

WAT	DATE	APPROVED	DWG NO.	ENG	REV
DESIGN	OCT 1, 2024	[Signature]	ENG407-01		
SCALE	AS SHOWN	SHEET	P-22		

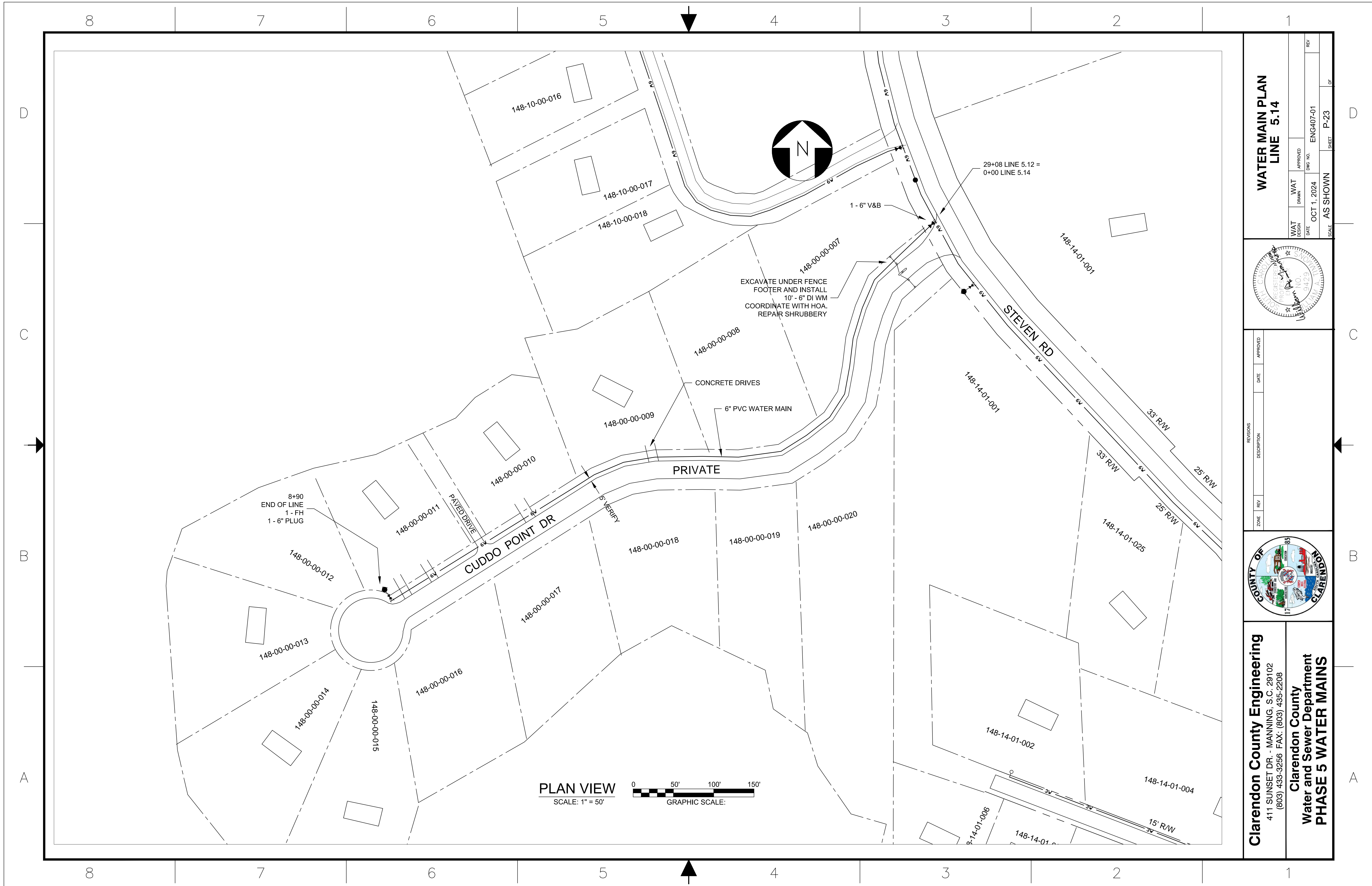


ZONE	REV	DATE	APPROVED



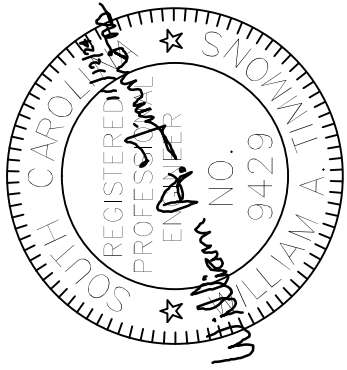
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Water and Sewer Department
PHASE 5 WATER MAINS

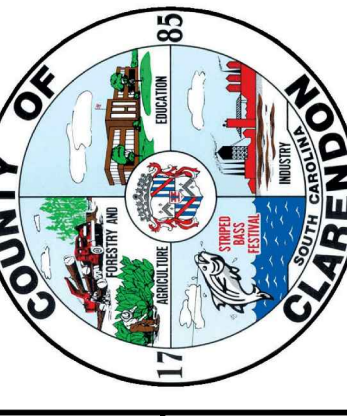


WATER MAIN PLAN LINE 5.14

WAT DESIGN	DATE	APPROVED	REV
WAT DRAWN	DATE	APPROVED	REV
DATE	OCT 1, 2024	ENG407-01	
SCALE	AS SHOWN	SHEET	P-23
			OF

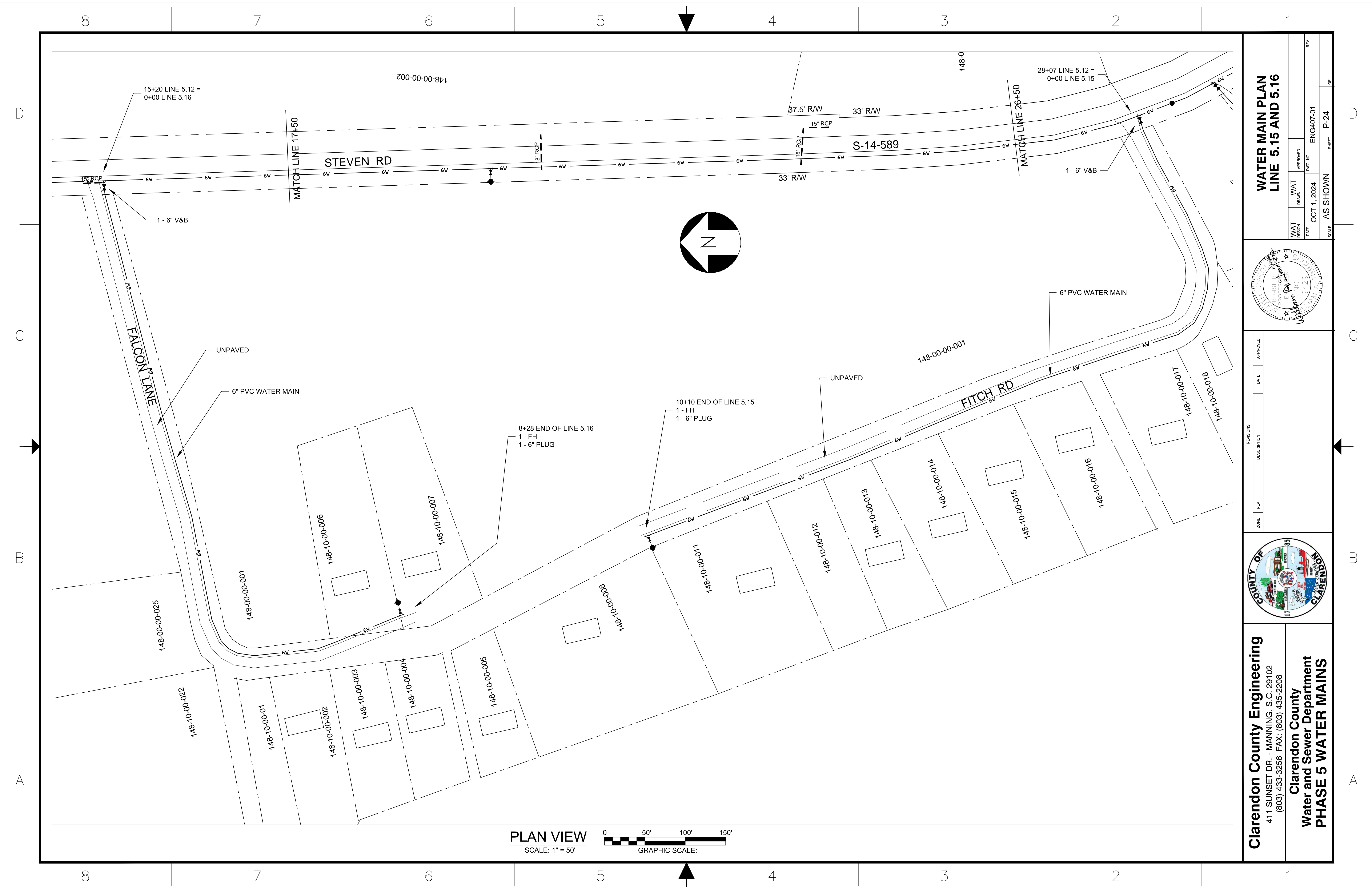


REVISIONS	DATE	APPROVED
ZONE	REV	
DESCRIPTION		

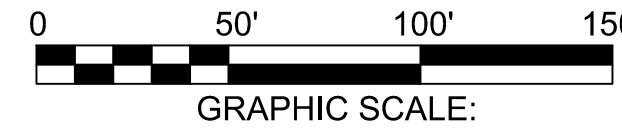


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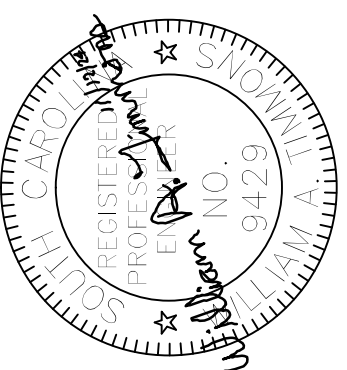


PLAN VIEW
SCALE: 1" = 50'

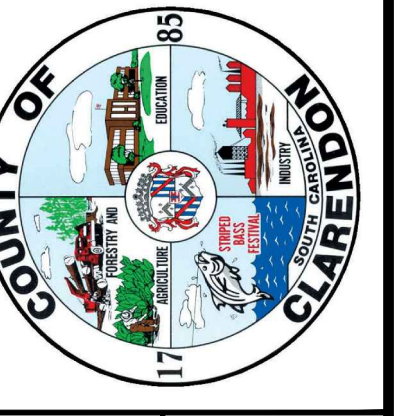


**WATER MAIN PLAN
LINE 5.15 AND 5.16**

WAT DESIGN	DATE	APPROVED	DWG NO.	REV
WAT DRAWN	OCT 1, 2024	AS SHOWN	ENG407-01	
SCALE			SHEET	OF
AS SHOWN			P-24	10



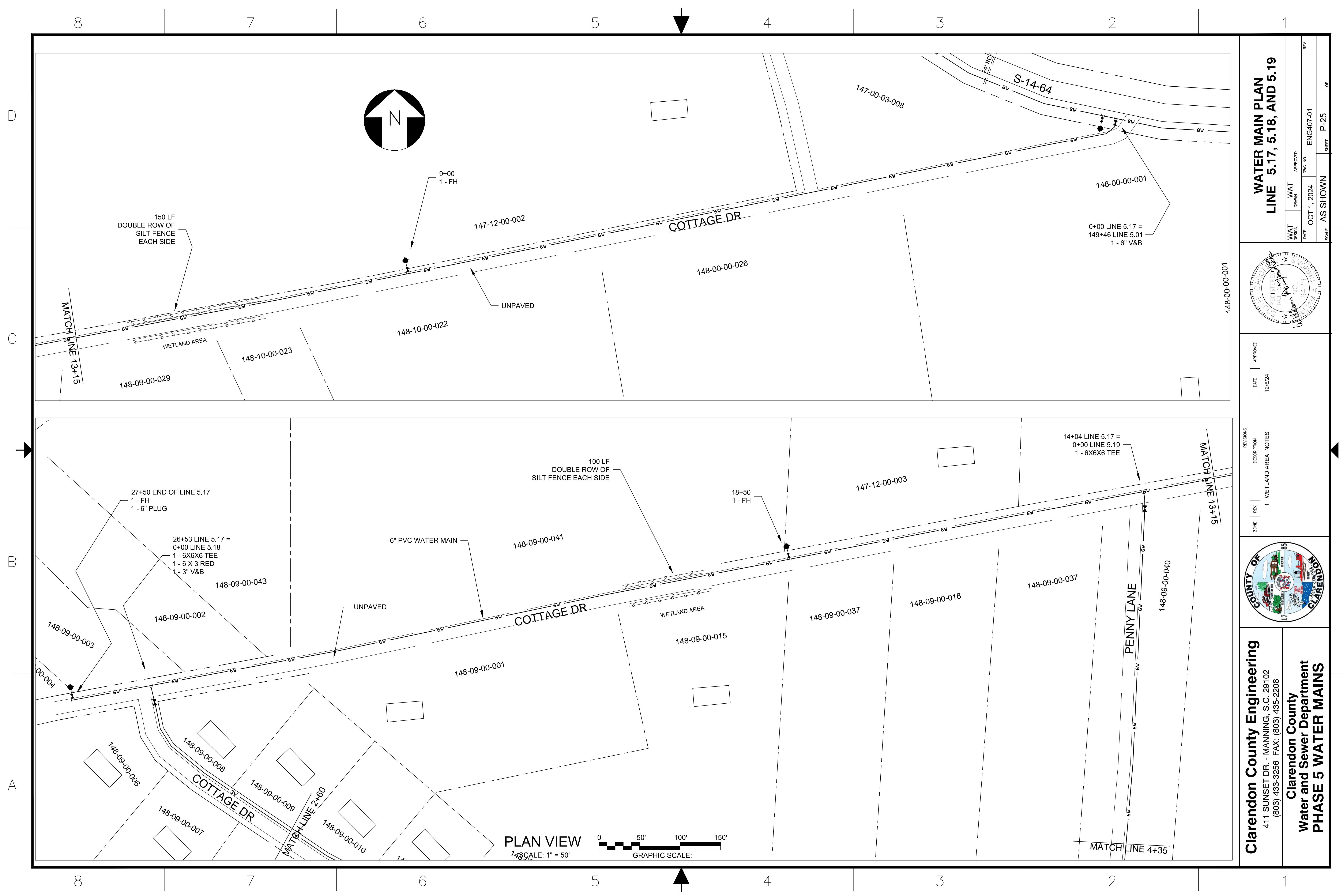
ZONE	REV	DATE	APPROVED



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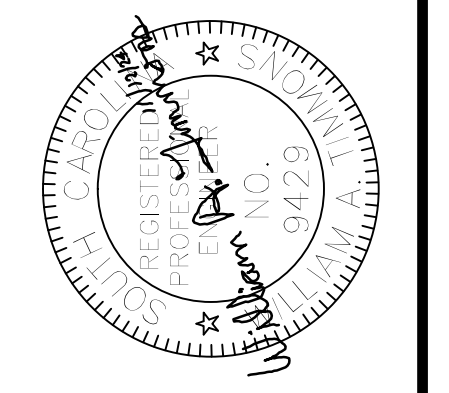
**Clarendon County
Water and Sewer Department
PHASE 5 WATER MAINS**

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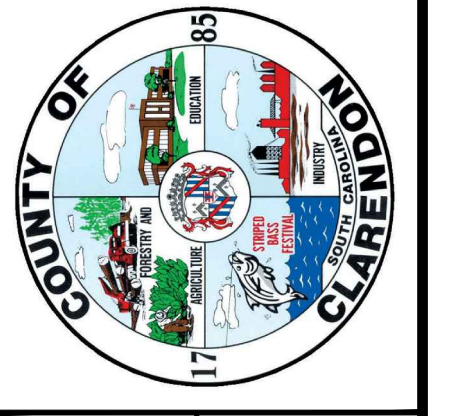


WATER MAIN PLAN
LINE 5.17, 5.18, AND 5.19

WAT DESIGN	DATE	APPROVED	REV
WAT DRAWN	DATE	APPROVED	REV
WAT	DATE	APPROVED	REV
SCALE	AS SHOWN	SHEET	P-25
DATE	OCT 1, 2024	DWG NO.	ENG407-01



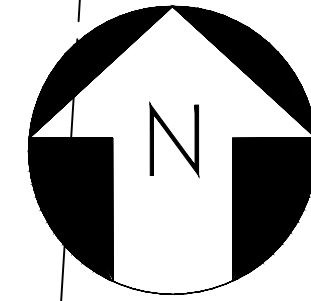
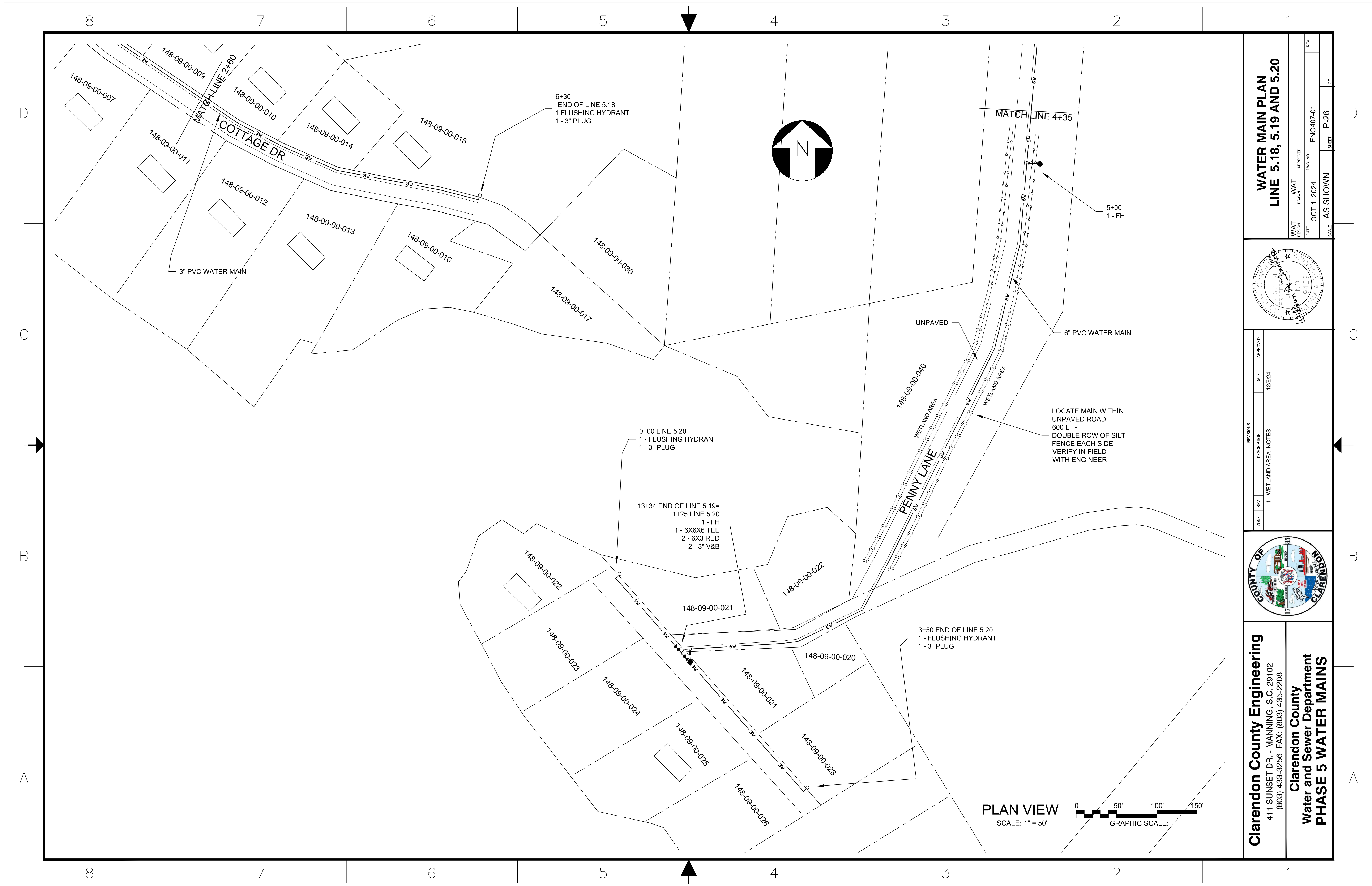
ZONE	REV	DESCRIPTION	DATE	APPROVED
1		WETLAND AREA NOTES	12/6/24	



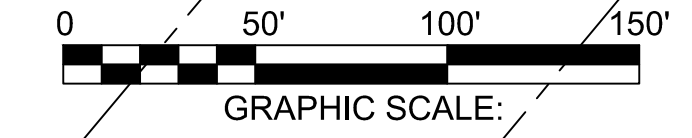
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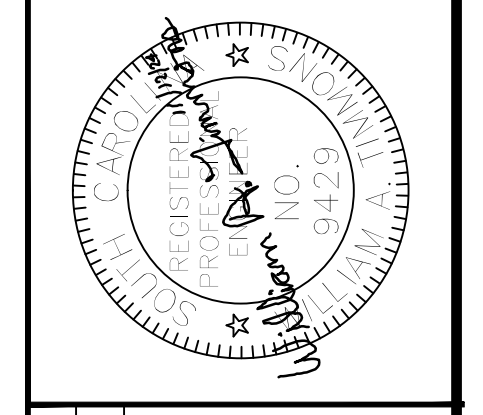
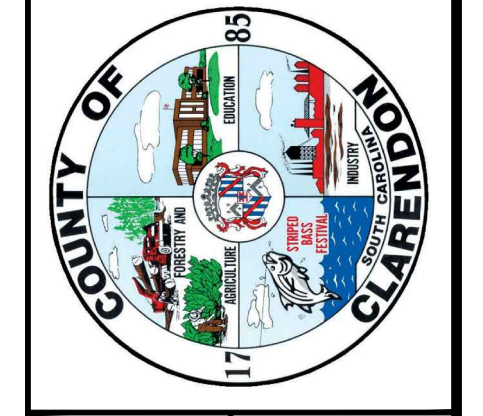
PLAN VIEW
SCALE: 1" = 50'
GRAPHIC SCALE:

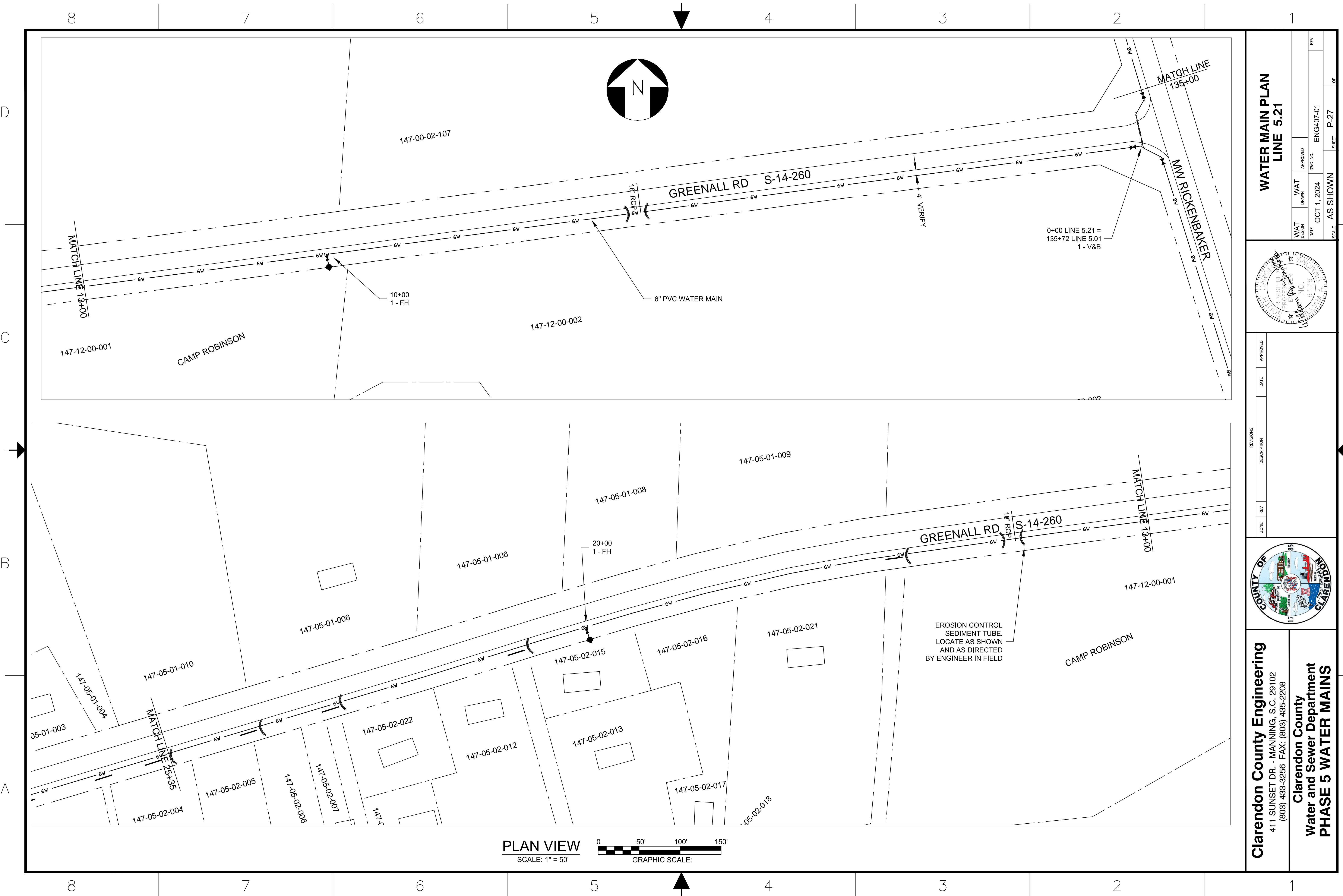


PLAN VIEW
SCALE: 1" = 50'



<p>Clarendon County Engineering 411 SUNSET DR. - MANNING, S.C. 29102 (803) 433-3256 FAX: (803) 435-2208</p>		<p>Clarendon County Water and Sewer Department PHASE 5 WATER MAINS</p>											
<p>WATER MAIN PLAN LINE 5.18, 5.19 AND 5.20</p>													
<p>WAT DESIGN DATE: OCT 1, 2024</p>	<p>WAT DRAWN: AS SHOWN</p>	<p>APPROVED: [Signature]</p>	<p>REV: ENG407-01</p>										
<p>REVISIONS</p> <table border="1"> <tr> <th>ZONE</th> <th>REV</th> <th>DESCRIPTION</th> <th>DATE</th> <th>APPROVED</th> </tr> <tr> <td>1</td> <td></td> <td>WETLAND AREA NOTES</td> <td>12/8/24</td> <td></td> </tr> </table>		ZONE	REV	DESCRIPTION	DATE	APPROVED	1		WETLAND AREA NOTES	12/8/24		<p>PROJECT NO. 94239</p> <p>SHEET P-26 OF</p>	
ZONE	REV	DESCRIPTION	DATE	APPROVED									
1		WETLAND AREA NOTES	12/8/24										



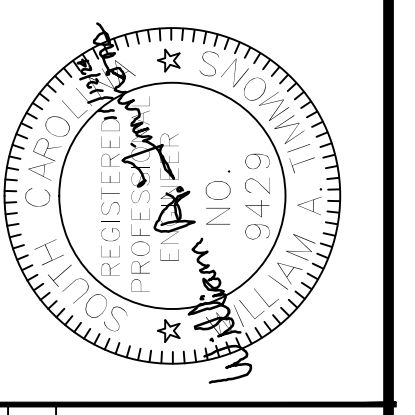


PLAN VIEW
SCALE: 1" = 50'

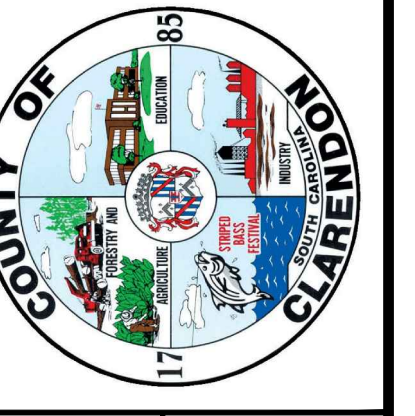
0 50' 100' 150'
GRAPHIC SCALE:

**WATER MAIN PLAN
LINE 5.21**

WAT DESIGN	DATE	APPROVED	DWG NO.	REV
	OCT 1, 2024		ENG407-01	
WAT DRAWN				
SCALE			SHEET	OF
AS SHOWN			P-27	10



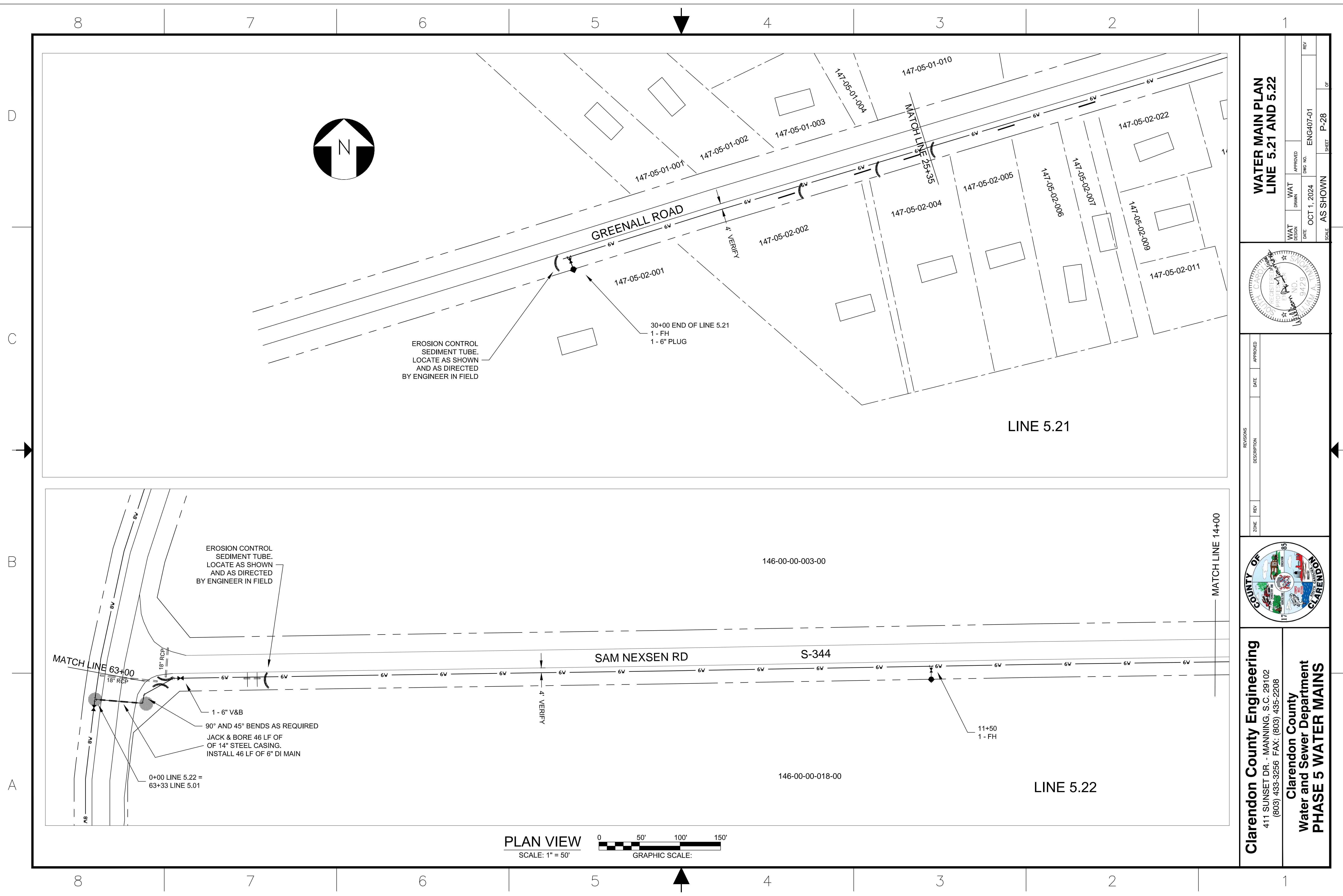
REVISIONS	DATE	APPROVED
ZONE	REV	
DESCRIPTION		



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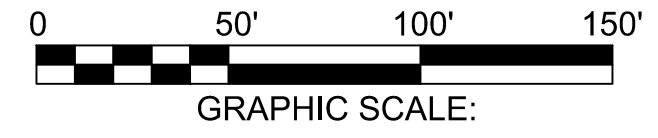


EROSION CONTROL
SEDIMENT TUBE.
LOCATE AS SHOWN
AND AS DIRECTED
BY ENGINEER IN FIELD

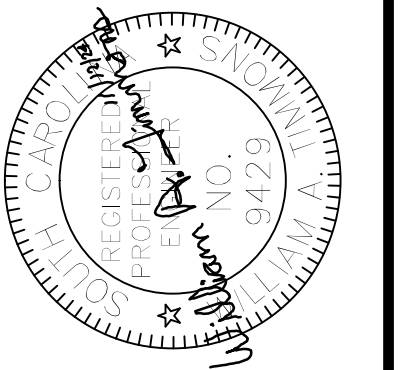
EROSION CONTROL
SEDIMENT TUBE.
LOCATE AS SHOWN
AND AS DIRECTED
BY ENGINEER IN FIELD

1 - 6" V&B
90° AND 45° BENDS AS REQUIRED
JACK & BORE 46 LF OF
OF 14" STEEL CASING.
INSTALL 46 LF OF 6" DI MAIN

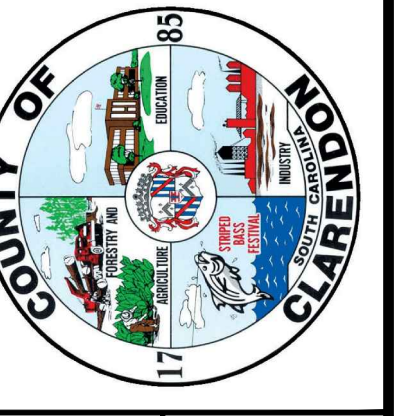
PLAN VIEW
SCALE: 1" = 50'



**WATER MAIN PLAN
LINE 5.21 AND 5.22**



ZONE	REV	DATE	APPROVED



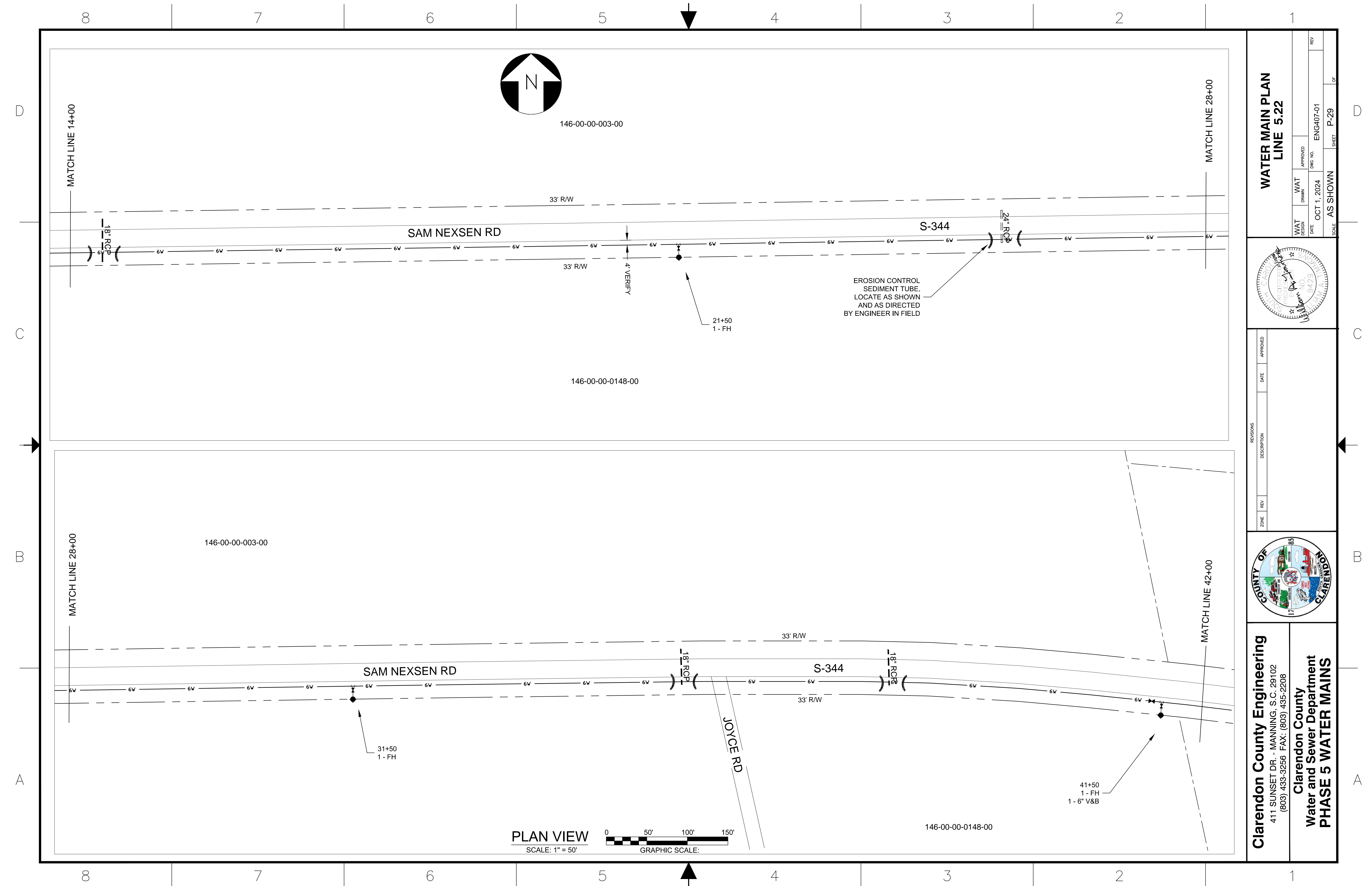
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PHASE 5 WATER MAINS**

WAT DESIGN	WAT DRAWN	WAT APPROVED	DATE	DATE	DATE	SCALE	SHEET	OF
			OCT 1, 2024			AS SHOWN	P-28	1

ENG407-01
DWS NO.
OCT 1, 2024

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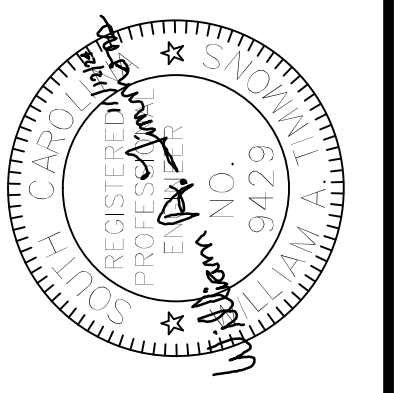


PLAN VIEW
SCALE: 1" = 50'

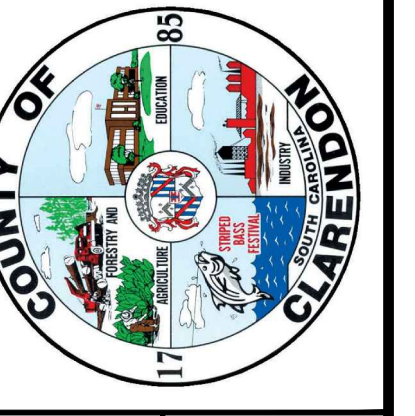
0 50' 100' 150'
GRAPHIC SCALE:

**WATER MAIN PLAN
LINE 5.22**

WAT DESIGN	DATE	WAT DRAWN	APPROVED	REV
	OCT 1, 2024			
SCALE			SHEET	
AS SHOWN			P-29 OF	
DWG NO.			ENG407-01	



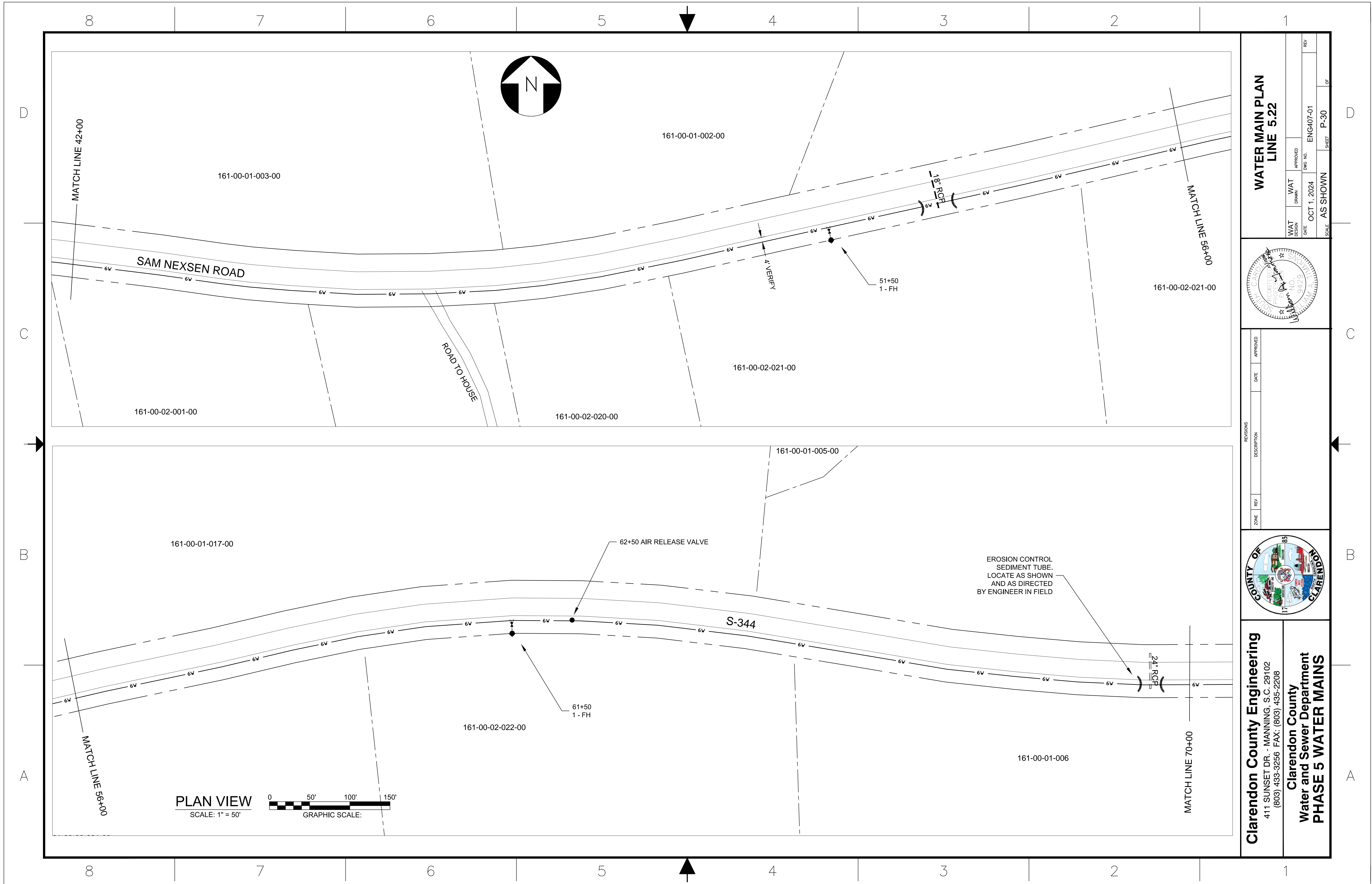
ZONE	REV	DESCRIPTION	DATE	APPROVED



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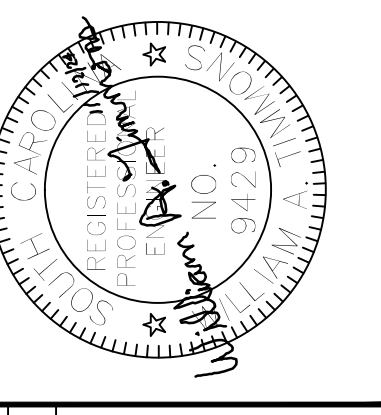
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Water and Sewer Department
PHASE 5 WATER MAINS**

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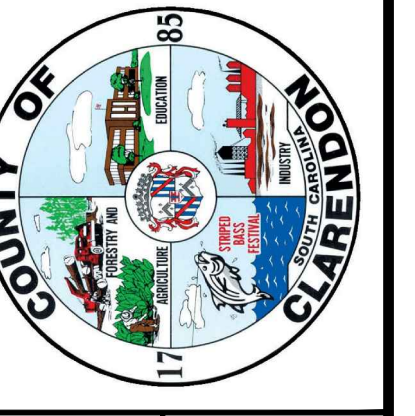


**WATER MAIN PLAN
LINE 5.22**

WAT DESIGN	DATE	APPROVED	DWG NO.	ENG407-01	REV
WAT DRAWN	OCT 1, 2024	AS SHOWN	P-30		
SCALE				SHEET	OF

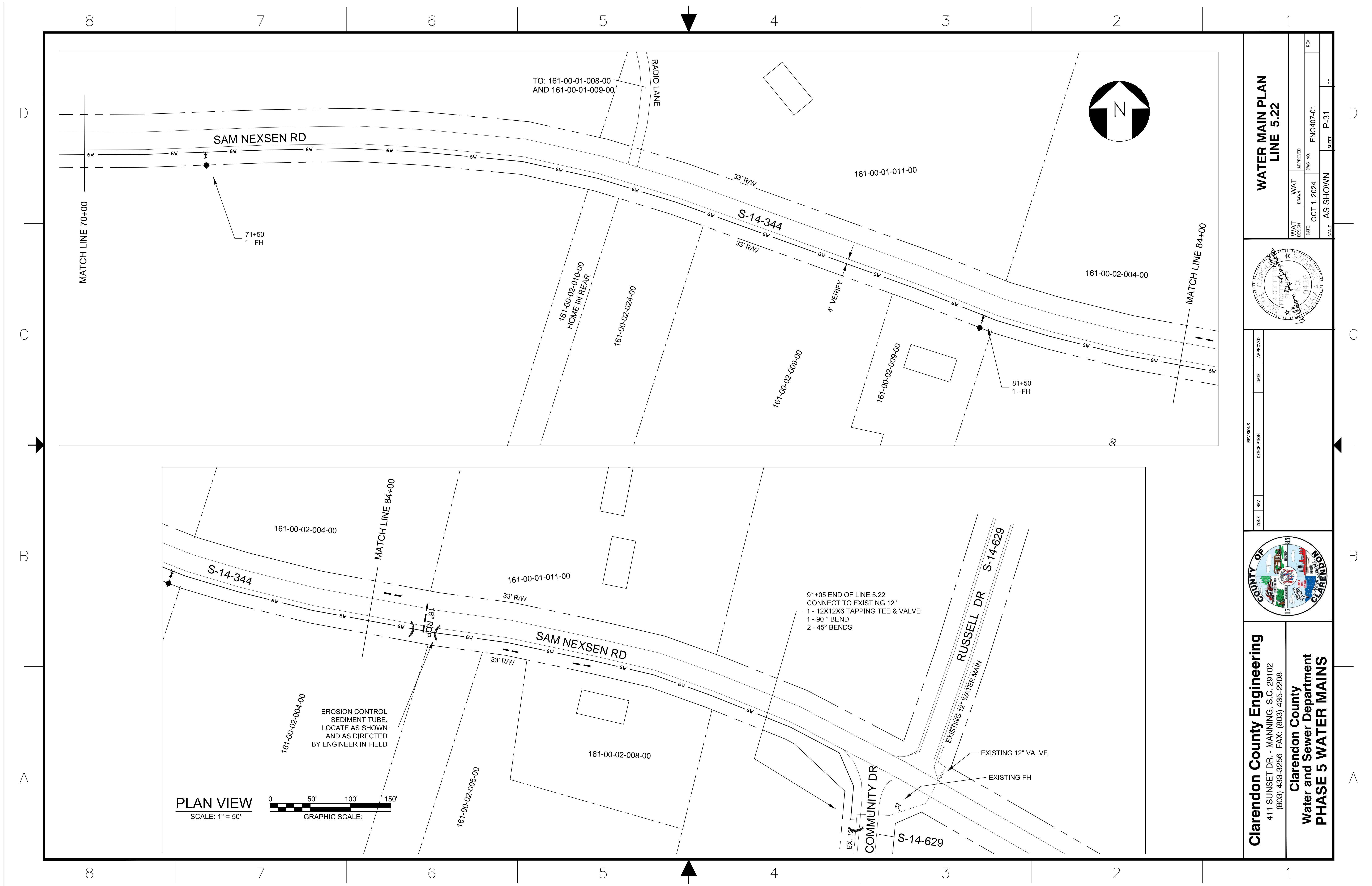


ZONE	REV	DESCRIPTION	DATE	APPROVED



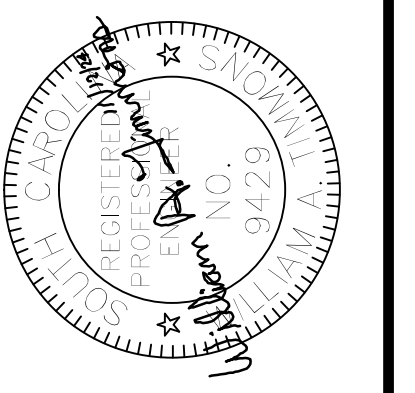
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 PHASE 5 WATER MAINS**

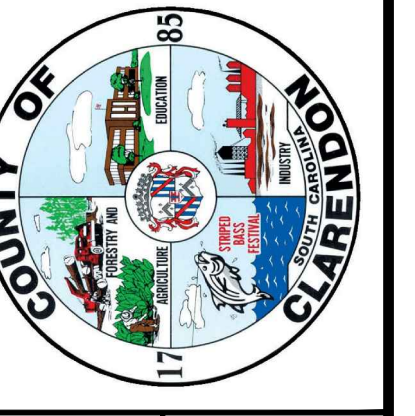


**WATER MAIN PLAN
LINE 5.22**

WAT DESIGN	DATE	APPROVED	REV
WAT DRAWN	DATE	APPROVED	REV
DATE	OCT 1, 2024	ENG407-01	
SCALE	AS SHOWN	SHEET	P-31
			OF



REVISIONS	DATE	APPROVED
ZONE	REV	DESCRIPTION



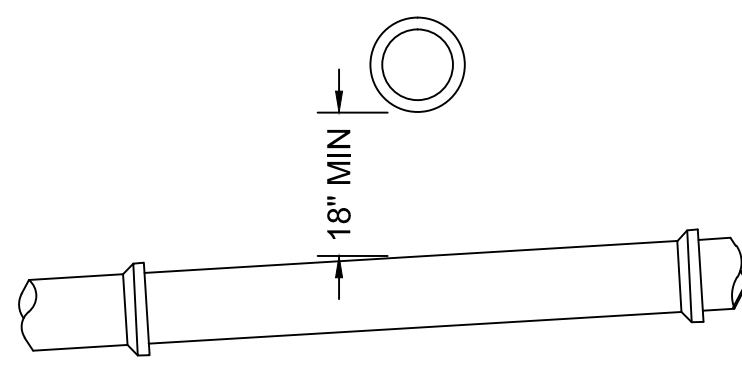
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PHASE 5 WATER MAINS**

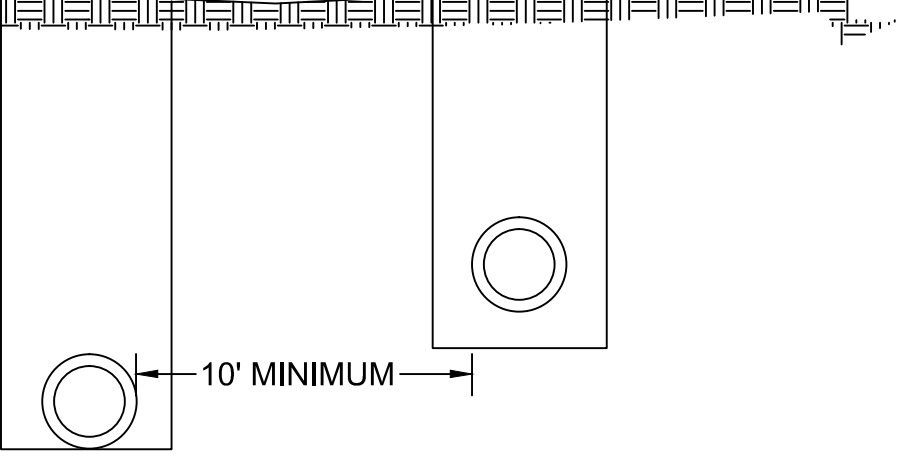
8 7 6 5 4 3 2 1

EXISTING GRADE

1. SEPARATE WATER AND SEWER MAINS AS SHOWN.
2. WHERE POSSIBLE, LOCATE WATER MAIN ABOVE SEWER MAIN.
3. LOCATE A FULL LENGTH OF PIPE ON EACH NEW MAIN CENTERED AT CROSSING POINT SO THAT JOINTS ARE AS FAR AS POSSIBLE FROM THE POINT OF CROSSING.
4. PROVIDE ADEQUATE STRUCTURAL SUPPORT AT CROSSING POINT FOR UPPER MAIN AS APPROVED BY THE ENGINEER.
5. NO WATER MAIN SHALL PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF A SEWER MANHOLE.
6. PROVIDE ONE JOINT OF DUCTILE IRON SEWER MAIN PIPING CENTERED ON THE WATER MAIN AT ALL CROSSING OF WATER AND SEWER MAINS.



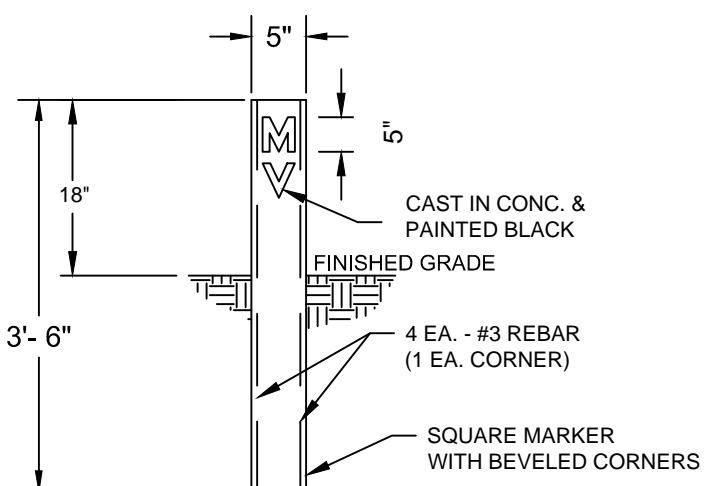
CROSSING



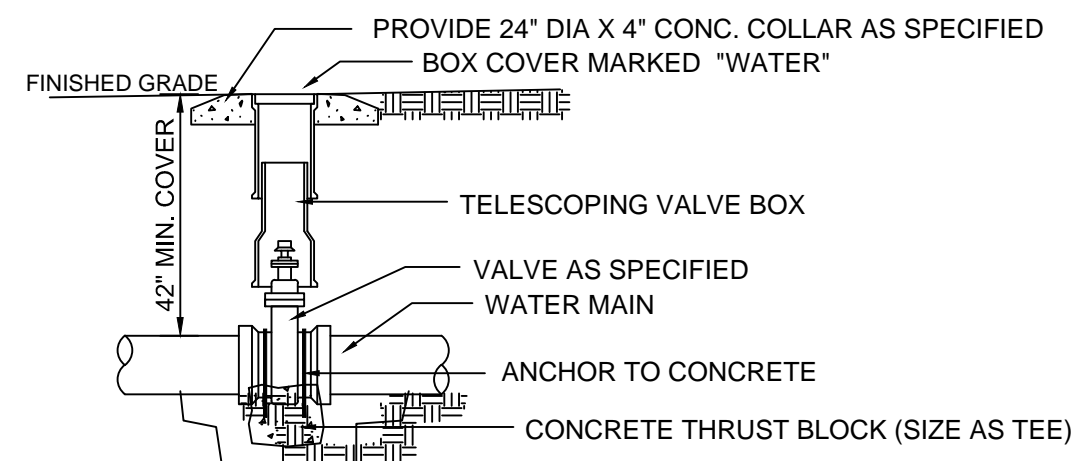
PARALLEL

WATER - SEWER MAIN SEPARATION DETAIL
NOT TO SCALE

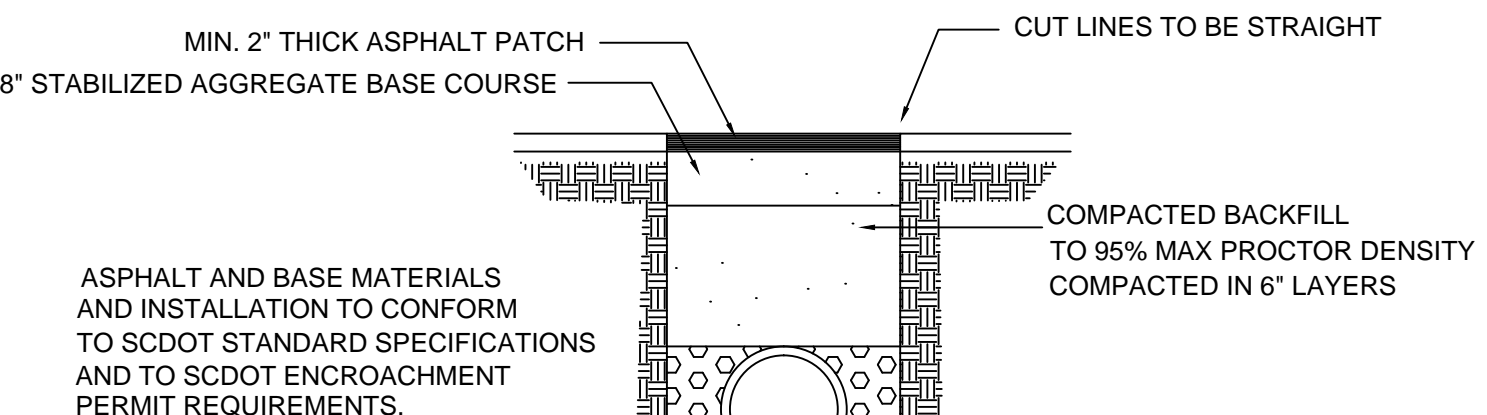
- NOTES:
1. VALVE MARKERS SHALL BE PLACED AT R/W.
 2. LETTERS "MV" SHALL FACE TOWARDS VALVE.
 3. MARKER SHALL HAVE BRASS OR BRONZE EMBED ON TOP OR SIDE.
 4. CONTRACTOR SHALL STAMP DISTANCE TO CENTER OF VALVE INTO EMBED.
 5. BLOW-OFF ASSEMBLY SHALL INCLUDE 1 EA. MARKER W/ "BO" OR "MV" CAST.



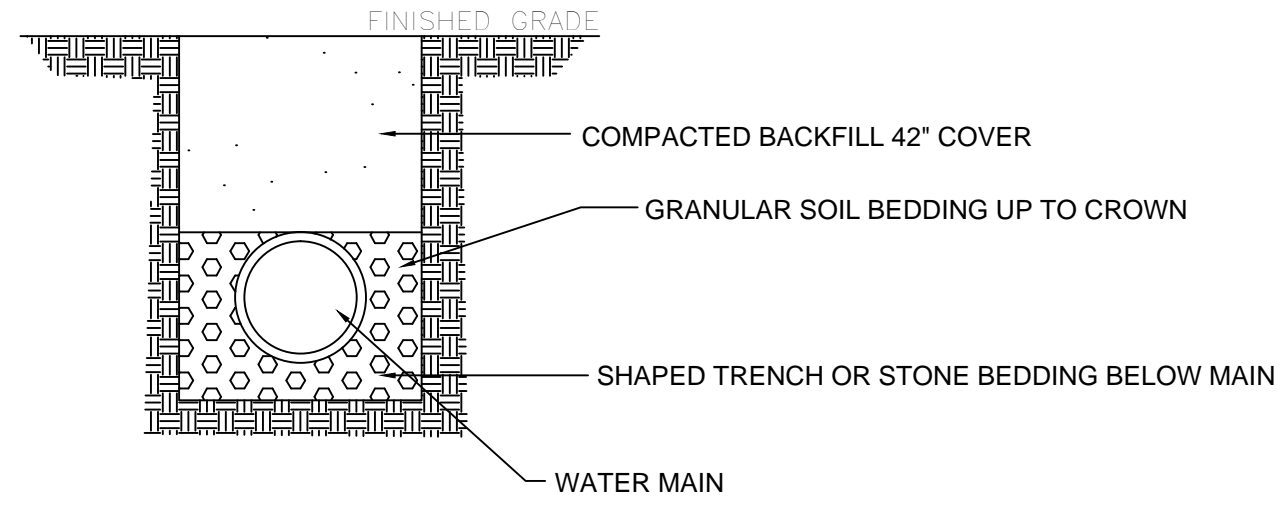
VALVE MARKER DETAIL
NOT TO SCALE



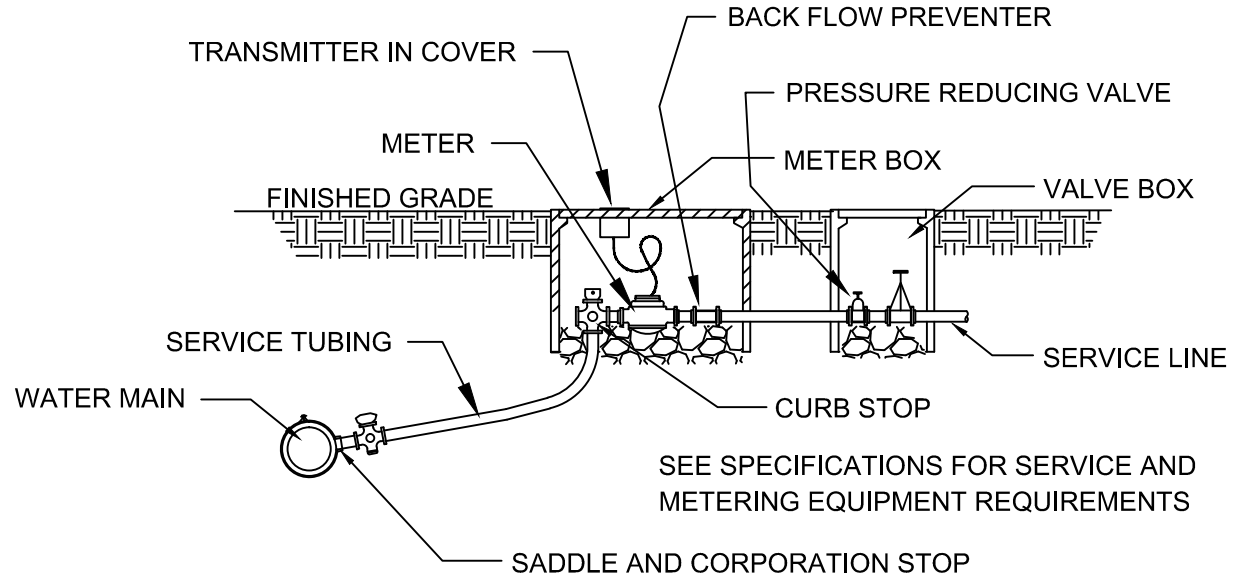
VALVE AND BOX DETAIL
NOT TO SCALE



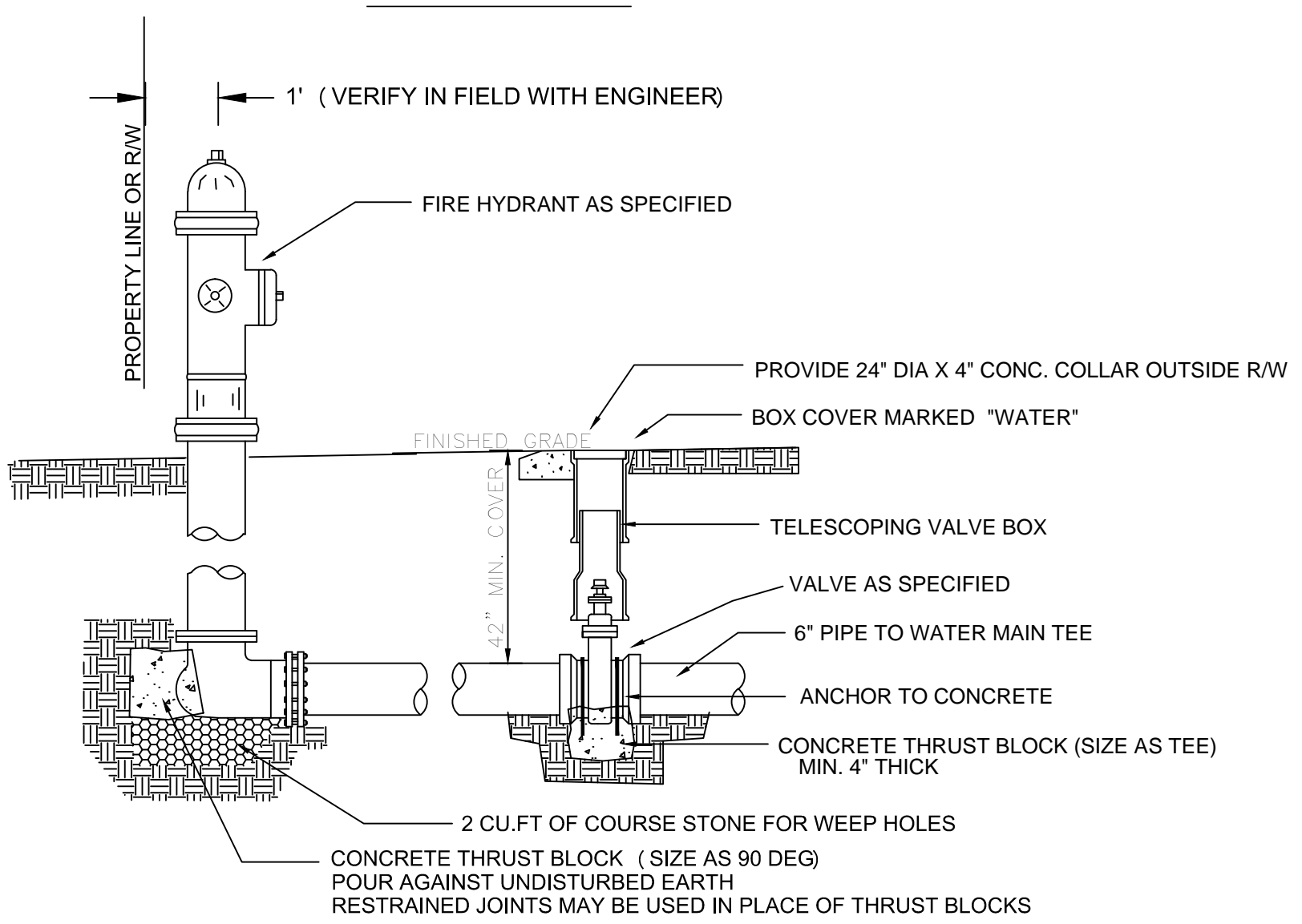
ASPHALT PAVEMENT CUT DETAIL
NOT TO SCALE



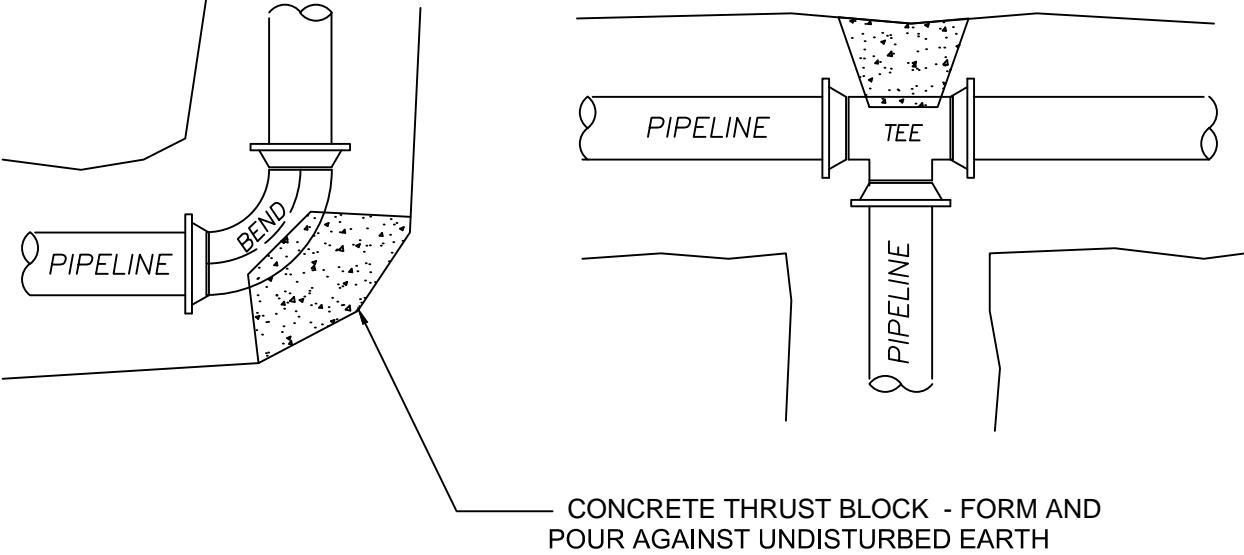
WATERMAIN BEDDING DETAIL
NOT TO SCALE



WATER SERVICE DETAIL
NOT TO SCALE



FIRE HYDRANT DETAIL
NOT TO SCALE



THRUST BLOCK AREA IN SQ. FT. ON UNDISTURBED SOIL

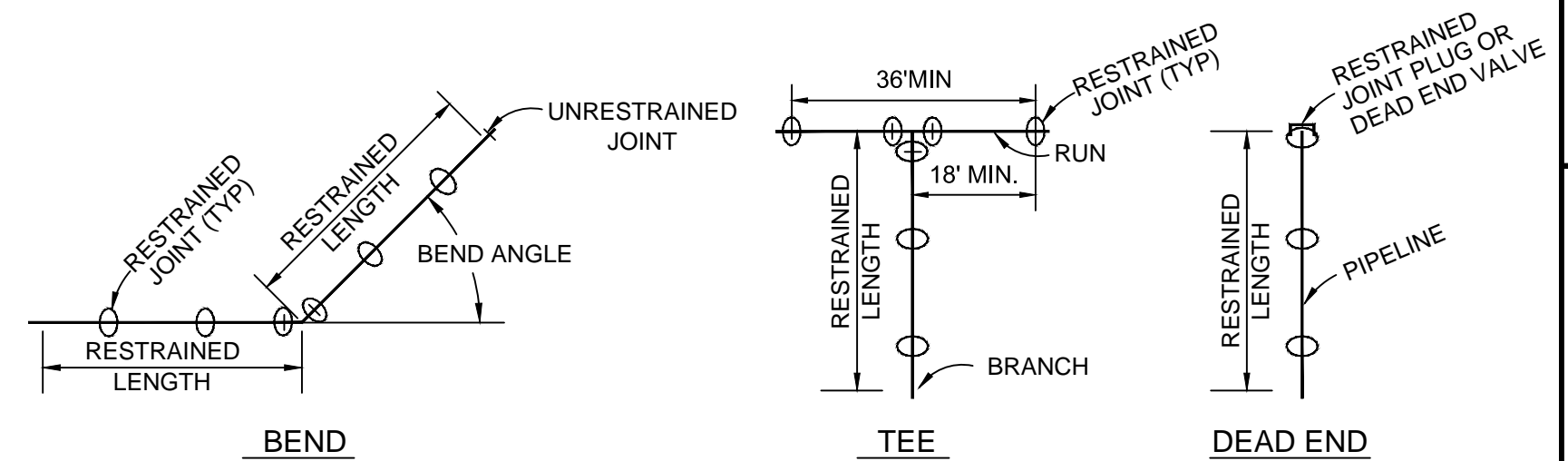
BLOCK BEARING AREA REQUIRED FOR 1000 PSF SOIL			
DIAMETER	45 DEG	90 DEG	TEE/PLUG
2	0.7	0.9	0.5
3	1.5	2.1	1.1
4	2.7	3.8	1.9
6	6.0	8.5	4.2
8	10.7	15.1	7.5
10	16.7	23.6	11.8
12	24.0	33.9	17.0

ADJUSTED AREA = CHART AREA X (1000 / SOIL BEARING STRENGTH)
VERIFY SOIL STRENGTH AND BLOCK DIMENSIONS WITH ENGINEER

TYPICAL SOILD BEARING STRENGTHS
COARSE AND FINE COMPACTED SAND 4,000 PSF
MEDIUM CLAY 2,000 PSF
SOFT CLAY 1,000 PSF

THRUST BLOCK DETAILS
NOT TO SCALE

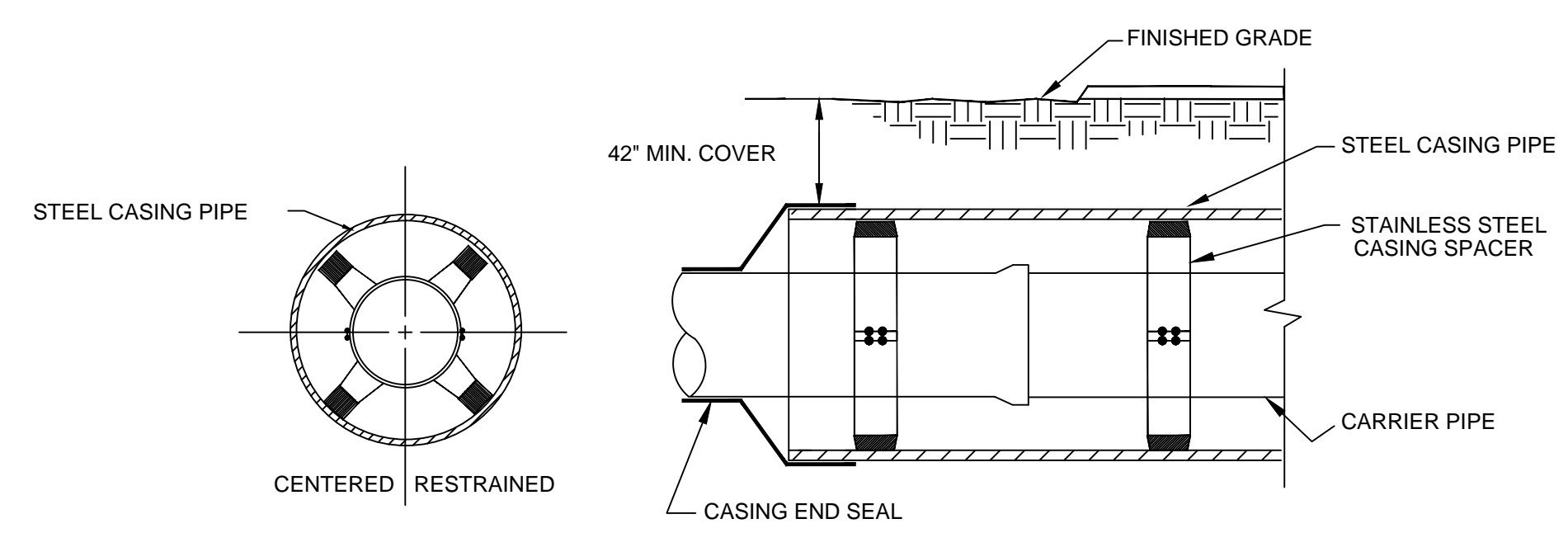
ALL FITTINGS, HYDRANTS, VALVES, DEAD ENDS, ETC. ARE TO BE RESTRAINED BY THRUST BLOCK OR RESTRAINED JOINTS AS SHOWN. PLAN REQUIREMENTS TAKE PRECEDENCE OVER TYPICAL DETAILS.



PIPE SIZE	11 1/4" BEND	22 1/2" BEND	45° BEND	90° BEND	TEE*	DEAD END
3"	8'	10'	10'	20'	15'	40'
6"	8'	10'	15'	25'	20'	60'
8"	8'	10'	15'	35'	30'	75'
10"	10'	12'	18'	40'	40'	90'
12"	10'	15'	20'	45'	45'	100'

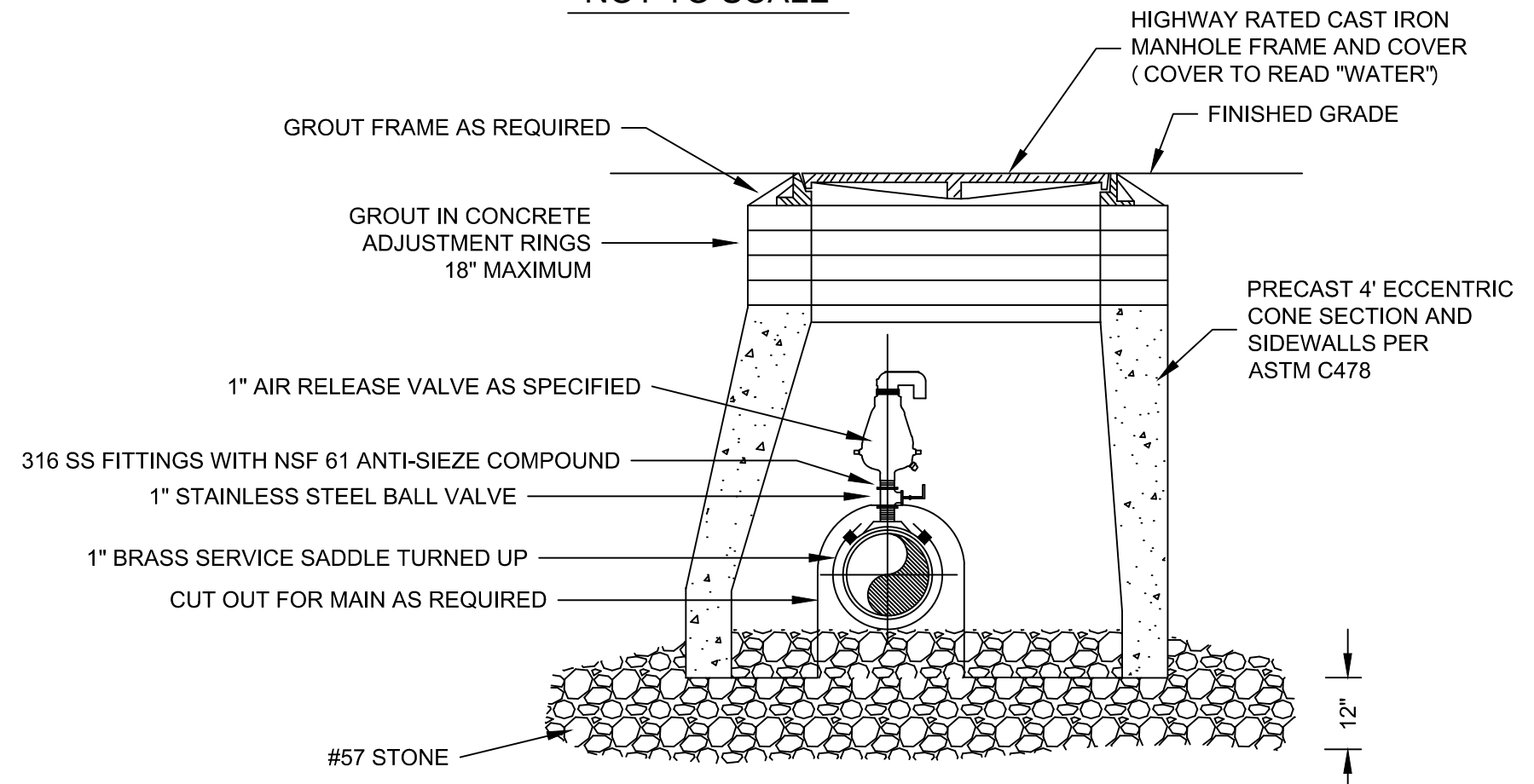
- * BRANCH LENGTH
1. TABLE IS BASED ON PVC WITH TRENCH BEING BACKFILLED TO A MINIMUM DEPTH OF 3' WITH A SILTY SAND (SM) SOIL. VERIFY REQUIREMENTS WITH ENGINEER FOR OTHER CONDITIONS.
 2. LENGTHS SHOWN ARE MINIMUM. LENGTHS SHOWN ON PLAN SHEETS OR OTHER DETAILS WILL TAKE PRECEDENCE.
 3. RESTRAIN ALL JOINTS LOCATED WITHIN RESTRAINED LENGTHS SHOWN.

FITTINGS RESTRAINED JOINT LENGTHS
NOT TO SCALE



JACK AND BORE CASING DETAIL
NOT TO SCALE

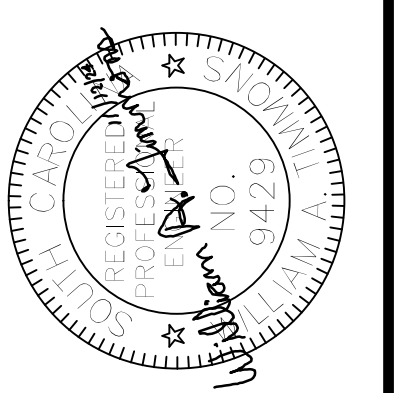
1. SEE PLAN FOR LENGTHS OF CASING AND CARRIER PIPE. PAY LENGTH FOR D.I. CARRIER IS EQUAL TO CASING LENGTH. PROVIDE ADDITIONAL D.I. LENGTH TO JOINTS OR FITTINGS AS REQUIRED.
2. INSTALL SPACERS AND CASING END SEAL PER MFR GUIDELINES AND SCDOT REQUIREMENTS.



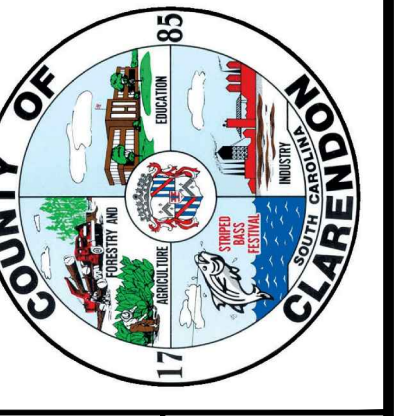
AIR RELEASE VALVE DETAIL
NOT TO SCALE

WATER MAIN DETAILS

WAT DESIGN	WAT DRAWN	WAT APPROVED	DATE	DWG NO.	REV
			OCT 1, 2024	ENG407-01	
AS SHOWN					D-1



REVISIONS	DATE	APPROVED



Clarendon County Engineering
411 SUNSET DR. - MANNING, S.C. 29102
(803) 433-3256 FAX: (803) 435-2208

**Clarendon County
Water and Sewer Department
PHASE 5 WATER MAINS**

8 7 6 5 4 3 2 1

CONSTRUCTION SEQUENCE

1. Notify SCDHEC Regional Office 48 hours prior to land disturbing activities.
2. Coordinate trenching activity and erosion control measures with engineer prior to beginning work.
3. Place silt fence and other controls as shown or specified.
4. Close and stabilize all trenches as soon as possible after pipe installation.
5. Provide temporary grassing if required as specified.
6. Provide permanent stabilization as shown and specified.
7. Remove temporary sediment and control measures only after entire area draining to the structure is stabilized and approved by Engineer.
8. Maintain all sediment and erosion control structures for the extent of the project.

DISTURBED AREA CALCULATION:

6' WIDTH AVERAGE X 69,000' = 414,000 SF = 9.5 ACRES

SEEDING NOTES

TEMPORARY SEEDING NOTES:

1. FOR AUGUST 15 TO APRIL 15 APPLY MINIMUM 1.5 LB OF RYE (GRAIN) PER 1,000 SQ. FT. FOR APRIL 15 TO AUGUST 15 APPLY MINIMUM OF 1.2 LB OF GERMAN MILLET PER 1,000 SQ. FT. APPROVED ALTERNATE OR MIXES MAY BE USED.
2. FOLLOW RECOMMENDATIONS OF SOIL TEST OR APPLY 70 LBS OF AGRICULTURAL LIMESTONE AND 25 LBS OF 10-10-10 FERTILIZER PER 1,000 SQ.FT.
3. PREPARE SEEDBED, PLANT AND MULCH AS DIRECTED BELOW.
4. IF NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 1 LB PER 1,000 SQ.FT. ANNUAL LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.
5. REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY.
6. VERIFY ALL PLANTING DETAILS WITH SEED SUPPLIER.

PERMANENT SEEDING NOTES:

1. ALL UNPAVED (NO STONE SURFACE) DISTURBED AREAS (AND LAWN TO BE REESTABLISHED) OUTSIDE PLANTING BED IS TO BE SEEDED WITH 0.3 LB/1,000 SQ.FT. OF BERMU DAGRASS MARCH 15 - JUNE 30 OR 1.5 LB /1,000 SQ.FT. OF TALL FESCUE AUG 15 - NOV 30. APPROVED ALTERNATES OR MIXES MAY BE USED.
2. FOLLOW RECOMMENDATIONS OF SOIL TEST OR APPLY 70 LBS OF AGRICULTURAL LIMESTONE AND 25 LBS OF 10-10-10 FERTILIZER PER 1,000 SQ.FT.
3. PREPARE SEEDBED, PLANT AND MULCH AS DIRECTED BELOW.
4. REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY.
5. VERIFY ALL PLANTING DETAILS WITH SEED SUPPLIER.

SEEDBED PREPARATION NOTES:

1. REMOVE ANY UNDESIRABLE GROUND COVER INCLUDING ANY TEMPORARY SEEDING FOR PERMANENT SEEDING INSTALLATION.
2. RIP THE AREA TO A MINIMUM DEPTH OF 4". ADD TOPSOIL IF REQUIRED FOR POOR SOIL AREAS.
3. REMOVE ALL LOOSE ROCKS, ROOTS, ETC. LEAVING SURFACE SMOOTH AND UNIFORM CONFORMING TO GRADES SHOWN ON GRADING PLAN.
4. APPLY SEED, LIME, FERTILIZER AND MIX WITH THE SOIL AS RECOMMENDED BY NURSERY OR SUPPLIER.
5. MULCH IMMEDIATELY AFTER SEEDING WITH 100 LBS PER 1,000 SQ.FT. OF STRAW OR APPROVED EQUAL. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING OR BY USE OF A MULCH ANCHORING TOOL.

SILT FENCE GENERAL NOTES:

1. Do not place silt fence across channels or in other areas subject to concentrated flows. Silt fence should not be used as a velocity control BMP. Concentrated flows are any flows greater than 0.5 cfs.
2. Maximum sheet or overland flow path length to the silt fence shall be 100-feet.
3. Maximum slope steepness (normal [perpendicular] to the fence line) shall be 2:1.
4. Silt fence joints, when necessary, shall be completed by one of the following options:
 - Wrap each fabric together at a support post with both ends fastened to the post, with a 14-foot minimum overlap.
 - Overlap silt fence by installing 3-feet passed the support post to which the new silt fence roll is attached. Attach old roll to new roll with heavy-duty plastic ties; or,
 - Overlap entire width of each silt fence roll from one support post to the next support post.
5. Attach filter fabric to the steel posts using heavy-duty plastic ties that are evenly spaced within the top 8-inches of the fabric.
6. Install the silt fence perpendicular to the direction of the stormwater flow and place the silt fence the proper distance from the toe of steep slopes to provide sediment storage and access for maintenance and cleanout.
7. Install Silt Fence Checks (Tie-Backs) every 50-100 feet, dependent on slope, along silt fence that is installed with slope and where concentrated flows are expected or are documented along the proposed/installed silt fence.

SILT FENCE - POST REQUIREMENTS

1. Silt Fence posts shall be 48-inch long steel posts that meet, at a minimum, the following physical characteristics.
 - Composed of a high strength steel with a minimum yield strength of 50,000 psi.
 - Include a standard "T" section with a nominal face width of 1.38-inches and a nominal "T" length of 1.48-inches.
 - Weigh 1.25 pounds per foot (± 8%)
2. Posts shall be equipped with projections to aid in fastening of filter fabric.
3. Steel posts may need to have a metal soil stabilization plate welded near the bottom when installed along steep slopes or installed in loose soils. The plate should have a minimum cross section of 17-square inches and be composed of 15 gauge steel, at a minimum. The metal soil stabilization plate should be completely buried.
4. Install posts to a minimum of 24-inches. A minimum height of 1- to 2- inches above the fabric shall be maintained, and a maximum height of 3 feet shall be maintained above the ground.
5. Post spacing shall be at a maximum of 6-feet on center.

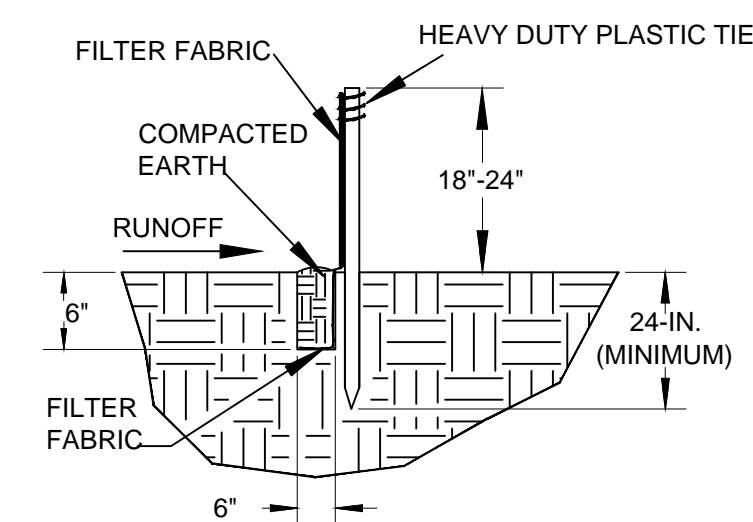
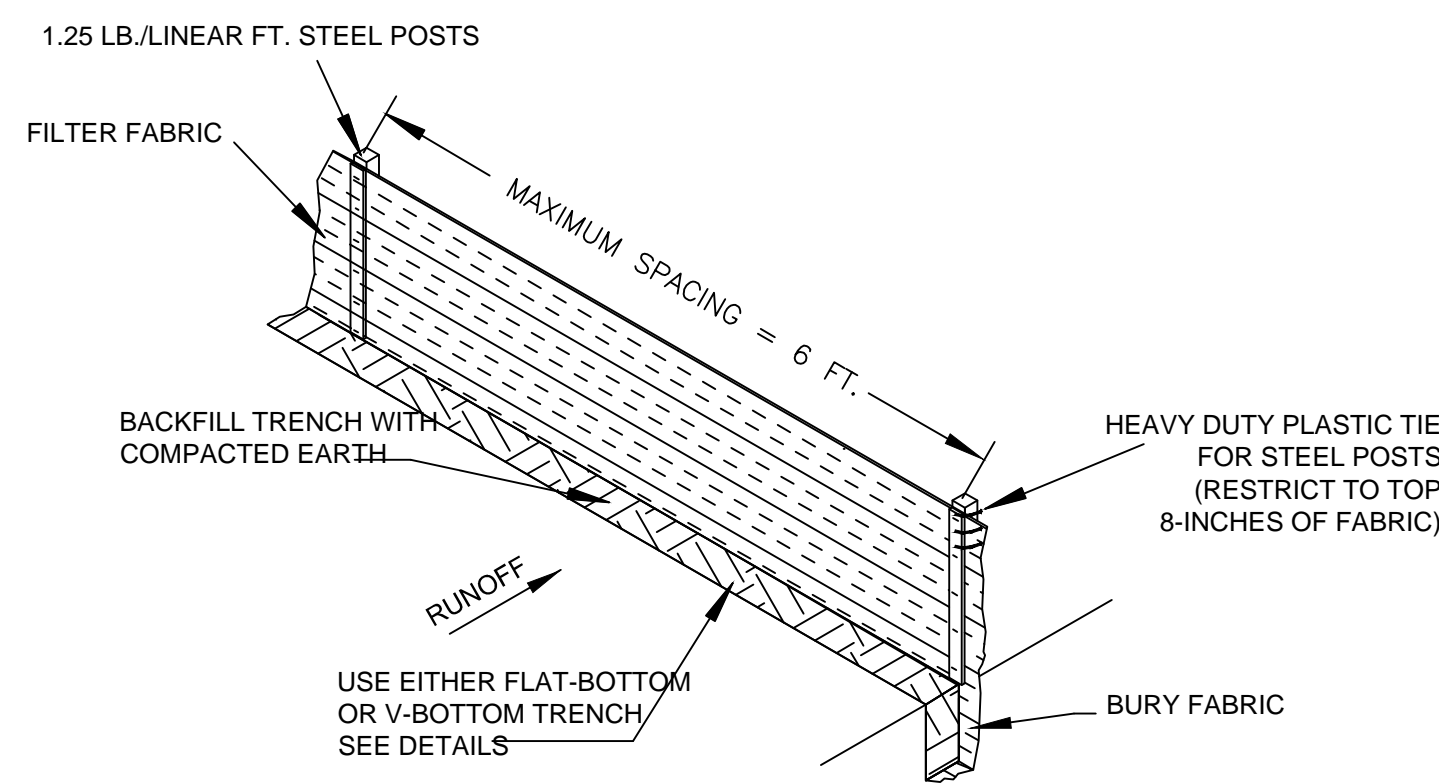
SILT FENCE - FABRIC REQUIREMENTS

1. Silt fence must be composed of woven geotextile filter fabric that consists of the following requirements:
 - Composed of fibers consisting of long chain synthetic polymers of at least 85% by weight of polyolefins, polyesters, or polyamides that are formed into a network such that the filaments or yarns retain dimensional stability relative to each other;
 - Free of any treatment or coating which might adversely alter its physical properties after installation;
 - Free of any defects or flaws that significantly affect its physical and/or filtering properties; and,
 - Have a minimum width of 36-inches.
2. Use only fabric appearing on SC DOT's Qualified Products Listing (QPL), Approval Sheet #34, meeting the requirements of the most current edition of the SC DOT Standard Specifications for Highway Construction.
3. 12-inches of the fabric should be placed within excavated trench and toed in when the trench is backfilled.
4. Filter Fabric shall be purchased in continuous rolls and cut to the length of the barrier to avoid joints.
5. Filter Fabric shall be installed at a minimum of 24-inches above the ground.

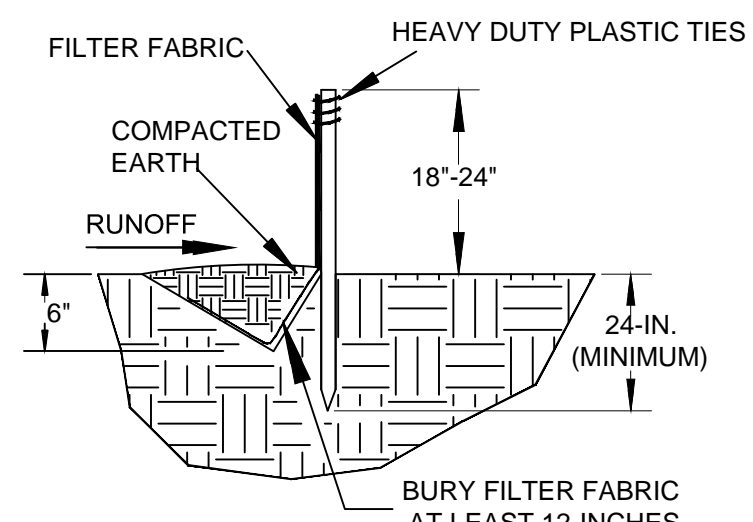
SILT FENCE - INSPECTION & MAINTENANCE

1. Regular inspections of silt fence shall be conducted once every calendar week and, as recommended, within 24-hours after each rainfall event that produces 1/2-inch or more of precipitation.
2. Attention to sediment accumulations along the silt fence is extremely important. Accumulated sediment should be continually monitored and removed when necessary. Remove accumulated sediment when it reaches 1/3 the height of the silt fence.
3. Removed sediment shall be placed in stockpile storage areas or spread thinly across disturbed area. Stabilize the removed sediment after it is relocated.
4. Check for areas where stormwater runoff has eroded a channel beneath the silt fence, or where the fence has sagged or collapsed due to runoff overtopping the silt fence. Install checks/tie-backs and/or reinstall silt fence, as necessary.
5. Check for tears within the silt fence, areas where silt fence has begun to decompose, and for any other circumstance that may render the silt fence ineffective. Removed damaged silt fence and reinstall new silt fence immediately.
6. Silt fence should be removed within 30 days after final stabilization is achieved and once it is removed, the resulting disturbed area shall be permanently stabilized.

SILT FENCE INSTALLATION DETAILS



FLAT-BOTTOM TRENCH DETAIL



V-SHAPED TRENCH DETAIL

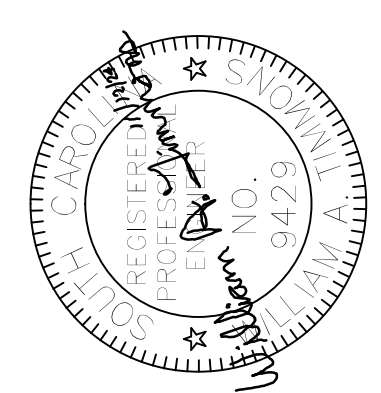
EROSION CONTROL SYMBOL LEGEND

DESCRIPTION	SYMBOL
EROSION PREVENTION AND SEDIMENT CONTROL	
LAND GRADING:	LG OR [Symbol]
TOPSOILING:	[Symbol]
TEMPORARY SEEDING:	TS
MULCHING:	M
ECB OR TRM	[Symbol]
PERMANENT SEEDING:	PS
SILT FENCE:	[Symbol]
SEDIMENT TUBE:	[Symbol]
FABRIC INLET PROTECTION:	[Symbol]
SEDIMENT TUBE INLET PROTECTION:	[Symbol]

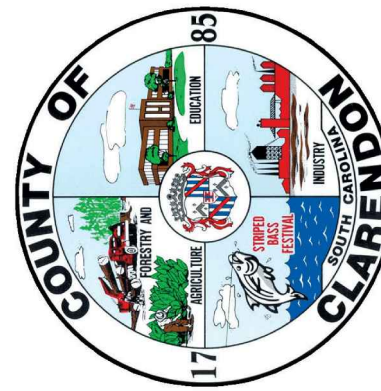
EROSION CONTROL NOTES:

1. Implement erosion control features shown prior to construction work on site. If necessary, slopes, which exceed eight (8) vertical feet should be stabilized with synthetic or vegetative mats, in addition to hydroseeding. It may be necessary to install temporary slope drains during construction. Temporary berms may be needed until the slope is brought to grade.
2. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than fourteen (14) days after work has ceased, except as stated below.
 - a. Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions stabilization measures must be initiated as soon as practicable.
 - b. Where construction activity on a portion of the Site is temporarily ceased, and earth-disturbing activities will be resumed within 14 days, temporary stabilization measures do not have to be initiated on that portion of the Site.
3. All sediment and erosion control devices shall be inspected once every calendar week. If periodic inspection or other information indicates that a BMP has been inappropriately or incorrectly installed, the Permittee must address the necessary replacement or modification required to correct the BMP within 48 hours of identification.
4. Provide silt fence and/or other control devices, as may be required, to control soil erosion during utility construction. All disturbed areas shall be cleaned, graded, and stabilized with grassing immediately after the utility installation. Fill, cover, and temporary seeding at the end of each day are recommended. If water is encountered while trenching, the water should be filtered to remove any sediments before being pumped back into any waters of the State.
5. All erosion control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control devices may be required during construction in order to control erosion and/or offsite sedimentation. All temporary control devices shall be removed once construction is complete and the site is stabilized.
6. The contractor must take necessary action to minimize the tracking of mud onto paved roadway(s) from construction areas and the generation of dust. The contractor shall daily remove mud/soil from pavement, as may be required.
7. Note on subdivisions not included.
8. Temporary diversion berms and/or ditches will be provided as needed during construction to protect work areas from upslope runoff and/or to divert sediment-laden water to appropriate traps or stable outlets.
9. All waters of the State (WoS), including wetlands, are to be flagged or otherwise clearly marked in the field. A double row of silt fence is to be installed in all areas where a 50-foot buffer can't be maintained between the disturbed area and all WoS. A 10-foot buffer should be maintained between the last row of silt fence and all WoS.
10. Litter, construction debris, oils, fuels, and building products with significant potential for impact (such as stockpiles of freshly treated lumber) and construction chemicals that could be exposed to storm water must be prevented from becoming a pollutant source in storm water discharges.
11. A copy of the SWPPP, inspections records, and rainfall data must be retained at the construction site or a nearby location easily accessible during normal business hours, from the date of commencement of construction activities to the date that final stabilization is reached.
12. Initiate stabilization measures on any exposed steep slope (3H:1V or greater) where land-disturbing activities have permanently or temporarily ceased, and will not resume for a period of 7 calendar days.
13. Minimize soil compaction and unless infeasible, preserve topsoil.
14. Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
15. Minimize the discharge of pollutants from dewatering of trenches and excavated areas. These discharges are to be routed through appropriate BMP's (sediment basin, filter bag, etc.).
16. The following discharges from sites are prohibited: (1) Wastewater from washout of concrete, unless managed by an appropriate control; (2) Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials; (3) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance; and (4) Soaps or solvents used in vehicle and equipment washing.
17. After construction activities begin, inspections must be conducted at a minimum of at least once every calendar week and must be conducted until final stabilization is reached on all areas of the construction site.
18. If existing BMP's need to be modified or if additional BMP's are necessary to comply with the requirements of this permit and/or SC's Water Quality Standards, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMP's must be implemented as soon as reasonably possible.
19. A Pre-Construction conference must be held for each construction site with an approved On-Site SWPPP prior to the implementation of construction activities. For non-linear projects that disturb 10 acres or more this conference must be held on-site unless SCDHEC has approved otherwise.
20. Provide sanitary facilities for workers on the site.
21. Redistribute sediment collected on site prior to grassing or dispose of in other approved method only.

EROSION CONTROL PLAN NOTES AND DETAILS



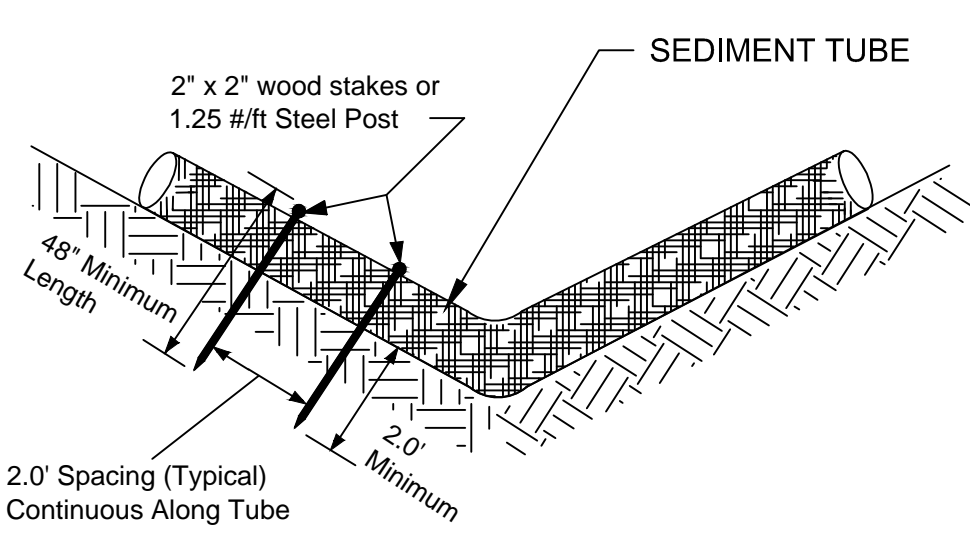
REVISIONS	DATE	APPROVED
ZONE	REV	
DESCRIPTION		



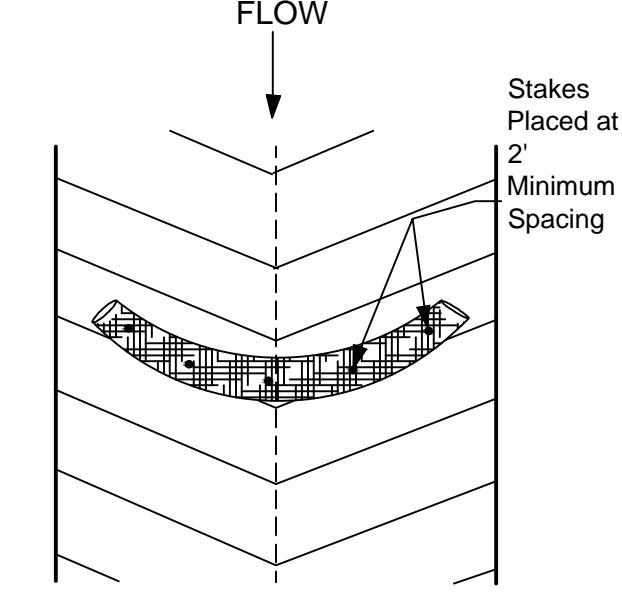
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Clarendon County Water and Sewer Department
PHASE 5 WATER MAINS

8 7 6 5 4 3 2 1



END VIEW OF DITCH



TOP VIEW OF DITCH

SEDIMENT TUBE DETAILS
NOT TO SCALE

SEDIMENT TUBE NOTES:

Description
Sediment tubes are elongated tubes of compacted geotextiles, curled excelsior wood, natural coconut fiber or hardwood mulch. Straw, pine needle and leaf mulch-filled sediment tubes are not permitted under this specification.

When and Where to Use It:
Install sediment tubes along contours, in drainage conveyance swales, and around inlets to help reduce the effects of soil erosion by energy dissipation and retain sediment.

Materials
Sediment tubes for ditch checks and Type A Inlet Structure Filters shall be as follows:

Produced by a Manufacturer experienced in sediment tube manufacturing HanesGeo or equal, composed of compacted geotextiles, curled excelsior wood, natural coconut fibers, hardwood mulch or a mix of these materials enclosed by a flexible netting material. Straw, straw fiber, straw bales, pine needles and leaf mulch are not allowed under this specification. Utilizes outer netting that consists of seamless, high-density polyethylene photodegradable materials treated with ultraviolet stabilizers or a seamless, high-density polyethylene non-degradable materials. Diameter ranging from 18-inches to 24-inches. Curled excelsior wood, or natural coconut rolled erosion control products (RECPs) that are rolled up to create a sediment tube are not allowed under this specification.

Installation:
Install over bare soil, mulched areas or erosion control blankets. Be composed of geotextiles, curled excelsior wood, natural coconut fiber or hardwood mulch enclosed by a flexible netting material. Straw, straw fiber, straw bales, pine needles and leaf mulch are not allowed.

The minimum diameter should be 18 inches. Sediment tubes should be staked using wooden stakes (2-inch x 2-inch) or steel posts (standard "U" or "T" sections with a minimum weight of 1.25 pounds per foot) a minimum of 48-inches in length placed on 2-foot centers.

Stakes should be intertwined with the outer mesh on the downstream side and driven in the ground to a minimum depth of 1.5 feet leaving less than 1 foot of stake exposed above the sediment tube. Always refer to the Manufacturer's recommendations for the staking detail. Install all sediment tubes ensuring that no gaps exist between the soil and the bottom of the sediment tube. The ends of adjacent sediment tubes should be lapped 6-inch to prevent flow and sediment from passing through the field joint. In no situations should sediment tubes be stacked on top of one another.

Construct a trench that is 20% of the tube diameter to install the tube in. Avoid damage to sediment tubes while installing them. If the sediment tube becomes damaged during installation, a stake should be placed on both sides of the damaged area terminating the tube segment and a new tube segment should be installed. Should be installed in swales or drainage ditches perpendicular to the flow of water. Sediment tubes should continue up the side slopes a minimum of 1 foot above the design flow depth. Sediment tubes should be spaced according to the spacing table herein or as recommended by manufacturer.

Sediment tube length selected should minimize the number of sediment tubes needed to span the width of the drainage conveyance. If the ditch check length (perpendicular to the water flow) is 15 feet, then one 15 foot sediment tube is preferred compared to two overlapping 10 foot sediment tubes.

Sediment tubes for ditch checks should remain in place until fully established vegetation and root systems have completely developed and can survive on their own.

INSPECTION AND MAINTENANCE:

Check dams should be inspected every 7 calendar days and within 24-hours after each storm that produces 1/2-inch or more of rain to ensure continued effectiveness.

Large debris, trash, and leaves should be removed.

If erosion causes the edges to fall to a height equal to or below the height of the center, repairs should be made immediately.

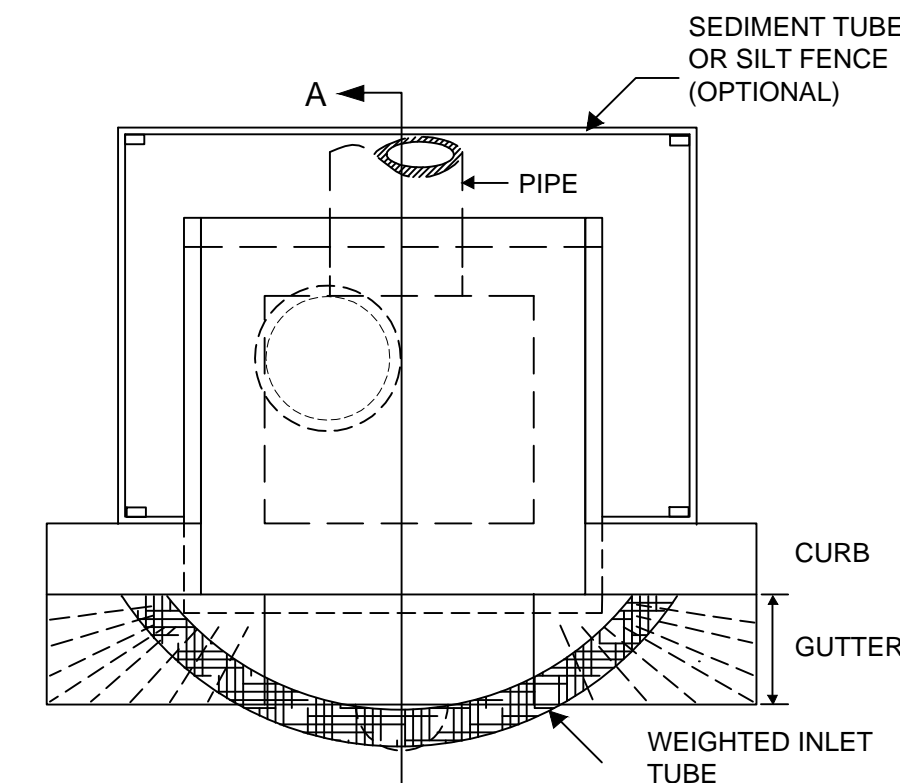
Remove accumulated sediment from the upstream side of the sediment tube when the sediment has reached a height of approximately one-third of the exposed height of the tube (measured at the center).

Accumulated sediment should be removed prior to removing sediment tubes.

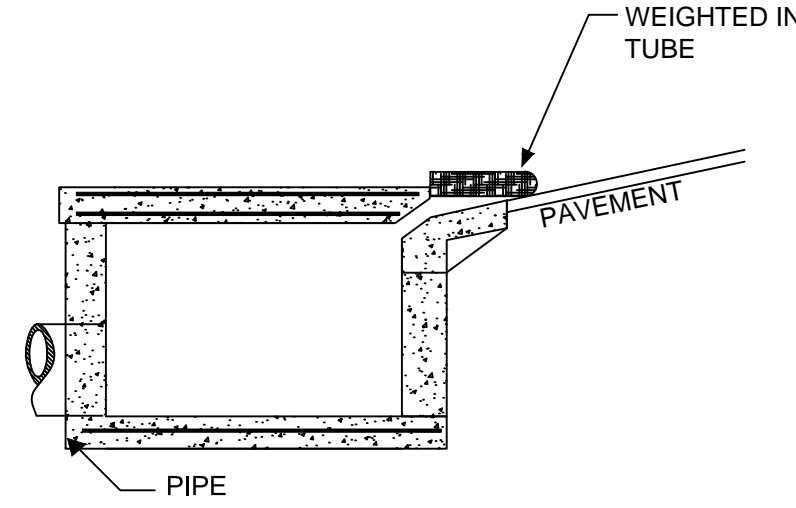
Sediment Tube removal should be completed only after the contributing drainage area has been completely stabilized. Permanent vegetation should replace areas from which gravel, stone, sediment tubes, or other materials have been removed

SEDIMENT TUBE SPACING

SLOPE	MAXIMUM SEDIMENT TUB SPACING
LESS THAN 2%	150-FEET
2%	100-FEET
3%	75-FEET
4%	50-FEET
5%	40-FEET
6%	30-FEET
GREATER THAN 6%	25-FEET

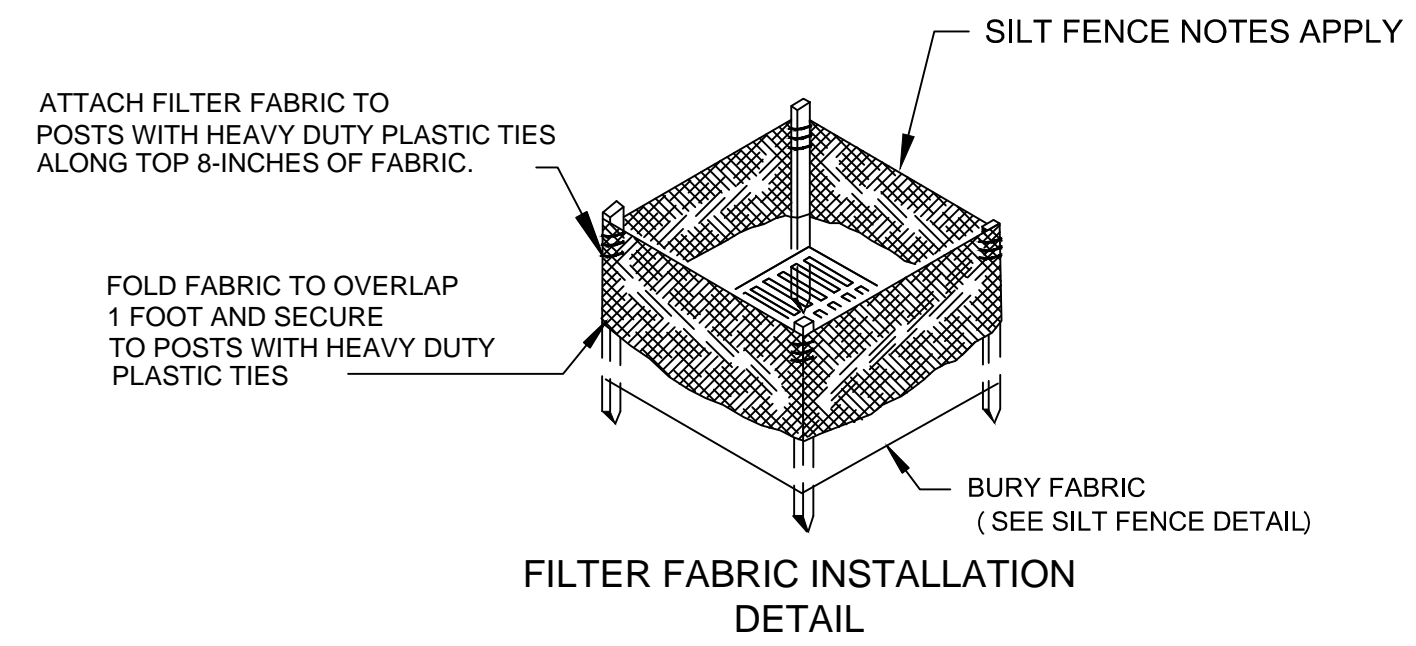


TOP VIEW

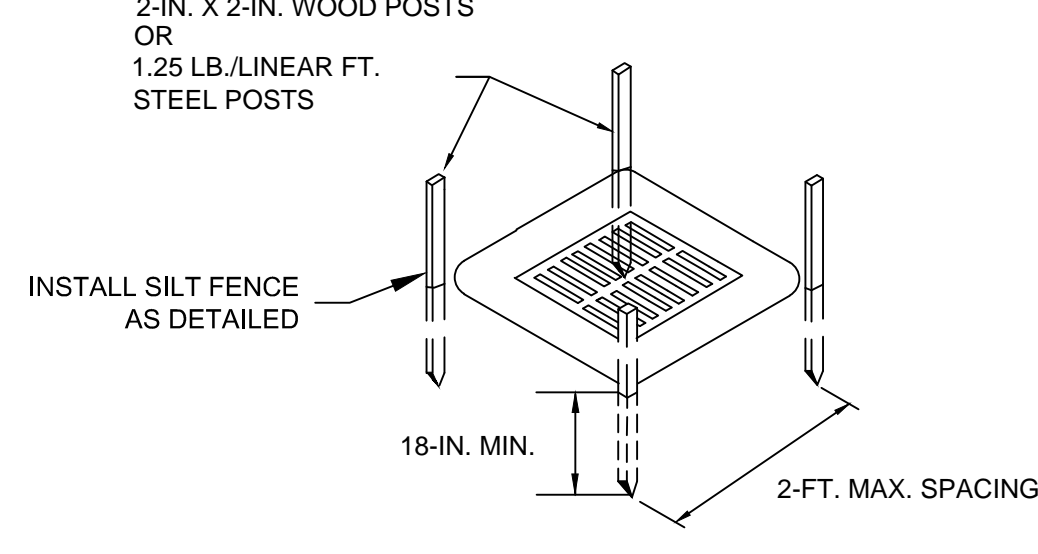


SECTION A-A

INLET TUBES
NOT TO SCALE

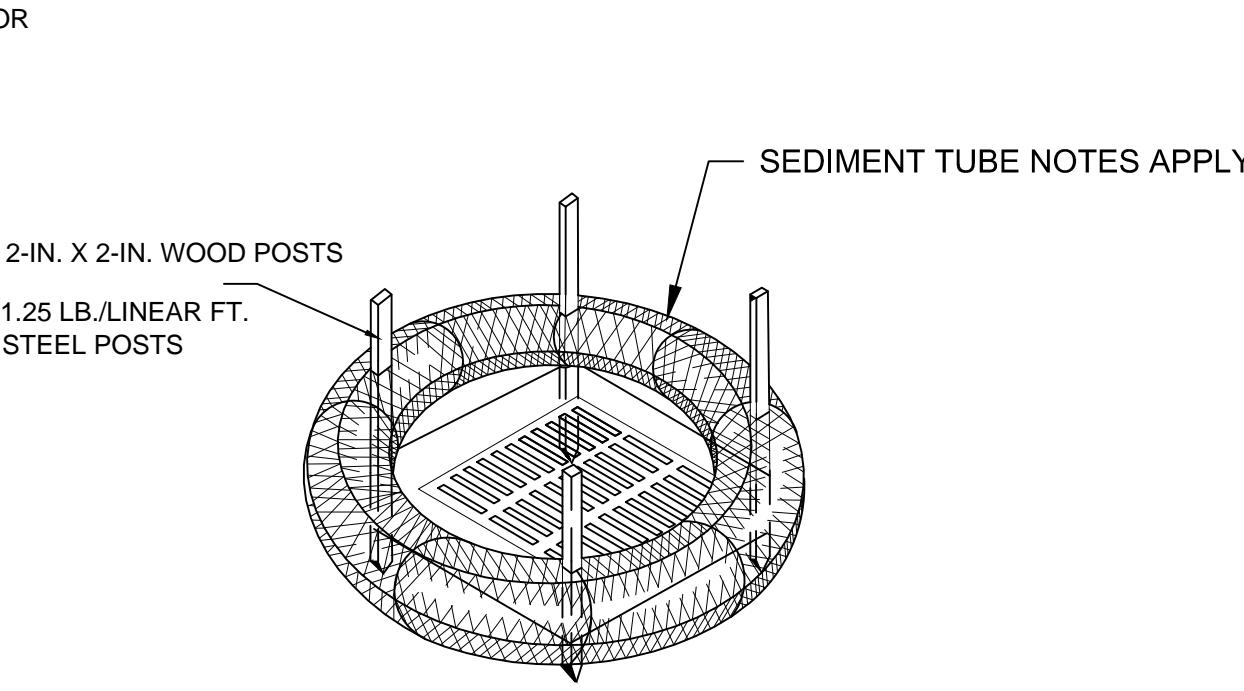


FILTER FABRIC INSTALLATION
DETAIL

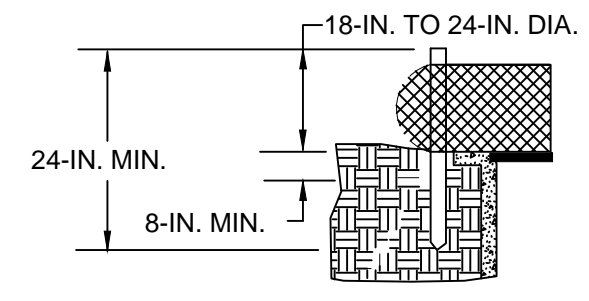


FABRIC POST INSTALLATION
DETAIL

TYPE A FILTER FABRIC INLET PROTECTION
NOT TO SCALE

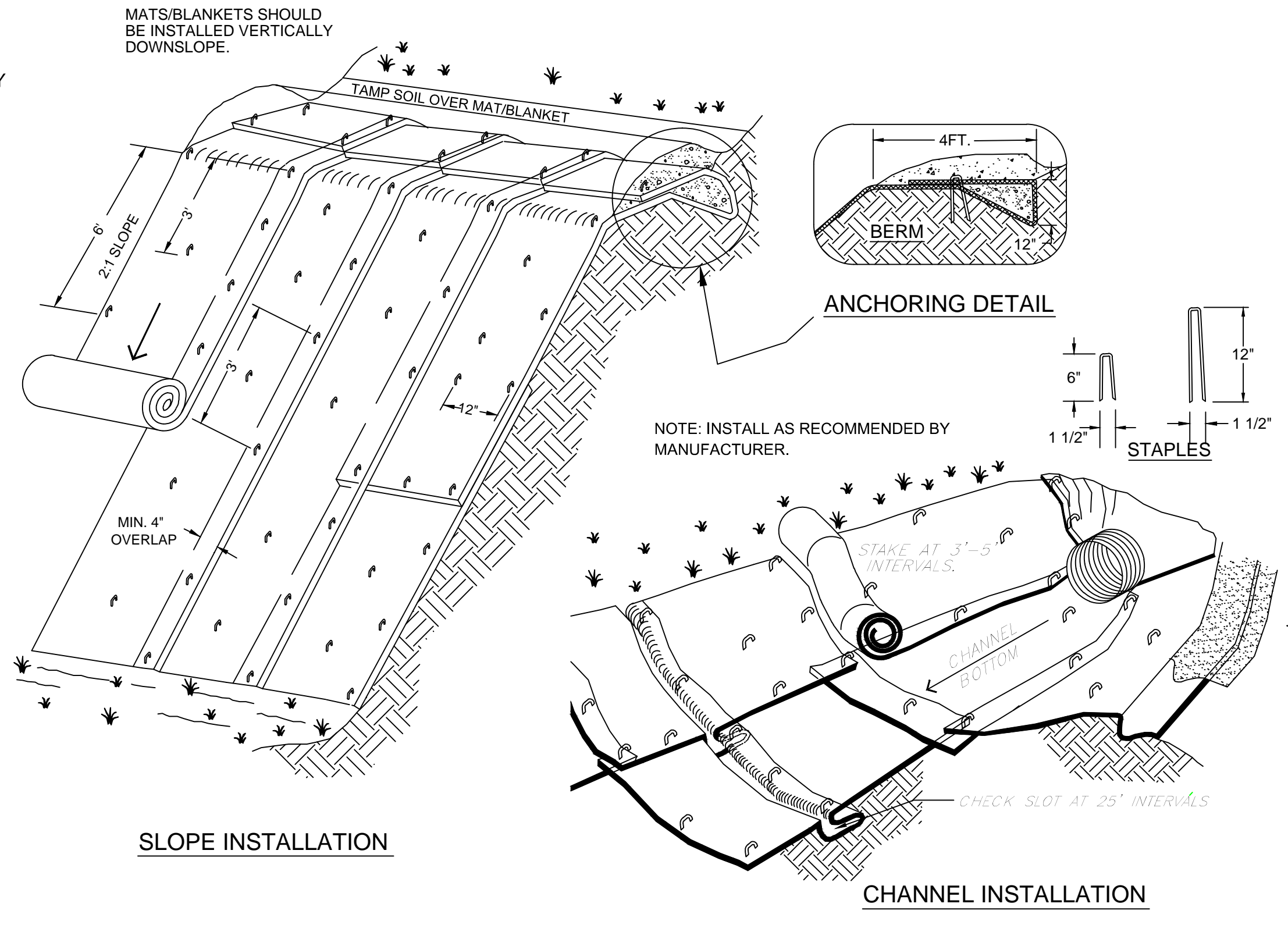


SEDIMENT TUBE INSTALLATION
DETAIL



SEDIMENT TUBE BURIAL
DETAIL

TYPE A SEDIMENT TUBE INLET PROTECTION
NOT TO SCALE



SLOPE INSTALLATION

CHANNEL INSTALLATION

EROSION CONTROL MATTING TYPICAL INSTALLATION
NOT TO SCALE

EROSION CONTROL BLANKETS OR MATTING NOTES:

Temporary erosion control blankets or matting (ECB or ECM) are to be composed primarily of biologically photochemically or otherwise degradable constituents such as wheat straw, coconut fiber, or aged curled excelsior wood products with lifetimes of 1 to 3 years.

Class A Erosion Control Blankets (ECB) are for slope applications only sloping 2H:1V or flatter. Slopes greater than 2H:1V require Turf Reinforcement Matting (TRM).

Class B ECBs are for channel applications. Channels and concentrated flow areas with design shear stresses greater than 1.75 lb/ft² require use of TRM.

All class A and B temporary erosion control blankets consisting of straw, and or coconut must utilize non-organic, photodegradable or biodegradable polypropylene netting. Provide netting on both sides of the blanket. The top netting is to be degradable polypropylene with maximum mesh opening of 0.75" by 0.75". The bottom netting is to be degradable polypropylene with maximum mesh opening of 0.5" by 0.5". Sew a maximum of 4" on center.

All class A and B temporary erosion control blankets consisting of curled excelsior fibers must utilize non-organic, photodegradable or biodegradable polypropylene netting with 80% of fibers a minimum of 6" long. Provide netting on both sides of the blanket. The top and bottom netting is to be degradable polypropylene with maximum mesh opening of 1" by 1". Sew a maximum of 4" on center.

Blankets to be quality control tested by a GAI-LAP accredited laboratory with the following minimums: 6 oz/yd² mass per unit area (ASTMD6475); thickness of 0.25" (ASTM D6525); initial grab tensile strength of .75 x .75 lb/ft² (ASTM D6818); roll width of 48". For Class B channel applications minimum unvegetated shear stress of 1.0 lb/ft² based on short-term peak flow duration of 0.5 hr.

INSTALLATION:

Grade and compact areas to be protected with ECBs as indicated on plans

Remove large rocks, soil clods, vegetation, and other sharp objects to allow intimate contact between ECB and subgrade.

Prepare seedbed and apply grass as indicated in grassing requirements.

Install ECB as recommended by ECB manufacturer.

INSPECTION AND MAINTENANCE:

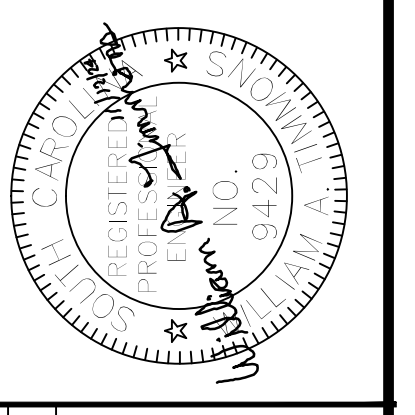
Inspect areas protected by ECBs for dislocation or failure every 7 calendar days and within 24 hours after each storm that produces 1/2" or more of rainfall.

Conduct regular inspections until grasses are firmly established.

Adhere to the pinning or stapling pattern recommended by ECB manufacturer. Add additional pins or staples when required to secure blanket.

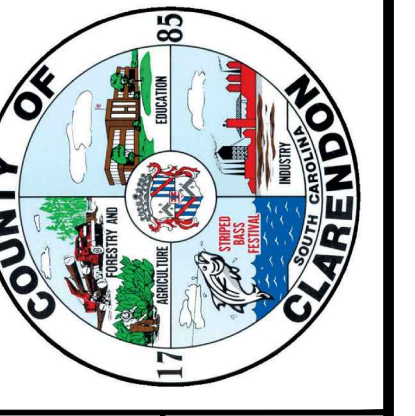
If washout or breakage occurs, repair all damaged areas immediately by restoring soil to its finished grade, reapply fertilizer and seed and replace the appropriate ECB material as needed.

EROSION CONTROL DETAILS



REVISIONS

ZONE	REV	DATE	APPROVED



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