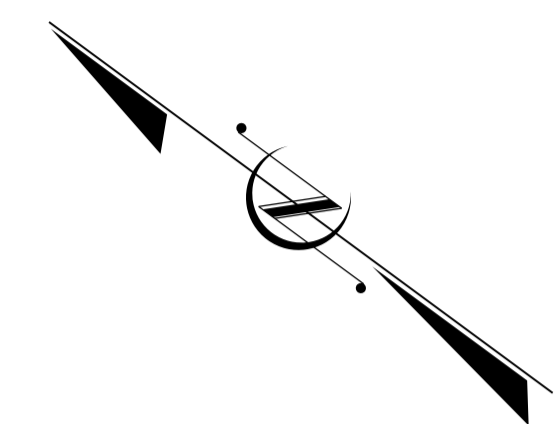


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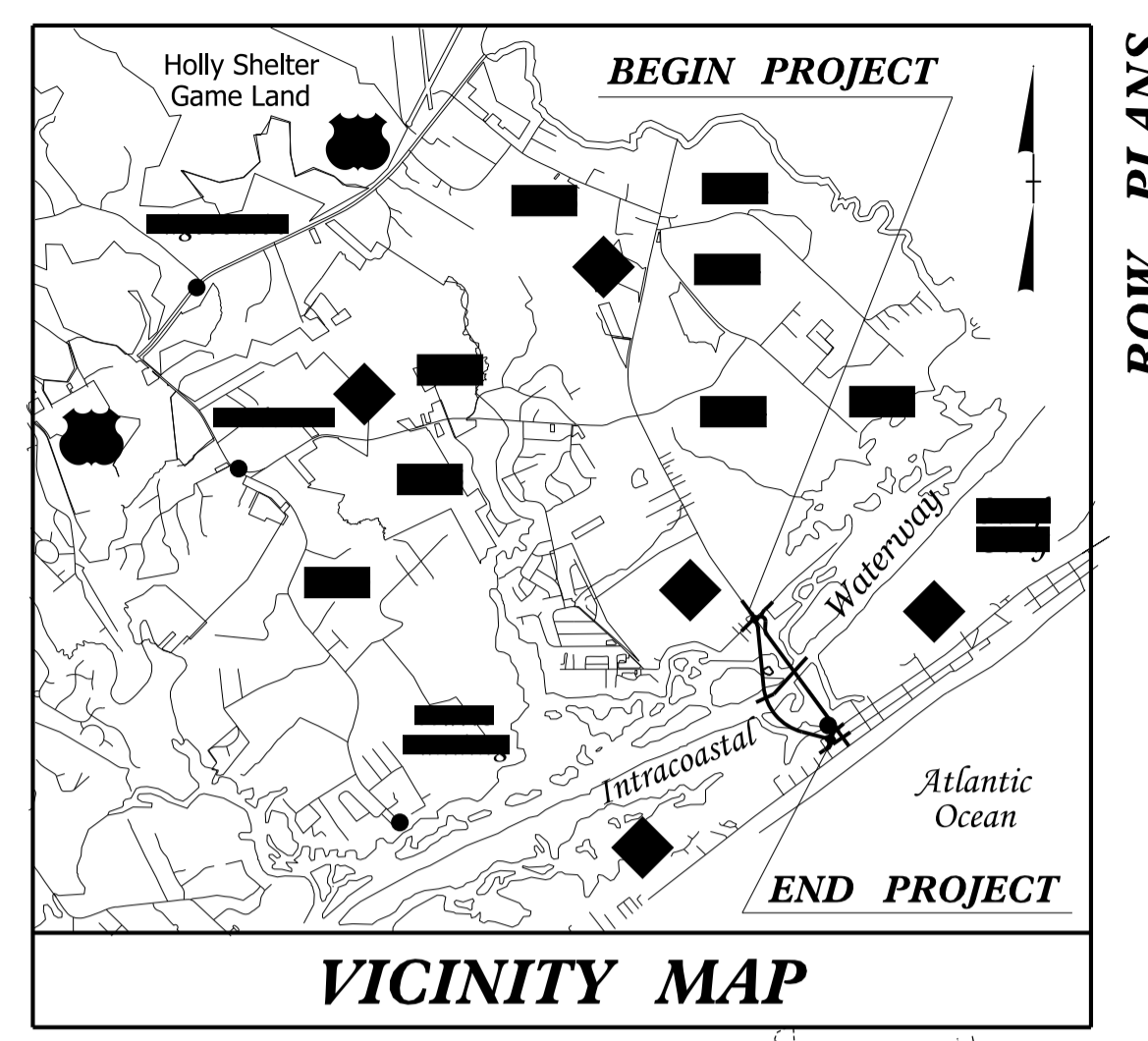
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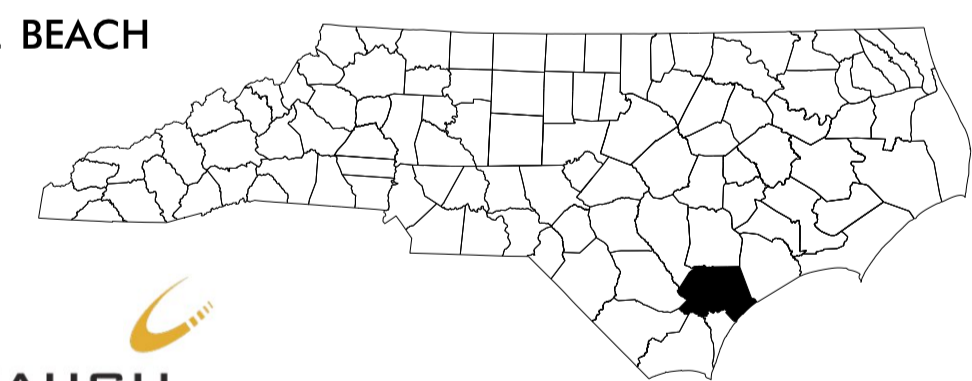
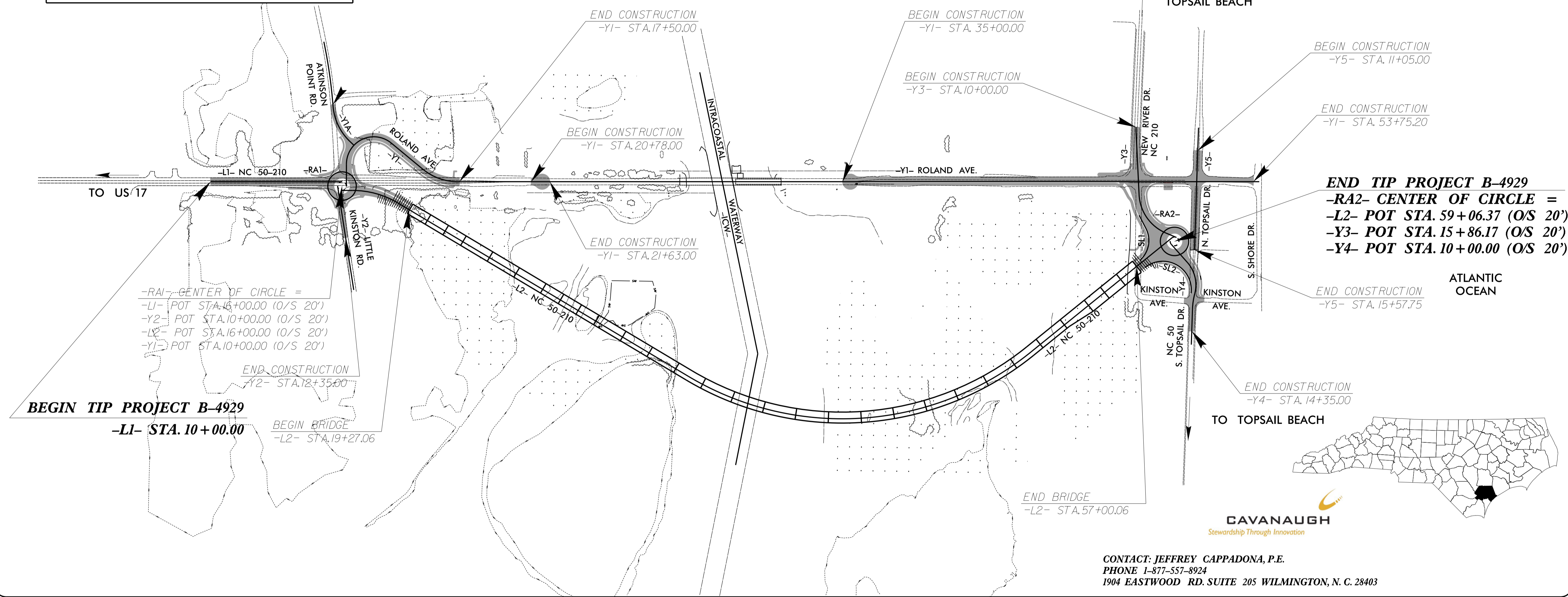
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS PENDER COUNTY

LOCATION: BRIDGE 16 OVER THE INTERCOSTAL WATERWAY
TYPE OF WORK: RELOCATION OF WATER, SANITARY GRAVITY
SEWER AND FORCE MAIN



TIP PROJECT: B-4929



CAVANAUGH
Stewardship Through Innovation

CONTACT: JEFFREY CAPPADONA, P.E.
PHONE 1-877-557-8924
1904 EASTWOOD RD. SUITE 205 WILMINGTON, N. C. 28403

CORPORATE P.E. LICENSE #C-1273

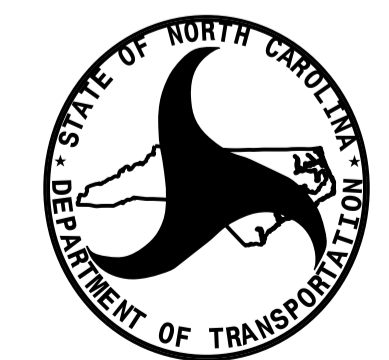
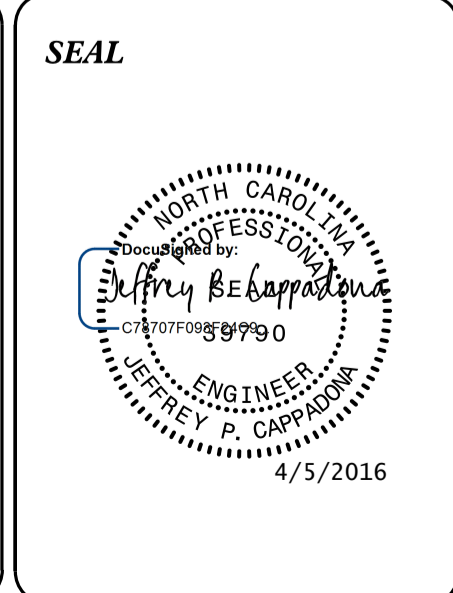
GRAPHIC SCALES

SEE PLAN SHEETS
FOR SCALE

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A THRU UC-3C	DETAILS
UC-4	SHEET INDEX
UC-5 THUR UC-26	UTILITY CONSTRUCTION AND PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

- (1) WATER (TOWN OF SURF CITY)
- (2) SANITARY SEWER (TOWN OF SURF CITY)
- (3) FORCE MAIN SEWER (TOWN OF SURF CITY)



PREPARED IN THE OFFICE OF:
**DIVISION OF HIGHWAYS
UTILITIES UNIT
UTILITIES ENGINEERING**

1555 MAIL SERVICES CENTER
RALEIGH NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Bo Hemphill, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER
Jeffrey Cappadona, P. E. UTILITIES PROJECT DESIGNER

05-APR-2016 13:52 R:\Utilities\Engineering\UC\Proj\B4929_Ut_1.fsh_UC1.psh.dgn \$\$\$\$USERNAME\$\$\$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11¼ Degree Bend	
22½ Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	REM FH
Water Meter	
Relocate Water Meter	
Remove Water Meter	REM WM
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

NOTE
PAY ITEM

EXISTING UTILITIES SYMBOLS

Power Pole		*Underground Power Line	
Telephone Pole		*Underground Telephone Cable	
Joint Use Pole		*Underground Telephone Conduit	
Utility Pole		*Underground Fiber Optics Telephone Cable	
Utility Pole with Base		*Underground TV Cable	
H-Frame Pole		*Underground Fiber Optics TV Cable	
Power Transmission Line Tower		*Underground Gas Pipeline	
Water Manhole		Aboveground Gas Pipeline	
Power Manhole		*Underground Water Line	
Telephone Manhole		Aboveground Water Line	
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line	
Hand Hole for Cable		Aboveground Gravity Sanitary Sewer Line	
Power Transformer		*Underground SS Forced Main Line	
Telephone Pedestal		Underground Unknown Utility Line	
CATV Pedestal		SUE Test Hole	
Gas Valve		Water Meter	
Gas Meter		Water Valve	
Located Miscellaneous Utility Object		Fire Hydrant	
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	
End of Information	E.O.I.		

*For Existing Utilities
Utility Line Drawn from Record (Type as Shown)
Designated Utility Line (Type as Shown)

5/14/99
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REV: 2/1/2012

UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.
2. THE EXISTING UTILITIES BELONG TO THE TOWN OF SURF CITY.
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.
5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPROTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.
7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.
8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

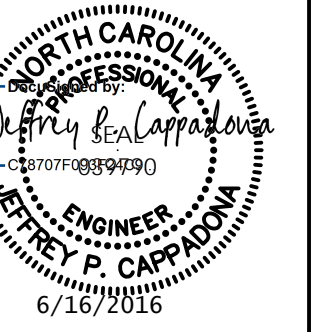
1. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.
2. IF HDPE PIPE IS INSTALLED BY DIRECTIONAL DRILL. IT SHALL BE FILLED WITH WATER AND NOT BE CONNECTED TO ANY OTHER PIPE OR FITTINGS FOR ONE WEEK FROM THE TIME OF INSTALLATION.
3. TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT INFORMATION PROVIDED FOR ENGINEERING DESIGN PURPOSES ONLY NOT FOR RECORDATION.
4. SEWER AND STORMWATER PIPES TO HAVE A MINIMUM OF 24" SEPERATION, UNLESS OTHERWISE SHOWN, FROM BOTTOM OF STORMWATER PIPE AND TOP OF SEWER PIPE.
- 5 UNLESS NOTED OTHERWISE ON THE PLANS, ALL PROPOSED WATERLINES AND FORCEMAINS SHALL BE DIP (AWWA C151) WITH MECHANICALLY RESTRAINED JOINTS.
6. CONTRACTOR SHALL RECONNECT ALL UTILITY SERVICES AFFECTED BY PERMENANT LINE TERMINATION TO NEAREST ACTIVE SUPPLY LINE

PROJECT REFERENCE NO. U-4405	SHEET NO. UC-3
DESIGNED BY: JPC	
DRAWN BY: JPC	
CHECKED BY: WGS	
APPROVED BY: JPC	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

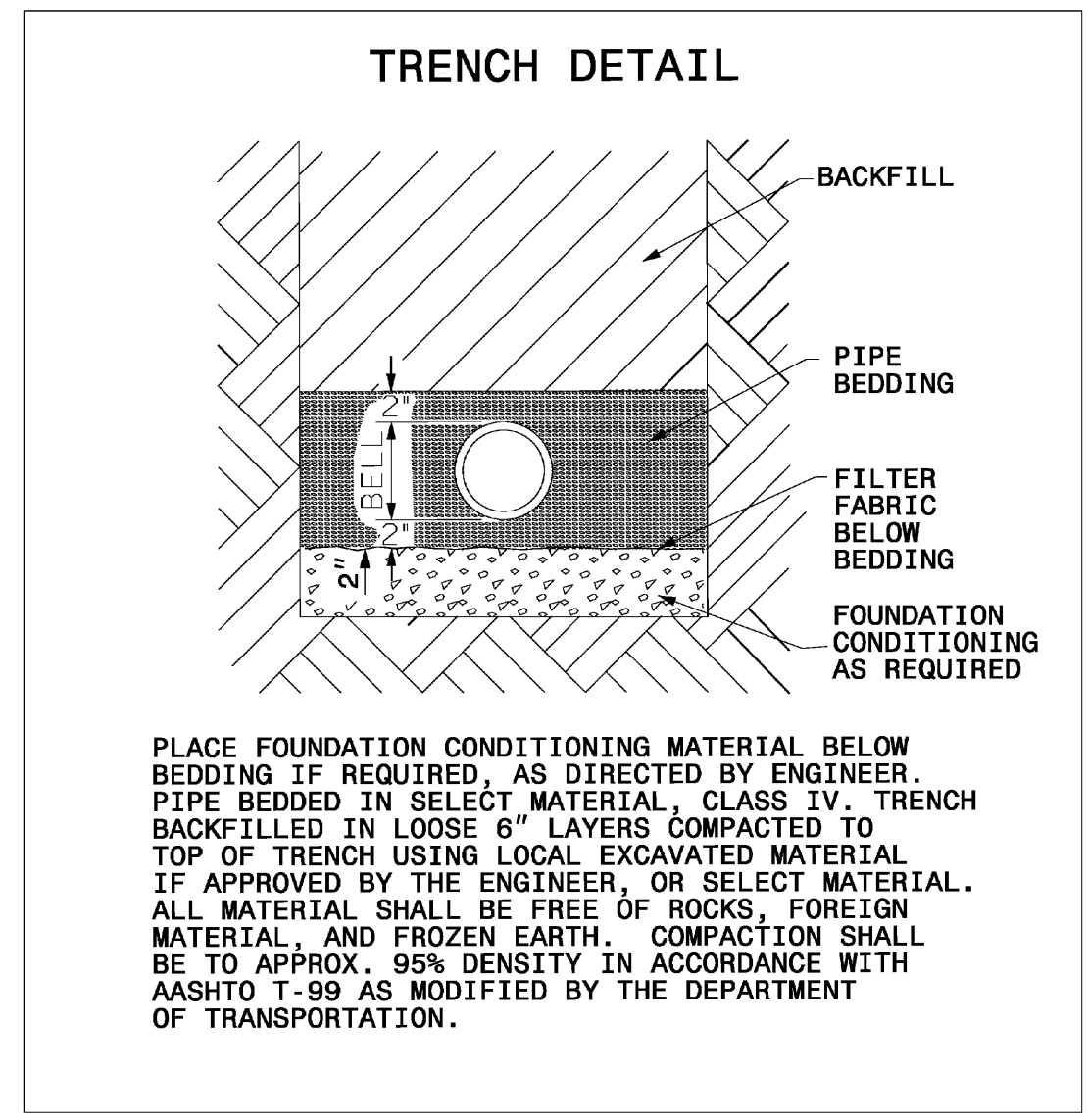
UTILITY CONSTRUCTION

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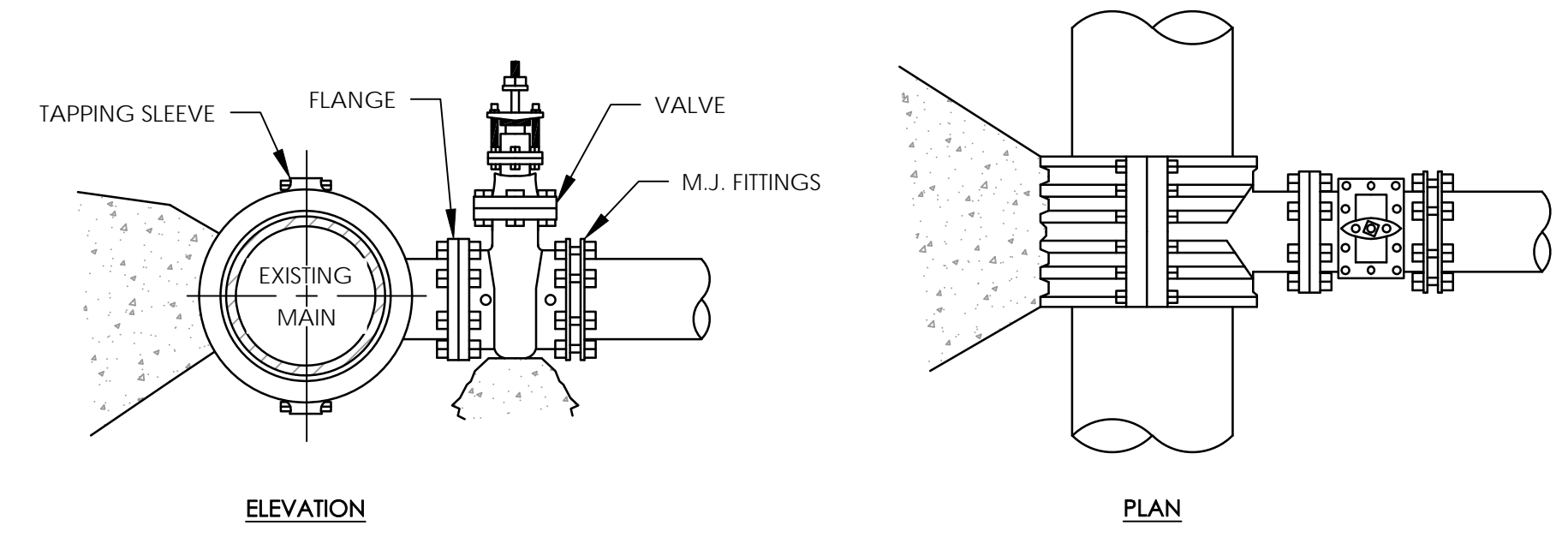
DESIGNED BY: JPC
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DEPARTMENT OF
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UTILITIES ENGINEERING SEC.
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FAX: (919) 250-4151



UTILITY CONSTRUCTION
PLANS ONLY

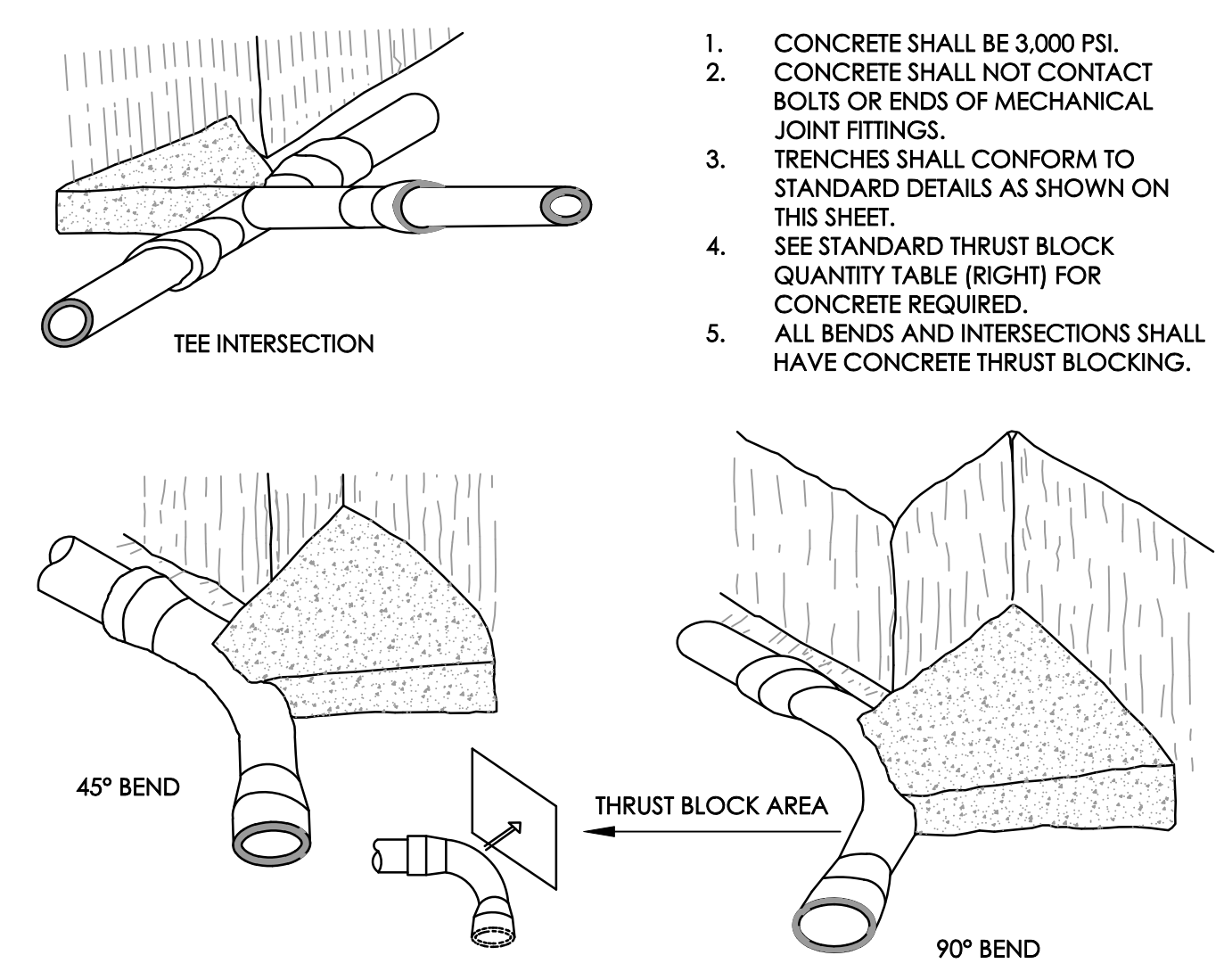


TRENCH DETAIL
SCALE: NOT TO SCALE



- NOTES:**
- CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OR MECHANICAL JOINT FITTINGS.
 - SEE STANDARD THRUST BLOCK TABLES, DETAIL 6/UC-3A, FOR AREA OF CONCRETE REQUIRED.
 - SOLID CONCRETE OR BRICK BLOCKING SHALL BE USED AS FOOTING FOR DUCTILE IRON PIPE.
 - PVC PIPE SHALL REQUIRE A 2,500 P.S.I. CONCRETE FOOTING.

1 1/2"-12" STANDARD TAPPING SLEEVE AND VALVE ASSEMBLY
SCALE: NOT TO SCALE



- CONCRETE SHALL BE 3,000 PSI.
- CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
- TRENCHES SHALL CONFORM TO STANDARD DETAILS AS SHOWN ON THIS SHEET.
- SEE STANDARD THRUST BLOCK QUANTITY TABLE (RIGHT) FOR CONCRETE REQUIRED.
- ALL BENDS AND INTERSECTIONS SHALL HAVE CONCRETE THRUST BLOCKING.

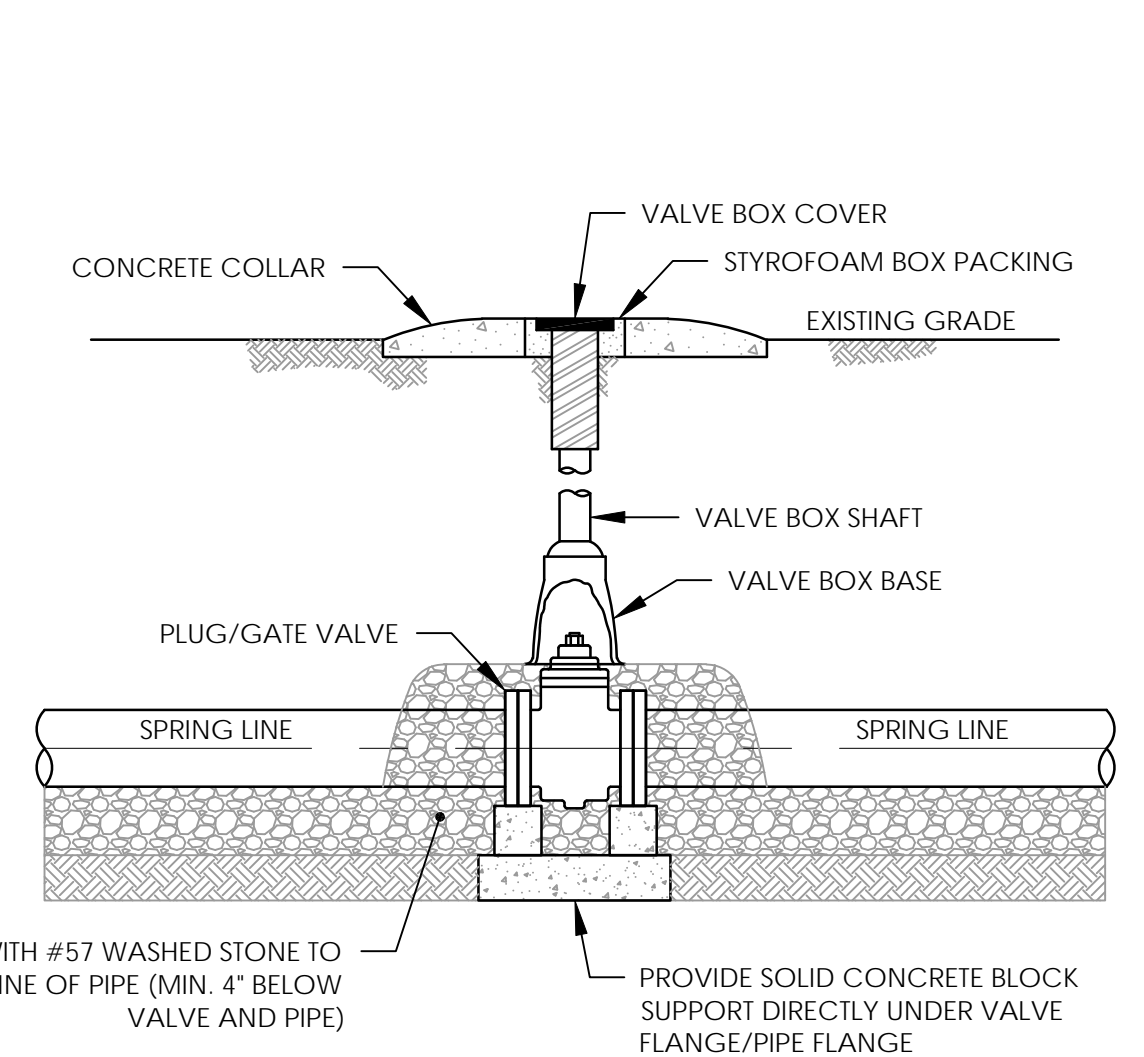
REACTION BEARING AREAS FOR HORIZONTAL PIPE BENDS

BASED ON TEST PRESSURE OF 200 P.S.I. (ALL AREA IN SQUARE FEET)

SIZE OF BEND	STATIC THRUST IN POUNDS	FAIRLY DRY CLAY 4000 LBS/FT ² SO.	SOFT CLAY 2000 LBS/FT ² SO.	GRAVEL, COARSE SAND 1600 LBS/FT ² SO.	DRY CLAY - 4000 LBS/FT ² SO.	SAND, COMPACT FIRM 8000 LBS/FT ² SO.	SAND - CLEAN, DRY 4000 LBS/FT ² SO.	QUICKSAND, VERT. POOR SOIL 1000 LBS/FT ² SO.	POOR ROCK 10,000 LBS/FT ² SO.
6"									
11 1/4"	1,108	1	1	1	1	1	2	1	
22 1/2"	2,207	1	2	2	1	1	3	1	
45°	4,328	2	4	4	1	1	6	1	
90°	7,098	2	4	5	1	1	8	1	
PLUG	5,655	2	3	4	1	1	6	1	
6"									
11 1/4"	1,070	1	1	2	1	1	2	1	
22 1/2"	2,044	1	2	3	1	1	4	1	
45°	4,084	2	4	5	1	1	8	1	
90°	7,163	2	4	8	2	2	16	2	
PLUG	5,655	2	3	6	2	2	10	1	
6"									
11 1/4"	4,433	2	3	3	1	1	5	1	
22 1/2"	8,826	3	5	6	2	2	9	1	
45°	17,312	5	9	11	3	3	16	2	
90°	31,983	8	15	19	4	4	32	4	
PLUG	22,619	6	12	14	3	3	23	3	
6"									
11 1/4"	7,881	2	4	5	1	1	8	1	
22 1/2"	15,691	4	8	10	2	2	16	2	
45°	30,779	8	15	19	4	4	32	4	
90°	56,861	15	29	35	8	8	64	8	
PLUG	42,213	10	21	25	5	5	41	5	

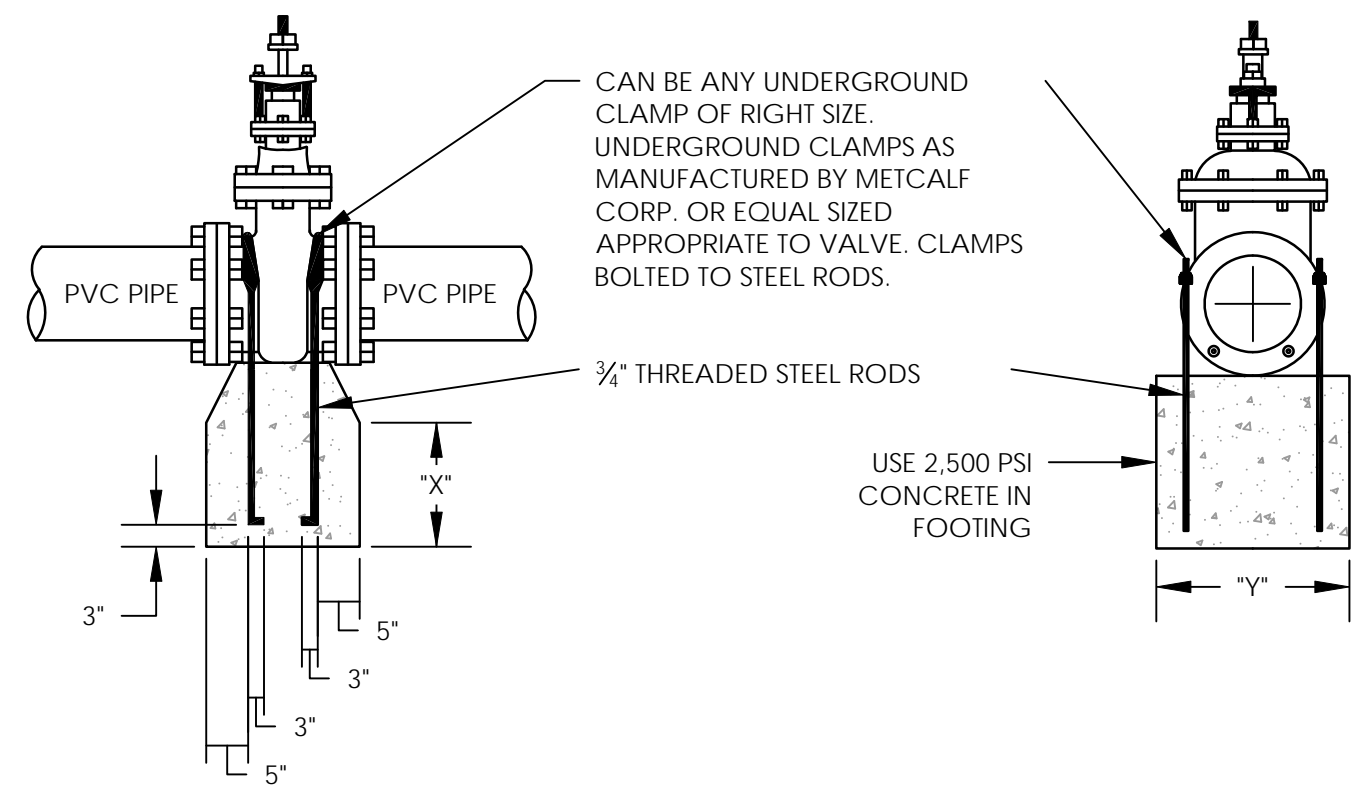
NOTES:
REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.
USE 6"-90° BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR

STANDARD THRUST BLOCKING VIEWS AND DESIGN QUANTITY TABLE
SCALE: NOT TO SCALE



- NOTES:**
- A VALVE BOX SHOULD BE PROVIDED FOR EACH VALVE USED IN BURIED SERVICE APPLICATION. VALVE BOXES SHOULD BE INSTALLED SUCH THAT NO LOAD IS TRANSFERRED TO THE VALVE.
 - PREPARE PIPE ENDS ACCORDING TO MANUFACTURERS INSTRUCTIONS. INSTALL VALVE PER PROPER METHODS ACCORDING TO END JOINT TYPE. ALL PIPING SHOULD BE PROPERLY SUPPORTED TO AVOID LINE STRESS ON THE VALVE. DO NOT USE THE VALVE AS A JACK TO FORCE A PIPELINE INTO POSITION.

TYPICAL PLUG/GATE VALVE, VALVE BOX, & PROTECTION
SCALE: NOT TO SCALE

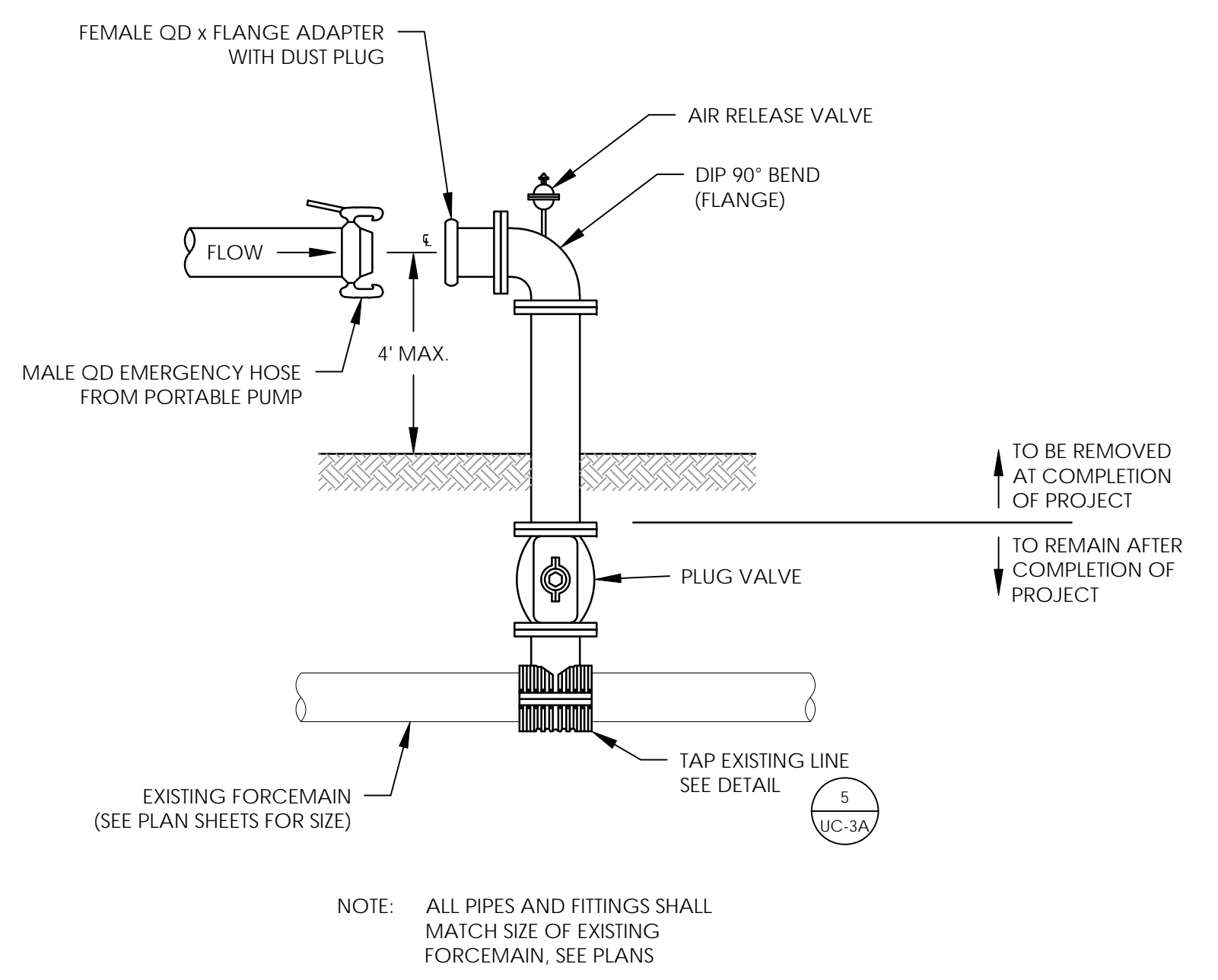


- NOTES:**
- RODS SHOULD EXTEND TO TOP OF PIPE CROWN.
 - X x Y MUST EQUAL THE SQUARE FOOTAGE OF THE BEARING AREA SHOWN IN THE TABLE BELOW.

BEARING SURFACE AREA FOR VALVE FOOTINGS

TYPE OF MATERIAL	FOOTING AREA (X x Y)		
	4"	6"	8"
QUICKSAND, POOR SOIL (1,000 psf)	3	7	12
GRAVEL, COURSE SAND (1,600 psf)	2	5	8
SOFT CLAY (2,000 psf)	2	4	6
FAIRLY DRY CLAY, CLEAN DRY SAND (4,000 psf)	1	2	3
DRY CLAY, COMPACT SAND (8,000 psf)	1	1	2
POOR ROCK (10,000 psf)	1	1	2

VALVE FOOTING FOR PVC MAINS
SCALE: NOT TO SCALE

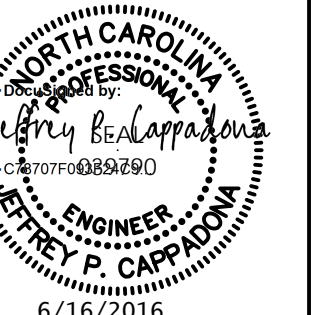


NOTE: ALL PIPES AND FITTINGS SHALL MATCH SIZE OF EXISTING FORCEMAIN, SEE PLANS

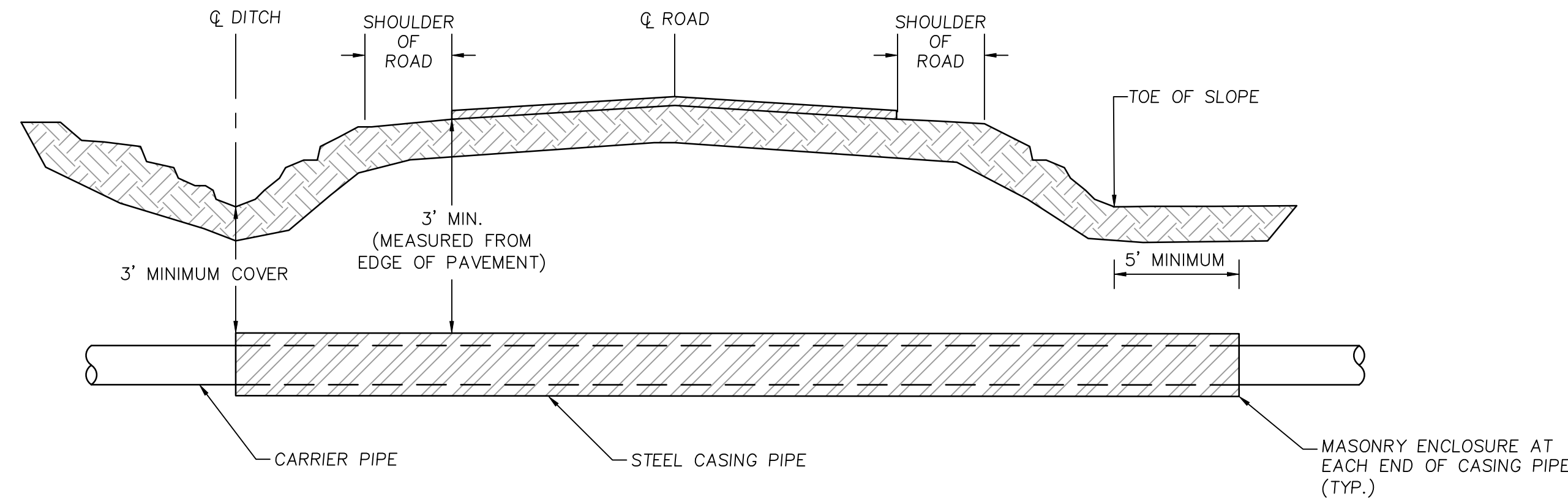
PUMP AROUND RISER
SCALE: NOT TO SCALE

REVISIONS

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 DRAWN BY: JPC
 CHECKED BY: WGS
 APPROVED BY: JPC
 REVISED:
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
 6/16/2016
 UTILITY CONSTRUCTION PLANS ONLY



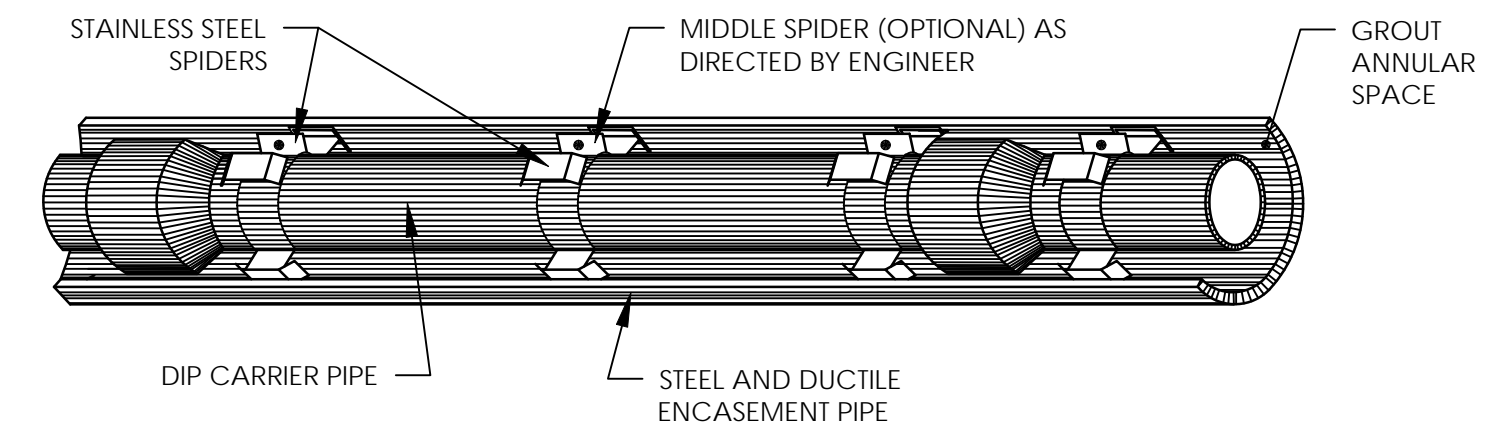
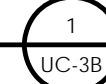
UTILITY CONSTRUCTION



NOTE: ALL ENCASEMENTS SHALL EXTEND FROM DITCH LINE TO DITCH LINE IN CUT SECTIONS, 5' BEYOND THE TOE OF SLOPES IN FILL SECTIONS, AND 10' BEYOND THE EDGE OF PAVEMENT IN SECTIONS WITH NO DITCH OR FILL AREA (PER NCDOT)

JACK AND BORE UNDER STATE ROAD (NCDOT) DETAIL

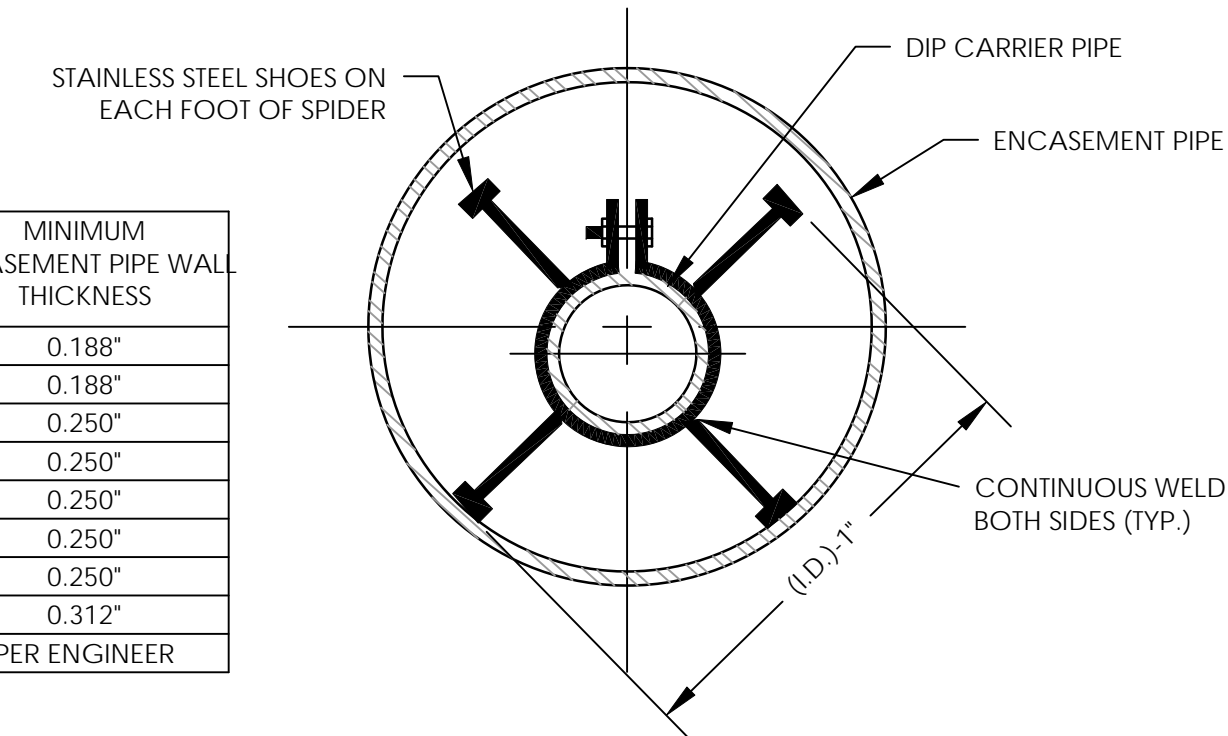
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NOTES:

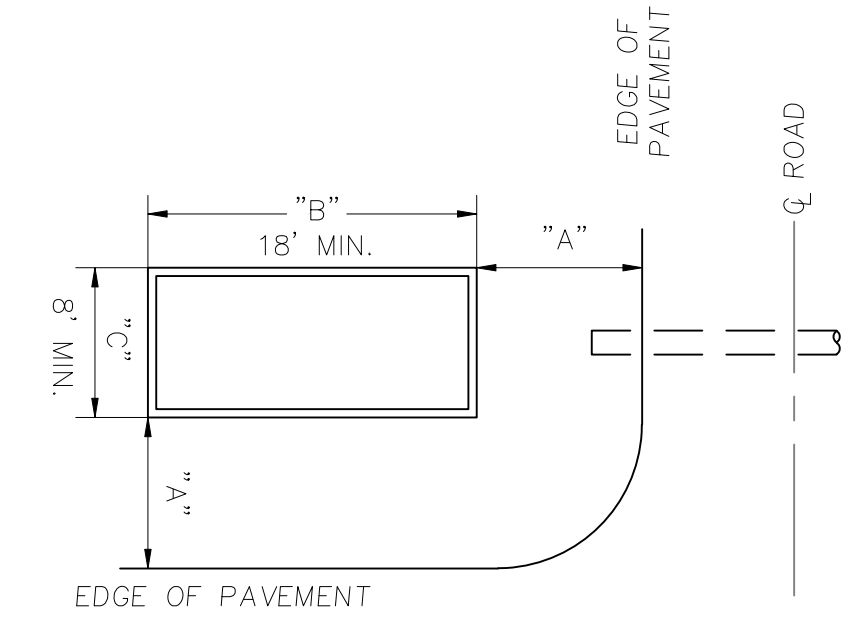
1. NORMAL SPACING FOR SPIDERS IS 3 PER 18 FOOT LENGTH OF PIPE, ONE SUPPORT AT EACH END AND A SUPPORT AT 9 FOOT CENTER
2. ENTIRE SPIDER ASSEMBLY TO BE 306 STAINLESS STEEL
3. FIELD MODIFY AS REQUIRED TO PROVIDE DESIGN SLOPE IN CARRIER PIPE.

CARRIER PIPE DIAMETER	MINIMUM ENCASEMENT PIPE DIAMETER	MINIMUM ENCASEMENT PIPE WALL THICKNESS
4"	12"	0.188"
6"	12"	0.188"
8"	12"	0.250"
12"	16"	0.250"
16"	24"	0.250"
18"	24"	0.250"
24"	30"	0.250"
30"	36"	0.312"
≥36"	PER ENGINEER	PER ENGINEER

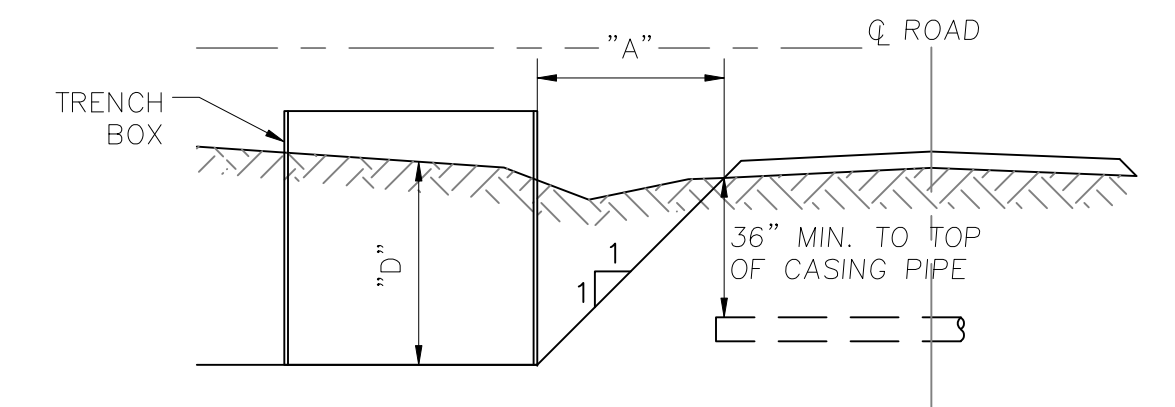


JACK AND BORE DETAIL

SCALE: NOT TO SCALE



BORE PIT PLAN VIEW



BORE PIT SECTION VIEW

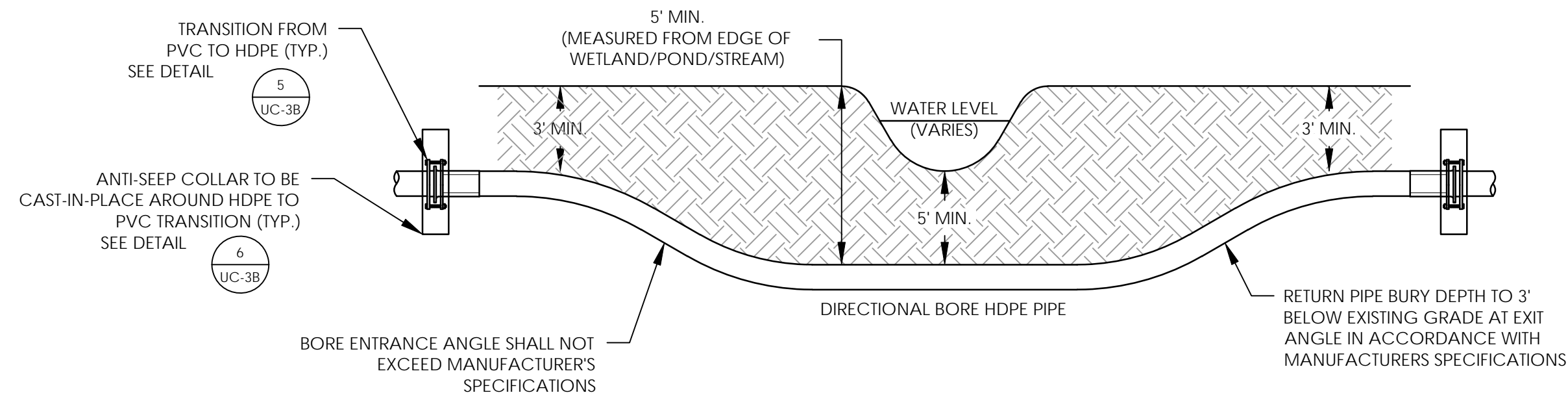
LAYOUT SCHEDULE (FT.)										
"A"	5	6	7	8	9	10	11	12		
"D"	5	6	7	8	9	10	11	12		

NOTES:

1. "A" IS THE MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT ALLOWABLE BY NCDOT, BASED ON THE DEPTH OF THE BORE PIT ("D") AND A RATIO OF 1:1 SLOPE. CONTRACTOR SHALL FOLLOW NCDOT SAFETY REQUIREMENTS BY FENCING OFF OPEN PIT AND WORKING AREA.
2. ACTUAL BORE PIT DIMENSIONS ARE SHOWN PER PLAN.

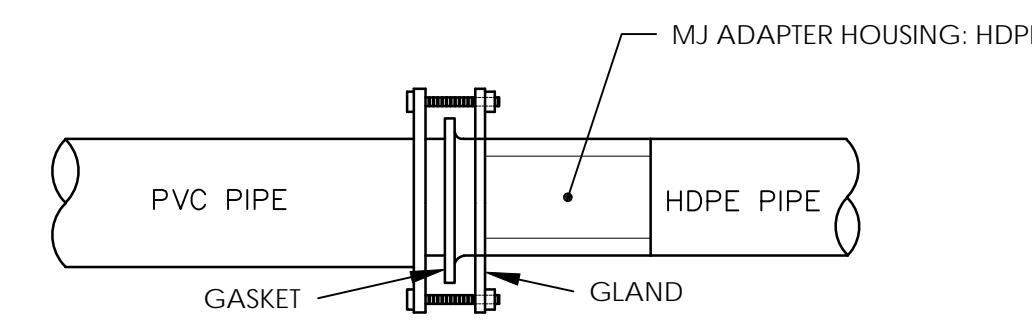
BORE PIT DETAIL (TYPICAL) DETAIL

SCALE: NOT TO SCALE



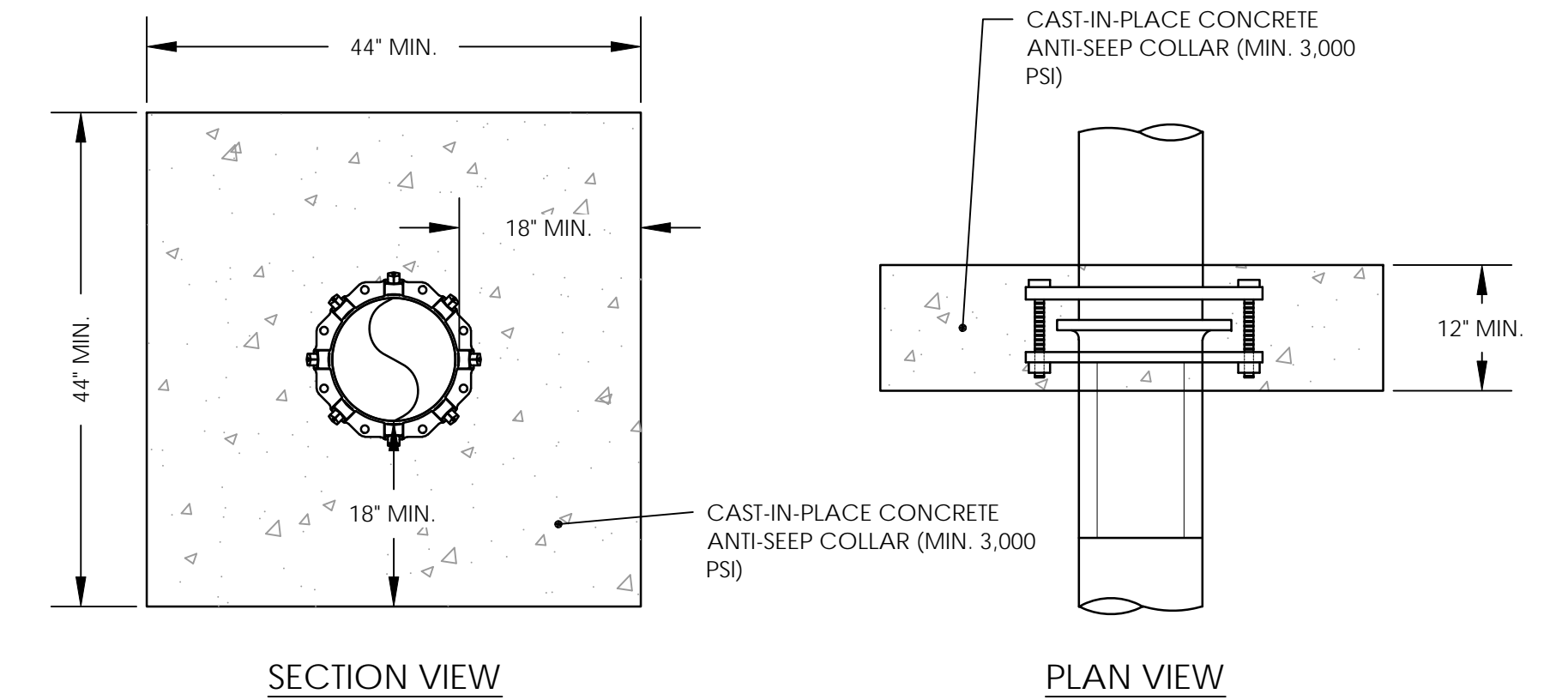
DIRECTIONAL BORE WETLAND/POND/STREAM CROSSING (HDPE) DETAIL

SCALE: NOT TO SCALE



HDPE-PVC TRANSITION MECHANICAL JOINT ADAPTER DETAIL

SCALE: NOT TO SCALE



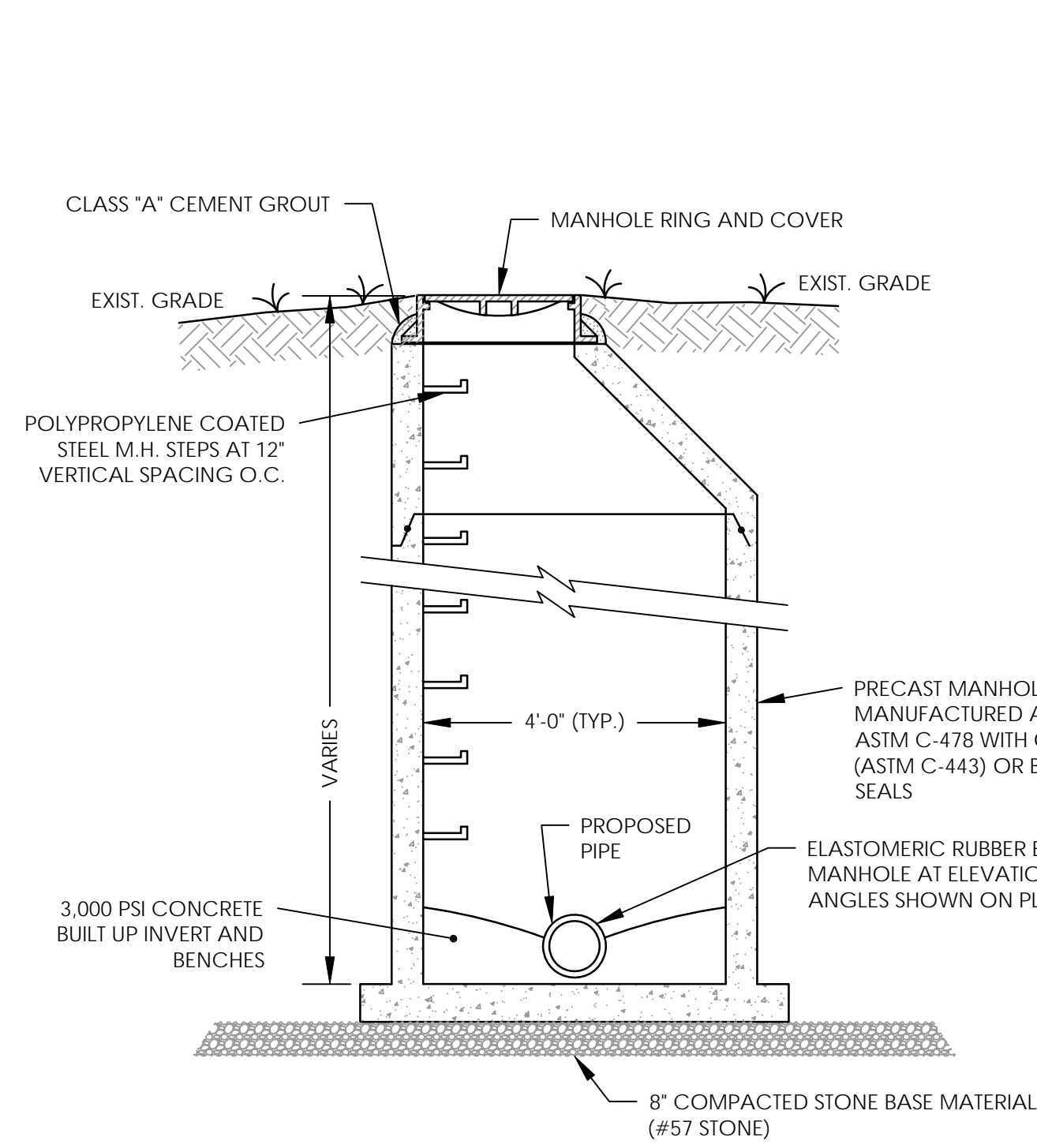
ANTI-SEEP COLLAR (TYP.) DETAIL

SCALE: NOT TO SCALE

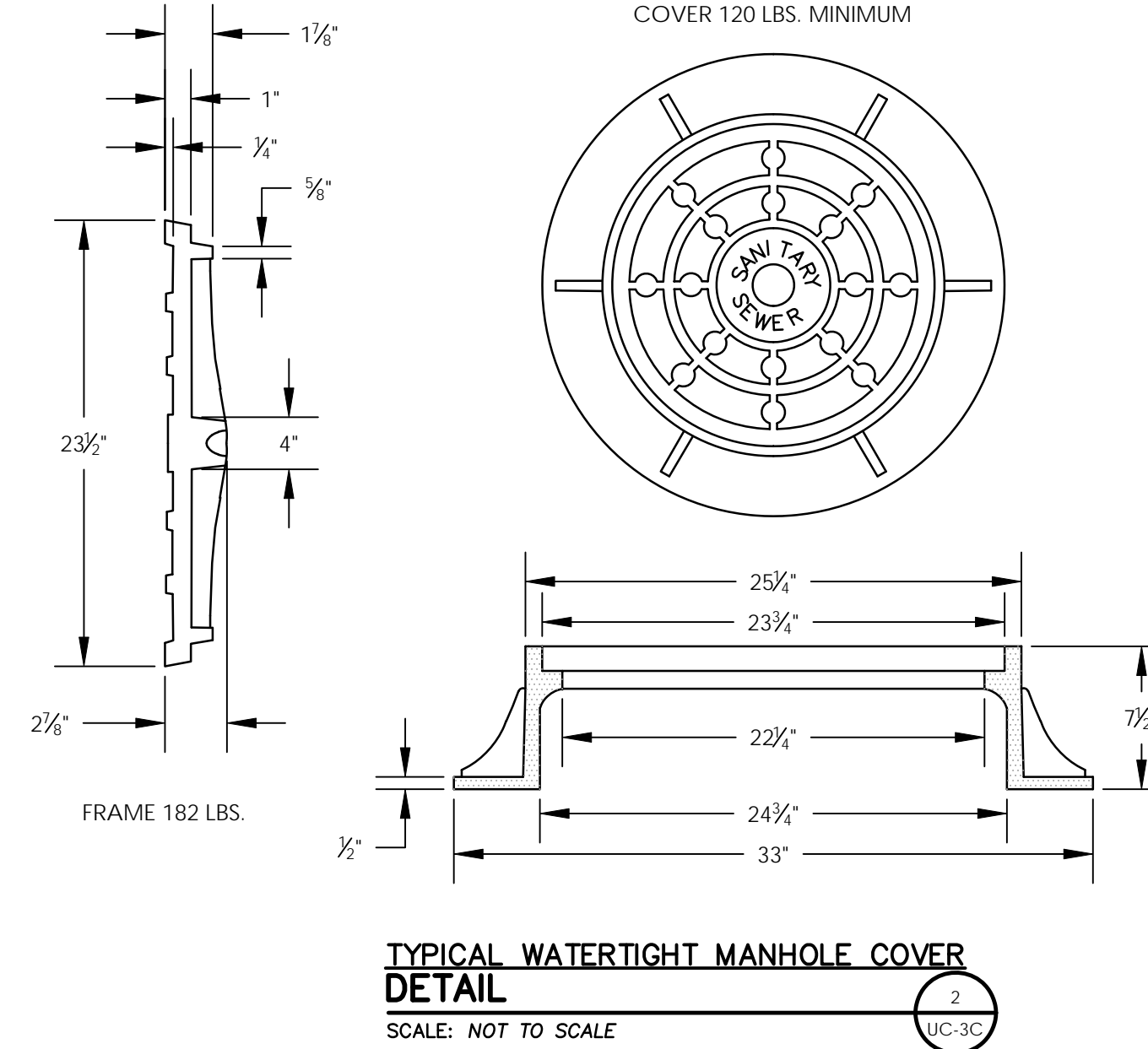
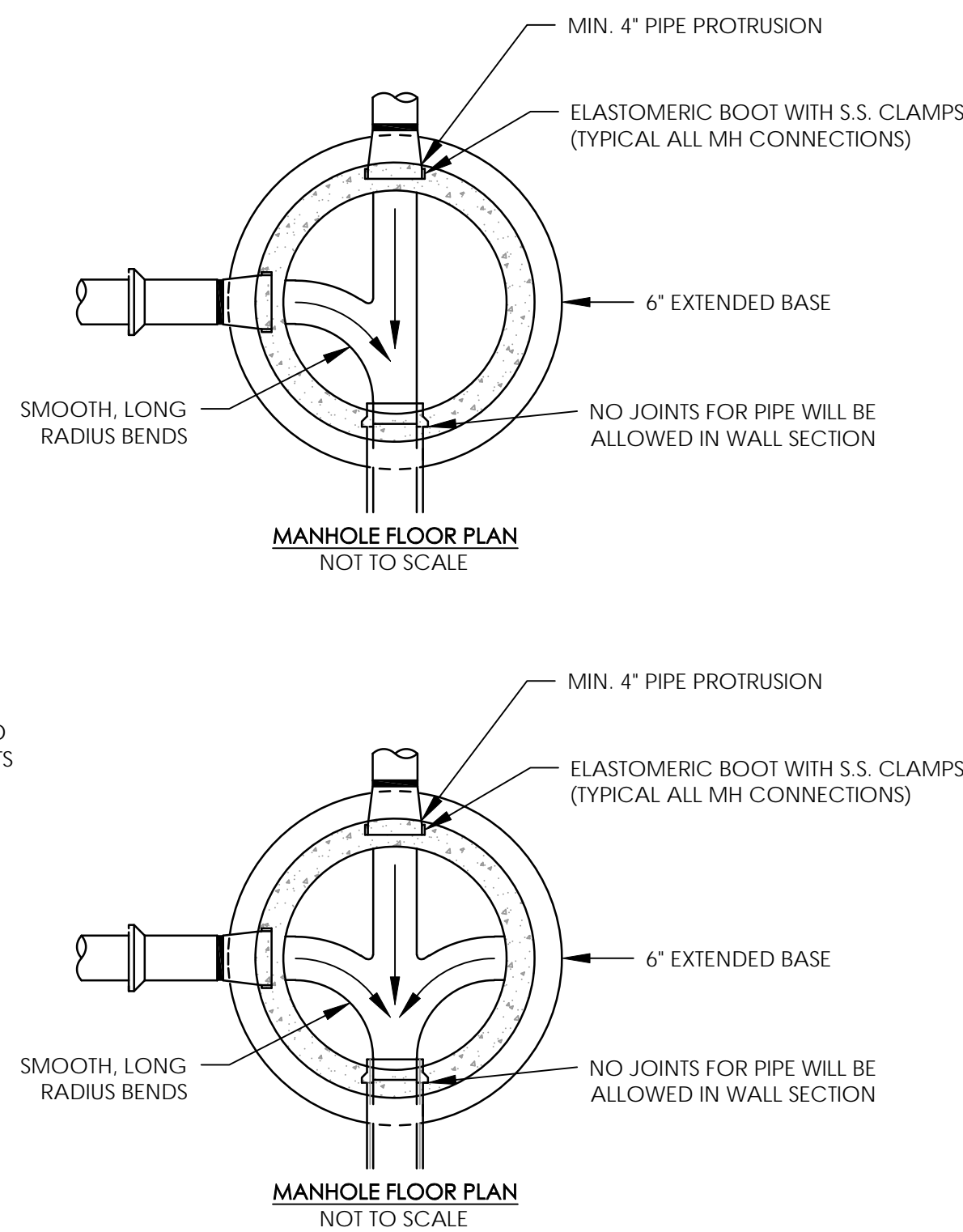


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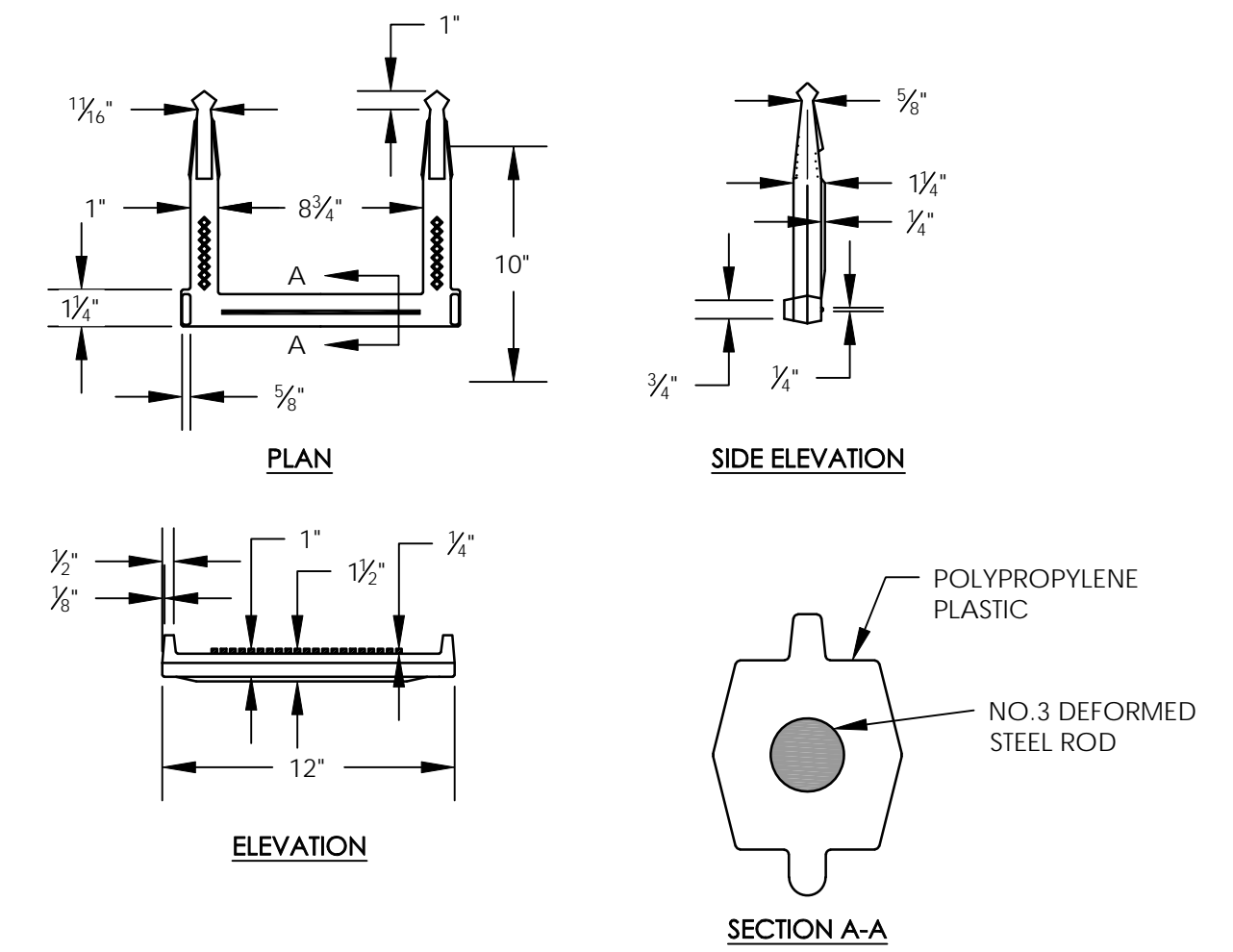
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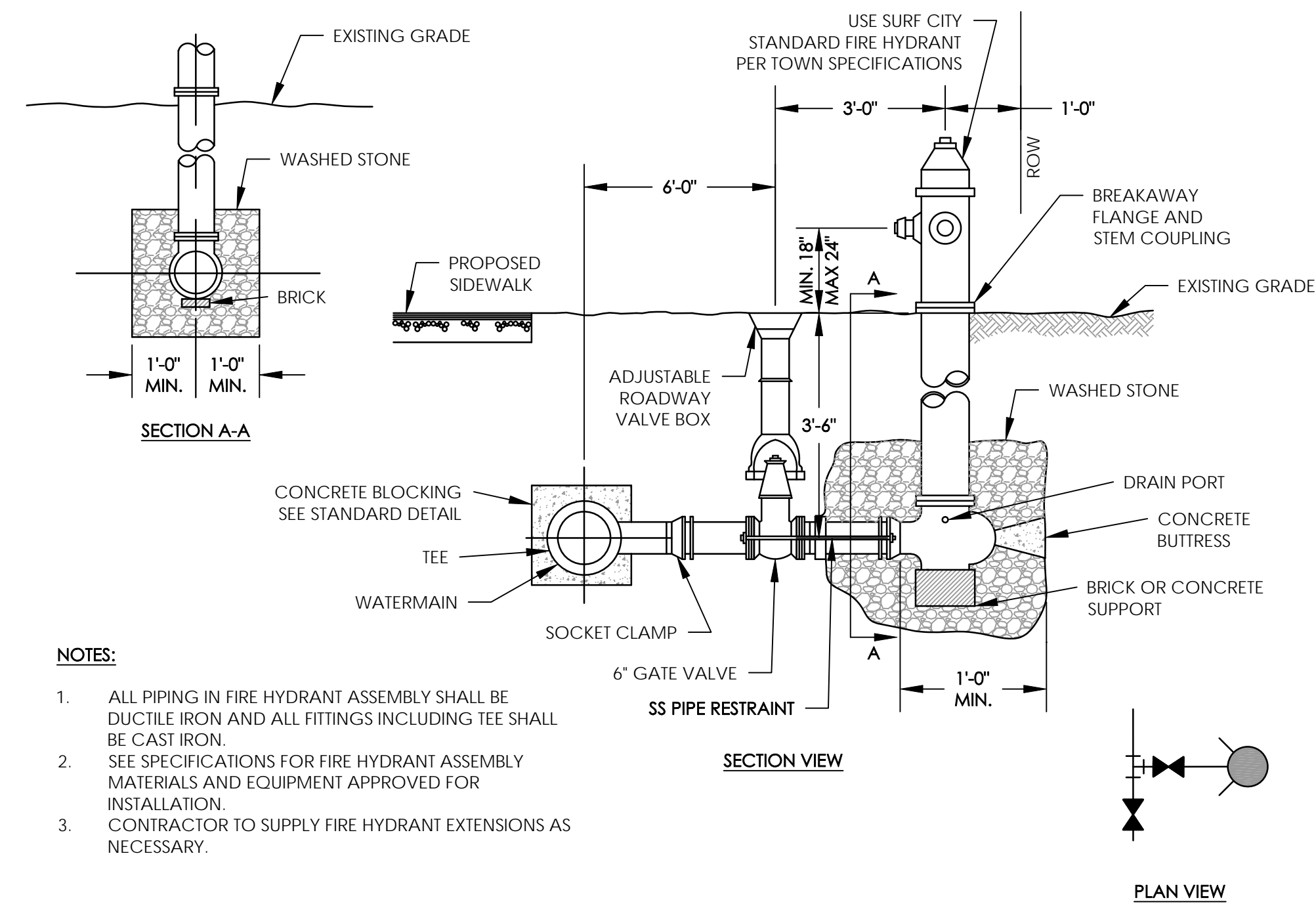
**STANDARD 48" MANHOLE ASSEMBLY
DETAIL**
SCALE: NOT TO SCALE



**TYPICAL WATERTIGHT MANHOLE COVER
DETAIL**
SCALE: NOT TO SCALE



**MANHOLE/CATCH BASIN STEPS
DETAIL**
SCALE: NOT TO SCALE



NOTES:

1. ALL PIPING IN FIRE HYDRANT ASSEMBLY SHALL BE DUCTILE IRON AND ALL FITTINGS INCLUDING TEE SHALL BE CAST IRON.
2. SEE SPECIFICATIONS FOR FIRE HYDRANT ASSEMBLY MATERIALS AND EQUIPMENT APPROVED FOR INSTALLATION.
3. CONTRACTOR TO SUPPLY FIRE HYDRANT EXTENSIONS AS NECESSARY.

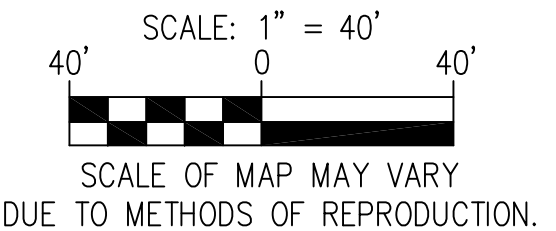
**STANDARD FIRE HYDRANT ASSEMBLY
DETAIL**
SCALE: NOT TO SCALE

REVISIONS

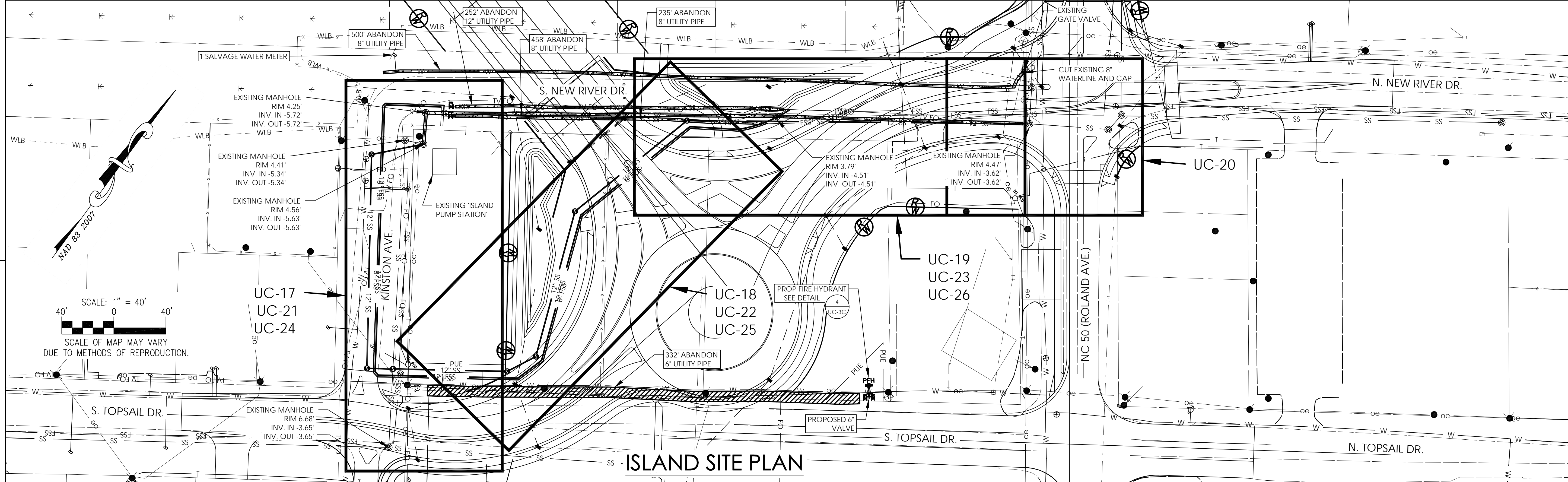
SHEET INDEX

- UC-3A - DETAILS 1
- UC-3B - DETAILS 2
- UC-3C - DETAILS 3
- UC-4 - OVERALL SITE PLAN
- UC-5 - MAINLAND SEWER STA. 0+00 TO 2+00
- UC-6 - MAINLAND SEWER STA. 2+00 TO 4+20
- UC-7 - MAINLAND SEWER STA. 4+20 TO 5+58
- UC-8 - MAINLAND FORCE MAIN SEWER STA. 0+00 TO 2+60
- UC-9 - MAINLAND FORCE MAIN SEWER STA. 2+60 TO 5+20
- UC-10 - MAINLAND FORCE MAIN SEWER STA. 5+20 TO 7+40
- UC-11 - MAINLAND FORCE MAIN SEWER STA. 7+40 TO 9+83
- UC-12 - MAINLAND WATER SOUTH STA. 0+00 TO 2+60
- UC-13 - MAINLAND WATER SOUTH STA. 2+60 TO 4+40
- UC-14 - MAINLAND WATER SOUTH STA. 4+40 TO 7+00
- UC-15 - MAINLAND WATER SOUTH STA. 7+00 TO 9+88
- UC-16 - MAINLAND WATER NORTH STA. 0+00 TO 1+73
- UC-17 - ISLAND SEWER STA. 0+00 TO 2+60
- UC-18 - ISLAND SEWER STA. 2+60 TO 5+20
- UC-19 - ISLAND SEWER STA. 5+20 TO 7+80
- UC-20 - ISLAND SEWER STA. 7+80 TO 8+27
- UC-21 - ISLAND 12" FORCE MAIN SEWER STA. 0+00 TO 2+60
- UC-22 - ISLAND 12" FORCE MAIN SEWER STA. 2+60 TO 5+20
- UC-23 - ISLAND 12" FORCE MAIN SEWER STA. 5+20 TO 6+85
- UC-24 - ISLAND 8" FORCE MAIN SEWER STA. 0+00 TO 2+60
- UC-25 - ISLAND 8" FORCE MAIN SEWER STA. 2+60 TO 5+20
- UC-26 - ISLAND 8" FORCE MAIN SEWER STA. 5+20 TO 6+80

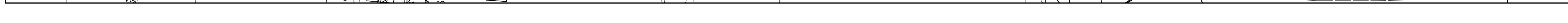
REVISIONS



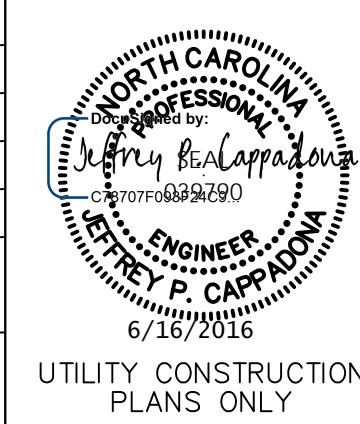
MAINLAND SITE PLAN



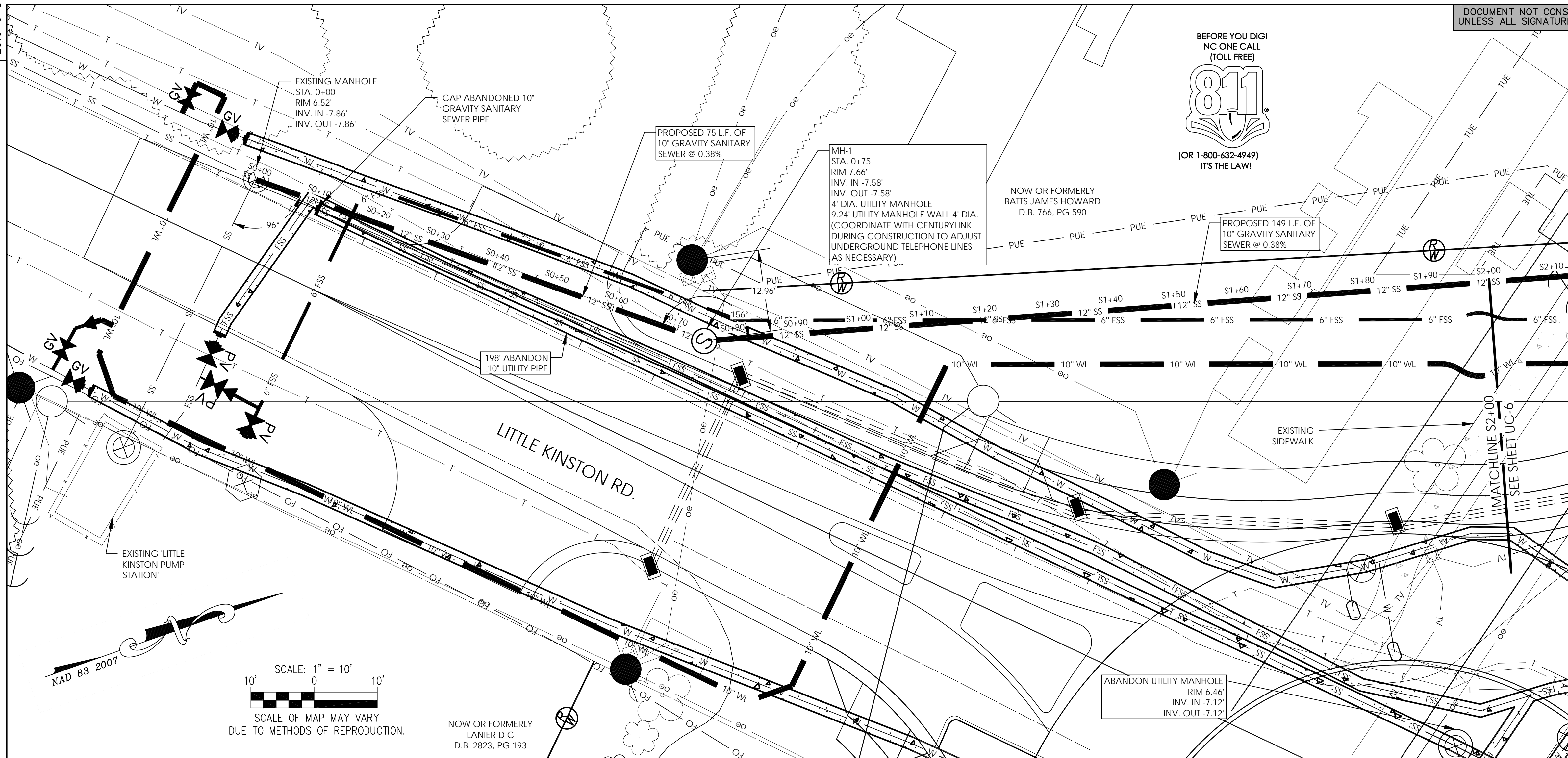
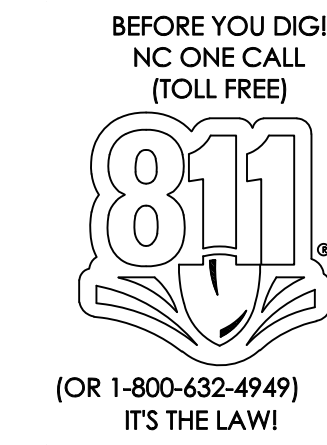
ISLAND SITE PLAN



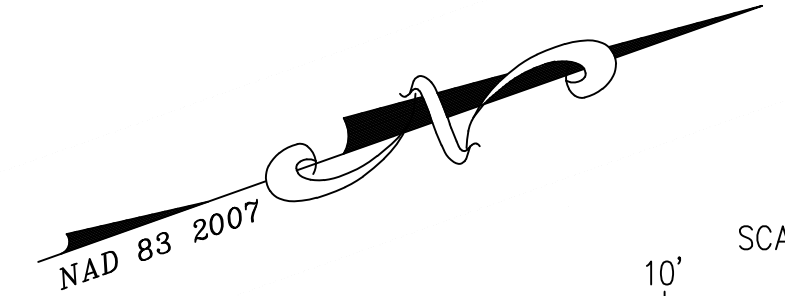
DESIGNED BY: JPC
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APPROVED BY: JPC
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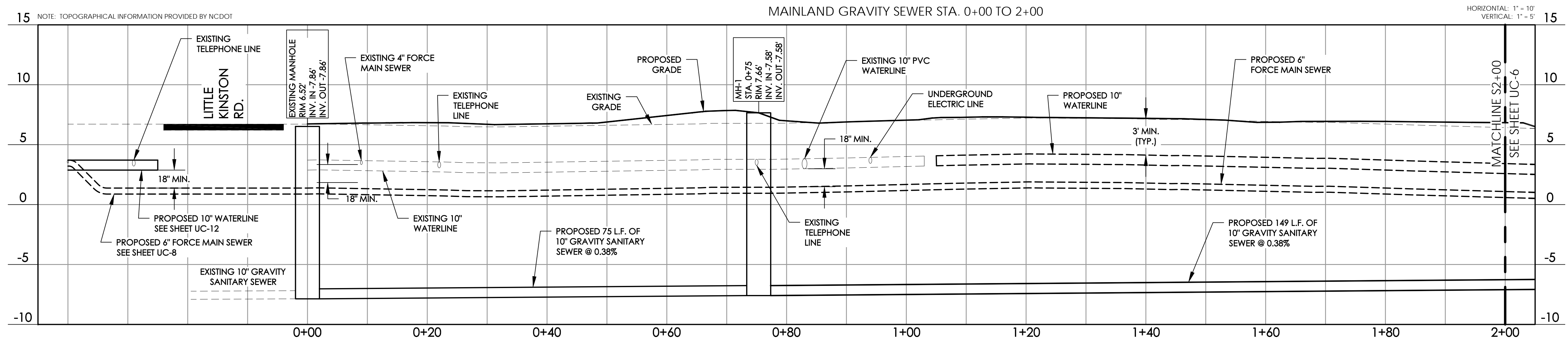


REVISIONS



SCALE: 1" = 10'
SCALE OF MAP MAY VARY
DUE TO METHODS OF REPRODUCTION.

NOW OR FORMERLY
LANIER D C
D.B. 2823, PG 193



NOTE: TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT

MAINLAND GRAVITY SEWER STA. 0+00 TO 2+00

HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'

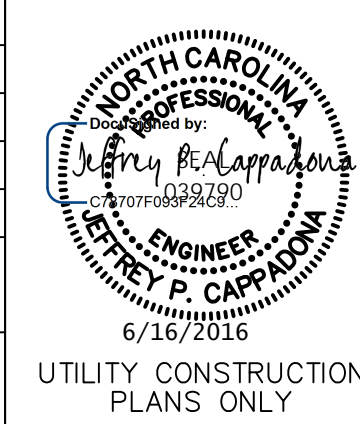
0+00 0+20 0+40 0+60 0+80 1+00 1+20 1+40 1+60 1+80 2+00

15 10 5 0 -5 -10

MATCHLINE S2+00
SEE SHEET UC-6

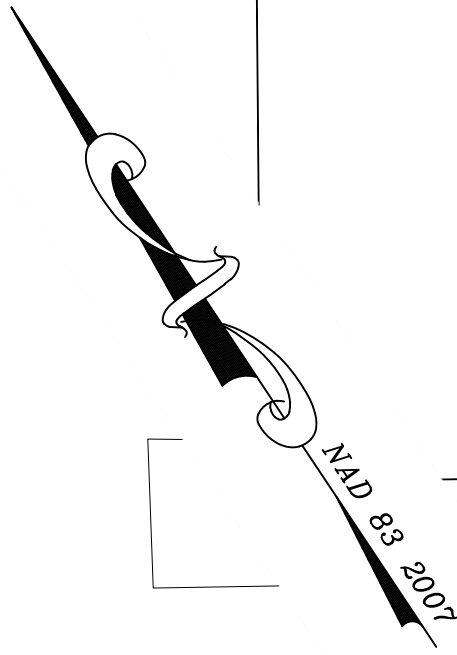
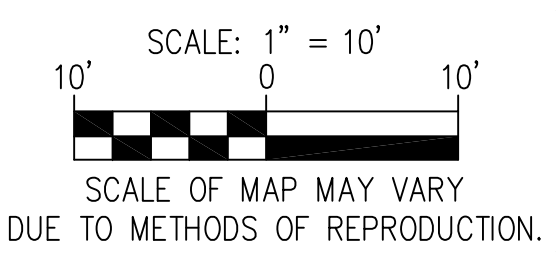
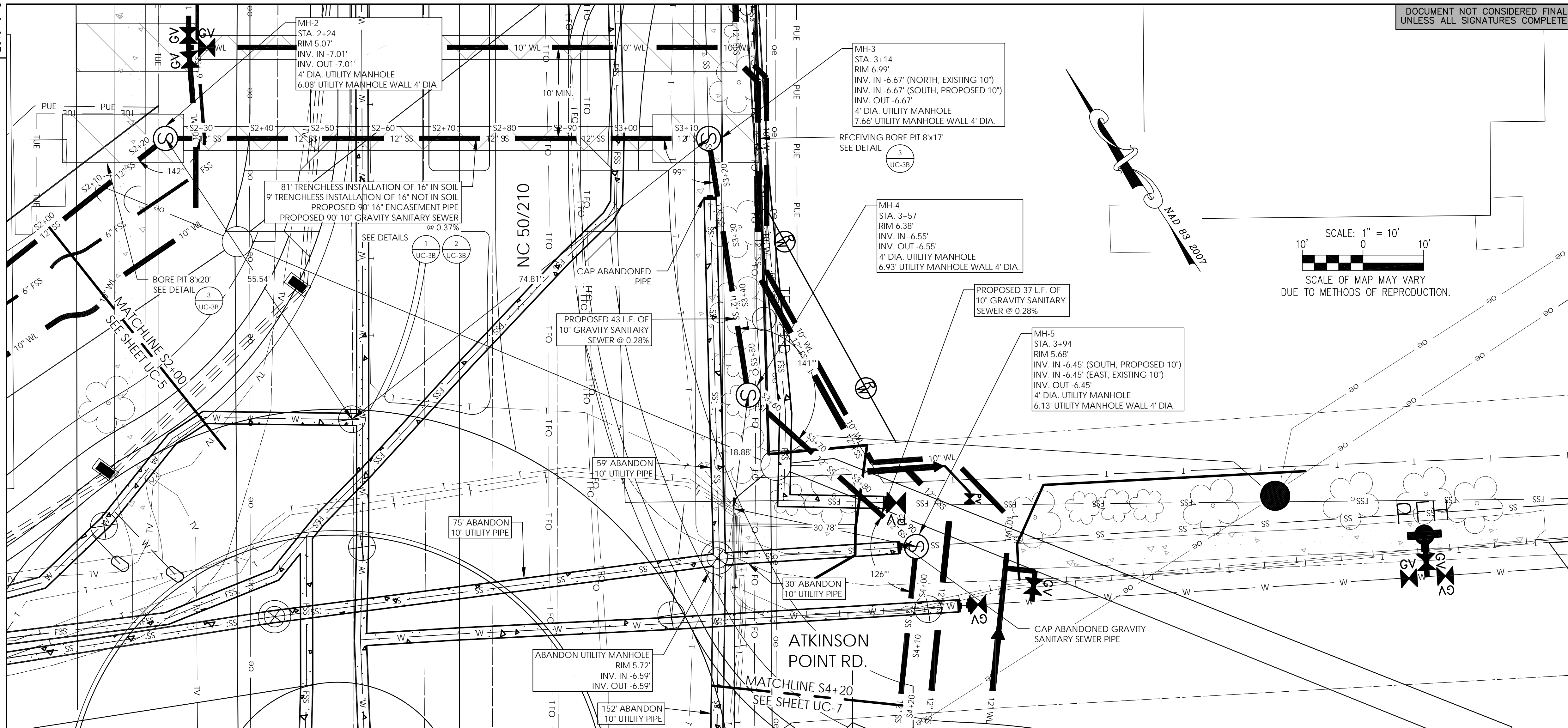
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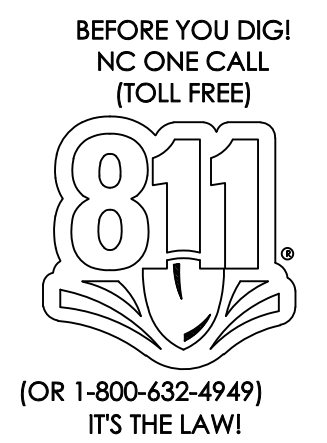
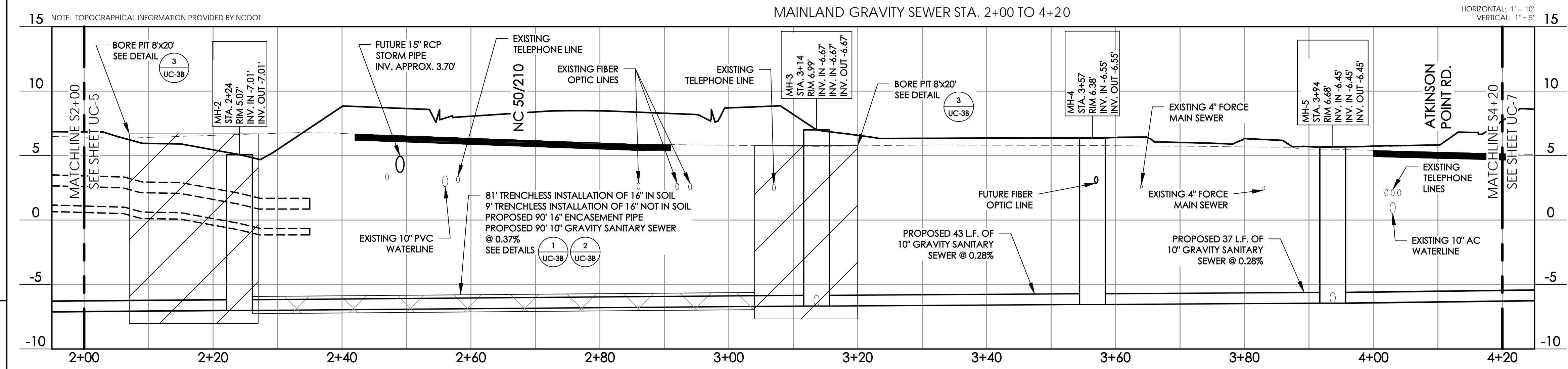


UTILITY CONSTRUCTION PLANS ONLY

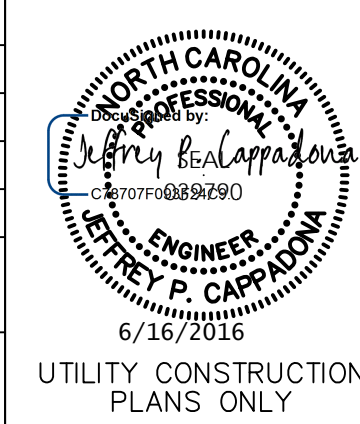
REVISIONS



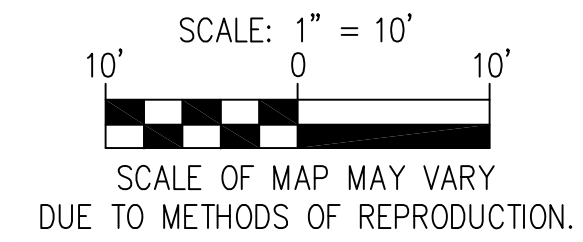
MAINLAND GRAVITY SEWER STA. 2+00 TO 4+20



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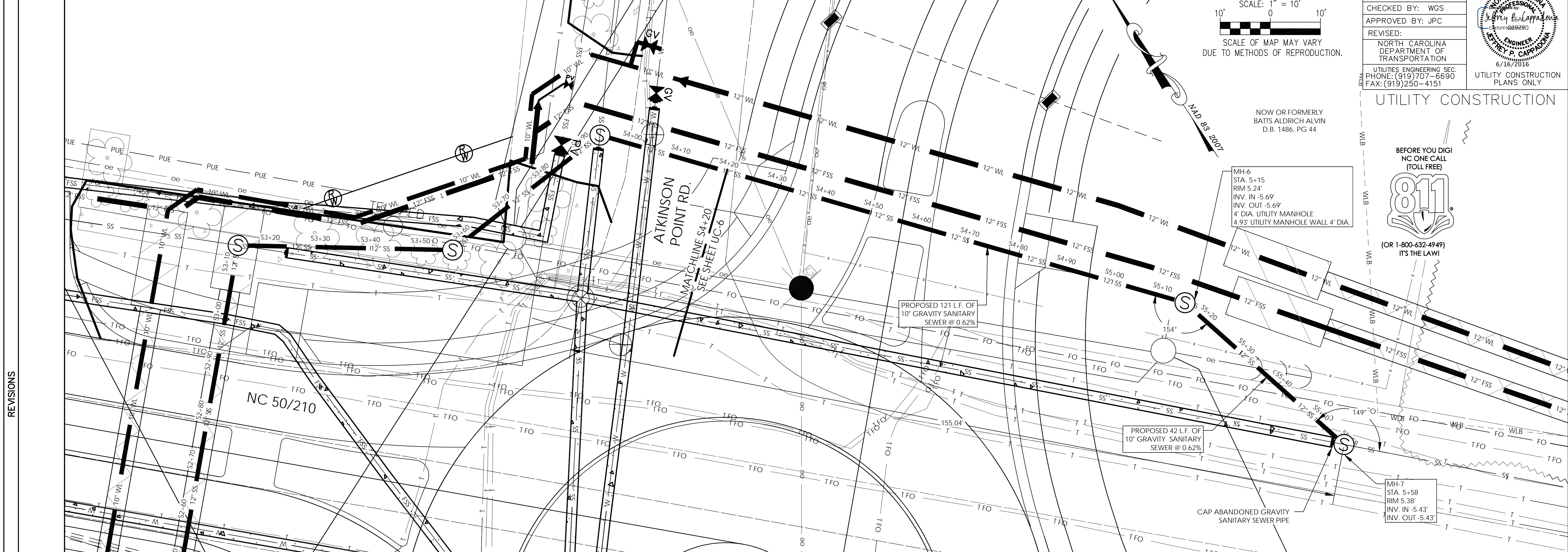


NOW OR FORMERLY BATTIS ALDRICH ALVIN D.B. 1486, PG 44

BEFORE YOU DIG! NC ONE CALL (TOLL FREE)

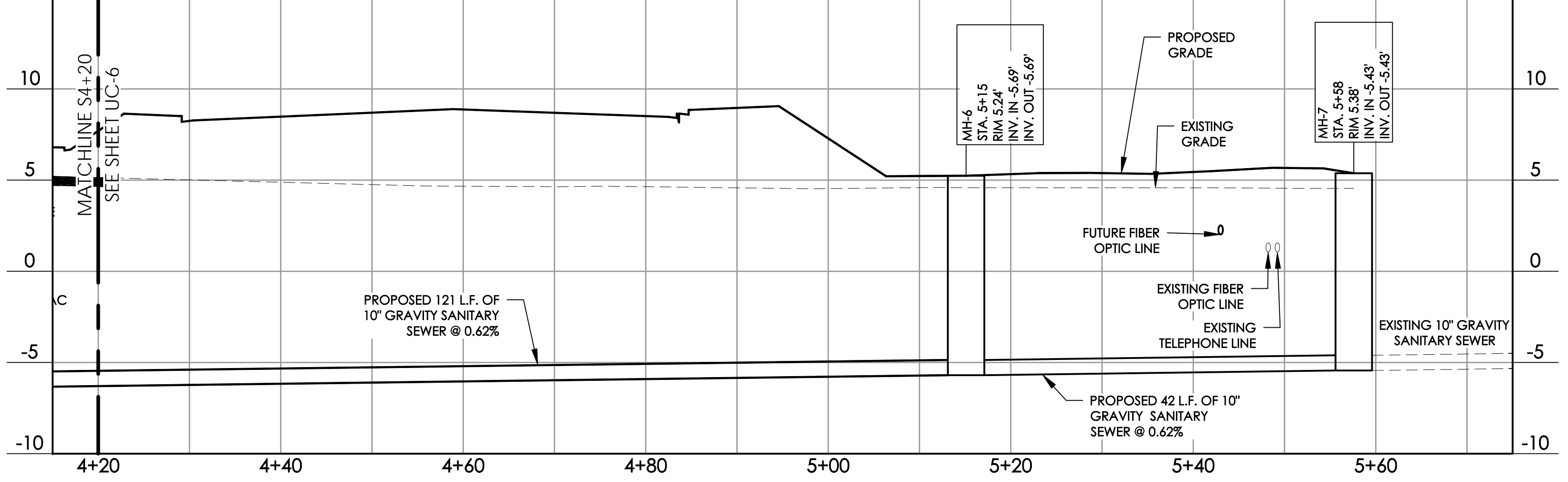


(OR 1-800-632-4949) IT'S THE LAW!

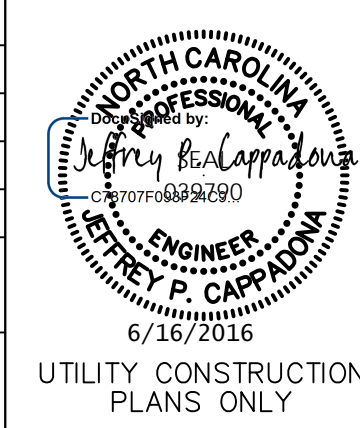


REVISIONS

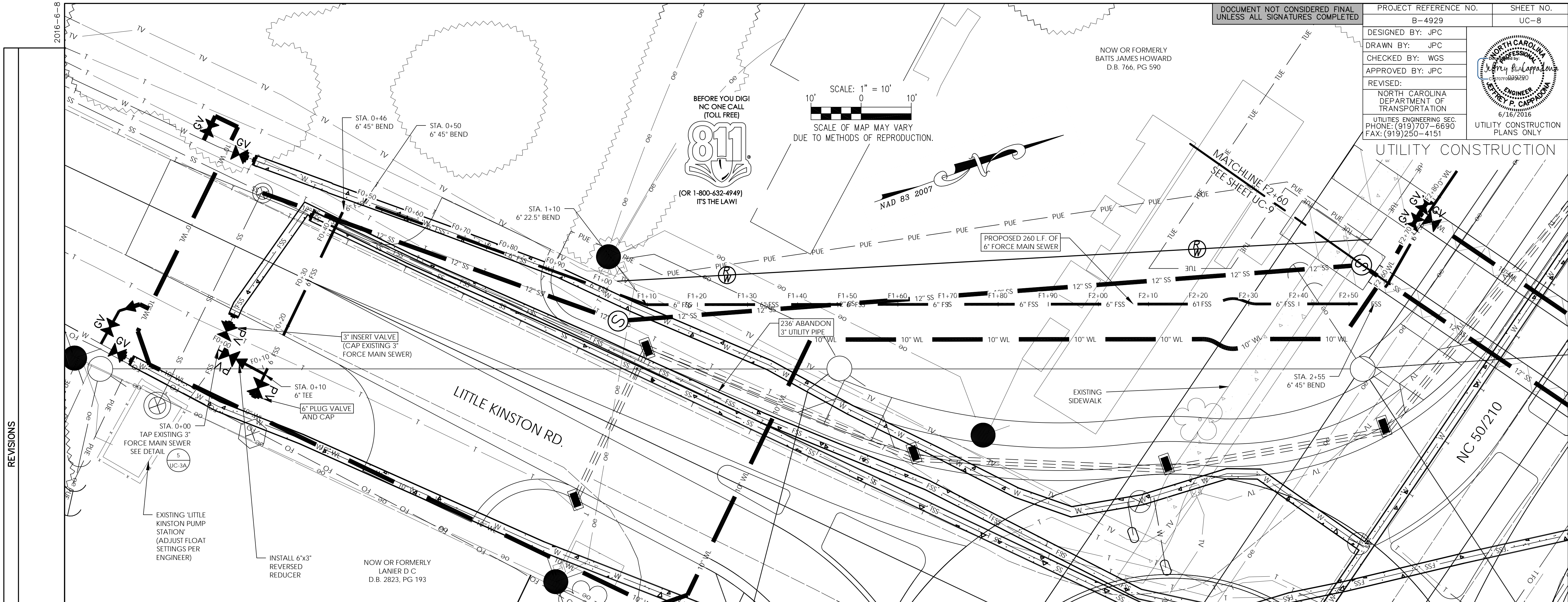
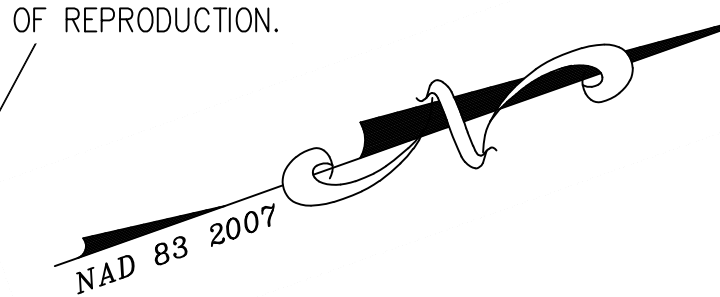
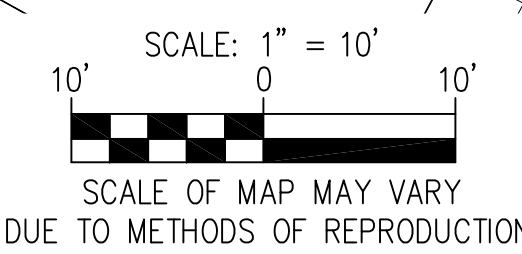
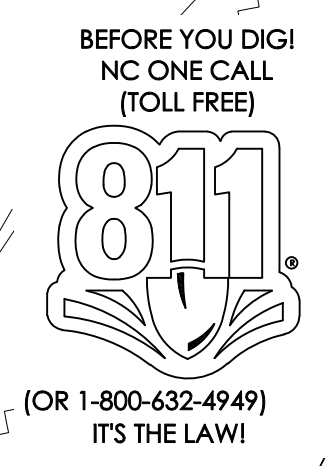
15 NOTE: TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT MAINLAND GRAVITY SEWER STA. 4+20 TO 5+58 HORIZONTAL: 1" = 10' VERTICAL: 1" = 5' 15



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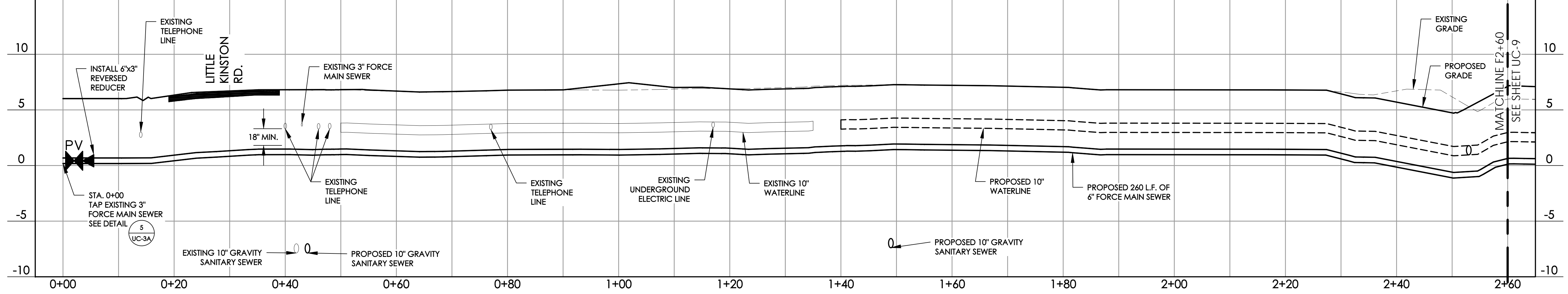


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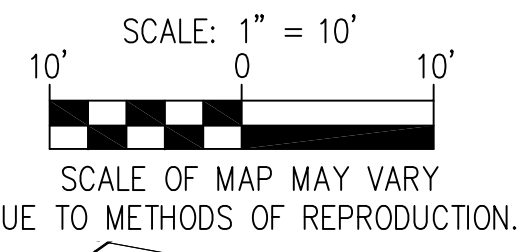
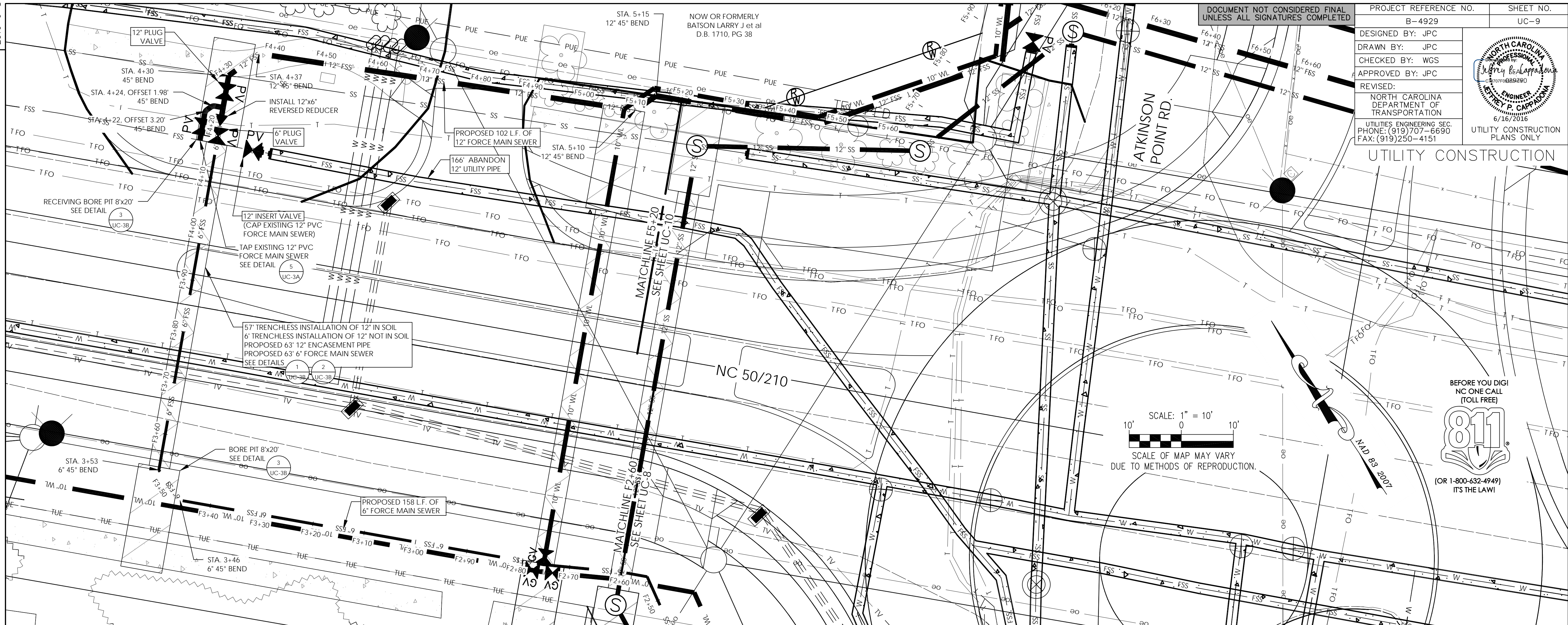
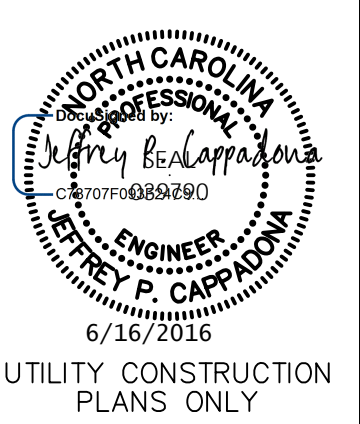
15 NOTE: TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT MAINLAND FORCE MAIN SEWER STA. 0+00 TO 2+60 HORIZONTAL: 1" = 10' VERTICAL: 1" = 5' 15



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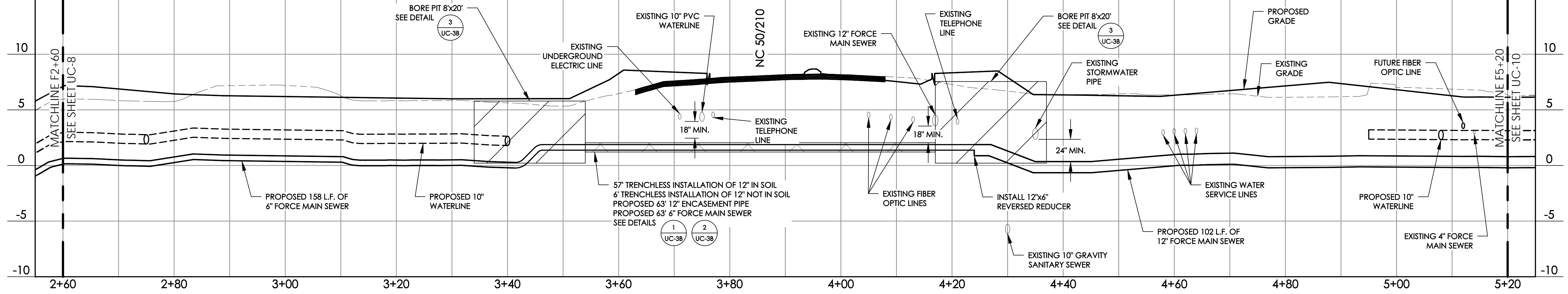
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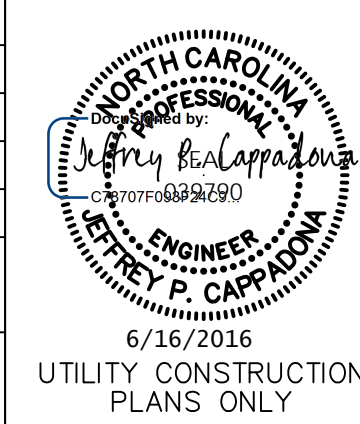
15 MAINLAND FORCE MAIN SEWER STA. 2+60 TO 5+20 15



2+60 2+80 3+00 3+20 3+40 3+60 3+80 4+00 4+20 4+40 4+60 4+80 5+00 5+20

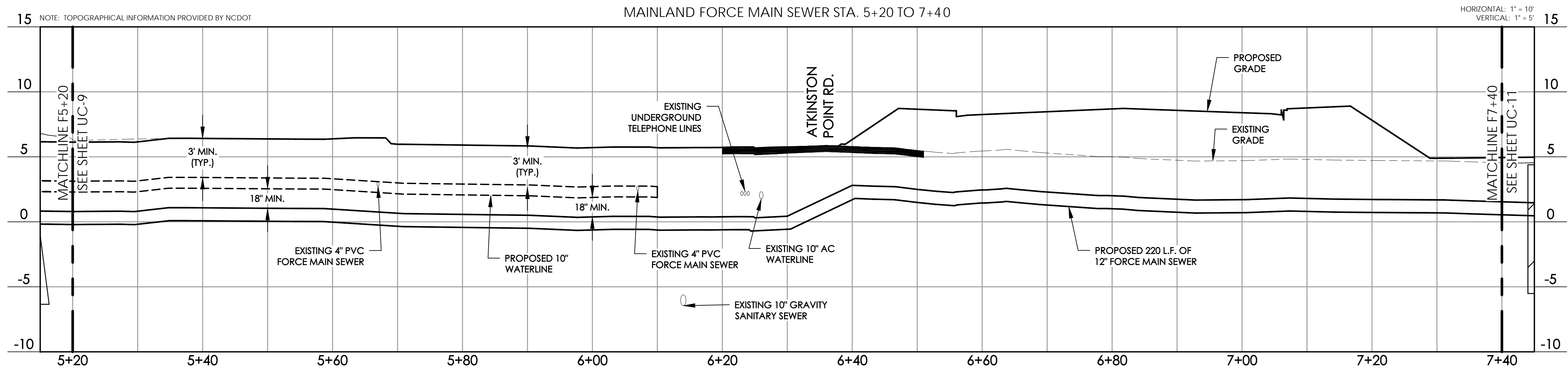
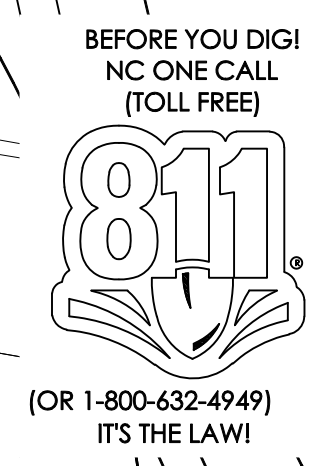
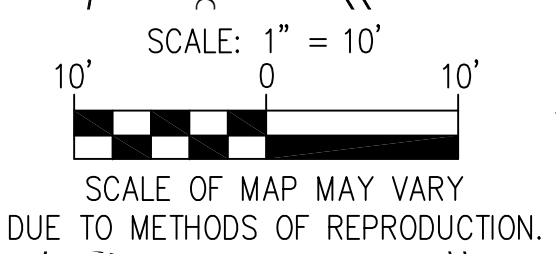
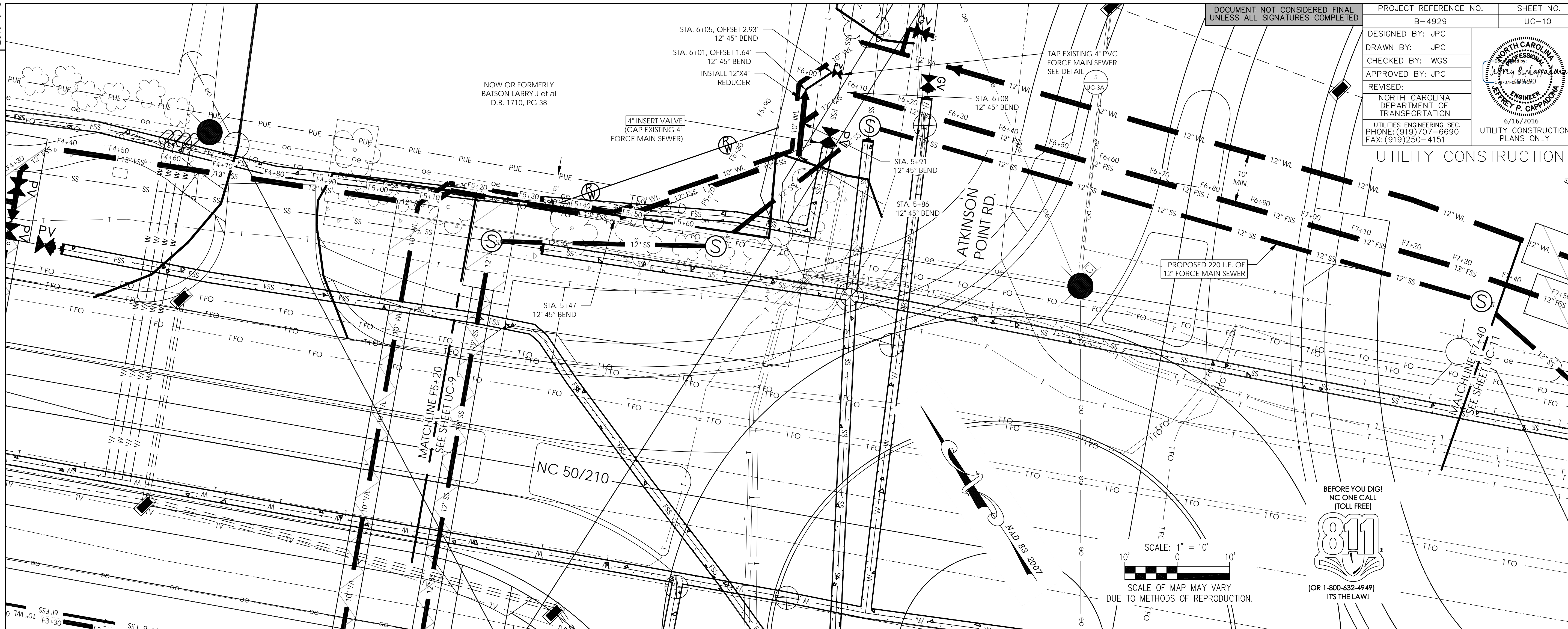


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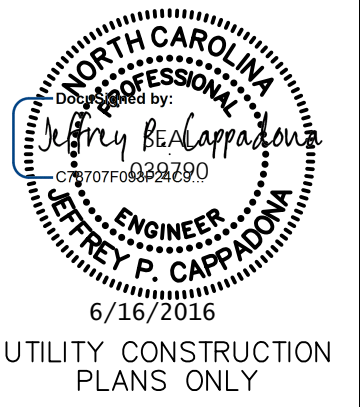


NOTE: TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT

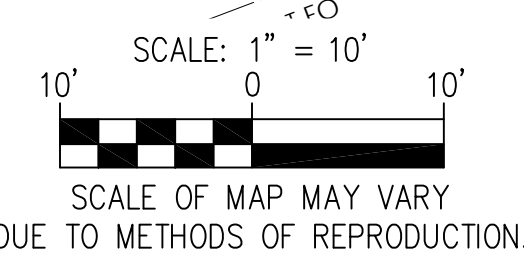
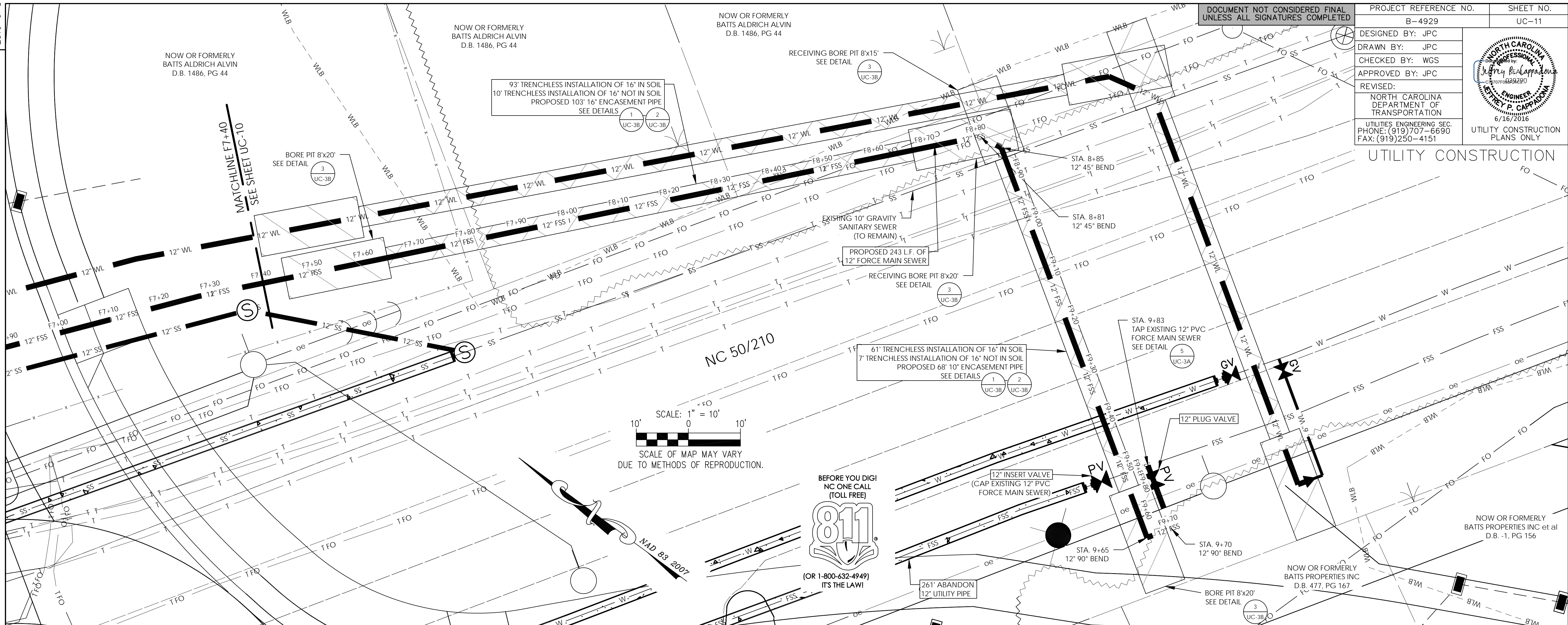
MAINLAND FORCE MAIN SEWER STA. 5+20 TO 7+40

HORIZONTAL: 1" = 10' VERTICAL: 1" = 5'

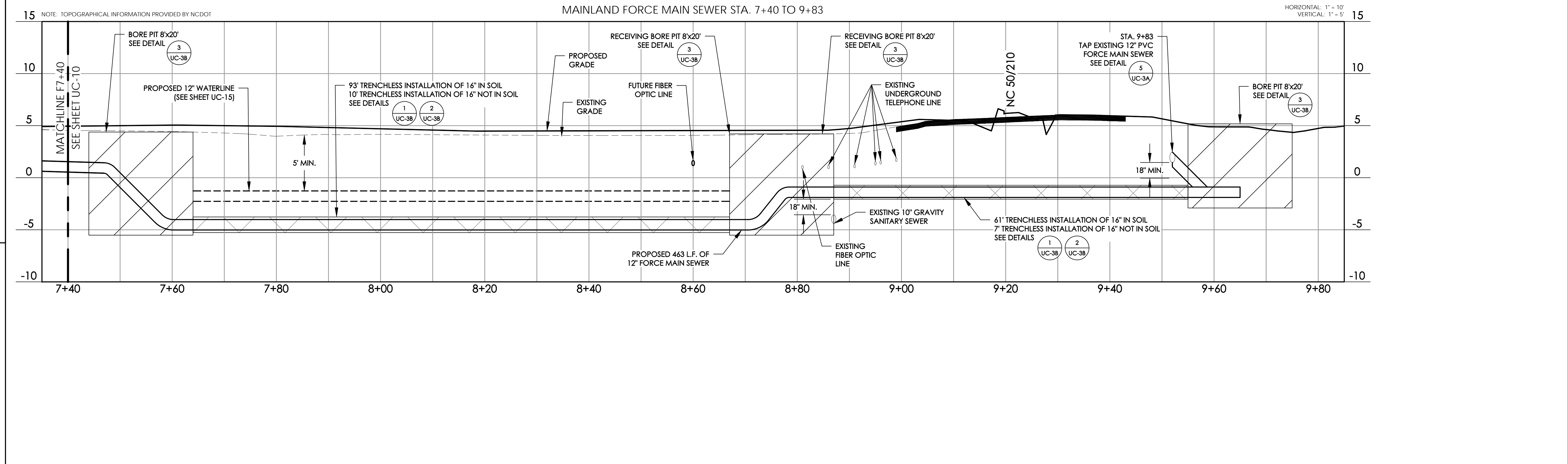
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15 NOTE: TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT

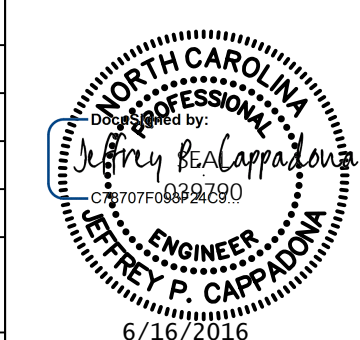
MAINLAND FORCE MAIN SEWER STA. 7+40 TO 9+83

HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'

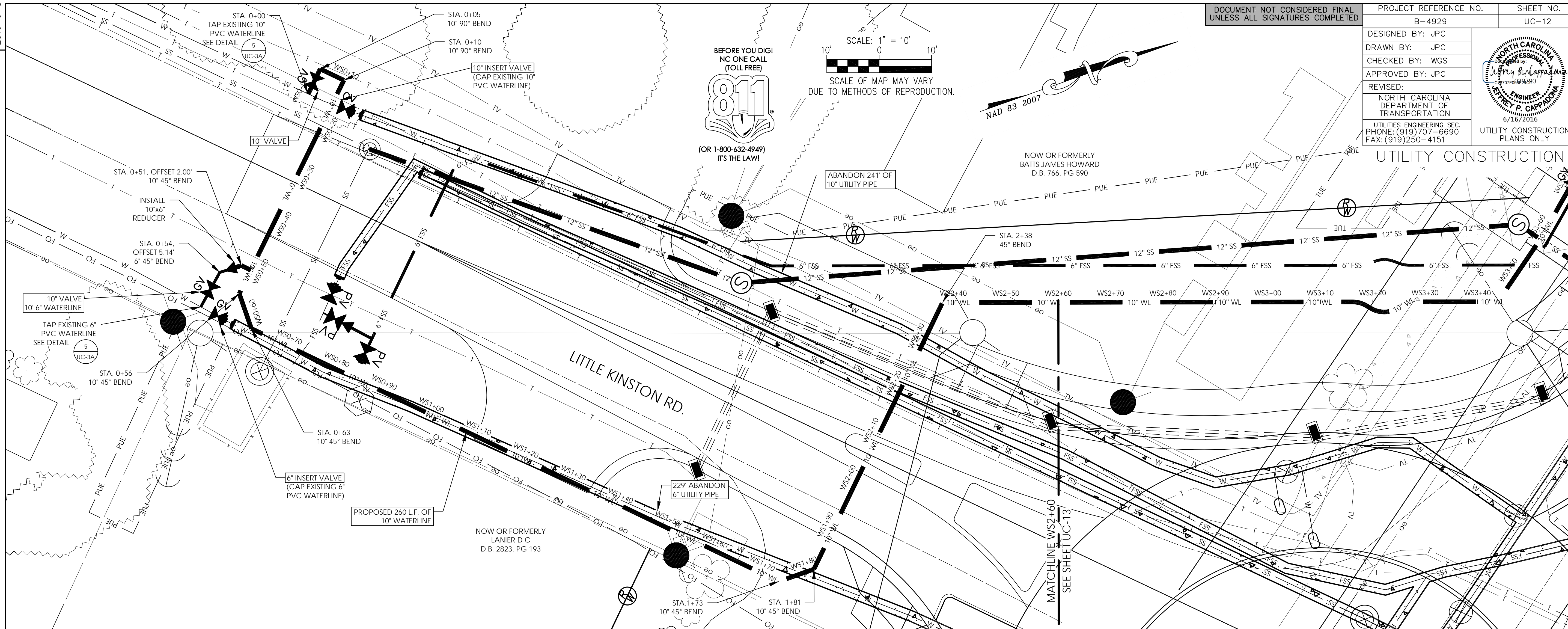
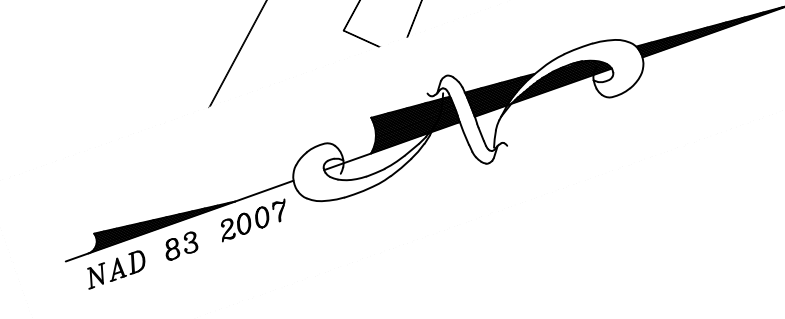
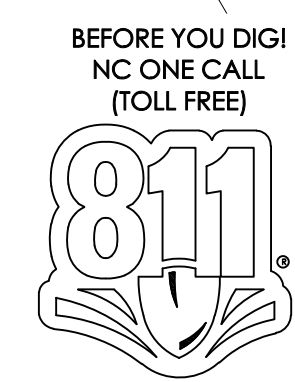
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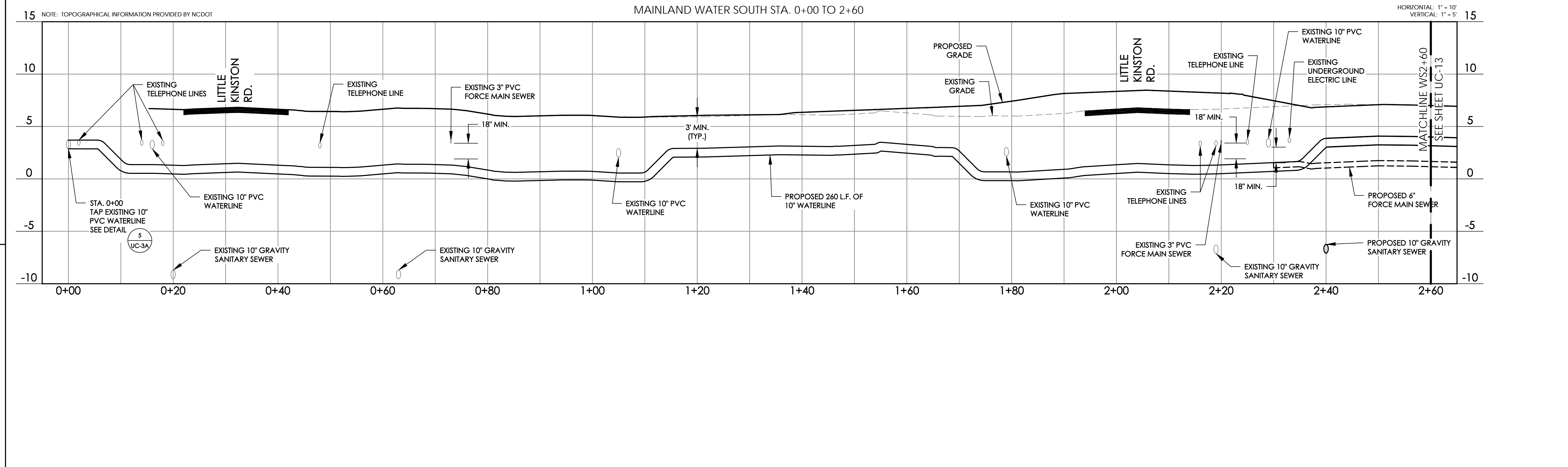
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SCALE: 1" = 10'
 SCALE OF MAP MAY VARY DUE TO METHODS OF REPRODUCTION.



REVISIONS





SCALE: 1" = 10'
SCALE OF MAP MAY VARY DUE TO METHODS OF REPRODUCTION.

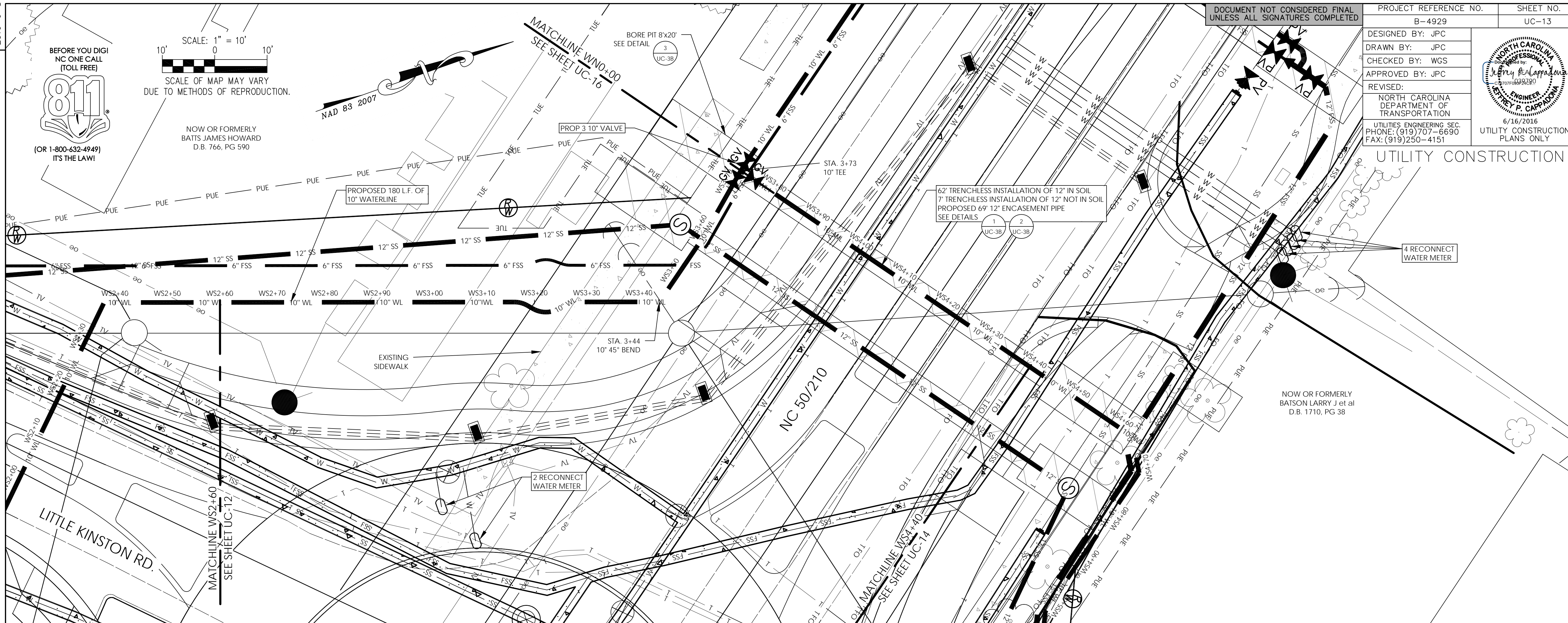
NOW OR FORMERLY
BAITS JAMES HOWARD
D.B. 766, PG 590

NAD 83 2007

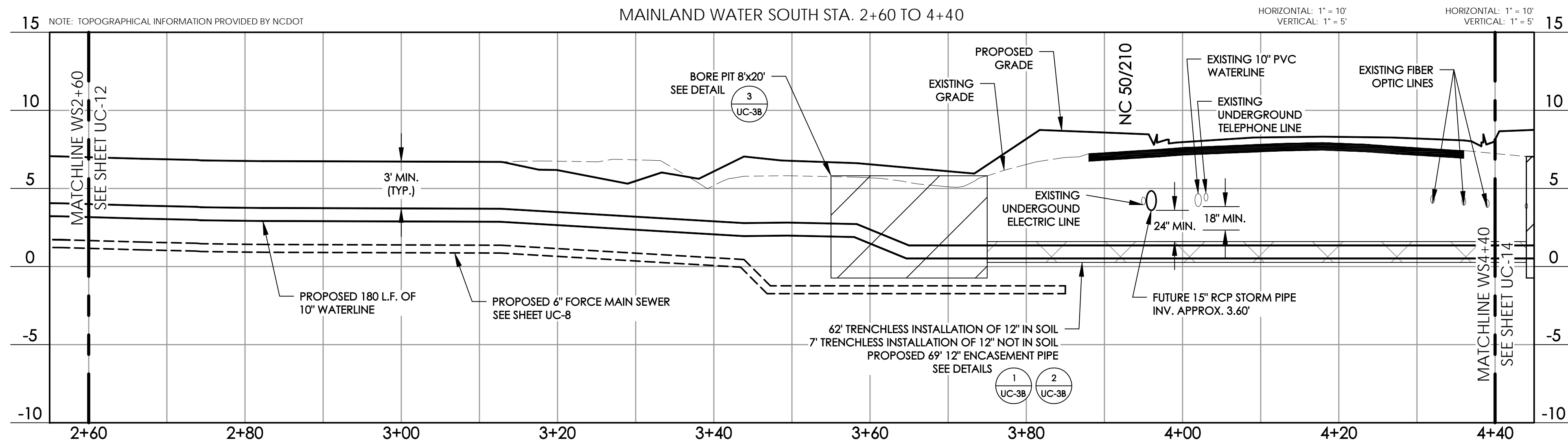
MATCHLINE WS2+00
SEE SHEET UC-16

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

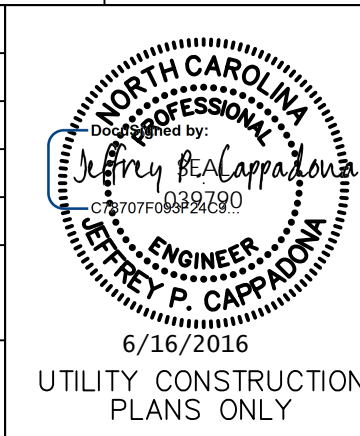
PROJECT REFERENCE NO. B-4929	SHEET NO. UC-13
DESIGNED BY: JPC	
DRAWN BY: JPC	
CHECKED BY: WGS	
APPROVED BY: JPC	REVISOR:
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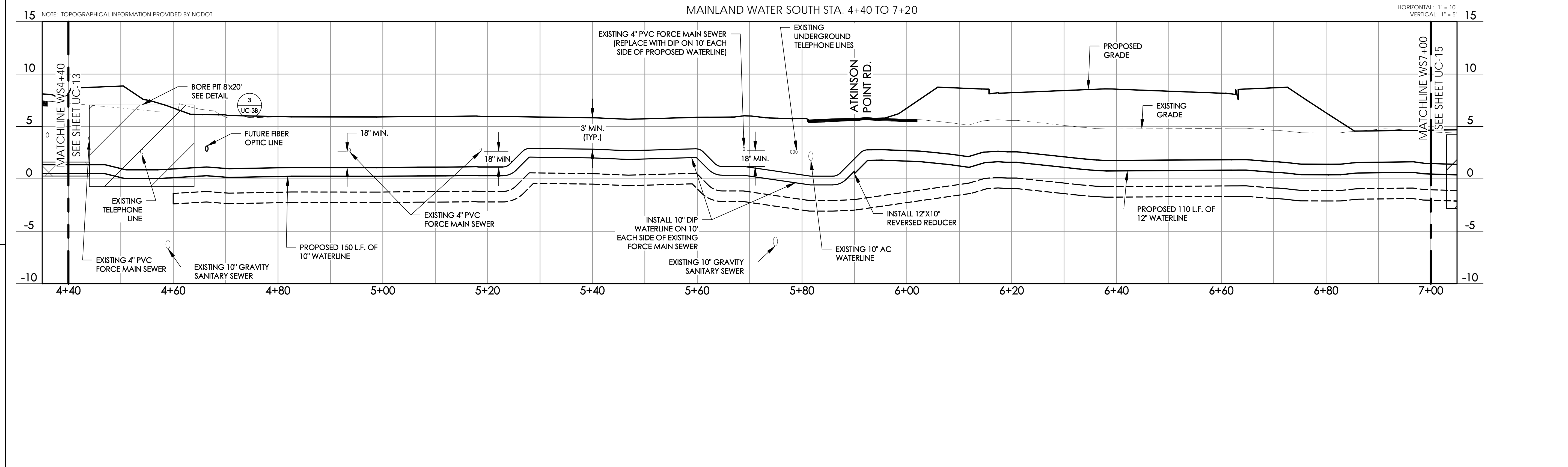
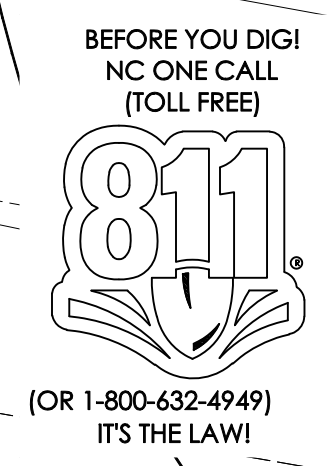
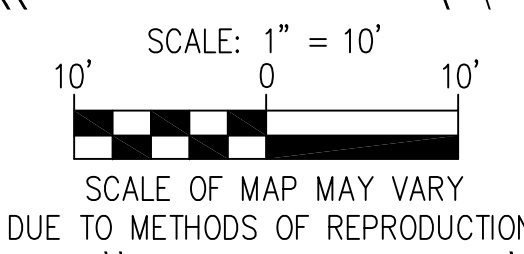
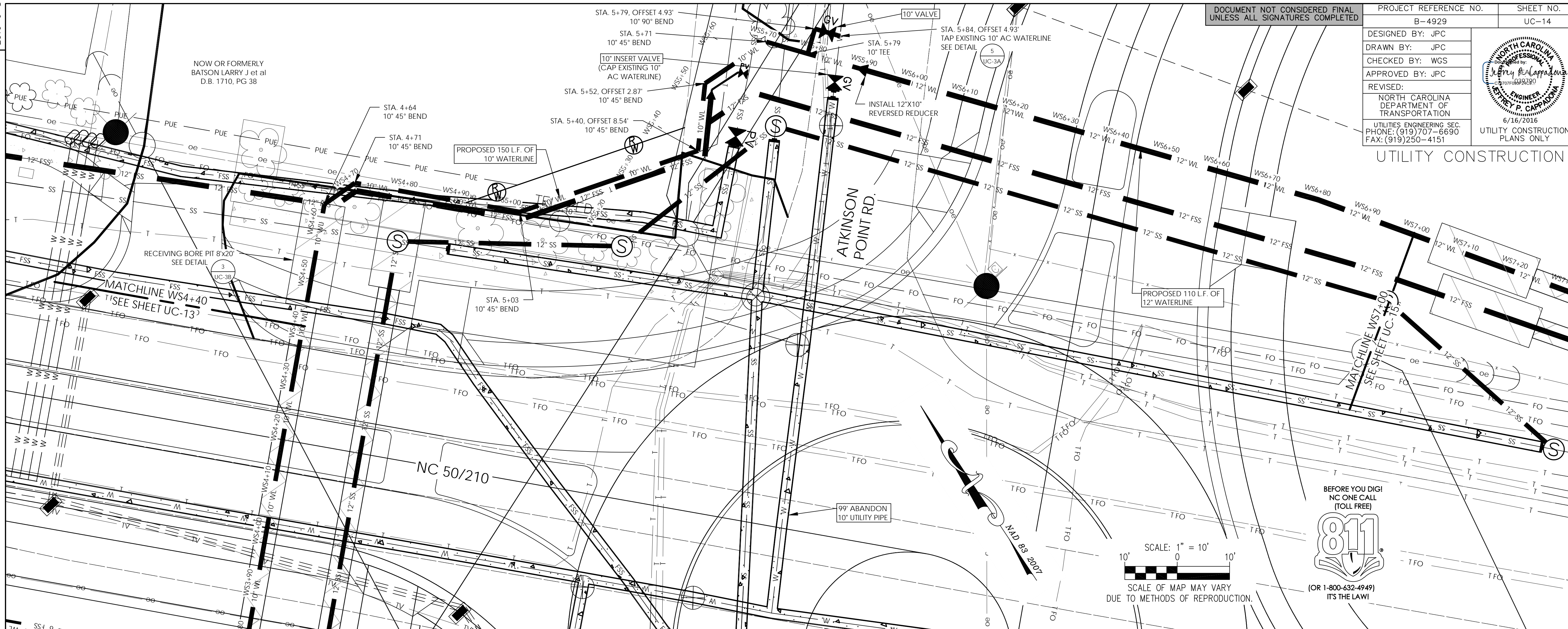


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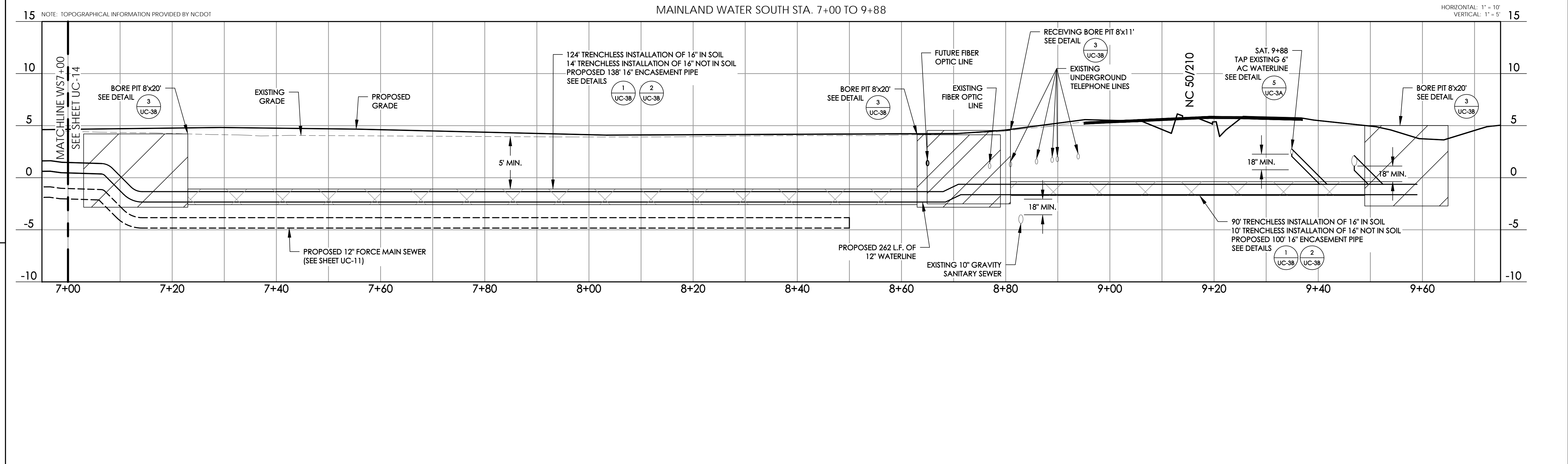
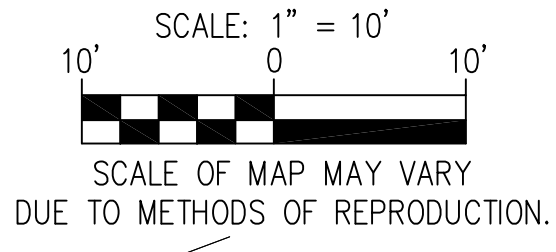
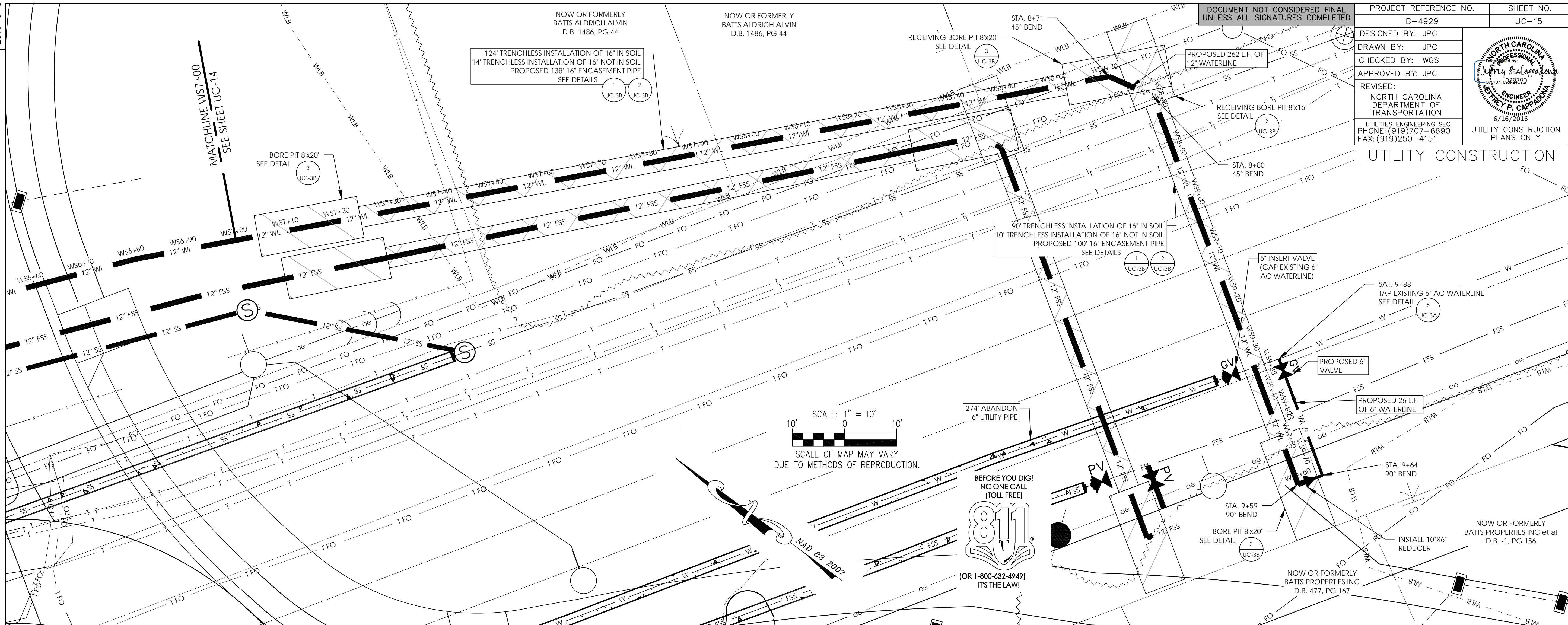


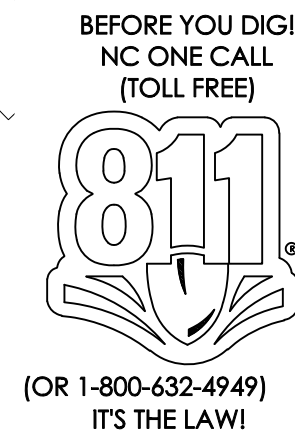
NOTE: TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT

MAINLAND WATER SOUTH STA. 4+40 TO 7+20

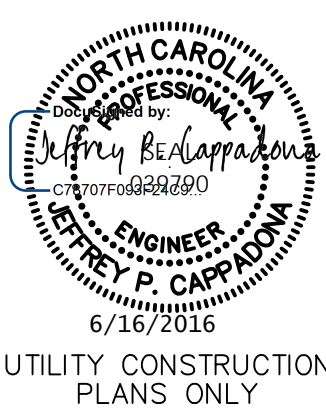
HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'

REVISIONS





SCALE: 1" = 10'
SCALE OF MAP MAY VARY
DUE TO METHODS OF REPRODUCTION.



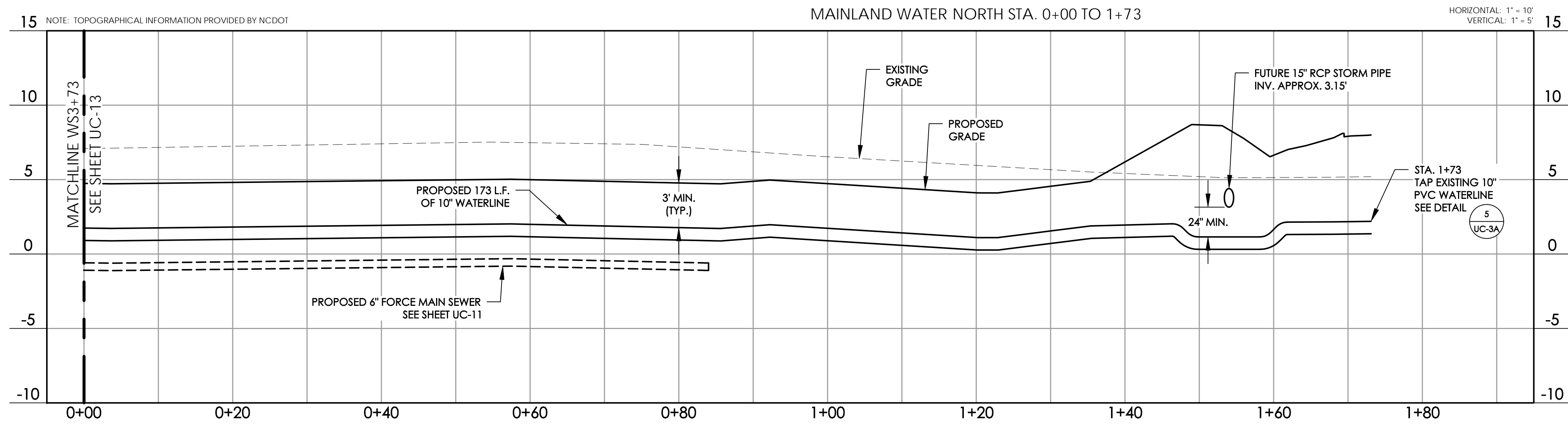
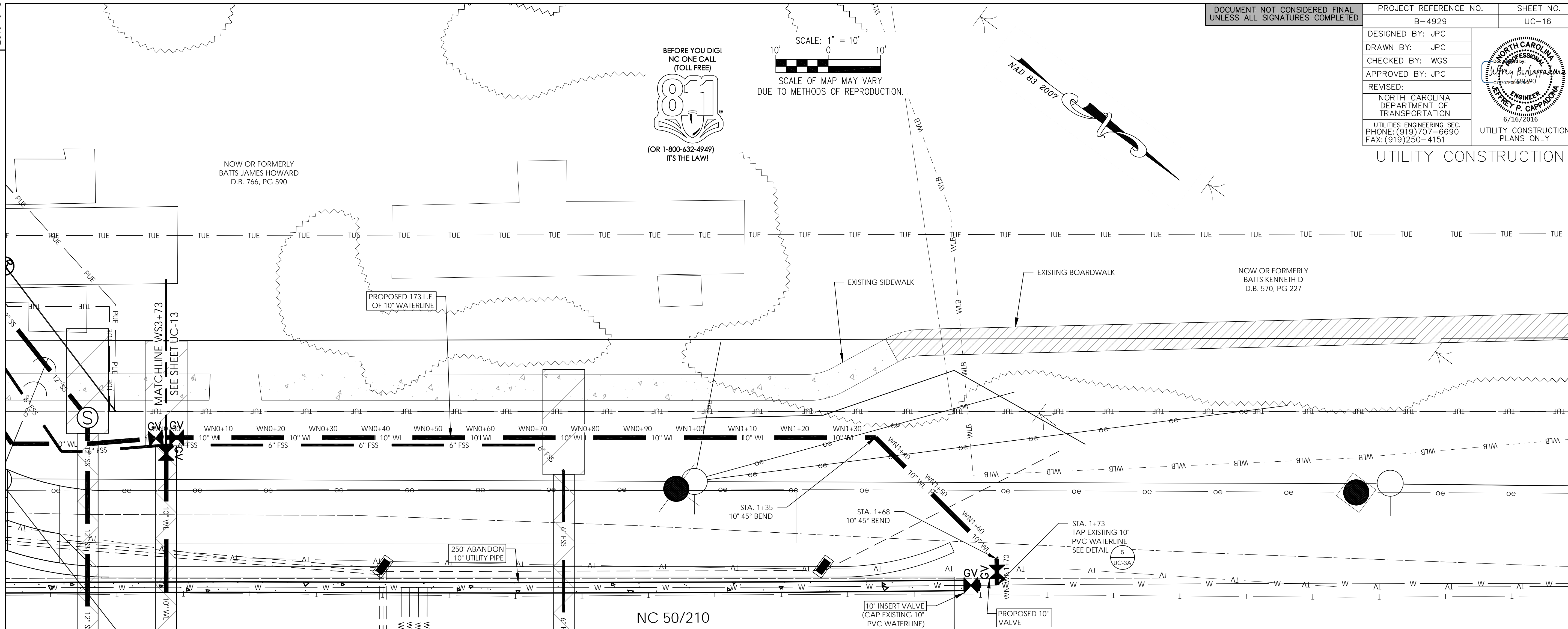
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BATTS JAMES HOWARD
D.B. 766, PG 590

NOW OR FORMERLY
BATTS KENNETH D
D.B. 570, PG 227

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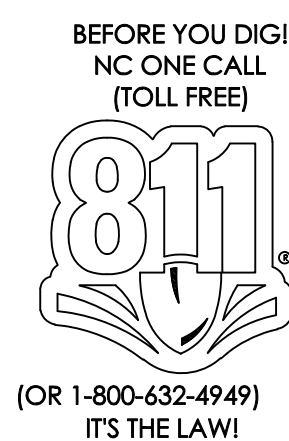


MAINLAND WATER NORTH STA. 0+00 TO 1+73

HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'

S. NEW RIVER DR.

SCALE: 1" = 10'
SCALE OF MAP MAY VARY
DUE TO METHODS OF REPRODUCTION.



CRABBY MIKE'S

NOW OR FORMERLY
HENRY MICHAEL et al
D.B. 2784, PG 214

NAD 83 2007

PROJECT REFERENCE NO. B-4929	SHEET NO. UC-17
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APPROVED BY: JPC	UTILITY CONSTRUCTION PLANS ONLY
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6/16/2016	

UTILITY CONSTRUCTION

MATCHLINE 2+60
SEE SHEET UC-18

MH-3
STA. 2+25
RIM 5.86
INV. IN -4.08' (EXISTING 10")
INV. IN -5.07' (PROPOSED 12")
INV. OUT -5.07'
4' DIA. UTILITY MANHOLE
4.93' UTILITY MANHOLE WALL 4' DIA.

ABANDON
UTILITY MANHOLE
RIM 4.25'
INV. IN -5.72'
INV. OUT -5.72'

MH-1
STA. 0+00
RIM 4.43
INV. IN -5.53'
INV. OUT -5.53'

MH-2
STA. 2+05
RIM 6.18
INV. IN -5.12'
INV. OUT -5.12'

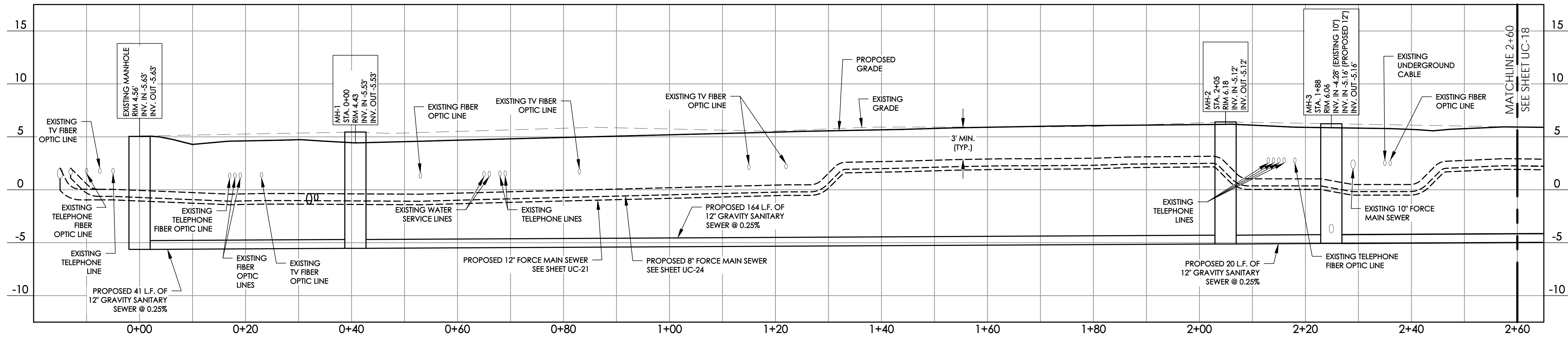
MH-3
STA. 1+88
RIM 6.06
INV. IN -4.28' (EXISTING 10")
INV. IN -5.16' (PROPOSED 12")
INV. OUT -5.16'

KINSTON AVE.

ISLAND GRAVITY SEWER STA. 0+00 TO 2+60

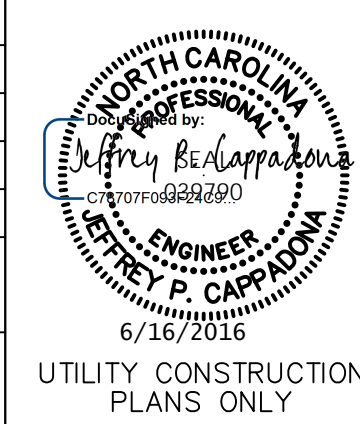
NOTE: TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT

HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'

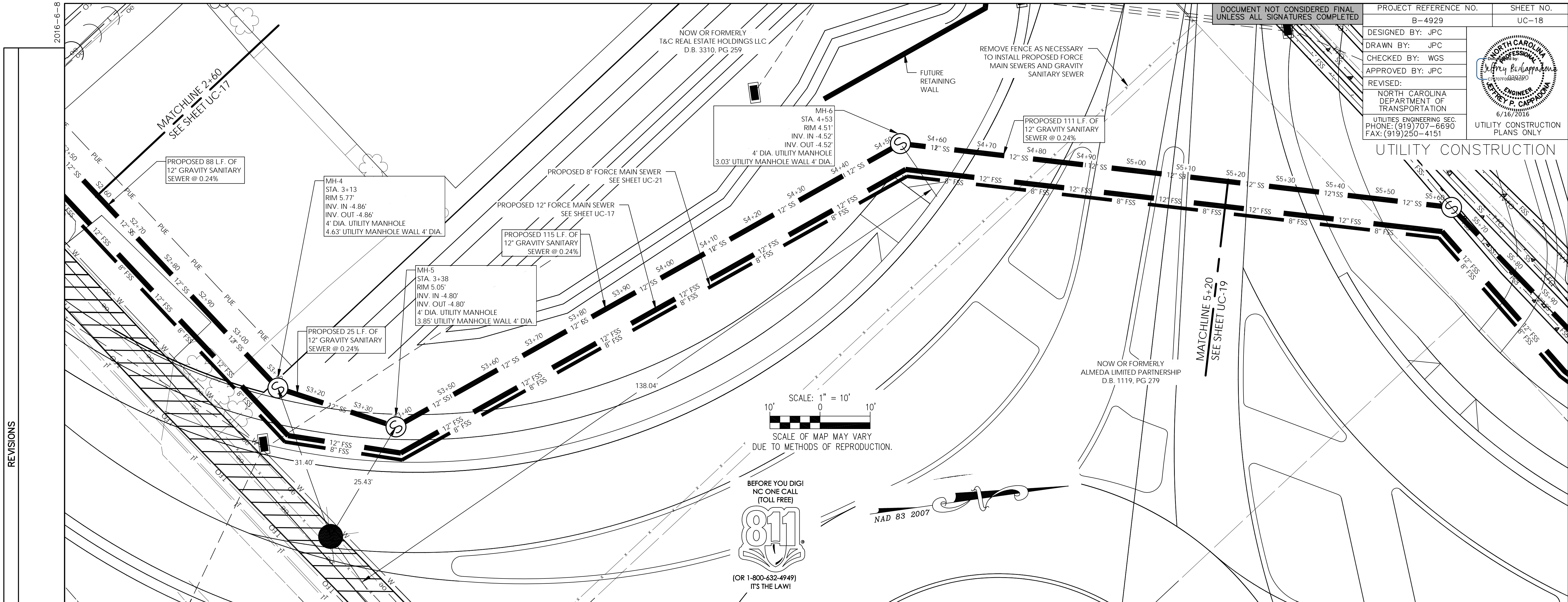


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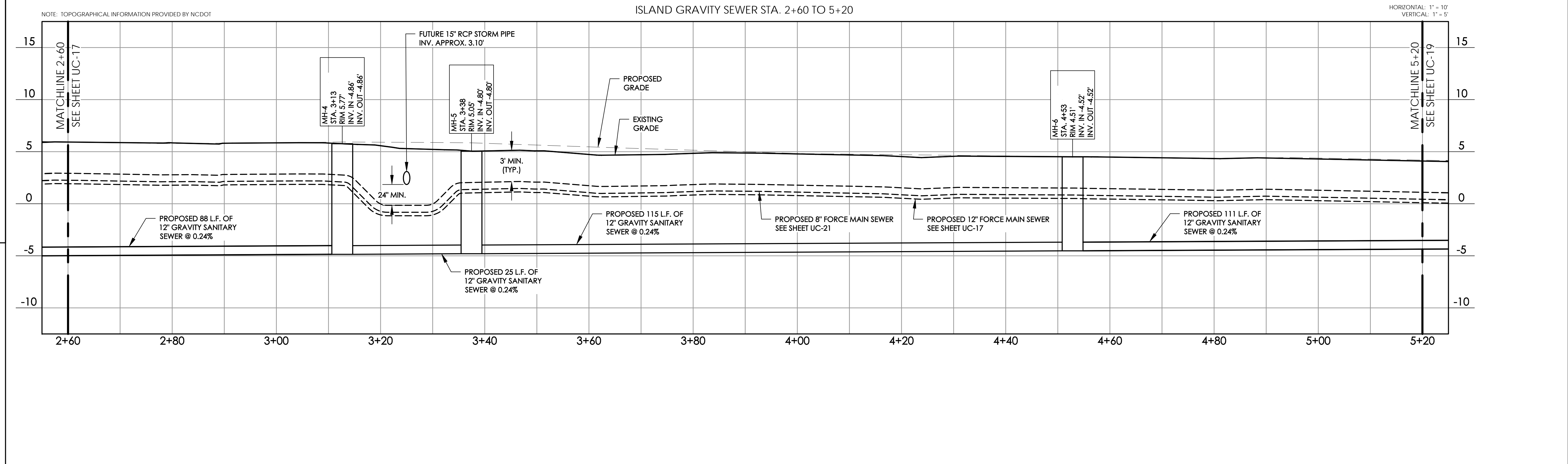
DESIGNED BY: JPC
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 REVISED:
 NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
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 UTILITY CONSTRUCTION PLANS ONLY



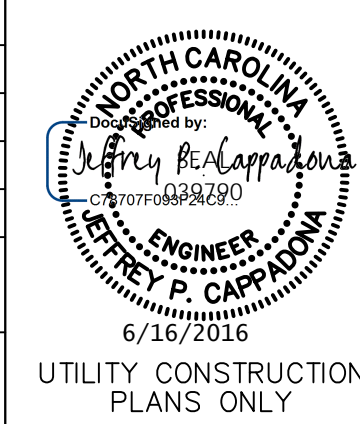
UTILITY CONSTRUCTION



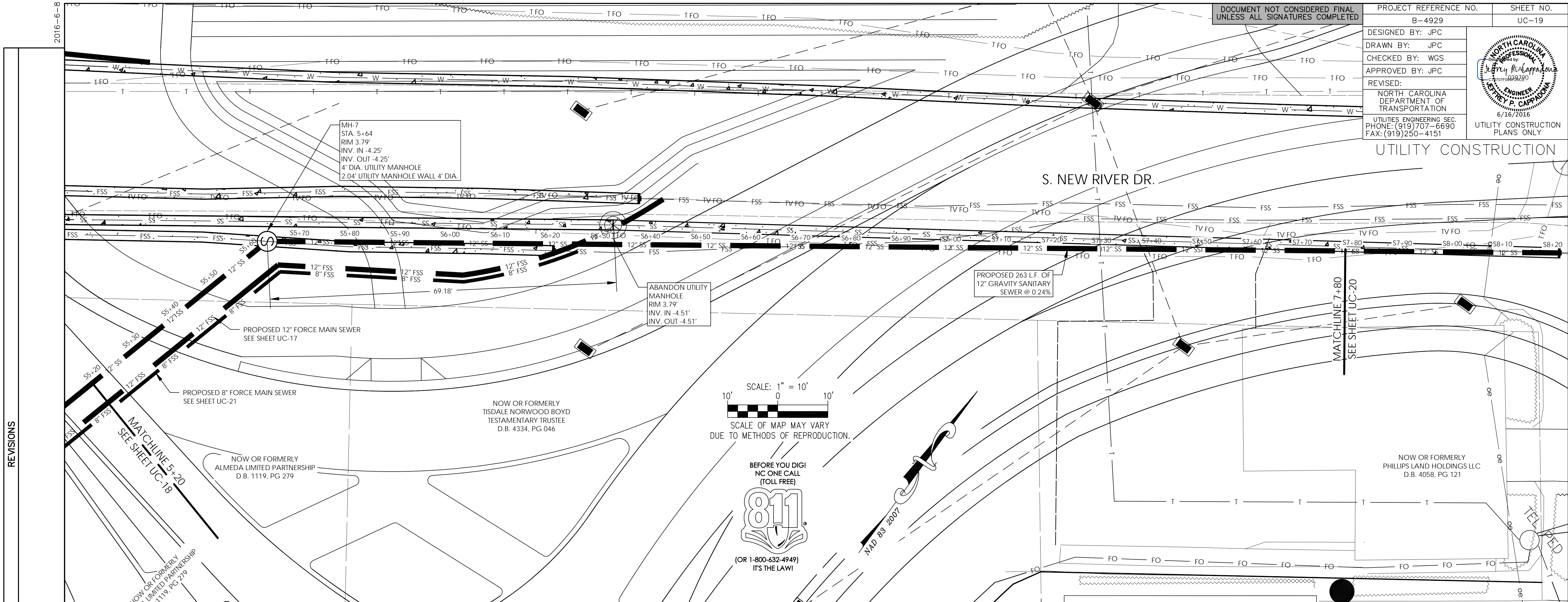
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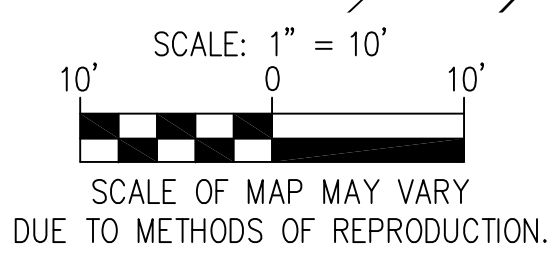
DESIGNED BY: JPC
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FAX: (919) 250-4151



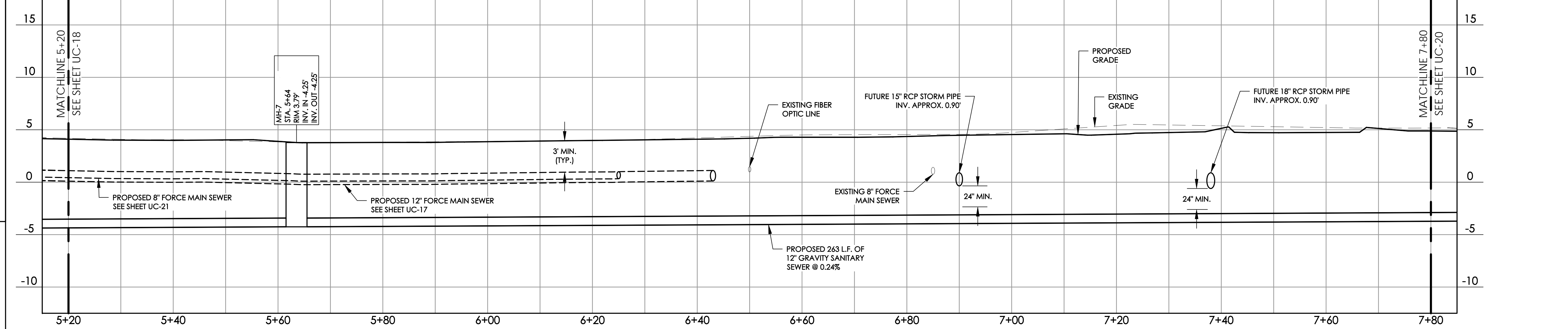
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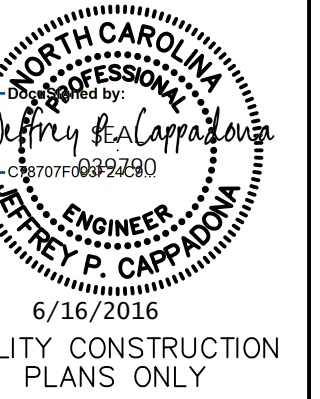
ISLAND GRAVITY SEWER STA. 5+20 TO 7+80



NOTE: TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT

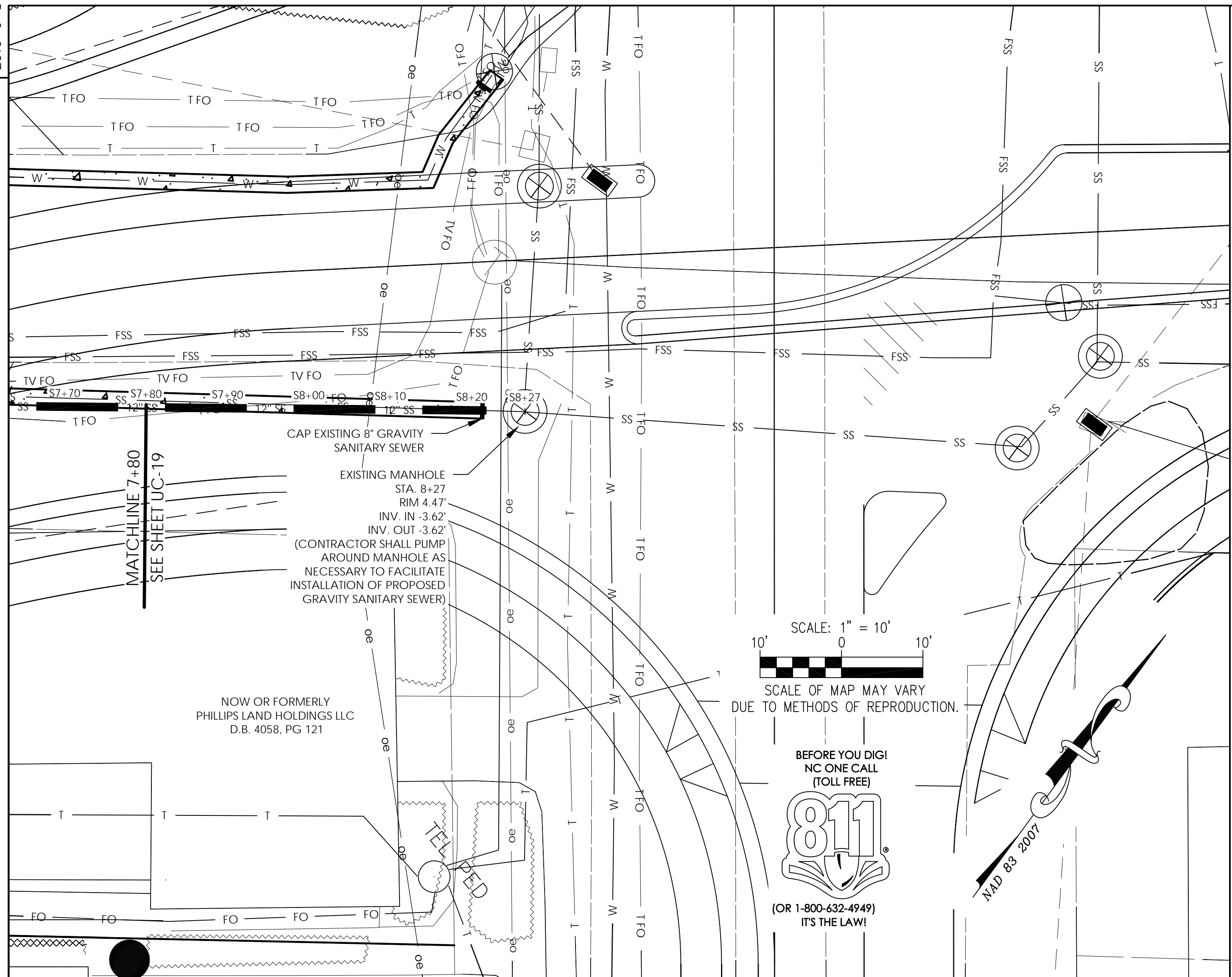
HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'

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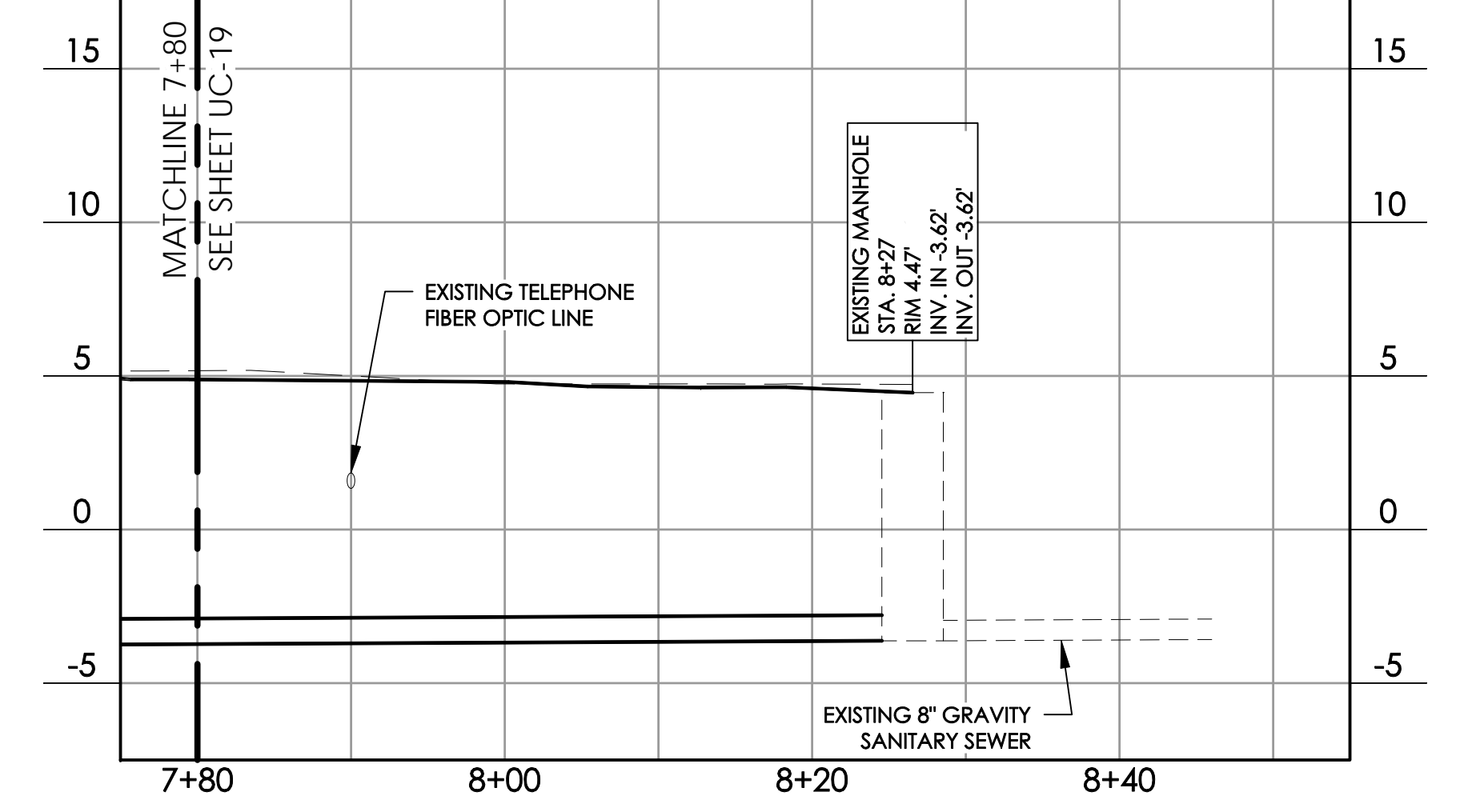
UTILITY CONSTRUCTION

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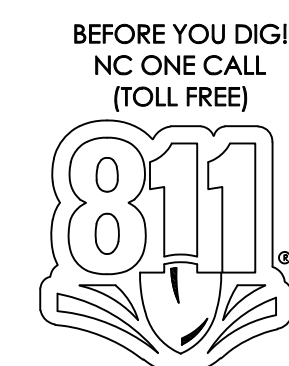
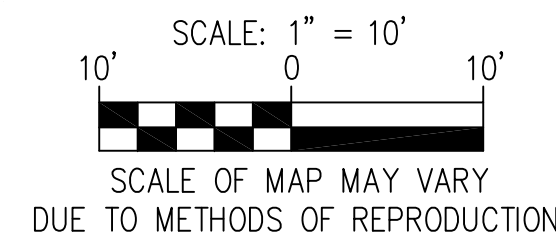
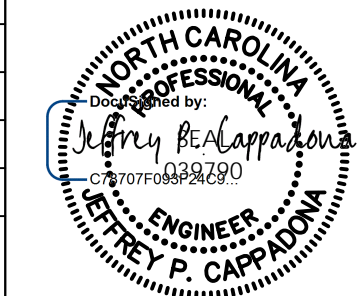


ISLAND GRAVITY SEWER STA. 7+80 TO 8+28

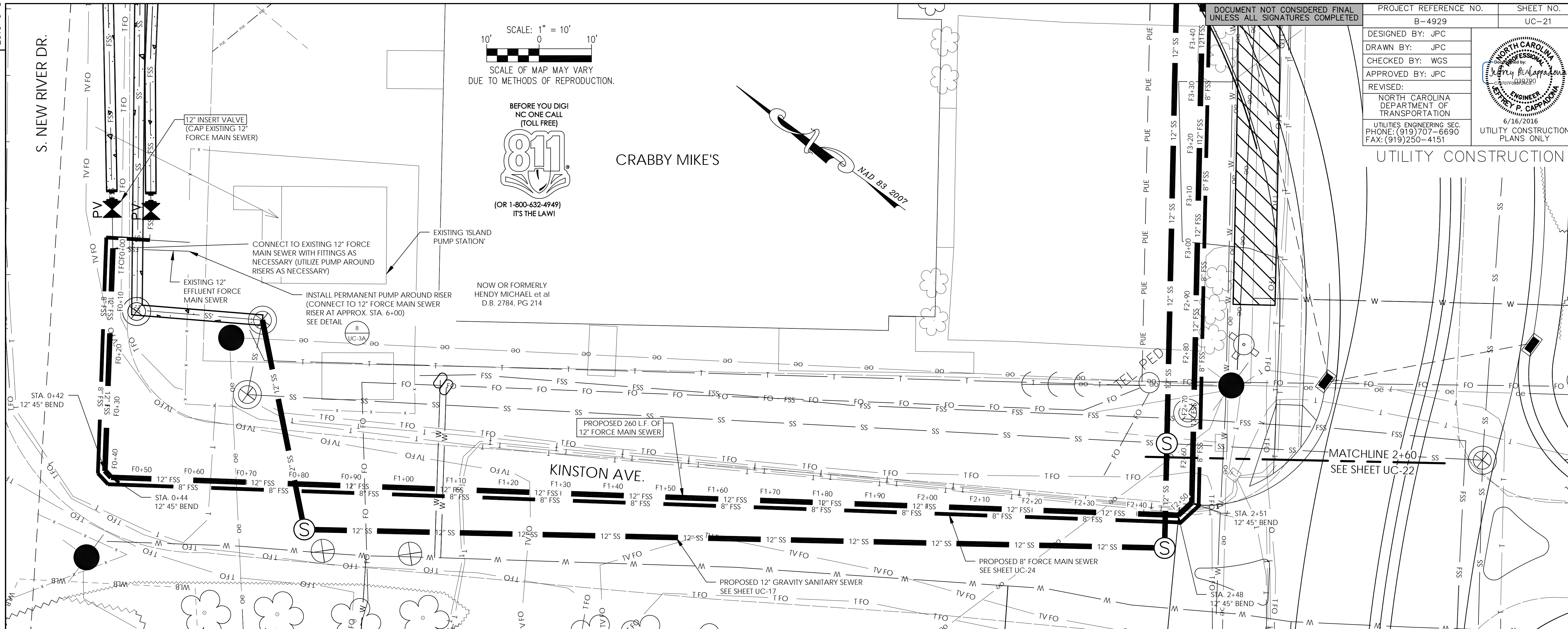
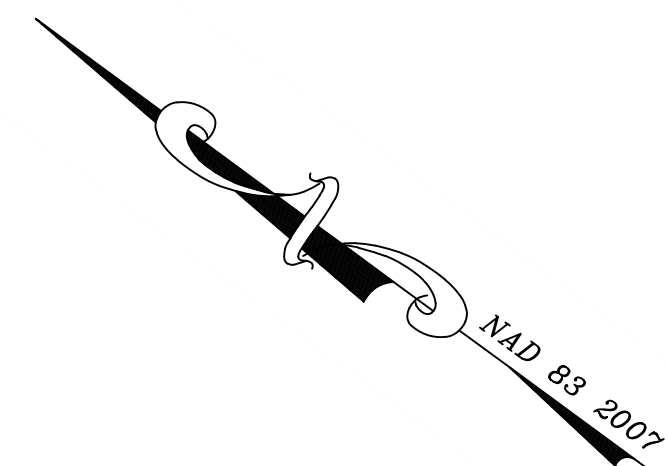
NOTE: TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT
HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'



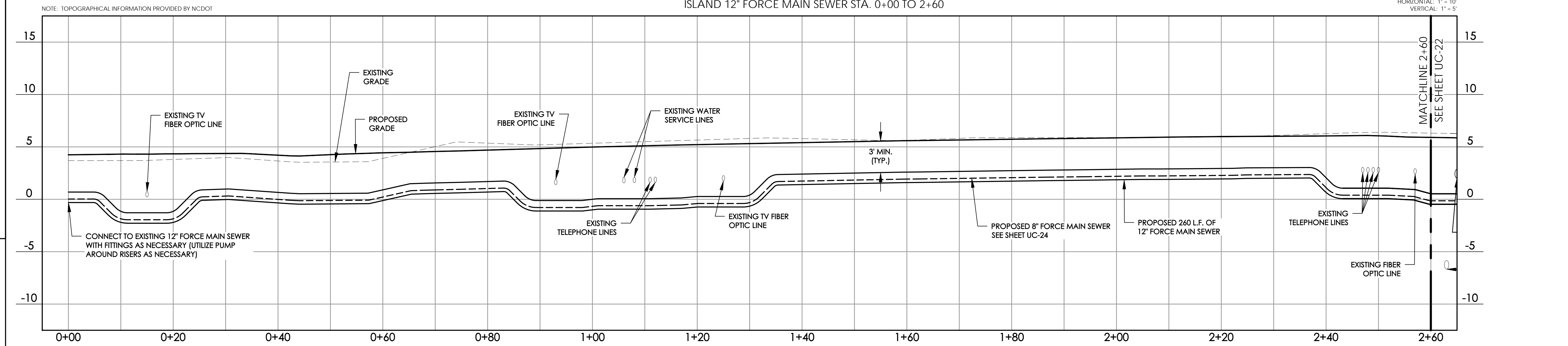
PROJECT REFERENCE NO. B-4929	SHEET NO. UC-21
DESIGNED BY: JPC	
DRAWN BY: JPC	
CHECKED BY: WGS	
APPROVED BY: JPC	
REVISOR:	
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ISLAND 12" FORCE MAIN SEWER STA. 0+00 TO 2+60

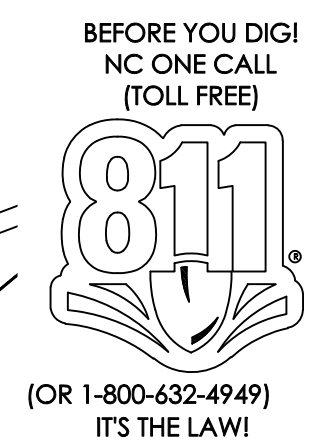
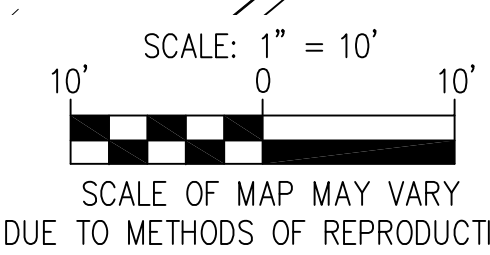
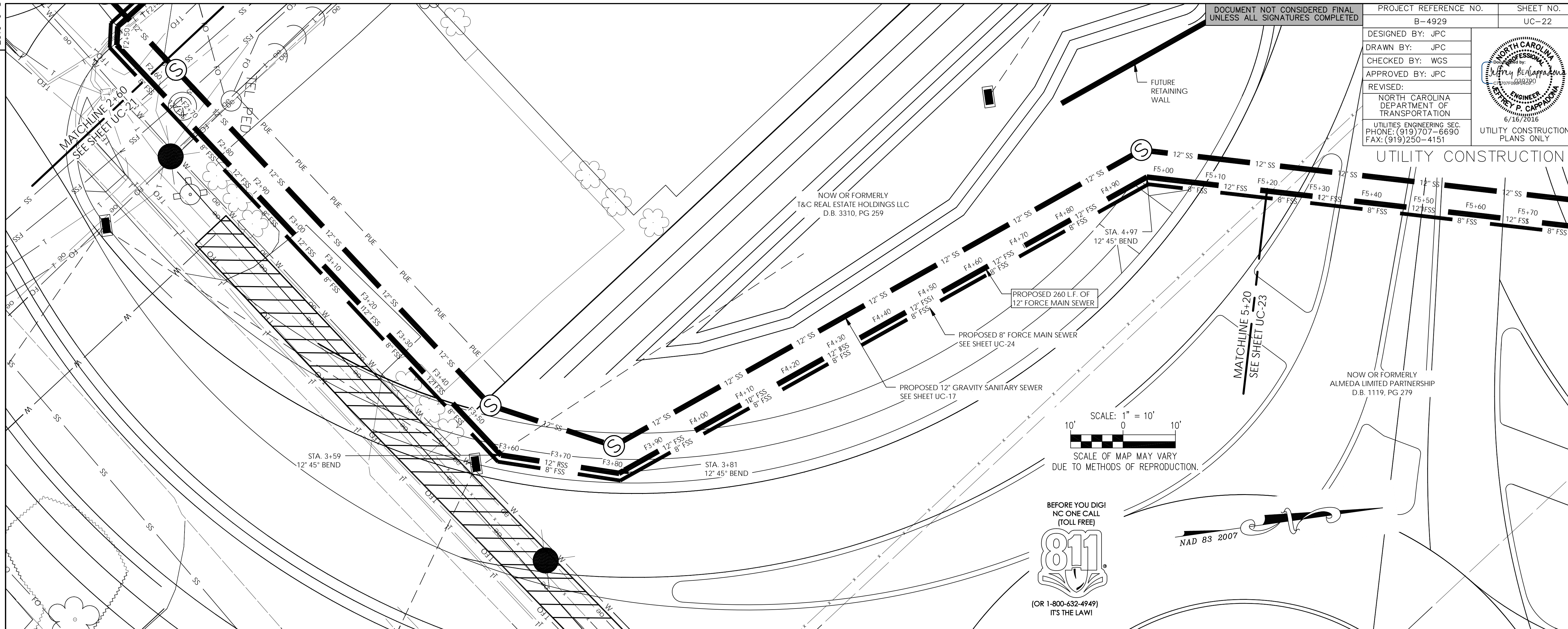
HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'

2016-6-8

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PROJECT REFERENCE NO.	B-4929	SHEET NO.	UC-22
DESIGNED BY:	JPC		
DRAWN BY:	JPC		
CHECKED BY:	WGS		
APPROVED BY:	JPC		
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		
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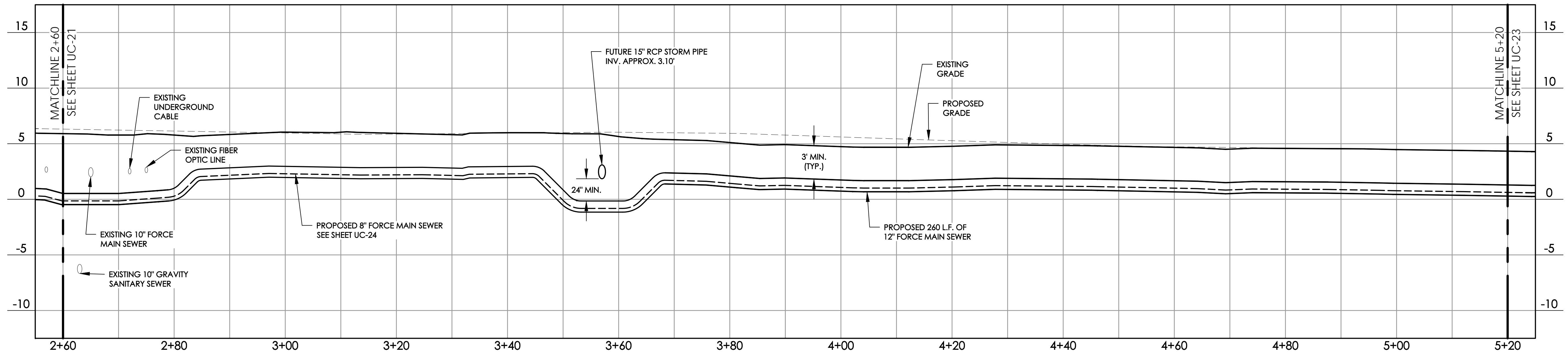
REVISIONS



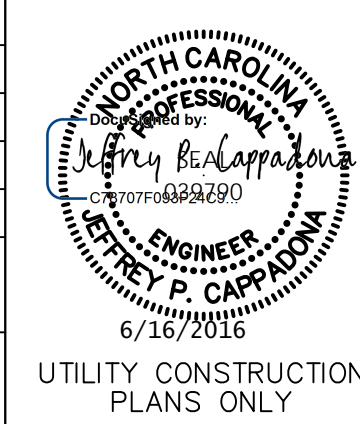
NOTE: TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT

ISLAND 12" FORCE MAIN SEWER STA. 2+60 TO 5+20

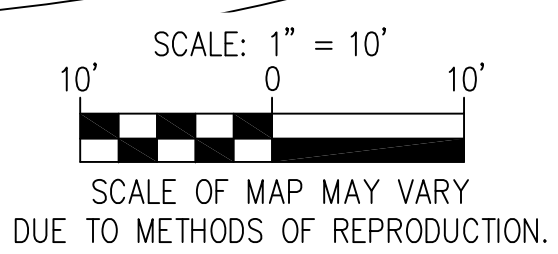
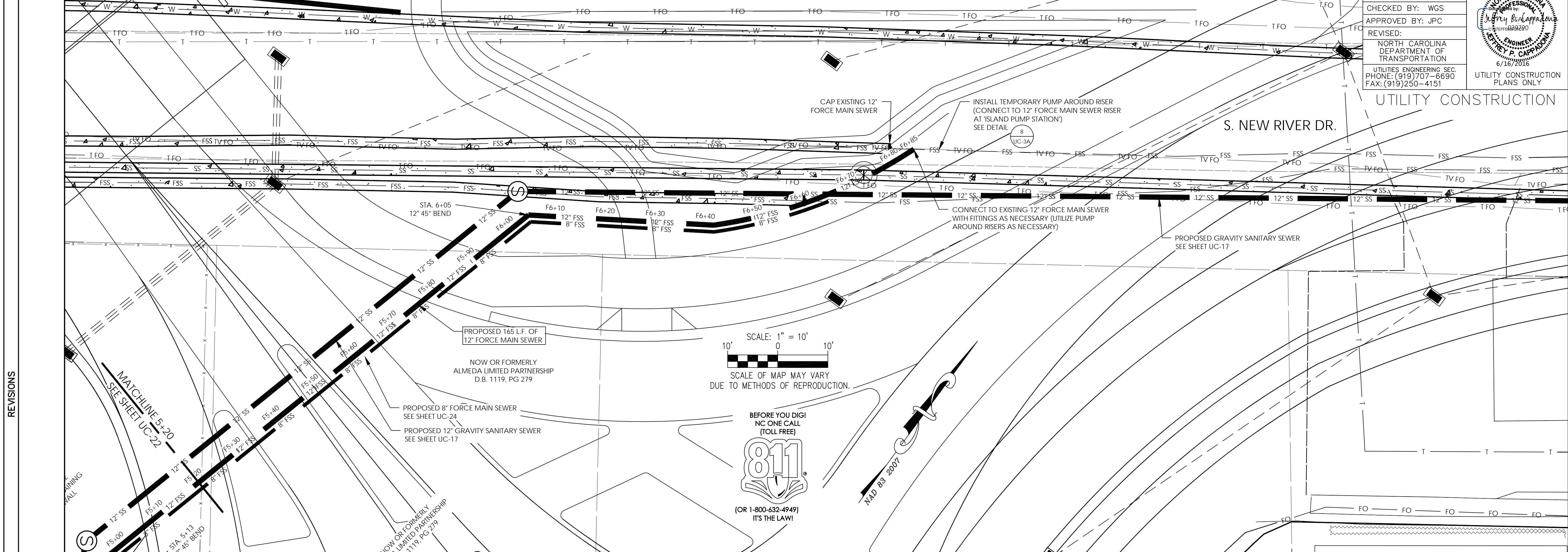
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VERTICAL: 1" = 5'



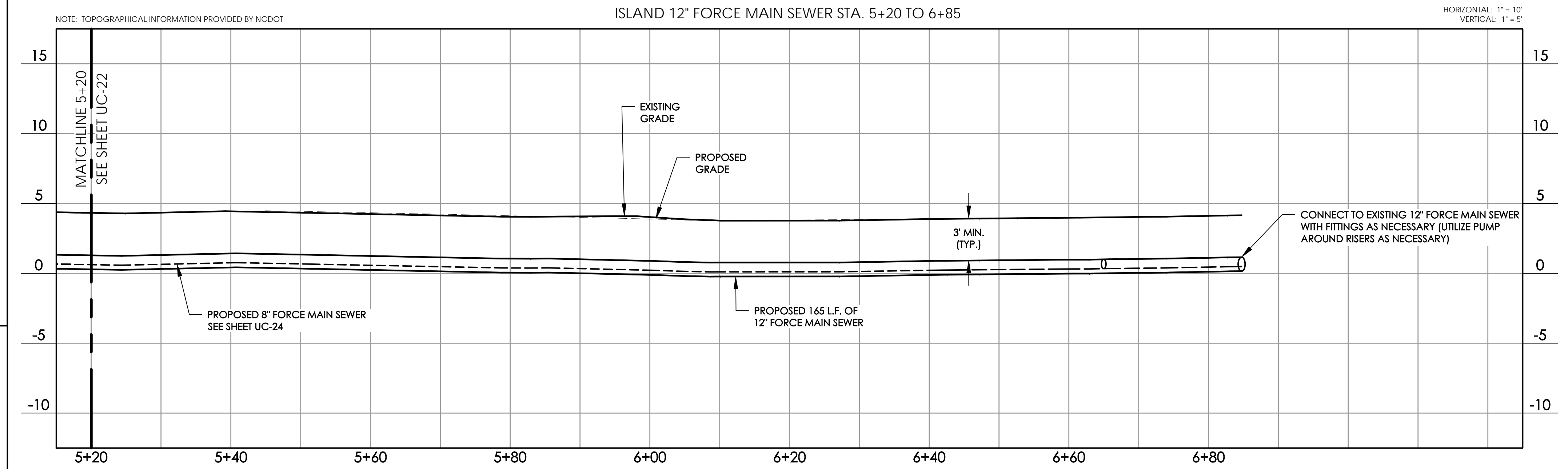
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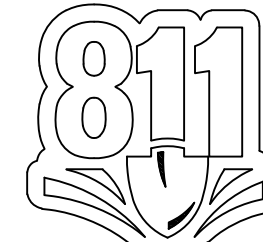
2016-6-8

PROJECT REFERENCE NO. B-4929	SHEET NO. UC-24
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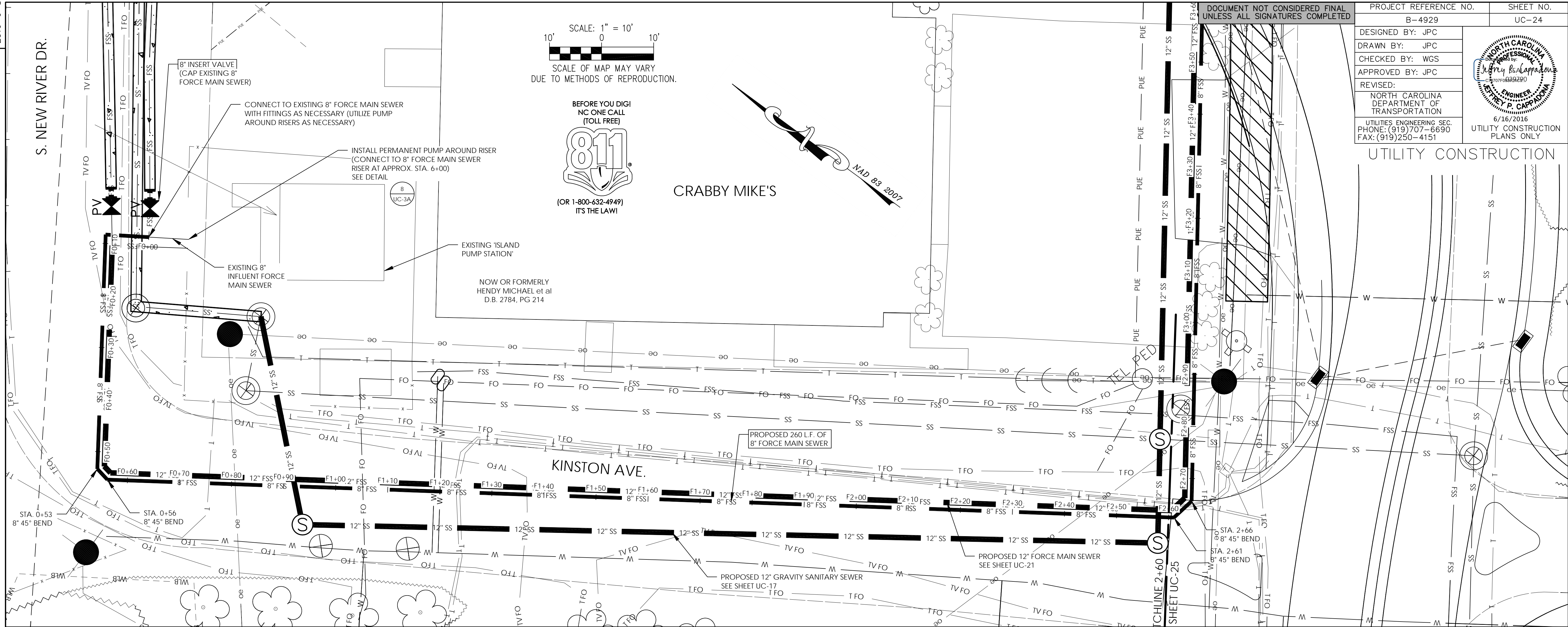
SCALE: 1" = 10'
SCALE OF MAP MAY VARY DUE TO METHODS OF REPRODUCTION.

BEFORE YOU DIG! NC ONE CALL (TOLL FREE)



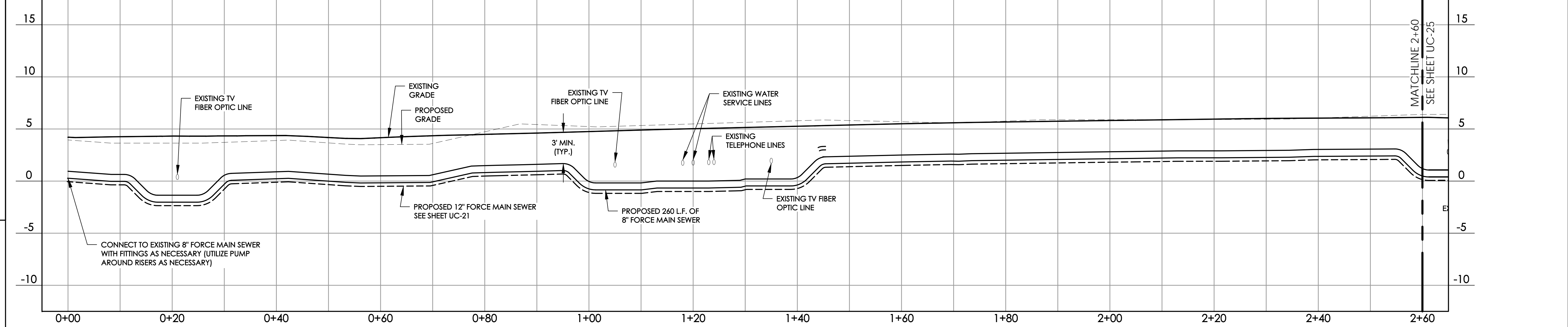
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ISLAND 8" FORCE MAIN SEWER STA. 0+00 TO 2+60

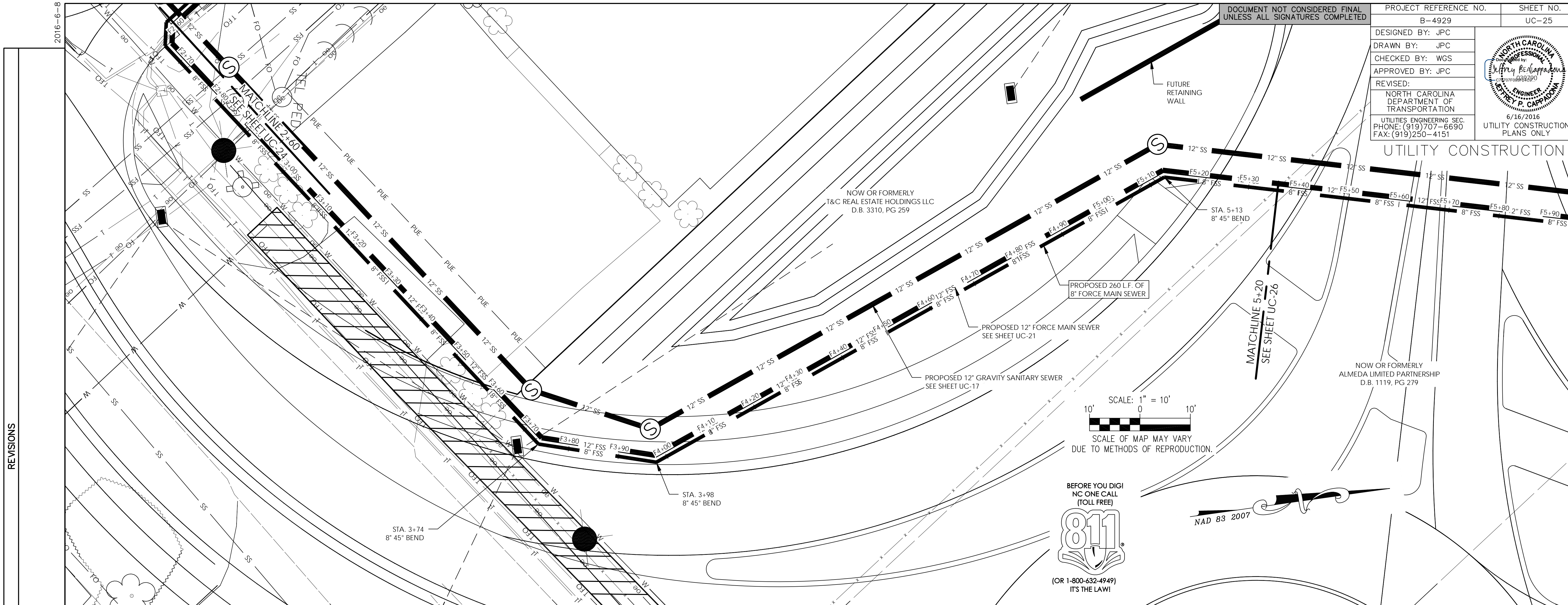


2016-6-8

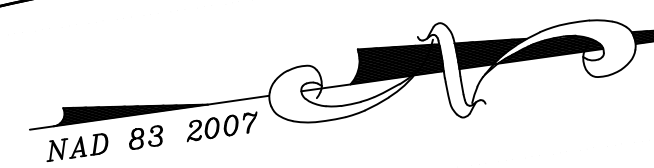
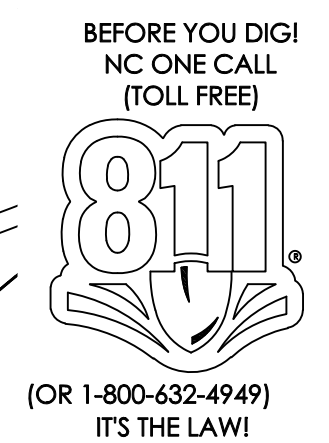
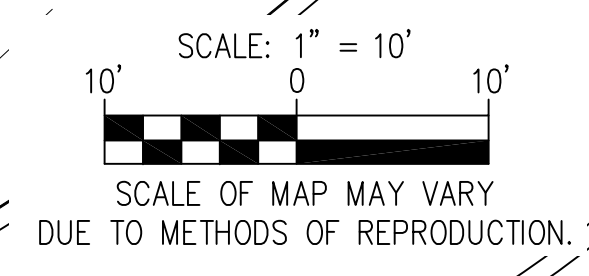
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PROJECT REFERENCE NO.	B-4929	SHEET NO.	UC-25
DESIGNED BY:	JPC		
DRAWN BY:	JPC		
CHECKED BY:	WGS		
APPROVED BY:	JPC		
REVISED:			
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UTILITY CONSTRUCTION



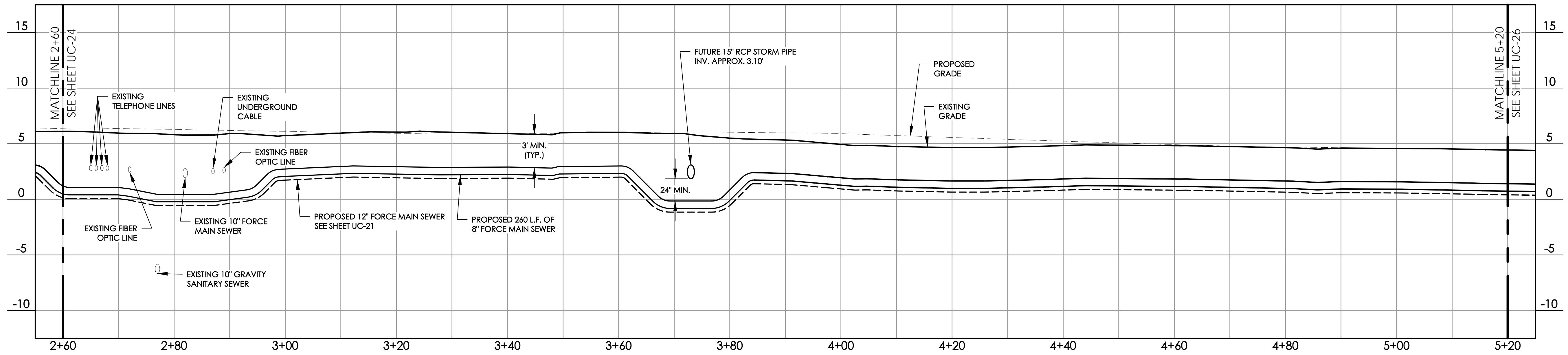
REVISIONS



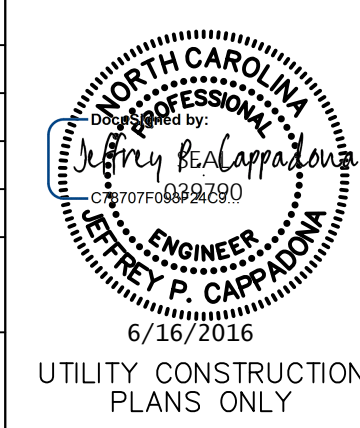
NOTE: TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT

ISLAND 8" FORCE MAIN SEWER STA. 2+60 TO 5+20

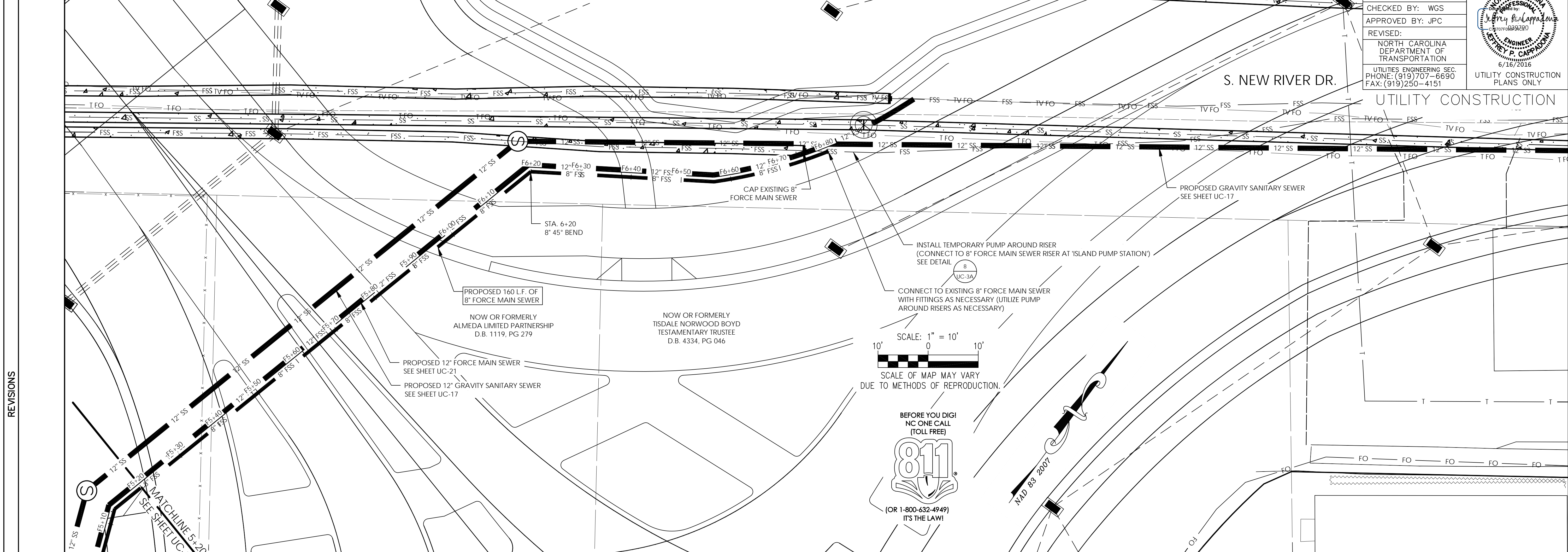
HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'



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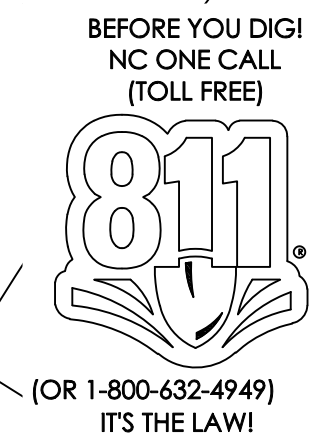
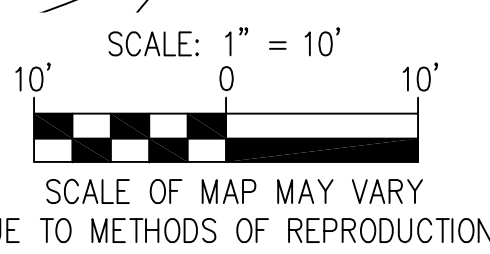


UTILITY CONSTRUCTION
PLANS ONLY



INSTALL TEMPORARY PUMP AROUND RISER
(CONNECT TO 8" FORCE MAIN SEWER RISER AT 'ISLAND PUMP STATION')
SEE DETAIL 8 UC-3A

CONNECT TO EXISTING 8" FORCE MAIN SEWER
WITH FITTINGS AS NECESSARY (UTILIZE PUMP
AROUND RISERS AS NECESSARY)



REVISIONS

NOTE: TOPOGRAPHICAL INFORMATION PROVIDED BY NCDOT

ISLAND 8" FORCE MAIN SEWER STA. 5+20 TO 6+80

HORIZONTAL: 1" = 10'
VERTICAL: 1" = 5'

