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09/08/09

TIP PROJECT: U–4714AC

CONTRACT:

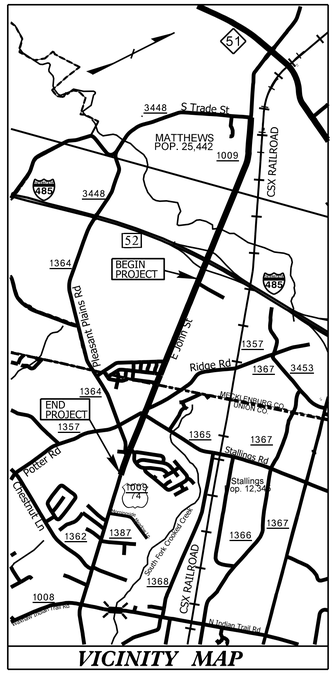
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES CONSTRUCTION PLANS
MECKLENBURG & UNION COUNTY

T.I.P. NO.	SHEET NO.
U–4714AC	UC–1

NOTE:
ALL UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS.
NO PAYMENT WILL BE MADE TO THE CONTRACTOR FOR UTILITY WORK SHOWN ON THIS SHEET.

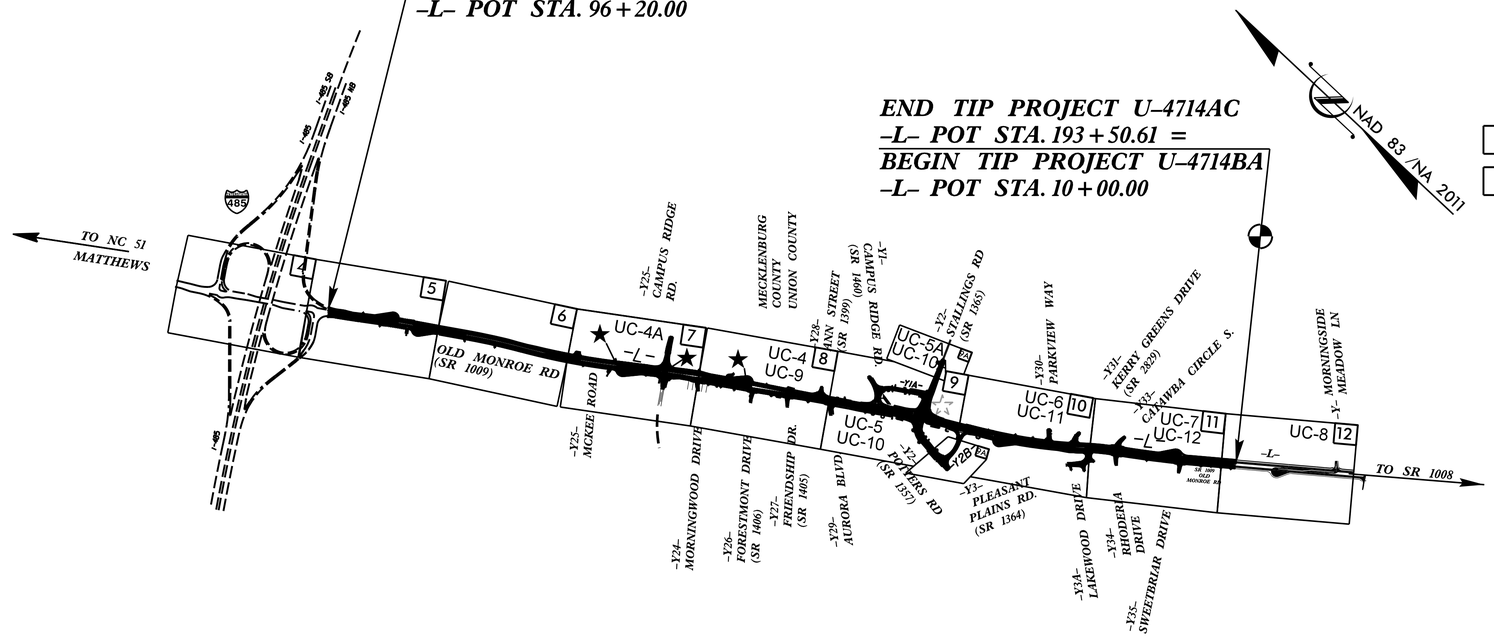
LOCATION: SR 1009 (JOHN STREET\OLD MONROE ROAD)
FROM EAST OF I–485 INTERCHANGE TO
WEST OF MORNINGSIDE MEADOW LANE
TYPE OF WORK: RELOCATION OF WATER & SEWER LINES



VICINITY MAP

BEGIN TIP PROJECT U–4714AC
–L– POT STA. 96 + 20.00

END TIP PROJECT U–4714AC
–L– POT STA. 193 + 50.61 =
BEGIN TIP PROJECT U–4714BA
–L– POT STA. 10 + 00.00


NAD 83 /NA 2011
LEGEND
PROPOSED SIGNAL
EXISTING SIGNAL
TO NC 51
MATTHEWS
485
4
5
6
7
8
9
10
11
12
UC-4A
–L–
UC-4
UC-9
UC-5A
UC-10
UC-5
UC-10
UC-6
UC-11
UC-7
UC-12
UC-8
–L–
–L–
–L–

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5/14/99

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-2

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

- Water Line (Sized as Shown) — 12" WL
- 11¼ Degree Bend
- 22½ Degree Bend
- 45 Degree Bend
- 90 Degree Bend
- Plug
- Tee
- Cross
- Reducer
- Gate Valve — GV
- Butterfly Valve — BV
- Tapping Valve — TGV
- Line Stop — LS
- Line Stop with Bypass — LS/BP
- Blow Off — BO
- Fire Hydrant — PFH
- Relocate Fire Hydrant — RFH
- Remove Fire Hydrant — REM FH
- Water Meter — PWM
- Relocate Water Meter — RWM
- Remove Water Meter — REM WM
- Water Pump Station — PS(W)
- RPZ Backflow Preventer — PRPZ
- DCV Backflow Preventer — PBFP
- Relocate RPZ Backflow Preventer — RRPZ
- Relocate DCV Backflow Preventer — RBFP

PROPOSED MISCELLANOUS UTILITIES SYMBOLS

- Power Pole
- Telephone Pole
- Joint Use Pole
- Telephone Pedestal — TEL PED
- Utility Line by Others (Type as Shown) — PROP O/H POW LINES
- Trenchless Installation — 12" TL INSTALL
- Encasement by Open Cut — 24" ENCAS BY OC
- Encasement — 24" ENCASEMENT
- Thrust Block
- Air Release Valve — AR
- Utility Vault — UV
- Concrete Pier — CP
- Steel Pier — SP
- Plan Note — NOTE
- Pay Item Note — PAY ITEM

EXISTING UTILITIES SYMBOLS

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

*For Existing Utilities

- Utility Line Drawn from Record (Type as Shown)
- Designated Utility Line (Type as Shown)

REV: 2/1/2012

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J:\24708\03\U\Water and Wastewater\U-4714AC_ut_rdy_UC02.psh.dgn
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8/17/99

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 2024.

2. THE EXISTING WATER AND SEWER UTILITIES BELONG TO UNION COUNTY AND CAROLINA WATER SERVICE.

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, AND PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, AND 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 OPPORTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. 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.

7. 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.

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: UNION COUNTY

1. ALL CONSTRUCTED AND PROPOSED WATER LINES TO BE TESTED PER UNION COUNTY WATER, NCDOT, AND NCDEQ STANDARD SPECIFICATIONS.

2. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY UNION COUNTY WATER REPRESENTATIVE.

3. IF THE PROPOSED WATER AND/OR SANITARY SEWER MAIN IS INSTALLED WITHIN 12" IN ANY DIRECTION (VERTICALLY OR HORIZONTALLY) OF A GAS MAIN THEN THE CONTRACTOR SHALL CALL PIEDMONT NATURAL GAS COMPANY AT (704) 525-5585 AND INFORM THEM.

4. THE CONTRACTOR SHALL USE EROSION CONTROL MEASURES, AS DIRECTED.

5. IF ADDITIONAL WORK SPACE IS NEEDED, AN ENCROACHMENT IS TO BE AGREED UPON BETWEEN THE CONTRACTOR, NCDOT, AND THE PROPERTY OWNER.

6. CONCRETE THRUST BLOCKING, WALL BLOCKING, RODDING, OR OTHER APPROVED METHOD SHALL BE PROVIDED BY CONTRACTOR AS NEEDED ON EXISTING WATER LINES AT THE PROPOSED RELOCATION TIE-IN POINTS.

7. THE LOCATION OF EXISTING UTILITIES SHOWN ON THE PLANS IS FOR THE USE OF THE CONTRACTOR IN PROVIDING PROTECTION FOR THE UTILITIES DURING CONSTRUCTION OPERATIONS. NCDOT AND UNION COUNTY DESIGN CONSULTANT WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF LOCATION, SIZE, DEPTH, OR COMPLETENESS OF THE INFORMATION. THE CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.

8. THE CONTRACTOR SHALL SUPPORT AND PROTECT ANY EXISTING UNDERGROUND UTILITIES ENCOUNTERED DURING TRENCH EXCAVATION AND/OR PIPE INSTALLATION.

9. MINIMUM PIPE SEPARATION: 10 FEET HORIZONTAL SEPARATION OR 18" VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN WATER MAINS OVER SEWER MAINS, WHEN WATER MAINS ARE BELOW SEWER MAINS OR THE ABOVE MINIMUM SEPARATIONS CANNOT BE MAINTAINED. DUCTILE IRON PIPE SHALL BE USED FOR BOTH MAINS TO 10 FEET ON EITHER SIDE OF THE CROSSINGS, AND ALL ALONG THE LENGTH OF MAINS WHERE MINIMUM SEPARATION CANNOT BE MAINTAINED.

10. PIPE THICKNESS FOR DUCTILE IRON PIPE 6 INCHES TO 12 INCHES IN DIAMETER TO BE PC 350. PIPE THICKNESS FOR DUCTILE IRON PIPE 16 INCHES AND LARGER MAY BE PC 250.

11. WELL IN ADVANCE OF BEGINNING UTILITY WORK, SOFT DIGS SHALL BE PERFORMED BY CONTRACTOR TO VERIFY ACTUAL WATER LINE DEPTH AND MATERIAL AT PROPOSED TIE-IN LOCATIONS.

12. LAY PIPE STRAIGHT IN ALIGNMENT AND GRADIENT OR FOLLOW TRUE CURVES AS NEARLY AS POSSIBLE. DO NOT DEFLECT ANY JOINT MORE THAN HALF THE MAXIMUM DEFLECTION RECOMMENDED BY THE MANUFACTURER.

13. CONTRACTOR SHALL ADHERE TO SECTION 15301 "ABANDON OR REMOVE UTILITIES" FOR ABANDONMENT OF EXISTING WATER LINES.

14. CONTRACTOR SHALL COORDINATE SHUTDOWNS OF WATER LINES FOR TIE-INS A MINIMUM OF 96 HOURS IN ADVANCE OF TIE-IN OPERATIONS. COORDINATE WITH UNION COUNTY FIELD REPRESENTATIVE.

15. ALL DUCTILE IRON WATER PIPE AND FITTINGS SHALL BE FURNISHED WITH CEMENT MORTAR LINING AND SEAL COATING IN ACCORDANCE WITH ANSI/AWWA A21.4/C104.

16. DUCTILE IRON SEWER PIPE AND FITTINGS SHALL BE FURNISHED WITH CERAMIC EPOXY LINING, TNEMEC 431 OR EQUAL, AND SEAL COATED IN ACCORDANCE WITH ANSI/AWWA A21.4/C104.

17. PRIOR TO THE START OF PROJECT CONTRACTOR MUST CONTACT THOMAS MANN, CIP PROGRAM MANAGER OF UNION COUNTY WATER. UNION COUNTY WATER MAY INSPECT THE WORK AT ANY TIME.

18. NO INTERRUPTION OF EXISTING WATER SERVICE SHALL BE MADE DURING CONSTRUCTION UNTIL AUTHORIZED BY UNION COUNTY WATER. UNION COUNTY WATER WILL BE COPIED ON BOTH THE WATER MAIN PRESSURE TEST REPORT AND THE WATER MAIN CHLORINATION TEST REPORT. UNION COUNTY COLLECTS SAMPLES FOR BACTERIOLOGICAL TESTING. SAMPLES WILL BE COLLECTED ONLY ON WEDNESDAY MORNINGS, USUALLY BEFORE 9:00 AM. SCHEDULE WATER INSTALLATIONS AND PRESSURE TESTING ACCORDINGLY. THERE WILL BE NO COST TO THE CONTRACTOR FOR BACTERIOLOGICAL TESTING FOR THE FIRST SAMPLES COLLECTED FOR EACH SEGMENT. CONTRACTOR WILL BE RESPONSIBLE FOR COSTS RELATED TO RE-TESTING FOR FAILING BACTERIOLOGICAL SAMPLES AT THE PREVAILING RATES OF THE TESTING LABORATORY. PRICE IS SUBJECT TO CHANGE. UNION COUNTY WILL NOT ACCEPT TEST RESULTS FROM OUTSIDE TESTING LABS.

19. EXISTING WATER VALVES ARE TO BE OPERATED BY UNION COUNTY OPERATIONS STAFF.

20. WHEN ABANDONING VALVES, CLOSE VALVE BEFORE REMOVING VALVE BOX.

21. INSTALLATION OF PIPE MAY REQUIRE EXCAVATING AROUND AND BENEATH RELOCATED TELECOMMUNICATION AND OTHER UTILITY LINES FOR WATER RELOCATION.

22. PROPOSED WATER SERVICE LINE SHALL BE TYP "K" COPPER TUBING. SPLICING OF COPPER SERVICE LINE BETWEEN THE WATER METER AND EXISTING OR NEW WATER LINES WILL NOT BE ALLOWED FOR ANY CASE. PROVIDE AND INSTALL A CONTINUOUS SEGMENT OF COPPER WATER SERVICE LINE BETWEEN THE CORPORATION STOP AND WATER METER. IN THE EVENT A WATER SERVICE PIPE IS DAMAGED DURING THE COURSE OF CONSTRUCTION, A NEW REPLACEMENT COPPER SERVICE LINE IS TO BE INSTALLED BETWEEN THE WATER LINE AND WATER METER AT NO COST TO UNION COUNTY OR NCDOT.

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-3

DESIGNED BY: CS
DRAWN BY: CS
CHECKED BY: MM
APPROVED BY:
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 032322 ENGINEER MARCO A. MENENDEZ
10/20/2026

UTILITY CONSTRUCTION PLANS ONLY

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License No. C-764

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$$$$SYSTIME$$$$
$$$$DATE$$$$
$$$$USERNAME$$$$

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PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-3A
DESIGNED BY: AP	
DRAWN BY: AP	
CHECKED BY: TB	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 032322 MARCO R. MENENDEZ
8/10/2026

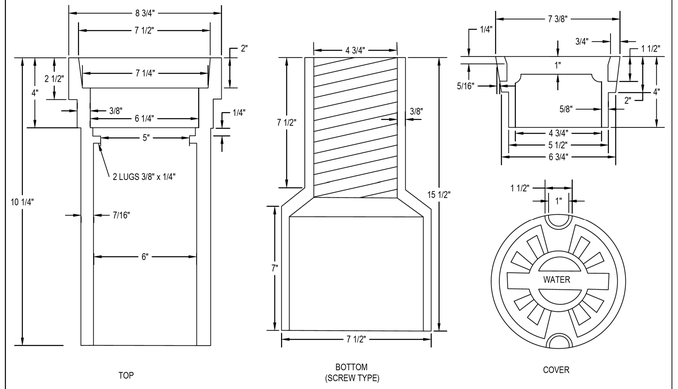
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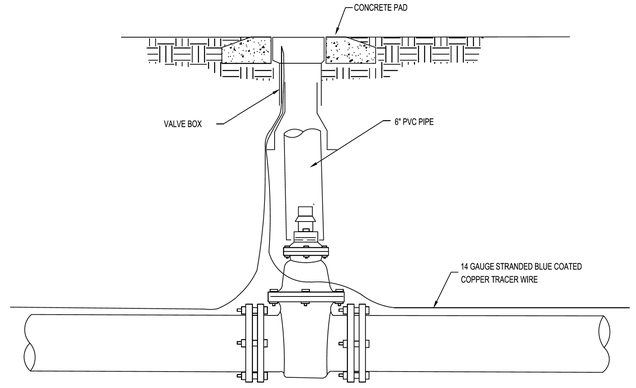
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES:
1. 2" GATE VALVES SHALL BE AWWA C515 COMPLIANT
2. 2" GATE VALVES SHALL BE NSF 61 COMPLIANT
3. 3" OR LARGER GATE VALVES SHALL BE AWWA C500 AND C509 COMPLIANT

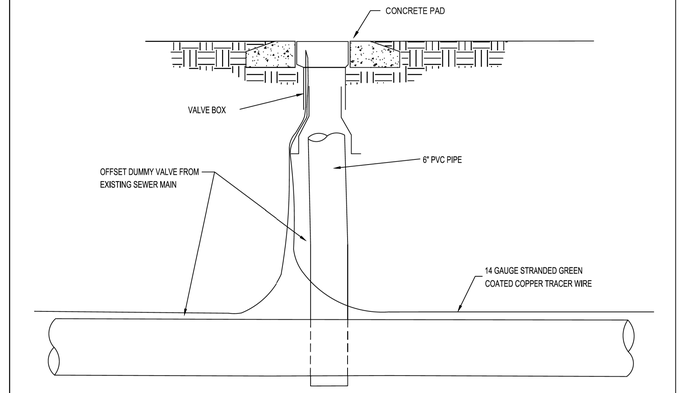


STANDARD DETAIL	SCALE: N.T.S.	
VALVE BOX	DATE: 09-13-24	1

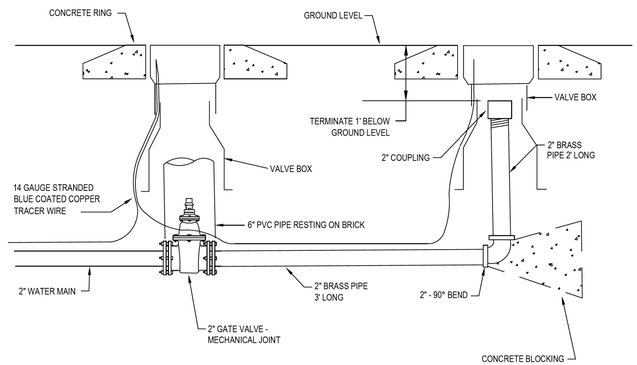
NOTES:
1. A 27" DIAMETER CONCRETE PAD SHALL BE PLACED AROUND EACH VALVE BOX
2. MINIMUM 18" SEPARATION BETWEEN GV AND MECHANICAL JOINT FITTINGS



STANDARD DETAIL	SCALE: N.T.S.	
VALVE BOX INSTALLATION	DATE: 09-13-24	1A

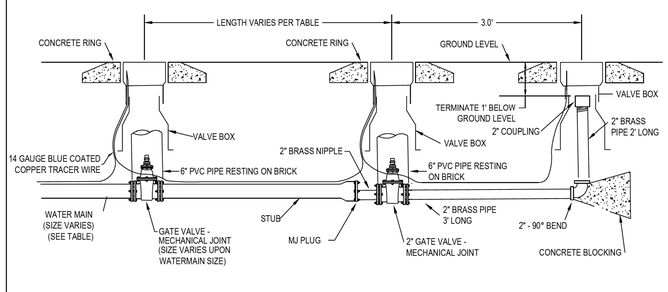


STANDARD DETAIL	SCALE: N.T.S.	
DUMMY VALVE BOX	DATE: 10-04-11	1B



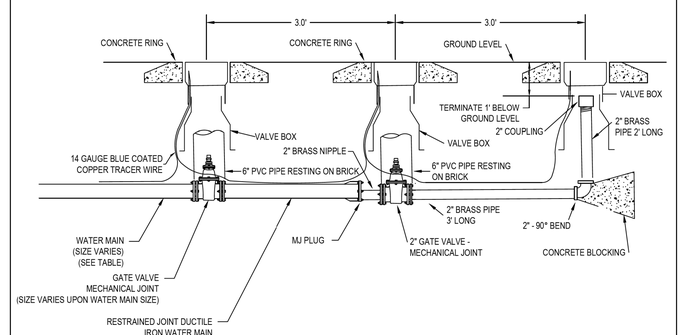
STANDARD DETAIL	SCALE: N.T.S.	
2" BLOW OFF	DATE: 11-07-23	2

TABLE	
SIZE OF PIPE	LENGTH OF PIPE
6"	40'
8"	40'
12" AND LARGER	BY ENGINEER



STANDARD DETAIL	SCALE: N.T.S.	
LONG MAIN LINE FUTURE EXTENSION WITH BLOW OFF	DATE: 09-13-24	2A

TABLE	
SIZE OF PIPE	LENGTH OF PIPE
6"	54'
8"	54'
12" AND LARGER	BY ENGINEER



STANDARD DETAIL	SCALE: N.T.S.	
SHORT MAIN LINE FUTURE EXTENSION WITH BLOW OFF	DATE: 09-13-24	2B

SYSTEM FILE NAME = D:\$$$

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-3B
DESIGNED BY: AP	
DRAWN BY: AP	
CHECKED BY: TB	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
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NORTH CAROLINA PROFESSIONAL SEAL 032322 ENGINEER MARCO R. MENENDEZ
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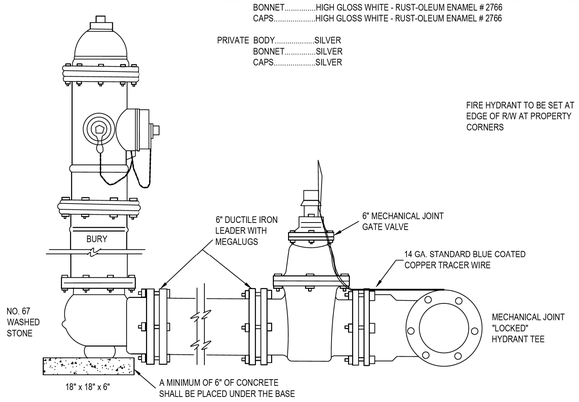
UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PAINT COLORS
PUBLIC BODY.....FIRE HYDRANT RED - RUST-OLEUM ENAMEL # 1210 FIRE HYDRANT RED
BONNET.....HIGH GLOSS WHITE - RUST-OLEUM ENAMEL # 2766
CAPS.....HIGH GLOSS WHITE - RUST-OLEUM ENAMEL # 2766

PRIVATE BODY.....SILVER
BONNET.....SILVER
CAPS.....SILVER

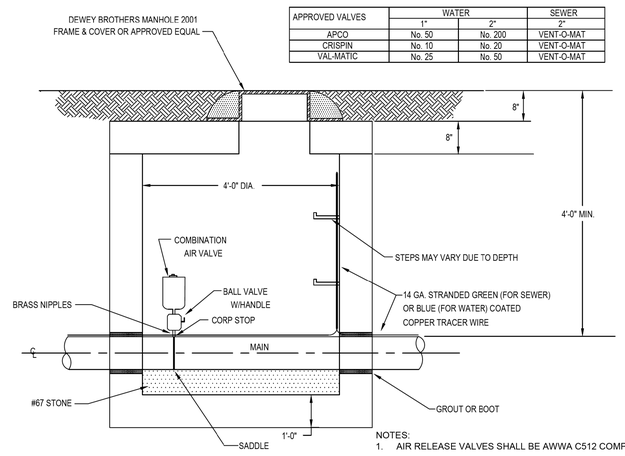
FIRE HYDRANT TO BE SET AT EDGE OF R/W AT PROPERTY CORNERS



STANDARD DETAIL — FIRE HYDRANT INSTALLATION — SCALE: N.T.S. — DATE: 09-13-24 — 3

DEWEY BROTHERS MANHOLE 2001 FRAME & COVER OR APPROVED EQUAL

APPROVED VALVES	WATER		SEWER
	1"	2"	2"
APCO	No. 50	No. 200	VENT-O-MAT
CRISPIN	No. 10	No. 20	VENT-O-MAT
VAL-MATIC	No. 25	No. 50	VENT-O-MAT

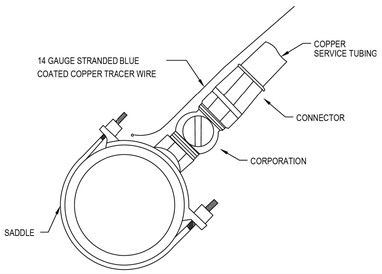


NOTES:
1. AIR RELEASE VALVES SHALL BE AWWA C512 COMPLIANT

STANDARD DETAIL — AIR RELEASE — SCALE: N.T.S. — DATE: 09-13-24 — 4

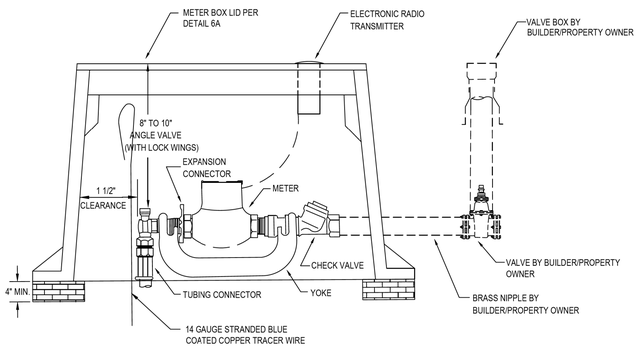
NOTE:
1. ROMAC 101N SHALL REPLACE MUELLER FOR PIPE DIAMETER UP TO 8"
2. SMITH BLAIR 317, FORD FC 202 OR ROMAC 202N SHALL REPLACE MUELLER FOR PIPE DIA 12" AND UP
3. SERVICE SADDLES SHALL HAVE TWO FLAT STRAPS (PER UCW SPECIFICATION SECTION 5, 5.01, B)
4. EXISTING SERVICES BEING CONNECTED TO NEW LINES SHALL BE ONE CONTINUOUS ROLL OF COPPER
5. MINIMUM 18-INCH SEPARATION BETWEEN SERVICE CONNECTION AND MECHANICAL JOINT FITTINGS

APPROVED SERVICE HARDWARE			
		MUELLER	FORD
	2" PVC	H-13420	S70
SADDLE	UP TO 8"	SEE NOTE	FC 101
BALL CORPORATION		B-25008	FB1000G
YOKE		H-5020	Y 502
ANGLE BALL VALVE		B-24273	BA94-323WG
CHECK VALVE		H-14247-A	HHS91-323
CONNECTORS	COPPER	STYLE 110	GRIP JOINT
EXPANSION CONNECTION			EC 23

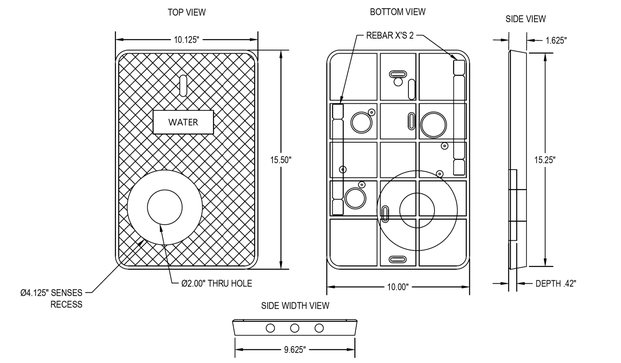


STANDARD DETAIL — SERVICE CONNECTION — SCALE: N.T.S. — DATE: 09-13-24 — 5

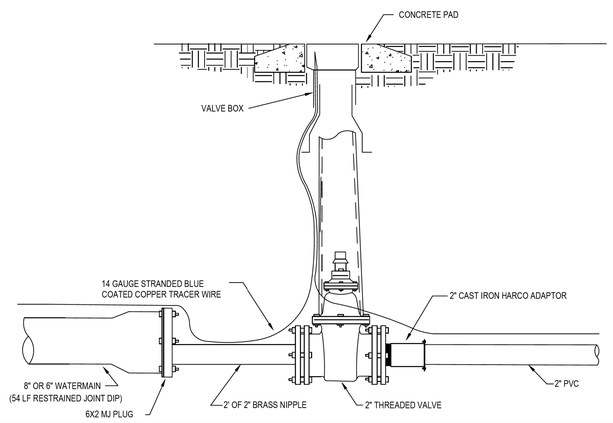
GENERAL NOTES
1. BUILDER/PROPERTY OWNER TO INSTALL NIPPLE, VALVE AND VALVE BOX BEFORE METER WILL BE SET.
2. FOR SUBDIVISION WITH SIDEWALKS EXTEND COPPER TUBING AFTER THE METER BOX 2 FT BEYOND PROPOSED SIDEWALK
3. CONTRACTOR SHALL USE ONE CONTINUOUS ROLL OF COPPER FROM TAP TO METER. NO SPLICING IS PERMITTED
4. METER AND ERT BY UNION COUNTY AT PREVAILING RATE



STANDARD DETAIL — METER INSTALLATION FOR ¾" AND 1" METERS — SCALE: N.T.S. — DATE: 09-13-24 — 6



STANDARD DETAIL — METER BOX LID FOR ¾" AND 1" METERS — SCALE: N.T.S. — DATE: 02/06/20 — 6A



STANDARD DETAIL — 8" OR 6" x 2" REDUCER — SCALE: N.T.S. — DATE: 10-04-11 — 7

14-NOV-2025 14:31
\\ncr-raleigh\projects\2017\24170148203 U-4714A\Water and Wastewater\U-4714AC_ut_det_UC3A.dgn
$$$$USERNAME$$$$

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8/17/99

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-3C
DESIGNED BY: AP	
DRAWN BY: AP	
CHECKED BY: TB	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL SEAL 032322 ENGINEER MARCO R. MENENDEZ
8/10/2026

UTILITY CONSTRUCTION PLANS ONLY

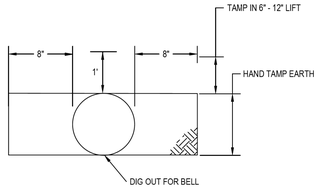
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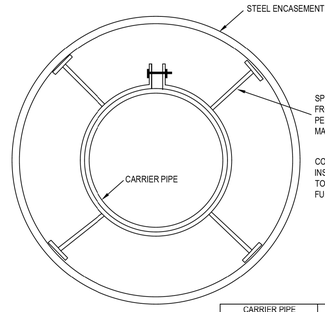
NOTES

1. 2" PVC SDR 21
2. 6"-8" PVC SDR 18
3. 12" OR LARGER DIP
4. CAREFULLY COMACTED BACK FILL 1 FT ABOVE PIPE
5. NO STONES LARGER THAN # 67 SONE SHALL BE USED IN SELECT BACKFILL
6. 14 GA. STANDARD BLUE COATED COPPER TRACER WIRE STALL BE INSTALLED VALVE TO VALVE
7. PIPE 8-IN AND LESSER MINIMUM RESTRAINED JOINT DIP LENGTH 54 LF.
8. PIPE 12-IN AND LARGER MINIMUM LENGTH OF RESTRAINT JOINT DIP 54 LF FINAL LENGTH TO BE DETERMINED BY ENGINEER.



WATER MAIN MINIMUM COVER IS 3.0' AND MAXIMUM COVER IS 6.0' UNLESS PRIOR APPROVAL IS GRANTED BY UCW

UNION COUNTY WATER | STANDARD DETAIL: WATER TRENCH | SCALE: N.T.S. | DATE: 09-13-24 | 8B



SPIDER SUPPORT AND SPACER AVAILABLE FROM SPIDER MANUFACTURING, INC. INSTALL PER UNION COUNTY INSPECTOR AND PER MANUFACTURERS SPECIFICATIONS.

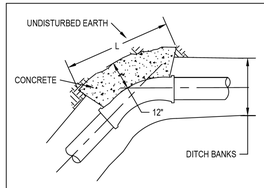
CONTRACTOR RESPONSIBLE FOR INSPECTING MATERIALS AND WELDS TO INSURE ALL SPIDERS WILL FUNCTION PROPERLY.

CARRIER PIPE	CASING PIPE I.D.	WALL THICKNESS
4"	8"	0.188"
6"	12"	0.188"
8"	16"	0.250"
10"	16"	0.250"
12"	20"	0.281"
16"	24"	0.344"
24"	30"	0.406"
30"	42"	0.500"
36"	48"	0.500"

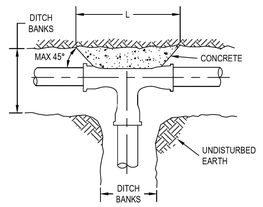
NOTES:

1. NO PIPE SHALL BE SUPPORTED BY BELL.
2. END SECTIONS LESS THAN 4' MAY BE UNSUPPORTED.
3. WALL THICKNESS AS PER TABLE UNLESS OTHERWISE SHOWN ON PLAN.
4. MASONRY SEAL AT ENDS -- 2" x 4" WEEP HOLE AT LOW END
5. ALL PRESSURE PIPES TO HAVE TRACING WIRE IN ALL CASING BORES.

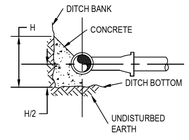
UNION COUNTY WATER | STANDARD DETAIL: PIPE ENCASEMENT | SCALE: N.T.S. | DATE: 11-17-06 | 14



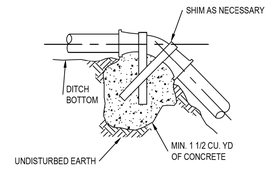
PLAN 45° BENDS
ALSO 90°, 22 1/2°, 11 1/2°



PLAN TEE



ELEVATION AT FITTINGS



VERTICAL BEND

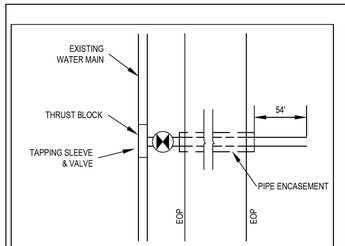
UNION COUNTY WATER | STANDARD DETAIL: THRUST BLOCK | SCALE: N.T.S. | DATE: 11-17-06 | 16

ANCHORAGE SCHEDULE											
PIPE SIZE	11 1/4° BEND		22 1/2° BEND		45° BEND		90° BEND		TEE		TEST PRESSURE (P.S.I.)
	L	H	L	H	L	H	L	H	L	H	
6"	1'3"	1'0"	2'3"	1'0"	2'6"	1'6"	2'9"	1'6"	2'0"	1'6"	200
	1'6"	1'3"	2'3"	1'6"	3'0"	1'6"	4'0"	1'6"	3'0"	1'6"	300
8"	1'6"	1'6"	2'6"	1'9"	3'0"	2'0"	3'9"	2'0"	2'6"	2'0"	200
	2'0"	1'6"	3'0"	2'0"	3'9"	2'3"	4'6"	2'6"	3'6"	2'3"	300
12"	2'6"	1'9"	4'0"	2'3"	4'3"	3'0"	5'0"	3'3"	4'0"	3'0"	200
	3'6"	2'0"	5'3"	2'6"	6'0"	3'3"	7'0"	3'6"	5'0"	3'6"	300
14"	3'0"	1'0"	4'0"	3'0"	4'6"	3'9"	6'0"	3'9"	4'6"	3'6"	200
	4'0"	2'6"	5'3"	3'6"	6'0"	4'3"	6'6"	5'0"	5'0"	5'0"	300
16"	3'0"	2'9"	4'6"	3'6"	5'0"	4'6"	7'0"	4'3"	5'0"	4'0"	200
	4'0"	3'0"	6'3"	3'9"	6'5"	5'3"	8'0"	5'3"	7'6"	4'0"	300

NOTES:

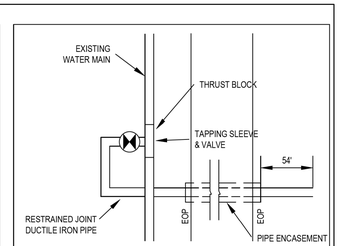
1. THRUST BLOCK DIMENSIONS BASED ON SOIL BEARING CAPACITY OF 2000 P.S.F. AND A WATER TEST PRESSURE OF 150 P.S.I. SIZES OF THRUST BLOCKS MAY BE REVISED BY THE ENGINEER WHERE BEARING CAPACITY OF SOIL VARIES.
2. PROVIDE TAR PAPER JOINT BETWEEN CONCRETE THRUST BLOCK AND PORTION OF PIPE BEING ANCHORED.
3. ALL CONCRETE THRUST BLOCKS SHALL BE 2500 P.S.I. CONCRETE.
4. MAXIMUM VERTICAL DEFLECTION SHALL BE 22 1/2°.
5. JOINTS SHALL REMAIN FREE OF CONCRETE FOR INSPECTION, REPAIR OR REPLACEMENT OF JOINTS.

UNION COUNTY WATER | STANDARD DETAIL: THRUST BLOCK SPECIFICATION | SCALE: N.T.S. | DATE: 02-19-14 | 17



OPTION "A"

FRONT SIDE TAP



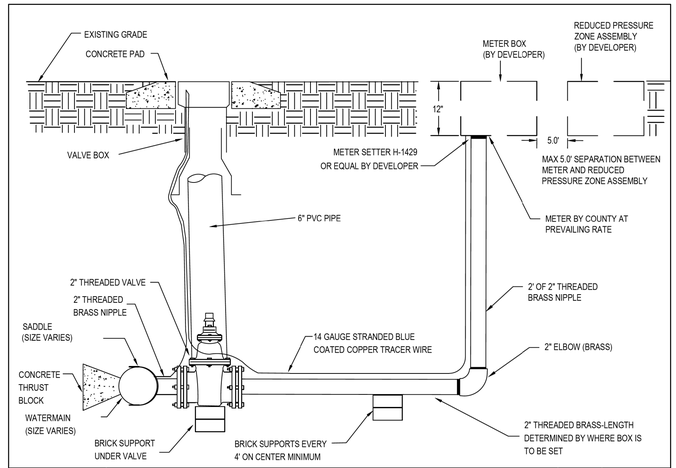
OPTION "B"

BACK SIDE TAP

NOTES:

1. OPTION "A" OR "B" WILL BE REQUIRED, DEPENDING ON THE AMOUNT OF SPACE AVAILABLE, TO BE FIELD VERIFIED.
2. RESTRAINED JOINT DUCTILE IRON PIPE REQUIRED FROM VALVE TO 54 LF BEYOND CASING.

UNION COUNTY WATER | STANDARD DETAIL: TAPPING SLEEVE | SCALE: N.T.S. | DATE: 09-13-24 | 18



UNION COUNTY WATER | STANDARD DETAIL: 2" SHORT SIDE SERVICE FOR 1½ OR 2" METERS | SCALE: N.T.S. | DATE: 09-13-24 | 19

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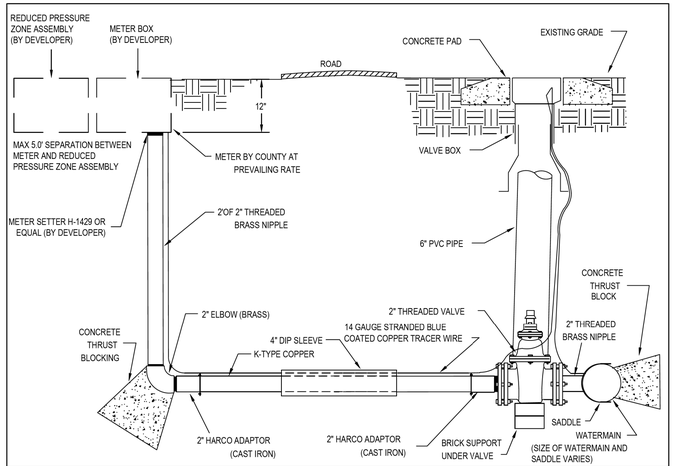
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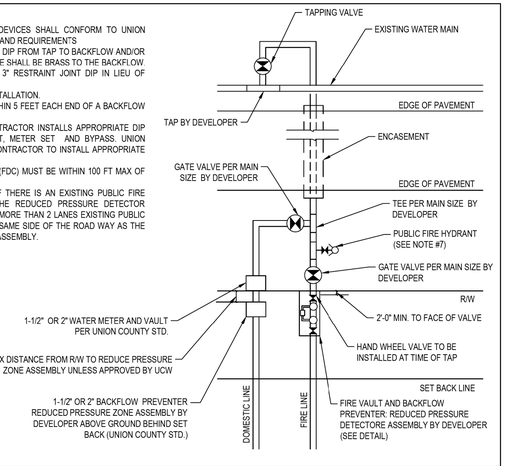
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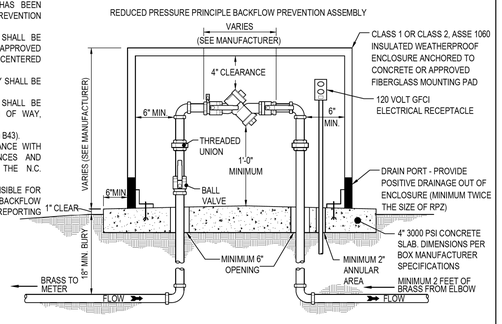
STANDARD DETAIL — 2" LONG SIDE SERVICE FOR 1 ½ OR 2" METERS — SCALE: N.T.S. — DATE: 09-13-24 — 20

NOTES:
1. INSTALLATION, MATERIALS AND DEVICES SHALL CONFORM TO UNION COUNTY WATER'S SPECIFICATION AND REQUIREMENT'S.
2. ALL PIPE TO BE RESTRAINT JOINT DIP FROM TAP TO BACKFLOW AND/OR FIRE VAULT THE 1-1/2 & 2 INCH PIPE SHALL BE BRASS TO THE BACKFLOW. ALTERNATE (3 INCH VALVE AND 3" RESTRAINT JOINT DIP IN LIEU OF BRASS)
3. FEES MUST BE PAID PRIOR TO INSTALLATION.
4. NO PVC PIPE SHALL BE USED WITHIN 5 FEET EACH END OF A BACKFLOW PREVENTER.
5. METERS 3 INCH & LARGER: CONTRACTOR INSTALLS APPROPRIATE DIP LINE THROUGH, SUPPLIES VAULT, METER SET AND BYPASS. UNION COUNTY WILL INSTALL METER. CONTRACTOR TO INSTALL APPROPRIATE SIZE RPZ.
6. FIRE DEPARTMENT CONNECTION (FDC) MUST BE WITHIN 100 FT MAX OF PUBLIC HYDRANT PER FIRE CODE.
7. FIRE HYDRANT NOT REQUIRED IF THERE IS AN EXISTING PUBLIC FIRE HYDRANT WITHIN 500 LF OF THE REDUCED PRESSURE DETECTOR ASSEMBLY. FOR ROADWAY WITH MORE THAN 2 LANES EXISTING PUBLIC FIRE HYDRANT MUST BE ON THE SAME SIDE OF THE ROAD WAY AS THE REDUCED PRESSURE DETECTOR ASSEMBLY.



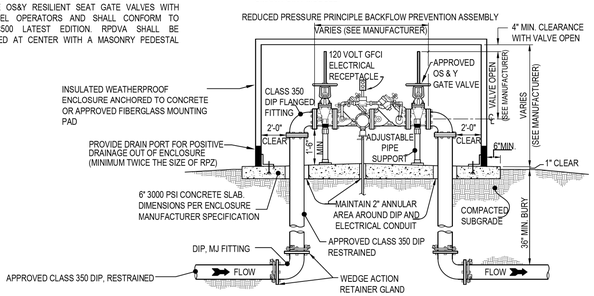
STANDARD DETAIL — WATER CONNECTION — SCALE: N.T.S. — DATE: 02-19-14 — 22

NOTES
1. RPZ SHALL BE INSTALLED FOR CUSTOMER APPLICATIONS APPROVED BY UNION COUNTY WATER.
2. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY SHALL COMPLY WITH ASSE 1013 & AWWA C511 (FEBCO 825Y, WILKINS MODEL 975XL, HERSEY MODEL FRPII OR EQUAL)
3. OWNER SHALL PROVIDE WRITTEN CERTIFICATION TO THE COUNTY THAT THE RPZ HAS BEEN TESTED BY A CERTIFIED BACKFLOW PREVENTION TECHNICIAN AFTER INSTALLATION.
4. BACKFLOW PREVENTION ASSEMBLY SHALL BE CENTERED ON CONCRETE OR APPROVED FIBERGLASS MOUNTING PAD AND CENTERED WITHIN ENCLOSURE.
5. REDUCER PRESSURE ZONE ASSEMBLY SHALL BE ABOVE GROUND ONLY.
6. BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED OUTSIDE OF THE RIGHT OF WAY, MAXIMUM OF 5 FEET.
7. PIPE MATERIAL SHALL BE BRASS (ASTM B43).
8. INSTALLATION SHALL BE IN COMPLIANCE WITH ALL APPLICABLE COUNTY ORDINANCES AND SPECIFICATIONS IN ADDITION TO THE N.C. PLUMBING CODE.
9. PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE AND OPERATION OF BACKFLOW ASSEMBLY AND COMPLIANCE WITH REPORTING AND TESTING REQUIREMENTS.

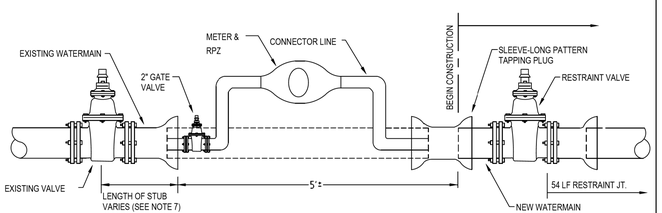


STANDARD DETAIL — REDUCED PRESSURE ZONE ASSEMBLY (¾" - 2") — SCALE: N.T.S. — DATE: 02-19-14 — 24A

NOTES:
1. RPDA SHALL BE INSTALLED FOR CUSTOMER APPLICATIONS APPROVED BY UNION COUNTY WATER
2. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY SHALL COMPLY WITH ASSE 1047 & AWWA C511 (1) FEBCO 826YD, (2) WILKINS MODEL 375ADA, (3) AMES SERIES 5000 CIV. OR EQUAL
3. OWNER SHALL PROVIDE WRITTEN CERTIFICATION TO THE COUNTY THAT THE RPDVA =HAS BEEN TESTED BY A CERTIFIED BACKFLOW PREVENTION TECHNICIAN AFTER INSTALLATION.
4. COUNTY APPROVED 3"-10" RPDVA INCLUDES SHUTOFF VALVES AS PART OF THE ASSEMBLY. SHUT OFF VALVES SHALL BE OS&Y RESILIENT SEAT GATE VALVES WITH HANDWHEEL OPERATORS AND SHALL CONFORM TO AWWA C500 LATEST EDITION. RPDVA SHALL BE SUPPORTED AT CENTER WITH A MASONRY PEDESTAL ADEQUATE TO MAINTAIN THE WEIGHT OF THE STRUCTURE AND PLUS AN ADDITIONAL 1,000 POUND LOAD.
5. REDUCED PRESSURE DETECTOR ASSEMBLY SHALL BE ABOVE GROUND ONLY.
6. BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED OUTSIDE OF THE RIGHT OF WAY, MAXIMUM OF 5 FEET.
7. PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE AND OPERATION OF BACKFLOW ASSEMBLY AND COMPLIANCE WITH REPORTING AND TESTING REQUIREMENTS.
8. 3/4" BYPASS DETECTOR AMI METER: SENSUS SRII WITH SMARTPOINT MODULE.

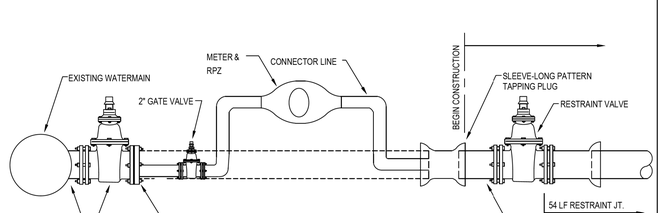


STANDARD DETAIL — REDUCED PRESSURE DETECTOR ASSEMBLY — SCALE: N.T.S. — DATE: 01-02-14 — 24B



NOTES:
1. INSTALL CONNECTOR LINE FROM EXISTING BLOW OFF ASSEMBLY TO NEW MAIN FOR FILLING, TESTING AND STERILIZING NEW MAIN.
2. CONNECTOR LINE TO BE ASSEMBLED WITH RPZ AND METER BY CONTRACTOR AND TO BE OPERATED AND INDEPENDENT OF EXISTING MAIN.
3. BLOCKING ON EXISTING LINE NOT TO BE DISTURBED.
4. FINAL CONNECTION TO EXISTING MAIN TO BE MADE ONLY AFTER TOTAL PROJECT IS ACCEPTED BY UNION COUNTY WATER.
5. VALVES ON EXISTING SYSTEM TO BE OPERATED BY UCW FORCES ONLY.
6. ONLY ONE CONNECTION WILL BE ALLOWED BETWEEN THE EXISTING SYSTEM AND THE NEW CONSTRUCTION UNTIL TESTING AND DISINFECTION IS COMPLETE.
7. 6" OR 8" DIAMETER PIPE= 40 LF OF STUB, 12" OR 16" DIAMETER PIPE= 72 LF OF STUB

STANDARD DETAIL — JUMPER CONNECTION — SCALE: N.T.S. — DATE: 09-02-10 — 25



NOTES:
1. INSTALL CONNECTOR LINE FROM TAPPING VALVE TO NEW MAIN FOR FILLING, TESTING AND STERILIZING NEW MAIN.
2. CONNECTOR LINE TO BE ASSEMBLED WITH RPZ AND METER BY CONTRACTOR AND TO BE OPERATED AND INDEPENDENT OF EXISTING MAIN.
3. FINAL CONNECTION TO EXISTING MAIN TO BE MADE ONLY AFTER TOTAL PROJECT IS ACCEPTED BY UNION COUNTY WATER.
4. VALVES ON EXISTING SYSTEM TO BE OPERATED BY UCW FORCES ONLY.
5. ONLY ONE CONNECTION WILL BE ALLOWED BETWEEN THE EXISTING SYSTEM AND THE NEW CONSTRUCTION UNTIL TESTING AND DISINFECTION IS COMPLETE.

STANDARD DETAIL — DIRECT TAP JUMPER CONNECTION (SHORT SIDE) — SCALE: N.T.S. — DATE: 09-02-10 — 25A

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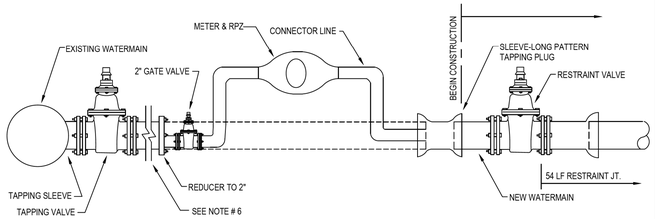
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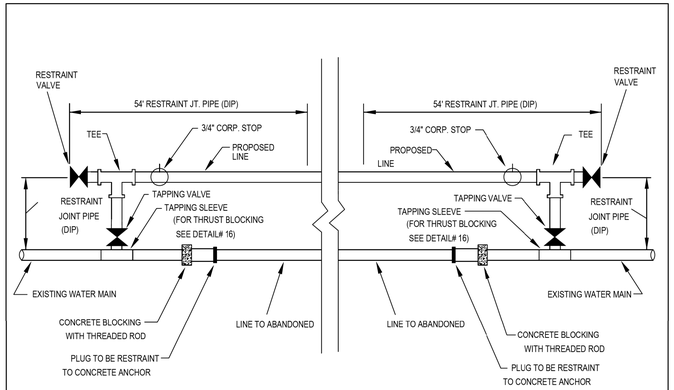
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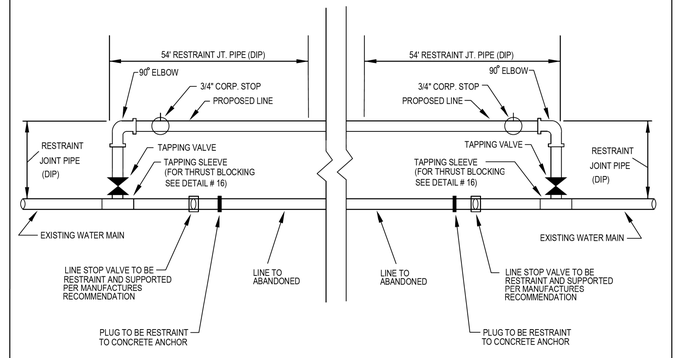
NOTES:
1. INSTALL CONNECTOR LINE FROM TAPPING VALVE TO NEW MAIN FOR FILLING, TESTING AND STERILIZING NEW MAIN.
2. CONNECTOR LINE TO BE ASSEMBLED WITH RPZ AND METER BY CONTRACTOR AND TO BE OPERATED AND INDEPENDENT OF EXISTING MAIN.
3. FINAL CONNECTION TO EXISTING MAIN TO BE MADE ONLY AFTER TOTAL PROJECT IS ACCEPTED BY UNION COUNTY PUBLIC WORKS.
4. VALVES ON EXISTING SYSTEM TO BE OPERATED BY UCW FORCES ONLY.
5. ONLY ONE CONNECTION WILL BE ALLOWED BETWEEN THE EXISTING SYSTEM AND THE NEW CONSTRUCTION UNTIL TESTING AND DISINFECTION IS COMPLETE.
6. MAXIMUM LENGTH OF PIPE NOT TO EXCEED 100'.

UNION COUNTY WATER | STANDARD DETAIL | DIRECT TAP JUMPER CONNECTION (LONG SIDE) | SCALE: N.T.S. | DATE: 09-02-10 | 25B



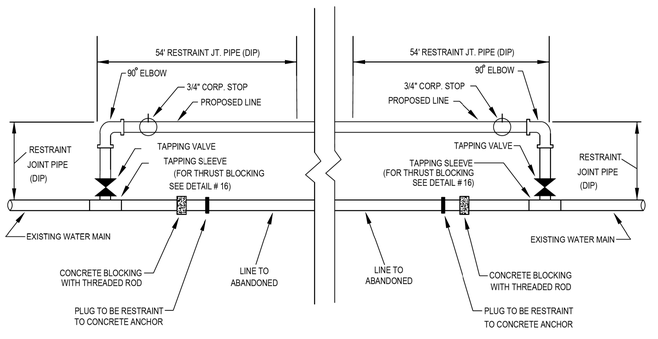
NOTE:
1. ALL WATERMAINS ALONG EXISTING DOT ROADS MUST BE A MINIMUM DISTANCE OF A 1'+ 1/1 RATIO OFF EDGE OF PAVEMENT OR BACK OF CURB.

UNION COUNTY WATER | STANDARD DETAIL | WATERMAIN RELOCATION DETAIL | SCALE: N.T.S. | DATE: 04-03-08 | 27



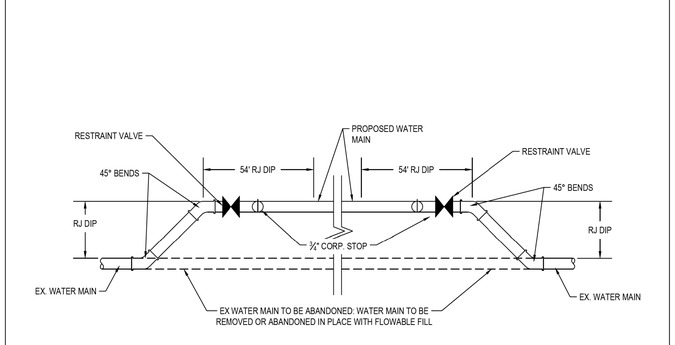
NOTE:
1. ALL WATERMAINS ALONG EXISTING DOT ROADS MUST BE A MINIMUM DISTANCE OF A 1'+ 1/1 RATIO OFF EDGE OF PAVEMENT OR BACK OF CURB.

UNION COUNTY WATER | STANDARD DETAIL | LARGE WATERMAIN RELOCATION DETAIL | SCALE: N.T.S. | DATE: 03-08-11 | 27A



NOTE:
1. ALL WATERMAINS ALONG EXISTING DOT ROADS MUST BE A MINIMUM DISTANCE OF A 1'+ 1/1 RATIO OFF EDGE OF PAVEMENT OR BACK OF CURB.

UNION COUNTY WATER | STANDARD DETAIL | SMALL WATERMAIN RELOCATION DETAIL | SCALE: N.T.S. | DATE: 03-08-11 | 27B



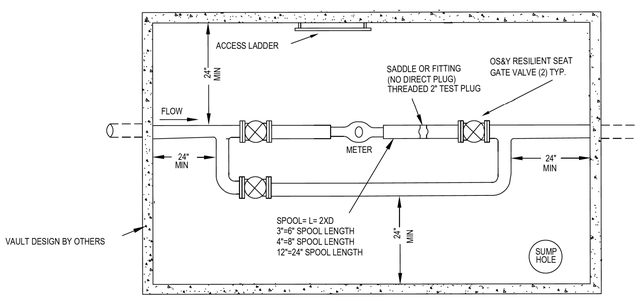
NOTE:
1. ALL WATERMAINS ALONG EXISTING DOT ROADS MUST BE A MINIMUM DISTANCE OF A 1'+ 1/1 RATIO OFF EDGE OF PAVEMENT OR BACK OF CURB.
2. CONNECTION MUST BE MADE AT FACTORY ENDS IF EXISTING WATER MAIN IS ASBESTOS CONCRETE

UNION COUNTY WATER | STANDARD DETAIL | LARGE WATER RELOCATION DETAIL | SCALE: N.T.S. | DATE: 09-13-24 | 27C

NOTES:
1. PIPING AND FITTINGS SHALL BE DUCTILE IRON (AWWA C151) CLASS 350 AND SHALL BE RESTRAINED JOINT OR FLANGED AS INDICATED ON THE DETAIL. RESTRAINED JOINTS SHALL BE MEGA-LUG RESTRAINED OR AN APPROVED EQUAL.
2. ALL VAULTS SHALL BE 3800 PSI CONCRETE AND CAPABLE OF WITHSTANDING 150 PSF LOADING IN NON TRAFFIC AREAS.
3. ACCESS HATCHES SHALL BE ALUMINUM 150 PSF WITH LOCKABLE COVER DEVICE. MANUFACTURER SHALL BE BILCO, HALIDAY OR APPROVED EQUAL.
4. INSTALL VAULT AT EDGE OF RIGHT OF WAY. DO NOT PLACE IN PAVEMENT.
5. PIPING TO BE A MINIMUM OF 18" OFF OF FLOOR.
6. DEVELOPER MUST CONTACT UCW CUSTOMER SERVICE TO PAY METER COST & INSTALLATION FEES AND SCHEDULE THE WATER METER INSTALLATION
7. BYPASS PIPE EQUAL TO METER SIZE

METER DIMENSIONS

Model	Octave			
NOMINAL SIZE	3"	4"	6"	8"
L- LENGTH	12"	14"	18"	20"
B- WIDTH	7 1/2"	9"	11"	13 1/2"
H- HEIGHT	8 1/2"	9 7/8"	10 7/8"	12 7/8"



UNION COUNTY WATER | STANDARD DETAIL | METER AND VAULT - 3" OR LARGER | SCALE: N.T.S. | DATE: 10-22-14 | 28

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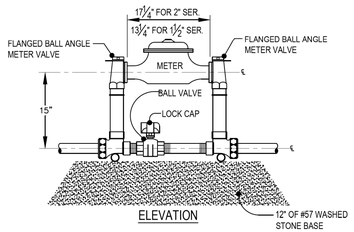
PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-3F
DESIGNED BY: AP	
DRAWN BY: AP	
CHECKED BY: TB	
APPROVED BY:	
REVISED:	
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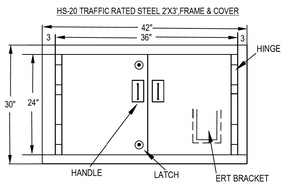
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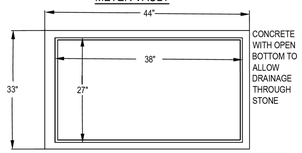
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ELEVATION



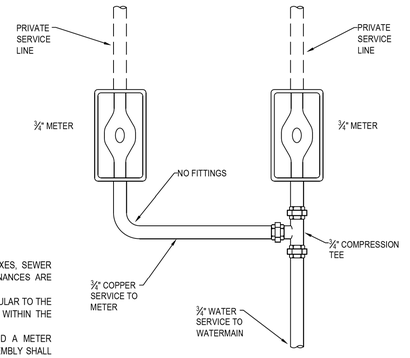
METER VAULT



TOP VIEW

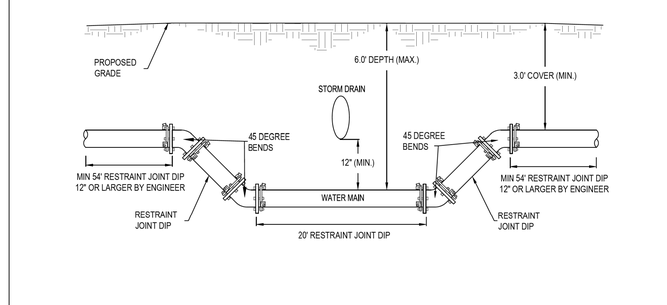
NOTES:
1. PIPING TO BE BRASS AND COPPER TUBING. METER INLET AND OUTLET TO BE EQUIPPED WITH FLANGED BALL ANGLE METER.
2. CUSTOM SETTERS SHALL BE EQUIPPED WITH STANDARD LOW BYPASS WITH BALL VALVE AND PADLOCK WINGS.
3. CUSTOM SETTERS SHALL BE AS MANUFACTURED BY MUELLER, FORD, ANY MCDONALD, OR APPROVED EQUAL.
4. CUSTOM SETTER SHALL BE INSTALLED SUCH THAT METER REGISTER IS LOCATED 5 TO 8 INCHES BELOW METER BOX COVER.
5. METER BY COUNTY AT PREVAILING RATE.

STANDARD DETAIL — STANDARD 1.5" AND 2" METER INSTALLATION & VAULT — SCALE: N.T.S. — DATE: 06-13-14 — 29



NOTES:
1. METERS WILL NOT BE SET IF WATER METER BOXES, SEWER CLEAN-OUTS, VALVE BOXES OR THEIR APPURTENANCES ARE DAMAGED OR IMPROPERLY POSITIONED.
2. WATER METERS ARE TO BE INSTALLED PERPENDICULAR TO THE ROAD AND WITHIN THE ROAD RIGHT-OF-WAY OR WITHIN THE LIMITS OF A PROPOSED UTILITY EASEMENT.
3. IF THE IRRIGATION LINE IS TO BE UTILIZED AND A METER SET,THE APPROPRIATE REDUCED PRESSURE ASSEMBLY SHALL BE INSTALLED BY THE CONTRACTOR PER UCPW DETAIL 24A.
4. THE PLUMBER/BUILDER IS RESPONSIBLE FOR LABELING IRRIGATION AND DOMESTIC METERS AT TIME OF THEIR CONNECTION

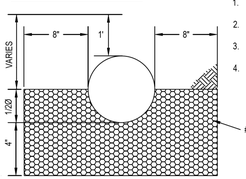
STANDARD DETAIL — IRRIGATION AND DUAL METER TAP — SCALE: N.T.S. — DATE: 12-10-19 — 30



STANDARD DETAIL — WATERMAIN UNDER STORM DRAIN CROSSING — SCALE: N.T.S. — DATE: 09-13-24 — 31

NOTES
1. CAREFULLY COMACTED BACK FILL 1 FT ABOVE PIPE
2. NO STONES LARGER THAN # 67 SONE SHALL BE USED IN SELECT BACKFILL
3. 14 GA. STANDARD BLUE COATED COPPER TRACER WIRE STALL BE INSTALLED MANHOLE TO MANHOLE
4. MINIMUM PIPE SLOPE IS 0.50%

GRAVITY SEWER - BEDDING DETAIL

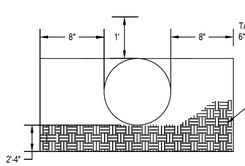


CLASS C

REQUIRED MATERIAL FOR DEPTH OF BURY:
1. COVER GREATER LESS THAN 3.0 FT OR GREATER THAN 18.0 FT USE DUCTILE IRON PIPE
2. COVER GREATER THAN 3.0 FT BUT LESS THAN 10.0 FT USE SDR-35
3. COVER GREATER THAN 10.0 FT BUT LESS THAN 18.0 FT USE SDR-26
4. SDR-35 AND SDR-26 REQUIRED CELL CLASS 12454

GRAVITY SEWER MINIMUM COVER IS 3.0' AND MAXIMUM COVER IS 14.0' UNLESS PRIOR APPROVAL IS GRANTED BY UCW

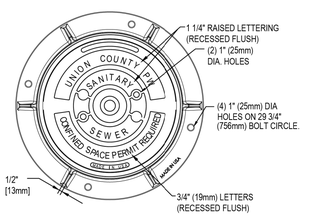
NOTES
1. CAREFULLY COMACTED BACK FILL 1 FT ABOVE PIPE
2. 14 GA. STANDARD BLUE COATED COPPER TRACER WIRE STALL BE INSTALLED VALVE BOX TO VALVE BOX
4. PIPE 8-IN AND LESSER MINIMUM RESTRAINED JOINT DIP LENGTH 54 LF.
5. PIPE 12-IN AND LARGER LENGTH TO BE DETERMINED BY ENGINEER. MINIMUM LENGTH OF RESTRAINT JOINT DIP 54 LF FINAL

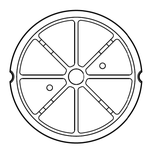


FORCE MAIN

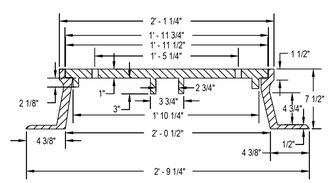
FORCE MAIN MINIMUM COVER IS 3.0' AND MAXIMUM COVER IS 5.0' UNLESS PRIOR APPROVAL IS GRANTED BY UCW

STANDARD DETAIL — SEWER BEDDING — SCALE: N.T.S. — DATE: 09-13-24 — 8A





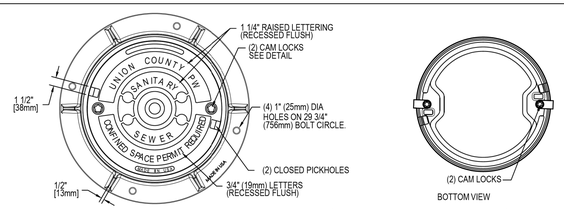
BOTTOM VIEW



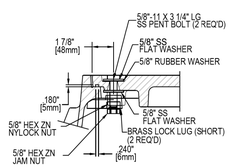
(U.S. FOUNDRY - 669, VULCAN - 1384 OR EQUAL)

NOTES:
1. ALL CASTINGS TO BE FREE FROM SAND HOLES. NO PLUGGING ALLOWED.
2. MACHINE ALL CONTACT SURFACES BETWEEN RING AND COVER.
3. PROVIDE TWO VENT HOLES IN COVER, 1" DIA. TAPERED TO 1-1/8" ON REVERSE SIDE.
4. MINIMUM WEIGHTS: COVER - 120 LBS. RING - 190 LBS.
5. ALL MANHOLE RINGS OUT OF ROAD RIGHT OF WAY SHALL BE BOLTED INTO MANHOLE WITH 5/8" DIAMETER KWIK BOLT STUD ANCHOR SYSTEM. HILTI BRAND OR APPROVED EQUAL.

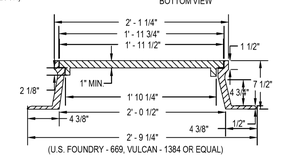
STANDARD DETAIL — RING AND COVER — SCALE: N.T.S. — DATE: 09-09-11 — 9



BOTTOM VIEW



CAM & GASKET GROOVE DETAIL

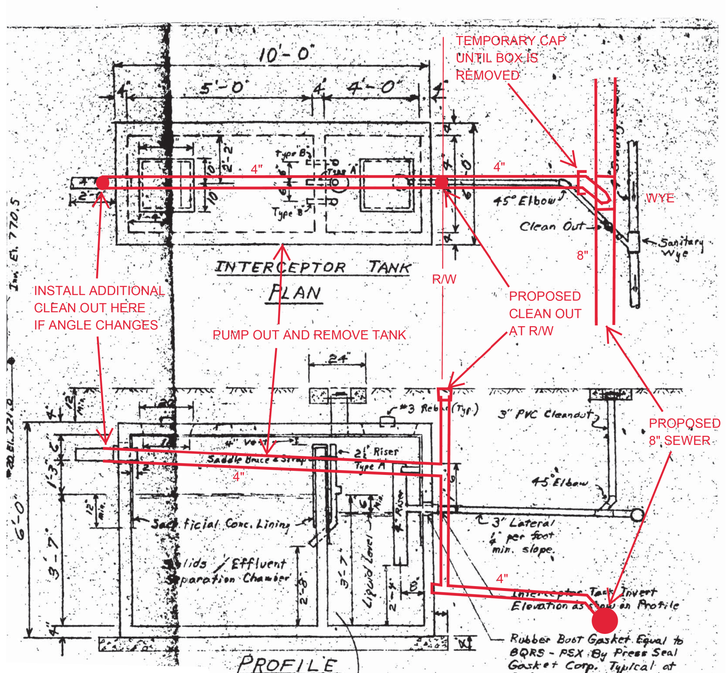


(U.S. FOUNDRY - 669, VULCAN - 1384 OR EQUAL)

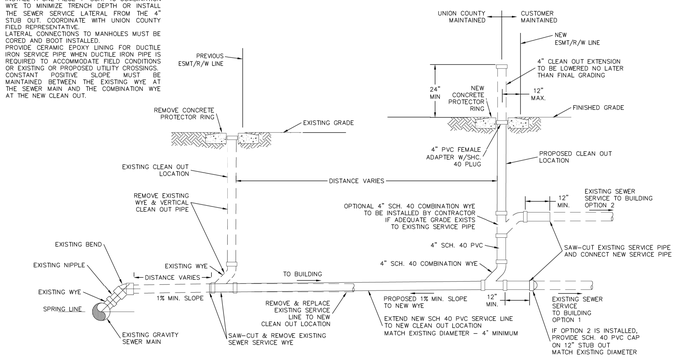
NOTES:
1. ALL CASTINGS TO BE FREE FROM SAND HOLES. NO PLUGGING ALLOWED.
2. MACHINE ALL CONTACT SURFACES BETWEEN RING AND COVER.
3. PROVIDE 2 CLOSED PICKHOLES
4. MINIMUM WEIGHTS: COVER - 95 LBS. RING - 190 LBS.
5. ALL MANHOLE RINGS OUT OF ROAD RIGHT OF WAY SHALL BE BOLTED INTO MANHOLE WITH 5/8" DIAMETER KWIK BOLT STUD ANCHOR SYSTEM. HILTI BRAND OR APPROVED EQUAL.

STANDARD DETAIL — RING AND COVER FOR SEALED MANHOLES — SCALE: N.T.S. — DATE: 09-25-12 — 9A

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1. ADJUST NEW CLEAN OUT AND CONCRETE RING TO PROPOSED FINISHED GRADE.
2. CONTRACTOR SHALL HAVE THE OPTION TO INSTALL A ONE PIECE 4" SCH. 40 COMBINATION WYE TO MINIMIZE TRENCH DEPTH OR INSTALL THE SEWER SERVICE LATERAL FROM THE 4" STUB OUT. COORDINATE WITH UNION COUNTY FIELD REPRESENTATIVE.
3. LATERAL CONNECTIONS TO MANHOLES MUST BE CORED AND BOOT INSTALLED.
4. PROVIDE CERAMIC EPOXY LINING FOR DUCTILE IRON SERVICE PIPE WHEN DUCTILE IRON PIPE IS REQUIRED TO ACCOMMODATE FIELD CONDITIONS OR EXISTING OR PROPOSED UTILITY CROSSINGS.
5. CONSTANT POSITIVE SLOPE MUST BE MAINTAINED BETWEEN THE EXISTING WYE AT THE SEWER MAIN AND THE COMBINATION WYE AT THE NEW CLEAN OUT.



RELOCATION OF EXISTING SANITARY SEWER CLEAN OUT

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-3G
DESIGNED BY: AP	
DRAWN BY: AP	
CHECKED BY: TB	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

NORTH CAROLINA PROFESSIONAL SEAL 032322 ENGINEER MARCO R. MENENDEZ — 8/10/2026

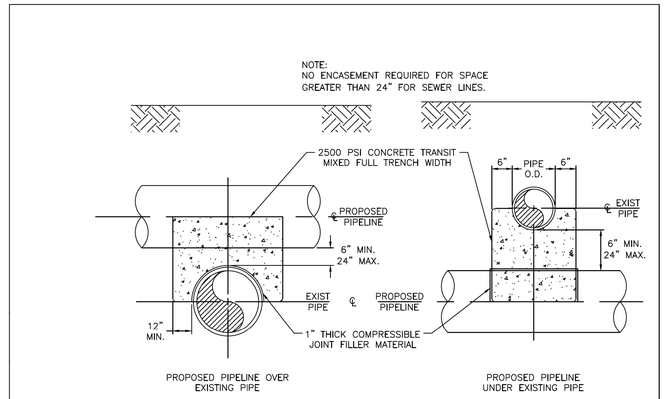
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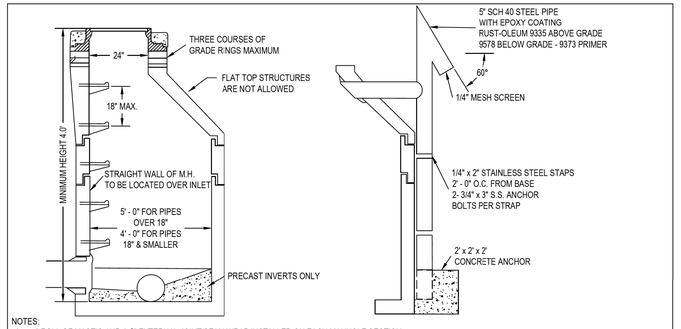
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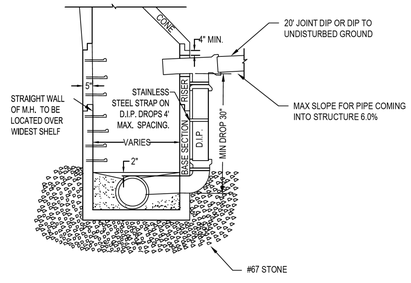
CONCRETE CRADLE PROTECTION FOR SEWER LINE CROSSINGS



NOTES:
1. 1 ROLL OF MASTIC AND A 6" EXTERNAL JOINT/SEAM WRAP INSTALLED ON EACH MANHOLE SECTION
2. MANHOLE VACUUM TESTING - AFTER EACH MANHOLE IS INSTALLED AND ALL PIPES ARE CONNECTED, BUT BEFORE BACKFILLING, THE MANHOLE SHALL BE VACUUM TESTED. ALL PIPES ENTERING THE MANHOLE SHALL BE PLUGGED AND BRACED. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO PERFORM THE TESTING. A VACUUM OF 10 INCHES OF MERCURY SHALL BE CREATED ON THE INSIDE OF THE MANHOLE. AT THE VACUUM OF 10 INCHES OF MERCURY, THE PUMP SHALL BE STOPPED AND THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO 9 INCHES. FAILURE OF THE TEST SHALL BE ANY AMOUNT OF TIME LESS THAN THE FOLLOWING.
   - 4 FT. DIAMETER MANHOLE = 60 SECONDS
   - 5 FT. DIAMETER MANHOLE = 75 SECONDS
   - 6 FT. DIAMETER MANHOLE = 90 SECONDS
   - 7 FT. DIAMETER MANHOLE = 105 SECONDS
   - 8 FT. DIAMETER MANHOLE = 120 SECONDS
   - 10 FT. DIAMETER MANHOLE = 150 SECONDS

   UPON TEST FAILURE, THE CONTRACTOR SHALL REPAIR ALL LEAKS AND RETEST THE MANHOLE UNTIL THE TEST HAS PASSED.
3. 0.20' INSIDE DROP REQUIRED
4. INSTALL MANHOLE RIM AT 0.10' ABOVE GRADE IN LANDSCAPED AREAS AND WHILE ADJACENT TO RIGHTS-OF-WAY
5. INSTALL MANHOLE RIM AT 2.0' ABOVE GRADE IN SEWER EASEMENTS THAT ARE NOT LANDSCAPED.

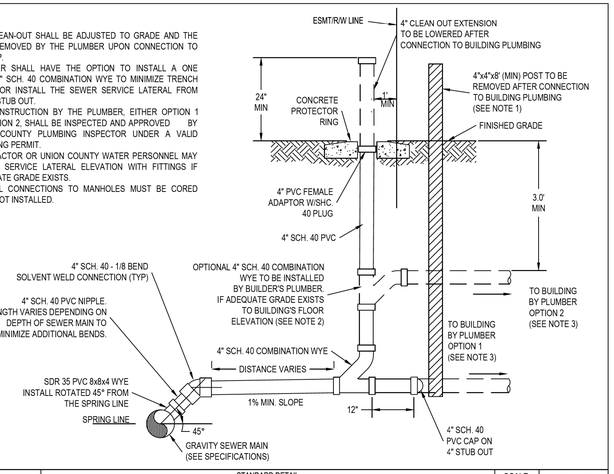
UNION COUNTY WATER | STANDARD DETAIL | MANHOLE | SCALE: N.T.S. | DATE: 09-13-24 | 10



GENERAL NOTES
1. CARE MUST BE TAKEN TO FORM A SMOOTH FINISHED TROUGH FROM ENTRANCE PIPES TO EXIT PIPE, AND IN CURVED MANHOLES THE TROUGH MUST BE A SMOOTH CIRCULAR ARC TANGENT TO THE INSIDE WALLS OF THE PIPES AT THEIR ENDS.
2. THE SLOPE OF THE OUTSIDE DROP TROUGH SHALL BE 1/4" PER FOOT.
3. ALL PIPE OPENINGS TO BE NO GREATER THAN 3" LARGER THAN O.D. OF PIPE AND ADDITIONALLY REINFORCED WITH A MINIMUM OF 0.20 SQ. IN. OF STEEL AT 90 DEGREES. PIPE TO BE CENTERED IN OPENINGS. ADDITIONAL REINFORCING NOT REQUIRED FOR CORED OPENINGS.
4. OUTSIDE DROP SHALL NOT ENTER MANHOLE IN CONE SECTION.
5. MATCH DROP INFLUENT CROWN TO CROWN WITH EFFLUENT PIPE.
6. 0.20' INSIDE DROP REQUIRED
7. INSTALL MANHOLE RIM AT 0.10' ABOVE GRADE IN LANDSCAPED AREAS AND WHILE ADJACENT TO RIGHTS-OF-WAY
8. INSTALL MANHOLE RIM AT 2.0' ABOVE GRADE IN SEWER EASEMENTS THAT ARE NOT LANDSCAPED.

UNION COUNTY WATER | STANDARD DETAIL | OUTSIDE DROP MANHOLE | SCALE: N.T.S. | DATE: 09-13-24 | 10B

NOTES:
1. THE CLEAN-OUT SHALL BE ADJUSTED TO GRADE AND THE POST REMOVED BY THE PLUMBER UPON CONNECTION TO THE TAP.
2. PLUMBER SHALL HAVE THE OPTION TO INSTALL A ONE PIECE 4" SCH. 40 COMBINATION WYE TO MINIMIZE TRENCH DEPTH OR INSTALL THE SEWER SERVICE LATERAL FROM THE 4" STUB OUT.
3. ALL CONSTRUCTION BY THE PLUMBER, EITHER OPTION 1 OR OPTION 2, SHALL BE INSPECTED AND APPROVED BY UNION COUNTY PLUMBING INSPECTOR UNDER A VALID PLUMBING PERMIT.
4. CONTRACTOR OR UNION COUNTY WATER PERSONNEL MAY ADJUST SERVICE LATERAL ELEVATION WITH FITTINGS IF ADEQUATE GRADE EXISTS.
5. LATERAL CONNECTIONS TO MANHOLES MUST BE CORED AND BOOT INSTALLED.



UNION COUNTY WATER | STANDARD DETAIL | SEWER LATERAL | SCALE: N.T.S. | DATE: 02-19-14 | 11

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REVISED:

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8/10/2026

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SANITARY SEWER MANHOLE SCHEDULES

-SS-1-

MANHOLE SCHEDULE																	
MANHOLE LOCATION						OUTFLOW PIPE (DIAMETER AND DEPTH)				INFLOW PIPES (DIAMETER , DEPTH, ANGLE FROM OUTFLOW PIPE)							
										PIPE 1				PIPE 2			
MH ID	STATION	MANHOLE TYPE	NORTHING	EASTING	RIM ELEV. FT	DIA. IN.	Invert Elev. FT.	DEPTH TO INV. FT	GREATER THAN 6	DIA. IN.	Invert Elev. ft.	DEPTH TO INV. FT	ANGLE	DIA. IN.	Invert Elev. ft.	DEPTH TO INV. FT	ANGLE
101	0+00	4' STANDARD	491899.835	1491807.023	771.1	8	TBD	-	2.9	8	762.27	8.83	-				
102	1+48.84	4' STANDARD	491972.846	1491936.720	776.2	8	768.80	7.40	1.4	8	769.00	7.20	92°42'41"				
103	2+42.08	4' STANDARD	491893.841	1491986.241	779.0	8	771.00	8.00	2.0	8	TBD	-	-				

-SS-2-

MANHOLE SCHEDULE																	
MANHOLE LOCATION						OUTFLOW PIPE (DIAMETER AND DEPTH)				INFLOW PIPES (DIAMETER , DEPTH, ANGLE FROM OUTFLOW PIPE)							
										PIPE 1				PIPE 2			
MH ID	STATION	MANHOLE TYPE	NORTHING	EASTING	RIM ELEV. FT	DIA. IN.	Invert Elev. FT.	DEPTH TO INV. FT	GREATER THAN 6	DIA. IN.	Invert Elev. ft.	DEPTH TO INV. FT	ANGLE	DIA. IN.	Invert Elev. ft.	DEPTH TO INV. FT	ANGLE
201	2+19.26	4' STANDARD	491002.663	1493276.630	764.8	8	755.30	9.52	3.5	8	755.50	9.32	106°33'59"				
202	2+62.47	4' STANDARD	490959.780	1493280.969	765.4	8	755.66	9.75	3.8	8	755.86	9.55	107°40'04"				
203	3+57.65	4' STANDARD	490921.686	1493193.704	767.1	8	756.22	10.86	4.9	8	756.42	10.66	00°00'00"				
204	6+28.33	4' STANDARD	490813.718	1492945.455	771.7	8	762.36	9.37	3.4	8	762.56	9.17	88°44'52"				

-SS-3-

MANHOLE SCHEDULE																	
MANHOLE LOCATION						OUTFLOW PIPE (DIAMETER AND DEPTH)				INFLOW PIPES (DIAMETER , DEPTH, ANGLE FROM OUTFLOW PIPE)							
										PIPE 1				PIPE 2			
MH ID	STATION	MANHOLE TYPE	NORTHING	EASTING	RIM ELEV. FT	DIA. IN.	Invert Elev. FT.	DEPTH TO INV. FT	GREATER THAN 6	DIA. IN.	Invert Elev. ft.	DEPTH TO INV. FT	ANGLE	DIA. IN.	Invert Elev. ft.	DEPTH TO INV. FT	ANGLE
301	0+52.59	4' STANDARD	490291.637	1492525.917	780.7	8	777.4	3.25	-	8	777.5	3.15	-				

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SANITARY SEWER MANHOLE SCHEDULES

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REVISED:	

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-SS-4-

MANHOLE SCHEDULE																	
MANHOLE LOCATION						OUTFLOW PIPE (DIAMETER AND DEPTH)				INFLOW PIPES (DIAMETER , DEPTH, ANGLE FROM OUTFLOW PIPE)							
										PIPE 1				PIPE 2			
MH ID	STATION	MANHOLE TYPE	NORTHING	EASTING	RIM ELEV. FT	DIA. IN.	Invert Elev. FT.	DEPTH TO INV. FT	GREATER THAN 6	DIA. IN.	Invert Elev. ft.	DEPTH TO INV. FT	ANGLE	DIA. IN.	Invert Elev. ft.	DEPTH TO INV. FT	ANGLE
401	1+11.82	4' STANDARD	490122.053	1493084.570	766.6	8	760.73	5.86	-	8	760.83	5.76	171°29'27"				
402	2+11.16	4' STANDARD	490213.462	1493045.688	767.0	8	761.50	5.47	-	8	761.60	5.37	-				

-SS-5-

MANHOLE SCHEDULE																	
MANHOLE LOCATION						OUTFLOW PIPE (DIAMETER AND DEPTH)				INFLOW PIPES (DIAMETER , DEPTH, ANGLE FROM OUTFLOW PIPE)							
										PIPE 1				PIPE 2			
MH ID	STATION	MANHOLE TYPE	NORTHING	EASTING	RIM ELEV. FT	DIA. IN.	Invert Elev. FT.	DEPTH TO INV. FT	GREATER THAN 6	DIA. IN.	Invert Elev. ft.	DEPTH TO INV. FT	ANGLE	DIA. IN.	Invert Elev. ft.	DEPTH TO INV. FT	ANGLE
501	0+47.05	4' STANDARD	488210.983	1494408.246	753.4	8	740.28	13.12	7.1	8	740.48	12.92	90°10'59"				
502	3+76.83	4' STANDARD	488472.642	1494207.525	756.3	8	742.1	14.20	8.2	8	742.3	14.00	176°45'57"				
503	5+59.57	4' STANDARD	488611.133	1494088.288	754.7	8	743.2	11.50	5.5	8	743.4	11.30	174°26'48"				
504	8+63.96	4' STANDARD	488859.941	1493912.939	756.0	8	744.9	11.10	5.1	8	745.1	10.90	105°32'52"				
505	9+26.42	4' STANDARD	488838.963	1493854.113	755.5	8	745.39	10.11	4.1	8	745.59	9.91	118°07'56"				
506	11+04.42	4' STANDARD	488958.628	1493722.331	755.9	8	747.19	8.71	2.7	8	747.39	8.51	178°17'12"				
507	13+53.07	4' STANDARD	489120.199	1493533.341	760.7	8	749.63	11.07	5.1	8	749.83	10.87	178°03'38"				
508	15+74.30	4' STANDARD	489258.186	1493360.415	763.1	8	755.14	7.96	2.0	8	756.79	6.31	178°51'03"				

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8/17/99

NOTES:

1. PROPOSED WATER LINE SHALL HAVE 18" VERTICAL SEPARATION FROM PROPOSED DRY UTILITIES UNLESS OTHERWISE SHOWN (SEE PROFILES).
2. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES.
3. EXACT PLACEMENT OF THE RPZ SHALL BE COORDINATED BETWEEN NCDOT AND CONTRACTOR.
4. CONTRACTOR TO COORDINATE WITH ALL BUSINESS OWNERS ON WATER SERVICE TIE-INS.
5. SEE SHEET UC-9 FOR CORRESPONDING SANITARY SEWER PAY ITEMS AND NOTES.
6. PROPOSED RELOCATED FIRE HYDRANTS SHALL INCLUDE THE TYPICAL FIRE HYDRANT ASSEMBLY SUCH AS FIRE HYDRANT TEE AND 6" GATE VALVE.
7. SEE SHEET UC-5 FOR LOCATION OF EXISTING METER.

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-4A
DESIGNED BY: AP	
DRAWN BY: AP	
CHECKED BY: TB	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 032322 ENGINEER MARIO R. MENENDEZ
8/10/2026

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UTILITY CONSTRUCTION

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-L- PT Sta. 126+53.86
BEARING AH = S 35° 52' 54.0" E

-DR3- POT Sta. 10+00.00 =
-L- POT Sta. 126+65.55
BEARING AH = S 66° 32' 45.1" W

-L- PC Sta. 131+01.26

-DR3- PC Sta. 10+43.42

-DR3- PT Sta. 10+74.49
BEARING AH = S 84° 20' 52.2" W

-DR3- POT Sta. 10+36.35 =
-L- POT Sta. 126+57.73, OS=35.5' RT
(SEE -DR3- PROFILE)

-DR3- PC Sta. 10+98.21

-DR3- PT Sta. 11+47.08

-DR3- POT Sta. 11+58.47
BEARING BK = S 74° 20' 52.3" W

-Y25- POT Sta. 25+11.11 =
-L- POC Sta. 132+34.66, OS=35.5' RT
(SEE -Y25- PROFILE)

-Y24- POT Sta. 10+00.00 =
-L- POC Sta. 135+74.53

-Y25- POT Sta. 24+40.05 =
-L- POC Sta. 132+38.24, OS=35.5' LT
(SEE -Y25- PROFILE)

-Y25- POT Sta. 24+75.58 =
-L- POC Sta. 132+36.80

-Y25- PT Sta. 25+39.54

-Y24- POT Sta. 10+39.38 =
-L- POC Sta. 136+84.16, OS=38.19' RT
(SEE -Y24- PROFILE)

-Y24- PC Sta. 10+95.01
BEARING BK = S 42° 16' 12.0" W

-Y25- PC Sta. 28+42.27
BEARING BK = S 57° 06' 27.0" W

ABANDON 51 LF 2" UTILITY PIPE

PROPOSED 2" BLOW OFF
PROPOSED 2" VALVE
PROPOSED CONNECTION TO EXISTING 2" WATER LINE VIA 2" X 2" TEE
PROPOSED 10 LF 2" WATER LINE

MATCHLINE -L- 136+00.00 (SEE SHEET UC-4)

50 25 0 50 100
PLANS

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8/17/99

NOTES:

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2. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES.
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4. CONTRACTOR TO COORDINATE WITH ALL BUSINESS OWNERS ON WATER SERVICE TIE-INS.
5. SEE SHEET UC-9 FOR CORRESPONDING SANITARY SEWER PAY ITEMS AND NOTES.
6. PROPOSED RELOCATED FIRE HYDRANTS SHALL INCLUDE THE TYPICAL FIRE HYDRANT ASSEMBLY SUCH AS FIRE HYDRANT TEE AND 6" GATE VALVE.
7. SEE SHEET UC-5 FOR LOCATION OF EXISTING METER.

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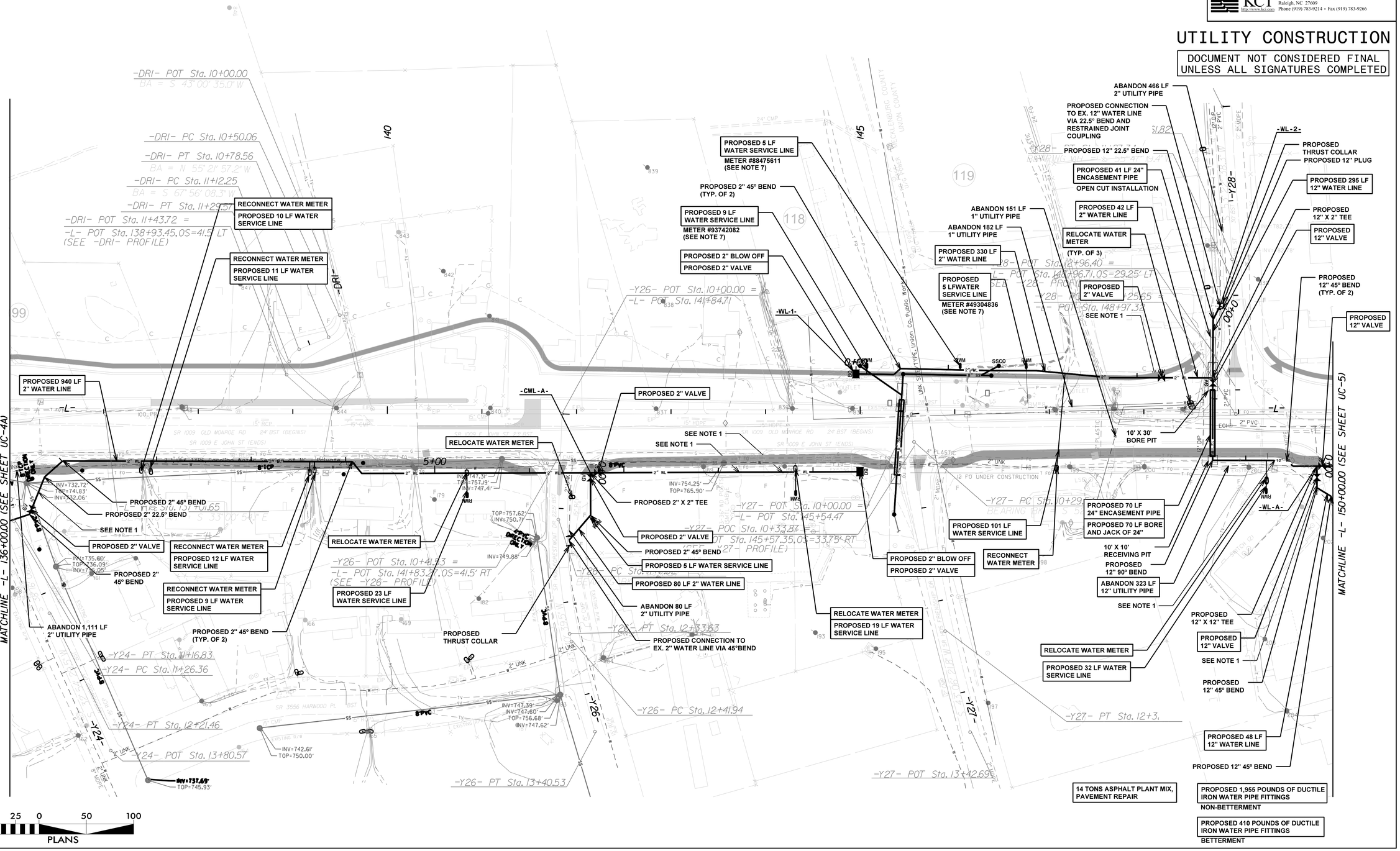
PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-4
DESIGNED BY: AP	
DRAWN BY: AP	
CHECKED BY: TB	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL SEAL 052676 ENGINEER MARCO R. MENDIOLA
Docusigned by: Marco Mendiola
10/2/2026

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8/17/99

NOTES:

1. PROPOSED WATER LINE SHALL HAVE 18" VERTICAL SEPARATION FROM PROPOSED DRY UTILITIES UNLESS OTHERWISE SHOWN (SEE PROFILES).
2. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES.
3. EXACT PLACEMENT OF THE RPZ SHALL BE COORDINATED BETWEEN NCDOT AND CONTRACTOR.
4. CONTRACTOR TO COORDINATE WITH ALL BUSINESS OWNERS ON WATER SERVICE TIE-INS.
5. SEE SHEET UC-10 FOR CORRESPONDING SANITARY SEWER PAY ITEMS AND NOTES.
6. PROPOSED RELOCATED FIRE HYDRANTS SHALL INCLUDE THE TYPICAL FIRE HYDRANT ASSEMBLY SUCH AS FIRE HYDRANT TEE AND 6" GATE VALVE.

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-5
DESIGNED BY: AP	
DRAWN BY: AP	
CHECKED BY: TB	
APPROVED BY:	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049324 FRANCISCO R. MENENDEZ
Digitally signed by SEAL 049324 FRANCISCO R. MENENDEZ
10/2/2026

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PROPOSED 57 LF WATER SERVICE LINE
PROPOSED 60 LF WATER SERVICE LINE
PROPOSED 6" PLUG
PROPOSED THRUST COLLAR
PROPOSED 6" 11.25° BEND
PROPOSED CONNECTION TO EXISTING 6" WATER LINE WITH RESTRAINED JOINT COUPLING
PROPOSED 6 LF FIRE HYDRANT LEG
PROPOSED 6" VALVE
PROPOSED 6" X 6" TEE
PROPOSED 65 LF 6" WATER LINE
RELOCATE FIRE HYDRANT
PROPOSED 6" VALVE
PROPOSED 12" X 6" REDUCER
PROPOSED 12" X 12" TEE
-WL-B2-
PROPOSED 46 LF 24" ENCASEMENT PIPE
OPEN CUT INSTALLATION
PROPOSED 12" 45° BEND
SEE NOTE 1
PROPOSED 12" 22.5° BEND
PROPOSED 601 LF 12" WATER LINE
PROPOSED 12" 11.25° BEND
PROPOSED 308 LF 12" WATER LINE
PROPOSED 12" VALVE
PROPOSED 12" 11.25° BEND (TYP. OF 2)
PROPOSED 12" 45° BEND (TYP. OF 2)
PROPOSED 37 LF 24" ENCASEMENT PIPE
OPEN CUT INSTALLATION
PROPOSED 103 LF WATER SERVICE LINE
RELOCATE WATER METER
ABANDON 102 LF 12" UTILITY PIPE
PROPOSED 84 LF 12" WATER LINE
ABANDON 466 LF 2" UTILITY PIPE
PROPOSED 102 LF WATER SERVICE LINE
RELOCATE WATER METER
10' X 30' BORE PIT
10' X 10' RECEIVING PIT
-WL-B1-
PROPOSED 64 LF 24" ENCASEMENT PIPE
PROPOSED 64 LF BORE AND JACK OF 24"
PROPOSED 12" 45° BEND (TYP. OF 4)
ABANDON 1,019 LF 6" UTILITY PIPE
PROPOSED 2" AIR RELEASE VALVE
PROPOSED 6 LF FIRE HYDRANT LEG
PROPOSED 6" VALVE
PROPOSED 12" X 6" TEE
RELOCATE FIRE HYDRANT
RECONNECT WATER METER
PROPOSED 5 LF WATER SERVICE LINE
PROPOSED 12" PLUG
PROPOSED CONNECTION TO EX. 12" WATER LINE WITH RESTRAINED JOINT COUPLING
PROPOSED THRUST COLLAR
PROPOSED 12" 22.5° BEND (TYP. OF 2)
PROPOSED 12" VALVE
PROPOSED 12" X 12" TEE
PROPOSED 153 LF WATER SERVICE LINE
PROPOSED 12" VALVE
PROPOSED 1,276 LF 12" WATER LINE
RECONNECT WATER METER
PROPOSED 14 LF WATER SERVICE LINE
(SEE NOTE 3)
ABANDON 532 LF 6" UTILITY PIPE
RECONNECT WATER METER
PROPOSED 12 LF WATER SERVICE LINE (TYP. OF 2)
PROPOSED 2" 45° BEND
PROPOSED 2" 90° BEND
PROPOSED 2" BLOW-OFF
RELOCATE WATER METER
PROPOSED 114 LF WATER SERVICE LINE
PROPOSED 13 LF WATER SERVICE LINE
RELOCATE WATER METER
RELOCATE 1" RPZ BACKFLOW PREVENTION ASSEMBLY
(SEE NOTE 3)
PROPOSED 12" 11.25° BEND (TYP. OF 2)
PROPOSED 31 LF WATER SERVICE LINE (TYP. OF 2)
PROPOSED 8 LF WATER SERVICE LINE
ABANDON 95 LF 1" UTILITY PIPE
PROPOSED 12" 45° BEND (TYP. OF 2)
ABANDON 817 LF 6" UTILITY PIPE
PROPOSED THRUST COLLAR
PROPOSED CONNECTION TO EXISTING 12" WATER LINE WITH RESTRAINED JOINT COUPLING
PROPOSED 12" 22.5° BEND (TYP. OF 2)
PROPOSED 12" PLUG
PROPOSED 6 LF FIRE HYDRANT LEG
PROPOSED 6" VALVE
PROPOSED 6" X 6" TEE
ABANDON 199 LF 12" UTILITY PIPE
PROPOSED 12" 11.25° BEND
PROPOSED 12" 45° BEND
PROPOSED 12" VALVE
PROPOSED 12" X 2" TEE
PROPOSED 2" VALVE
PROPOSED 124 LF 2" WATER LINE
PROPOSED 12" 11.25° BEND (TYP. OF 2)
PROPOSED 2" 45° BEND (TYP. OF 3)
PROPOSED 12 LF WATER SERVICE LINE (TYP. OF 2)
PROPOSED 2" 45° BEND
PROPOSED 2" 90° BEND
PROPOSED 2" BLOW-OFF
RELOCATE WATER METER (TYP. OF 2)
PROPOSED 114 LF WATER SERVICE LINE
PROPOSED 13 LF WATER SERVICE LINE
RELOCATE WATER METER
PROPOSED 31 LF WATER SERVICE LINE (TYP. OF 2)
PROPOSED 8 LF WATER SERVICE LINE
ABANDON 95 LF 1" UTILITY PIPE
PROPOSED 12" 45° BEND (TYP. OF 2)
ABANDON 817 LF 6" UTILITY PIPE
PROPOSED 668 LF 16" WATER LINE
PROPOSED 16" 11.25° BEND
RECONNECT WATER METER
PROPOSED 8 LF WATER SERVICE LINE
PROPOSED 16" 22.5° BEND
RELOCATE FIRE HYDRANT
PROPOSED 11 LF FIRE HYDRANT LEG
PROPOSED 6" VALVE
PROPOSED 16" 45° BEND (TYP. OF 2)
PROPOSED 16" X 6" TEE
SEE NOTE 1
PROPOSED 2" AIR RELEASE VALVE
PROPOSED 23 LF FIRE HYDRANT LEG
PROPOSED 6" VALVE
PROPOSED 16" X 6" TEE
RELOCATE WATER METER (TYP. OF 2)
ABANDON 405 LF 6" UTILITY PIPE
RELOCATE FIRE HYDRANT
ABANDON 92 LF 6" UTILITY PIPE
ABANDON 419 LF 8" UTILITY PIPE
ABANDON 872 LF 16" UTILITY PIPE
RELOCATE WATER METER (TYP. OF 2)
RELOCATE WATER METER
PROPOSED 16" PLUG
RECONNECT WATER METER
PROPOSED 54 LF WATER SERVICE LINE
45.8 TONS ASPHALT PLANT MIX, PAVEMENT REPAIR
PROPOSED 7,860 POUNDS OF DUCTILE IRON WATER PIPE FITTINGS
NON-BETTERMENT
PROPOSED 2,310 POUNDS OF DUCTILE IRON WATER PIPE FITTINGS
BETTERMENT

MATCHLINE -L- 150+00.00 (SEE SHEET UC-4)
MATCHLINE -Y2- 14+50.00 (SEE SHEET UC-5A)
MATCHLINE -Y2B- 13+00.00 (SEE SHEET UC-5A)
MATCHLINE -Y2A- 14+00.00 (SEE SHEET UC-5A)
MATCHLINE -L- 164+00.00 (SEE SHEET UC-6)

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PLANS

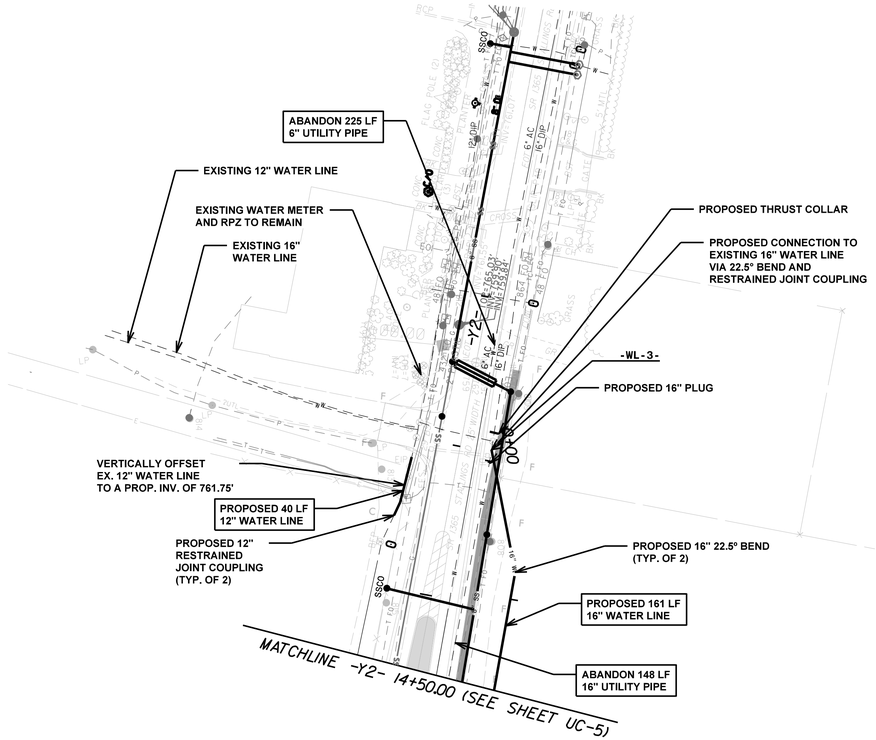
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8/17/99

NOTES:

1. PROPOSED WATER LINE SHALL HAVE 18" VERTICAL SEPARATION FROM PROPOSED DRY UTILITIES UNLESS OTHERWISE SHOWN (SEE PROFILES).
2. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES.
3. EXACT PLACEMENT OF THE RPZ SHALL BE COORDINATED BETWEEN NCDOT AND CONTRACTOR.
4. CONTRACTOR TO COORDINATE WITIH ALL BUSINESS OWNERS ON WATER SERVICE TIE-INS.
5. CONTRACTOR TO LOCATE EXISTING 6" FIRE LINE, ABANDON AND PLUG AS NECESSARY, AND RECONNECT TO PROPOSED 12" WATER LINE.
6. SEE SHEET UC-10A FOR CORRESPONDING SANITARY SEWER PAY ITEMS AND NOTES.
7. PROPOSED RELOCATED FIRE HYDRANTS SHALL INCLUDE THE TYPICAL FIRE HYDRANT ASSEMBLY SUCH AS FIRE HYDRANT TEE 6" GATE VALVE.



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PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-5A
DESIGNED BY: AP	
DRAWN BY: AP	
CHECKED BY: TB	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE:(919)707-6690 FAX:(919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

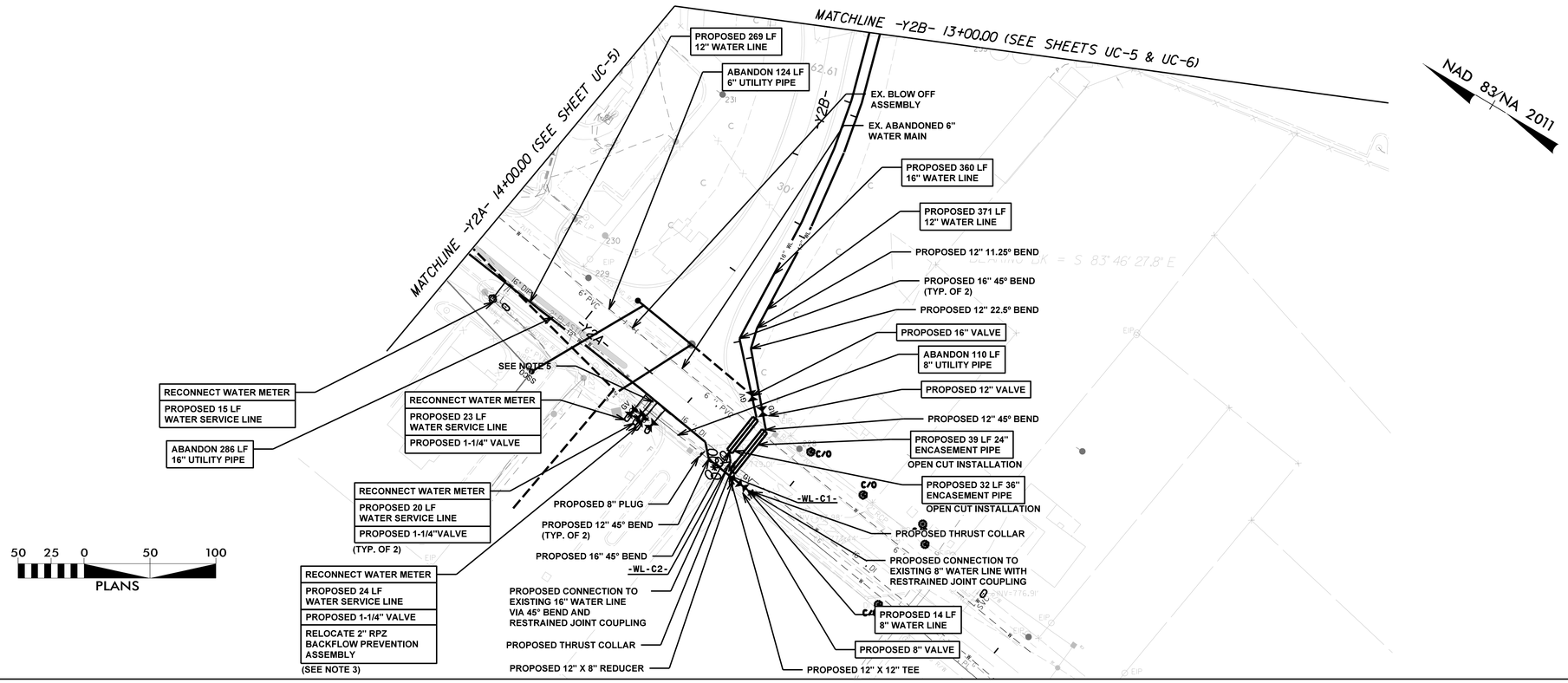
NORTH CAROLINA PROFESSIONAL SEAL 049222 ENGINEER MARIO R. MENENDEZ
Docusigned by: Mario Menendez 10/2/2026

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UTILITY CONSTRUCTION

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PROPOSED 2,540 POUNDS OF DUCTILE IRON WATER PIPE FITTINGS



PROPOSED 1,705 POUNDS OF DUCTILE IRON WATER PIPE FITTINGS

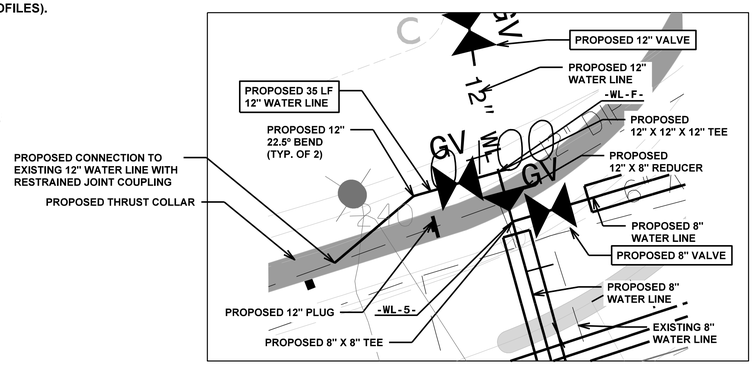
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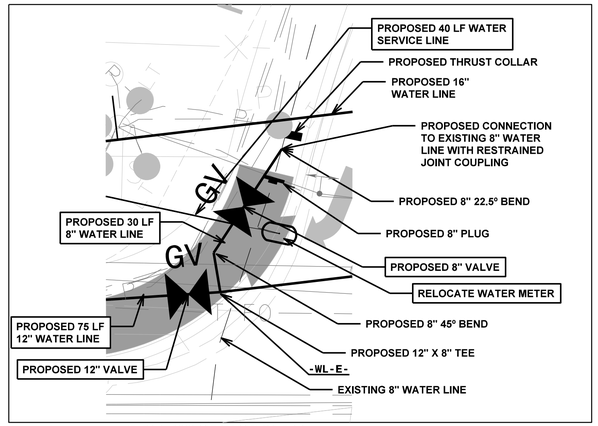
8/17/99

NOTES:

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2. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES.
3. CONTRACTOR TO COORDINATE WITH ALL BUSINESS OWNERS ON WATER SERVICE TIE-INS.
4. SEE SHEET UC-11 FOR CORRESPONDING SANITARY SEWER PAY ITEMS AND NOTES.
5. PROPOSED RELOCATED FIRE HYDRANTS SHALL INCLUDE THE TYPICAL FIRE HYDRANT ASSEMBLY SUCH AS FIRE HYDRANT TEE AND 6" GATE VALVE.



INSET A AT SR-1364 PLEASANT PLAINS RD AND SR-1459 LAKEWOOD DR INTERSECTION
(-Y3- POC STA. 11+92.00 AND -Y3A- POT STA. 10+00.00)



INSET B AT SR-1009 OLD MONROE RD AND SR-2829 KERRY GREENS DR INTERSECTION
(-Y3I- PT STA. 15+57.29)

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-6

DESIGNED BY: AP
DRAWN BY: AP
CHECKED BY: TB
APPROVED BY:
REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE: (919)707-6690
FAX: (919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042644 MARK ANDREW MENENDEZ
Digitally signed by SEAL
10/2/2026

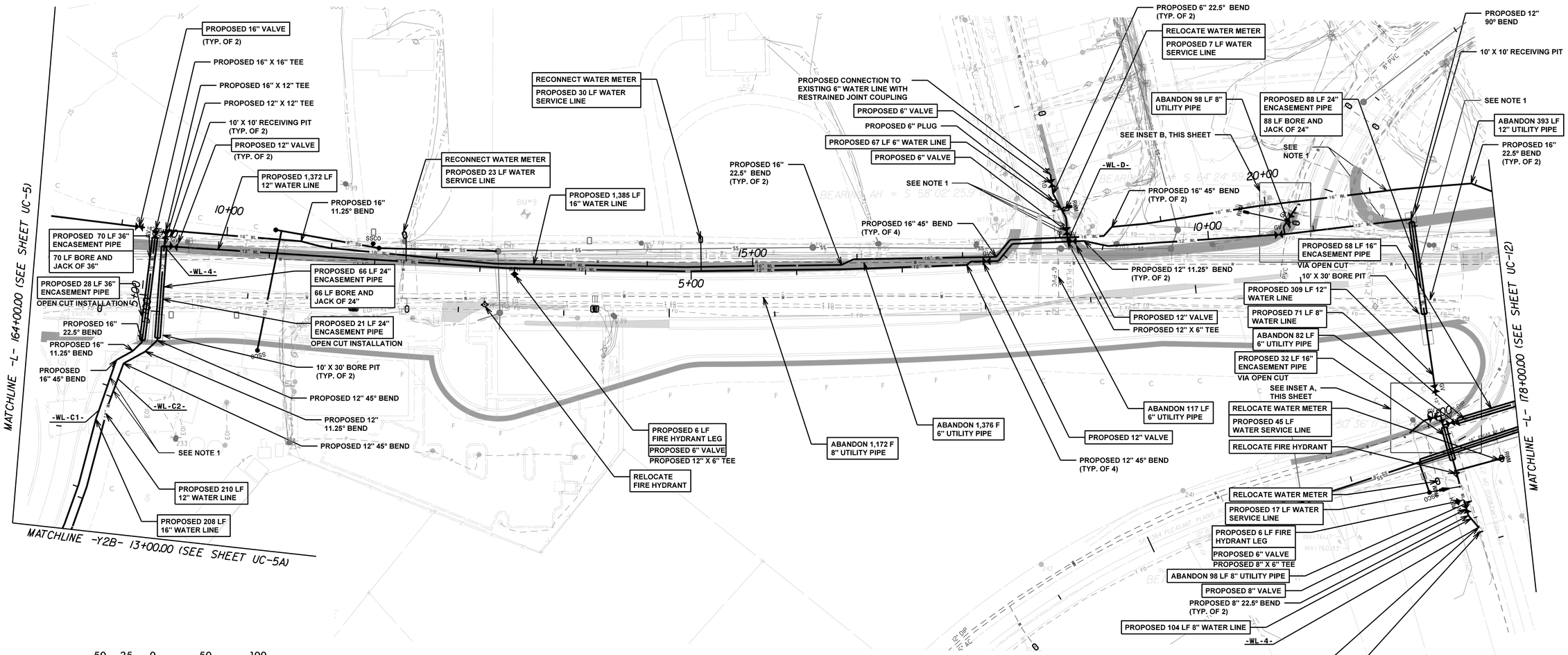
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8/17/99

NOTES:

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4. SEE SHEET UC-12 FOR CORRESPONDING SANITARY SEWER PAY ITEMS AND NOTES.
5. PROPOSED RELOCATED FIRE HYDRANTS SHALL INCLUDE THE TYPICAL FIRE HYDRANT ASSEMBLY SUCH AS FIRE HYDRANT TEE AND 6" GATE VALVE.

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-7
DESIGNED BY: AP	
DRAWN BY: AP	
CHECKED BY: TB	
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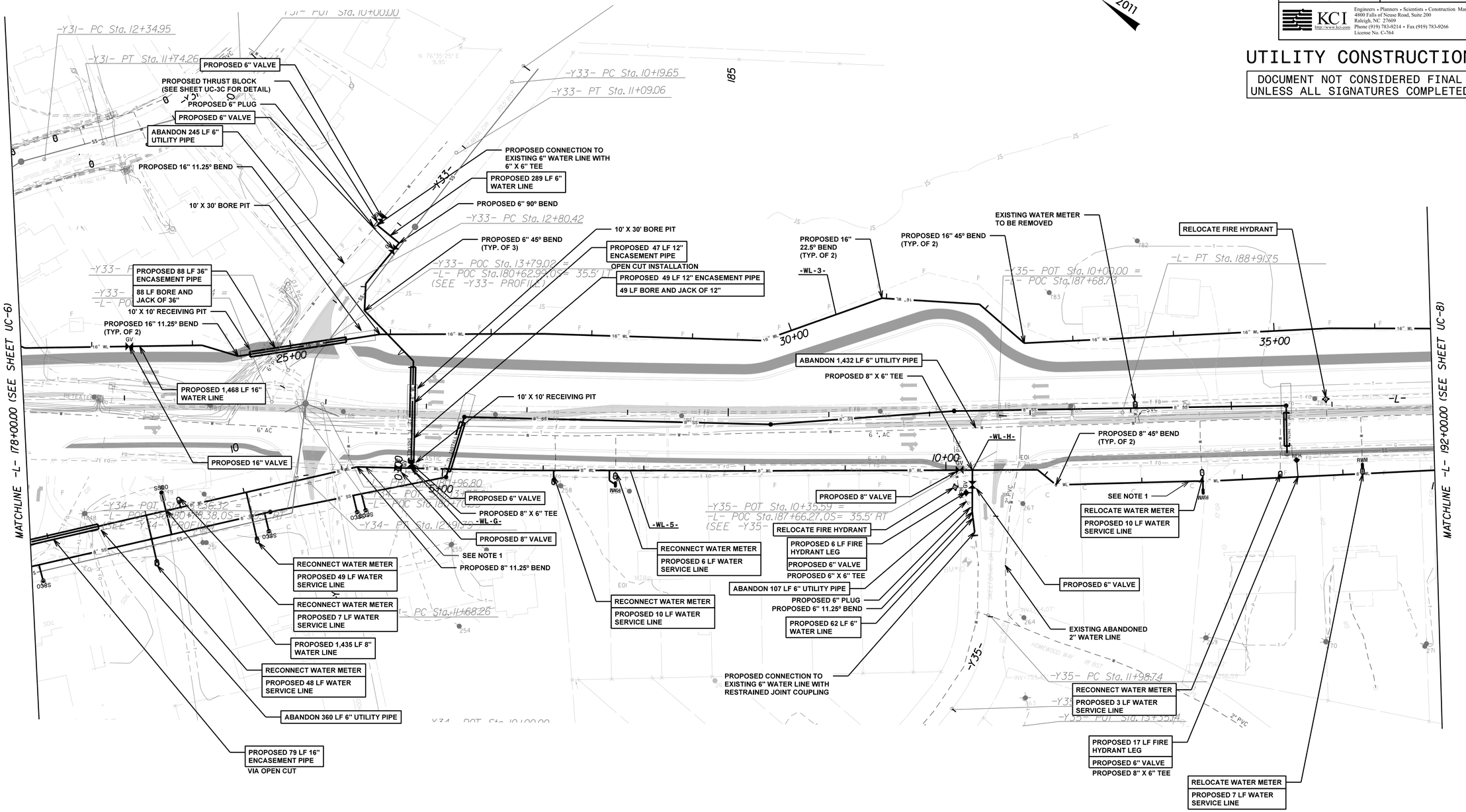
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 047672749A FRANCISCO R. MENENDEZ
Digitally signed by Francisco R. Menendez
10/2/2026

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UTILITY CONSTRUCTION

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8.9 TONS ASPHALT PLANT MIX, PAVEMENT REPAIR	PROPOSED 1,515 POUNDS OF DUCTILE IRON WATER PIPE FITTINGS NON-BETTERMENT
	PROPOSED 2,430 POUNDS OF DUCTILE IRON WATER PIPE FITTINGS BETTERMENT

50 25 0 50 100
PLANS

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8/17/99

NOTES:

1. **PROPOSED WATER LINE SHALL HAVE 18" VERTICAL SEPARATION FROM PROPOSED DRY UTILITIES UNLESS OTHERWISE SHOWN (SEE PROFILES).**
2. **CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES.**
3. **SEE SHEET UC-13 FOR CORRESPONDING SANITARY SEWER PAY ITEMS AND NOTES.**
4. **PROPOSED RELOCATED FIRE HYDRANTS SHALL INCLUDE THE TYPICAL FIRE HYDRANT ASSEMBLY SUCH AS FIRE HYDRANT TEE AND 6" GATE VALVE.**

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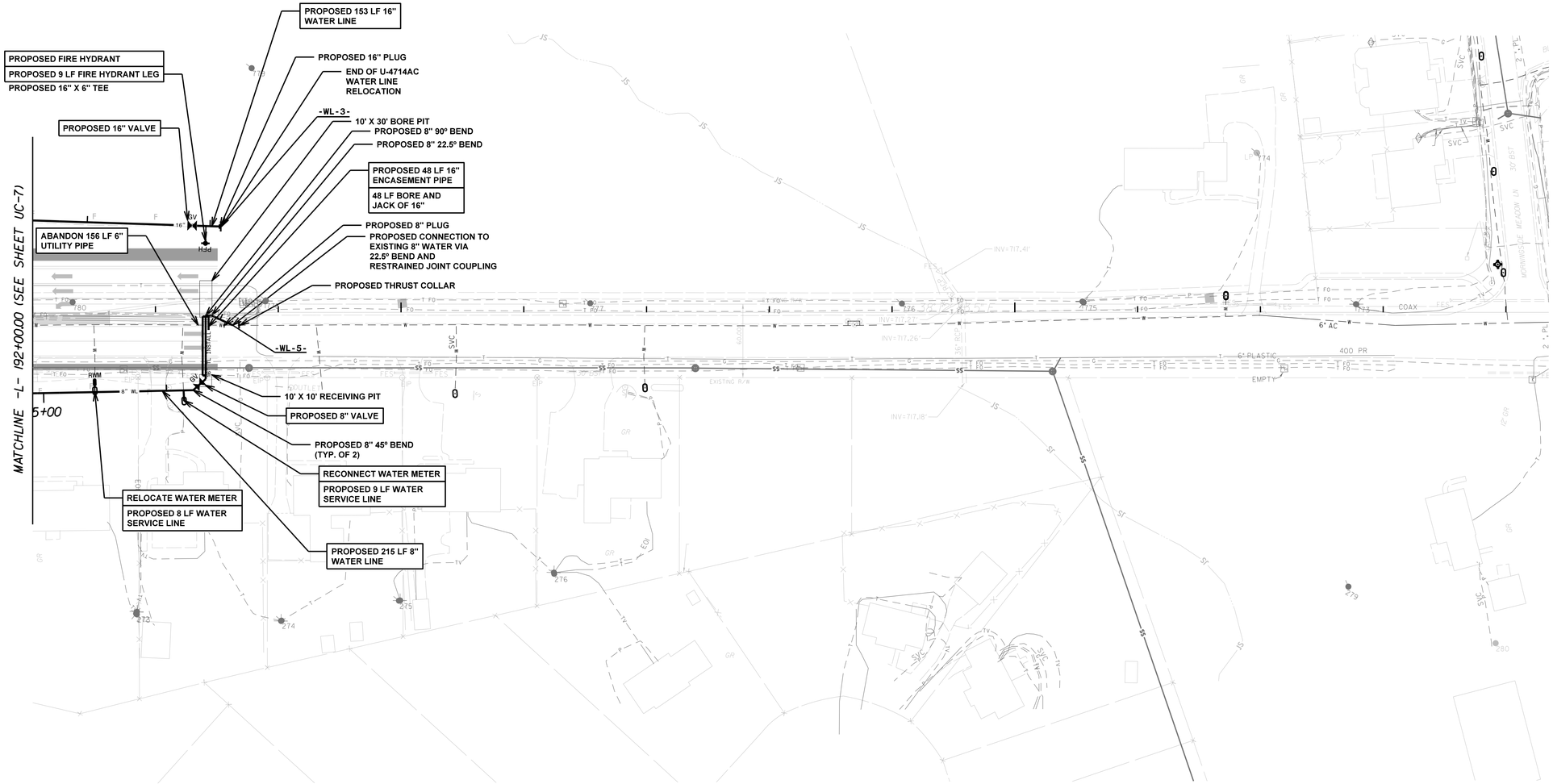
PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-8
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UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049282 MARCO R. MENENDEZ
Docusigned by: SEAL
10/2/2026

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PROPOSED 610 POUNDS OF DUCTILE IRON WATER PIPE FITTINGS
NON-BETTERMENT

PROPOSED 685 POUNDS OF DUCTILE IRON WATER PIPE FITTINGS
BETTERMENT

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NOTES:

1. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES.
2. SEE SHEET UC-4 FOR CORRESPONDING WATER LINE PAY ITEMS AND NOTES.
3. CONTRACTOR TO REMOVE EXISTING INTERCEPTOR TANK AND INSTALL/CONNECT THE SEWER SERVICE LINE AS SHOWN IN STANDARD DETAIL ON SHEET UC-3G.

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-9

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CHECKED BY: TB
APPROVED BY:
REVISED:

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UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL — Docusigned by: SEAL, Mario Mendez, 676772746A, FRANCO R. MENDEZ, 10/30/2026

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-DRI- POT Sta. 10+00.00
BA = S 43°00'35.0"W

-DRI- PC Sta. 10+50.06

-DRI- PT Sta. 10+78.56

-DRI- PT Sta. 11+29.57

-DRI- POT Sta. 11+43.72 =
-L- POT Sta. 138+93.45, OS=41.5' LT
(SEE -DRI- PROFILE)

-Y26- POT Sta. 10+00.00 =
-L- POT Sta. 141+84.71

PROPOSED 4' DIA UTILITY MANHOLE
PROPOSED 1.5 LF UTILITY MANHOLE WALL 4' DIA
SSMH-102
-SS-1- STA. 1+48.84
PROP. RIM = 776.3
PROP. 8" INV. OUT = 769.00
PROP. 8" INV. IN = 768.80

PROPOSED 52 LF SEWER SERVICE LINE

REMOVE EXISTING INTERCEPTOR TANK AND RECONNECT SEWER SERVICE

PROPOSED SANITARY SEWER CLEAN-OUT

10' X 30' BORE PIT

-Y28- POT Sta. 12+96.40 =
-L- POT Sta. 148+96.71, OS=29.25' LT
(SEE -Y28- PROFILE)

-Y28- POT Sta. 13+25.65 =
-L- POT Sta. 148+97.32

PROPOSED 93 LF 8" SANITARY GRAVITY SEWER

PROPOSED 12 LF 16" ENCASEMENT PIPE
OPEN CUT INSTALLATION

PROPOSED SANITARY SEWER CLEAN-OUT

PROPOSED 27 LF SEWER SERVICE LINE

PROPOSED 4' DIA UTILITY MANHOLE
PROPOSED 2.2 LF UTILITY MANHOLE WALL 4' DIA
SSMH-103
-SS-1- STA. 2+42.08
PROP. RIM = 779.2
PROP. 8" INV. OUT = 771.0

-L- PT Sta. 137+01.65
BEARING AH = S 33°00'50"E

-Y26- POT Sta. 10+41.53 =
-L- POT Sta. 141+83.27, OS=41.5' RT
(SEE -Y26- PROFILE)

-Y26- POC Sta. 10+33.87 =
-L- POT Sta. 145+57.35, OS=33.75' RT
(SEE -Y27- PROFILE)

-Y26- POT Sta. 10+00.00 =
-L- POT Sta. 145+54.47

-Y26- PC Sta. 11+41.82
BEARING BK = S 52°56'04.4"W

-Y26- PT Sta. 12+33.63

-Y26- PC Sta. 12+41.94

-Y26- PT Sta. 13+40.53

-Y27- PC Sta. 10+29.54
BEARING BK = S 52°01'05"W

PROPOSED 68 LF 16" ENCASEMENT PIPE
PROPOSED 68 LF BORE AND JACK OF 16"

10' X 10' RECIEVING PIT

REMOVE EXISTING INTERCEPTOR TANK AND RECONNECT SEWER SERVICE

PROPOSED 4' DIA UTILITY MANHOLE
PROPOSED 2.9 LF UTILITY MANHOLE WALL 4' DIA
SSMH-101
-SS-1- STA. 0+00
PROP. RIM = 771.10
PROP. 8" INV. IN = 762.27

PROPOSED 149 LF 8" SANITARY GRAVITY SEWER

EX. 4" SS (SEE NOTE 1)

-Y27- PT Sta. 12+32.69

-Y27- POT Sta. 13+42.69

-Y24- PT Sta. 11+16.83

-Y24- PC Sta. 11+26.36

-Y24- PT Sta. 12+21.46

-Y24- POT Sta. 13+80.57

28.4 TONS ASPHALT PLANT MIX, PAVEMENT REPAIR

MATCHLINE -L- 150+00.00 (SEE SHEET UC-10)

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PLANS

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NOTES:

1. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES.
2. SEE SHEET UC-5 FOR CORRESPONDING WATER LINE PAY ITEMS AND NOTES.
3. CONTRACTOR TO ADJUST AND ROTATE EXISTING SANITARY SEWER MANHOLE (SSMH) SUCH THAT THE SSMH CASTING IS NOT IN THE PROPOSED CURB. CONTRACTOR TO ALSO PROVIDE SOLID LID IF GUTTER FLOW WILL CROSS THE SSMH.
4. CONTRACTOR TO REDIRECT EXISTING 2" FORCE MAIN FROM EXISTING SSMH-200 TO EXISTING SSMH-2. CONTRACTOR SHALL LOCATE EXISTING 2" FORCE MAIN AND ADJUST IT TO CONNECT WITH THE PROPOSED 2" FORCE MAIN.
5. CONTRACTOR TO REMOVE EXISTING INTERCEPTOR TANK AND INSTALL/CONNECT THE SEWER SERVICE LINE AS SHOWN IN STANDARD DETAIL ON SHEET UC-3G.

NAD 83/NA 2011

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-10

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MATCHLINE -Y2- 14+50.00 (SEE SHEET UC-10A)

ABANDON 176 LF 8" UTILITY PIPE

PROPOSED 173 LF 8" SANITARY GRAVITY SEWER

PROPOSED 48 LF 8" SANITARY GRAVITY SEWER

PROPOSED SANITARY SEWER CLEAN-OUT
PROPOSED 9 LF SEWER SERVICE LINE

EX. SSMH-1
STA. -SS-2- 6+76.77
EX. RIM = 771.50
EX. 8" INV. IN = 765.61
EX. 8" INV. OUT = 765.52

PROPOSED 4' DIA UTILITY MANHOLE
PROPOSED 3.4 LF UTILITY MANHOLE WALL 4' DIA
PROP. SSMH-204
STA. -SS-2- 6+28.33
PROP. RIM = 771.70
PROP. 8" INV. IN = 762.56
PROP. 8" INV. OUT = 762.36

-Y1- PC Sta. 10+26.81
-Y1A- POT Sta. 10+00.00 = -Y1- POC Sta.11+65.42
-Y1A- POC Sta. 10+15.00 = -Y1- POC Sta.11+65.42,OS= 15' LT (SEE -Y1A- PROFILE)
-Y1A- POT Sta. 15+48.24 = -Y2- POT Sta.12+44.90,OS= 24.66' LT (SEE -Y1A- PROFILE)
-Y2- POT Sta. 15+73.38 = -Y2- POT Sta.12+49.40
-Y2- POT Sta. 10+41.70 = -L- POC Sta.159+88.62,OS= 41.25' LT (SEE -Y2A- PROFILE)
-Y2- POT Sta. 10+00.00 = -Y2A- POT Sta.10+00.00 = -L- POC Sta.159+82.52
-Y1- PT Sta. 13+28.93 BEARING AH = S 61°59'05"W
-Y1- POT Sta. 13+30.04 = -L- POT Sta. 155+00.00,OS=29.25' LT (SEE -Y1- PROFILE)
-Y1A- PT Sta. 12+01.04
-Y1A- PC Sta. 10+11.67
-Y2A- PC Sta.10+52.91
-Y29- POT Sta. 10+00.00 = -L- POT Sta. 150+05.00
-Y29- POT Sta. 10+29.97 = -L- POT Sta. 150+11.54,OS=29.25' RT (SEE -Y29- PROFILE)
-Y29- PC Sta. 10+89.05 BEARING BK = S 44°23'32.2"W
-Y29- POT Sta. 13+89.29
-Y1- POT Sta. 13+59.29 = -L- POT Sta. 155+00.00 -L- PC Sta. 155+81.28
-Y2A- POT Sta. 10+41.70 = -L- POC Sta.159+76.38,OS= 41.25' RT (SEE -Y2A- PROFILE)

SEE NOTE 3

PROPOSED SANITARY SEWER CLEAN-OUT
PROPOSED 40 LF SEWER SERVICE LINE

PROPOSED SANITARY SEWER CLEAN-OUT
PROPOSED 44 LF SEWER SERVICE LINE

PROPOSED SANITARY SEWER CLEAN-OUT
PROPOSED 40 LF SEWER SERVICE LINE

PROPOSED SANITARY SEWER CLEAN-OUT
PROPOSED 44 LF SEWER SERVICE LINE

PROPOSED SANITARY SEWER CLEAN-OUT
PROPOSED 55 LF SEWER SERVICE LINE

PROPOSED SANITARY SEWER CLEAN-OUT
PROPOSED 25 LF SEWER SERVICE LINE

REMOVE EXISTING INTERCEPTOR TANK AND RECONNECT SEWER SERVICE

MATCHLINE -L- 164+00.00 (SEE SHEET UC-11)

MATCHLINE -L- 150+00.00 (SEE SHEET UC-9)

ABANDON 91 LF 8" UTILITY PIPE
PROPOSED 91 LF 8" SANITARY GRAVITY SEWER
CONTRACTOR TO USE THE EXISTING ENCASEMENT PIPE

CONTRACTOR TO ENSURE THAT NEW PIPE IS PROPERLY SEALED TO EXISTING MANHOLE

REMOVE EXISTING INTERCEPTOR TANK AND RECONNECT SEWER SERVICE

SEE NOTE 3

PROPOSED 4' DIA UTILITY MANHOLE

REMOVE UTILITY MANHOLE
ABANDON 27 LF 8" UTILITY PIPE

CONTRACTOR TO INSTALL NEW 8" SANITARY GRAVITY SEWER AS NEEDED

MATCHLINE -Y2B- 13+00.00 (SEE SHEET UC-10A)

ABANDON 242 LF 6" UTILITY PIPE

PROPOSED 40 LF 6" C900 DR18 FORCE MAIN SEWER

VERTICALLY OFFSET EX. 6" FORCE MAIN TO A PROP. INV. OF 780.08'

PROP. 6" RJ COUPLING (TYP. OF 2)
PROP. 6" VERTICAL 45°BEND (TYP. OF 4)

EXISTING SSMH-200

PROPOSED SANITARY SEWER CLEANOUT
PROPOSED 7 LF SEWER SERVICE LINE

MATCHLINE -Y2A- 14+00.00 (SEE SHEET UC-10A)

ABANDON APPROX. 36 LF 2" UTILITY PIPE (SEE NOTE 4)

PROPOSED 300 POUNDS OF DUCTILE IRON SEWER PIPE FITTINGS

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PLANS

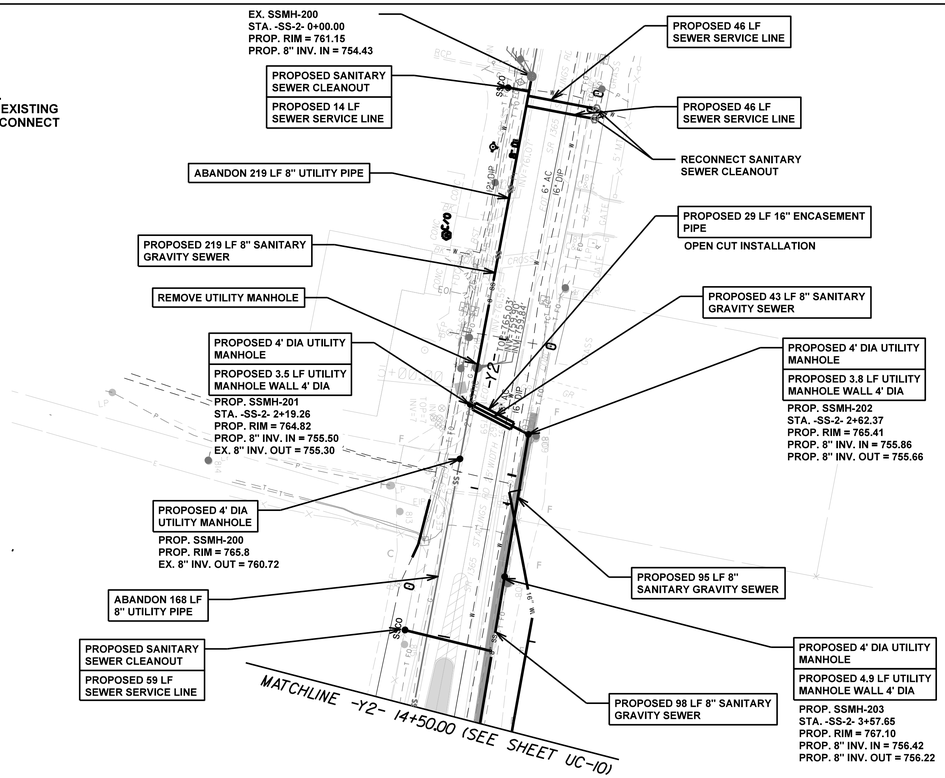
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NOTES:

1. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES.
2. CONTRACTOR TO REDIRECT EXISTING 2" FORCE MAIN FROM EXISTING SSMH-200 TO EXISTING SSMH-2. CONTRACTOR SHALL LOCATE EXISTING 2" FORCE MAIN AND ADJUST IT TO CONNECT WITH THE PROPOSED 2" FORCE MAIN.
3. SEE SHEET UC-5A FOR CORRESPONDING WATER LINE PAY ITEMS AND NOTES.



23.8 SQUARE YARDS 6" CONCRETE DRIVEWAY

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-10A
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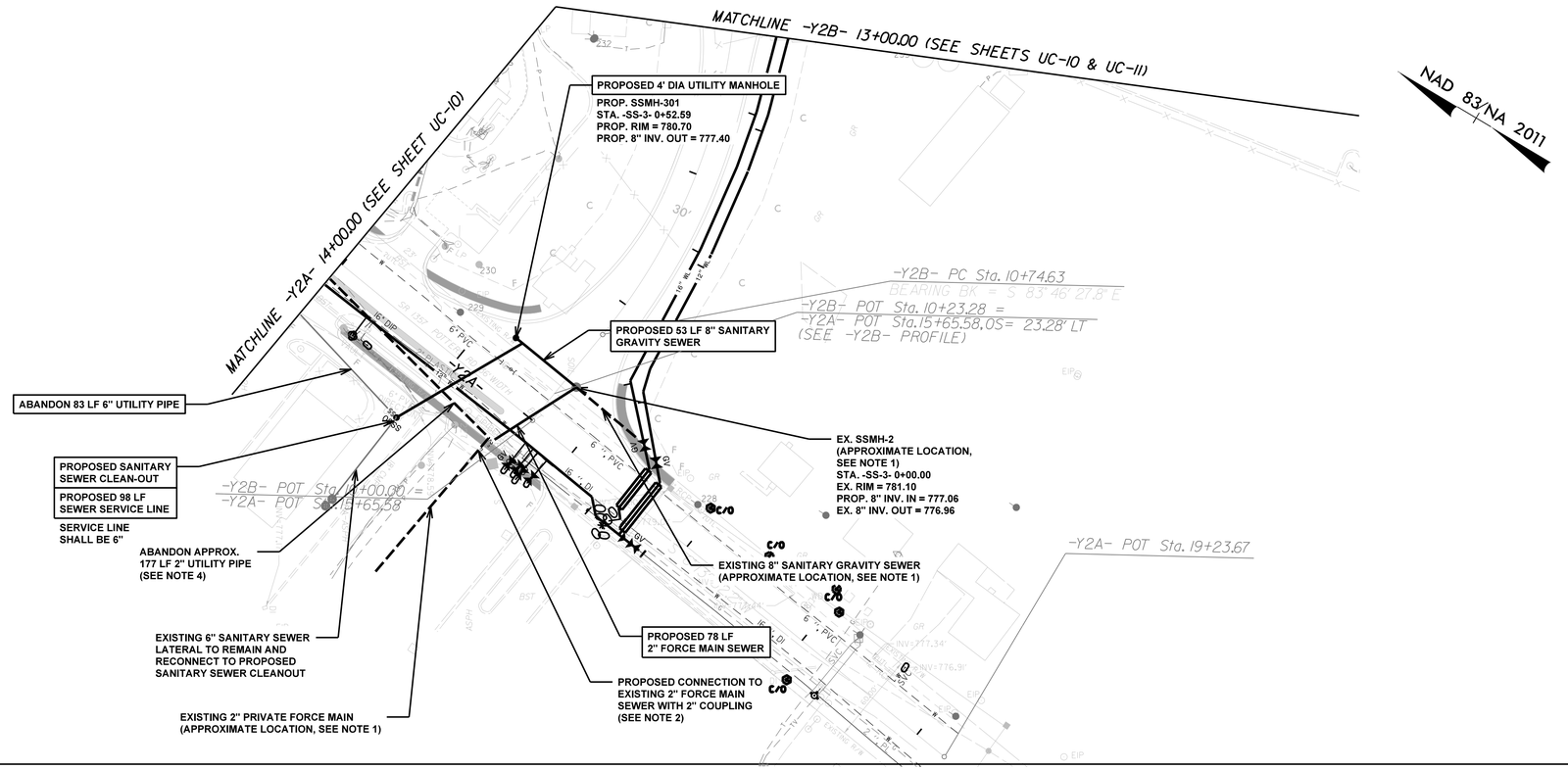
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Digitally signed by Mario Menendez
11/2/2026

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NOTES:

1. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES.
2. SEE SHEET UC-6 FOR CORRESPONDING WATER LINE PAY ITEMS AND NOTES.
3. CONTRACTOR TO REMOVE EXISTING INTERCEPTOR TANK AND INSTALL/CONNECT THE SEWER SERVICE LINE AS SHOWN IN STANDARD DETAIL ON SHEET UC-3G.

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MATCHLINE -L- 164+00.00 (SEE SHEET UC-10)

MATCHLINE -Y2B- 13+00.00 (SEE SHEET UC-10A)

MATCHLINE -L- 178+00.00 (SEE SHEET UC-12)

REMOVE EXISTING INTERCEPTOR TANK AND RECONNECT SEWER SERVICE

PROPOSED 99 LF 8" SANITARY GRAVITY SEWER

PROPOSED 4' DIA UTILITY MANHOLE
PROP. SSMH-402
STA. -SS-4- 2+11.16
PROP. RIM = 766.97
PROP. 8" INV. IN = 761.60
PROP. 8" INV. OUT = 761.50

PROPOSED SANITARY SEWER CLEANOUT

PROPOSED 3 LF SEWER SERVICE LINE

PROPOSED 4' DIA UTILITY MANHOLE
PROP. SSMH-401
STA. -SS-4- 1+11.82
PROP. RIM = 766.59
PROP. 8" INV. IN = 760.83
PROP. 8" INV. OUT = 760.73

PROPOSED 112 LF 8" SANITARY GRAVITY SEWER

CONTRACTOR TO LOCATE AND ABANDON, OR REMOVE IF NECESSARY, EXISTING 4" SANITARY SEWER SERVICE LINE.

-Y2B- POT Sta. 14+36.46 =
-L- POC Sta.164+31.27

-L- PRC Sta. 165+41.65

REMOVE EXISTING INTERCEPTOR TANK AND RECONNECT SEWER SERVICE

REMOVE EXISTING INTERCEPTOR TANK AND RECONNECT SEWER SERVICE

-Y2B- POT Sta. 14+07.20
S -L- POC Sta.164+32.16,OS
(SEE -Y2B- PROFILE)
-Y2B- PT Sta. 13+26.06

PROPOSED SANITARY SEWER CLEANOUT

PROPOSED 115 LF SEWER SERVICE LINE

REMOVE EXISTING INTERCEPTOR TANK AND RECONNECT SEWER SERVICE

EX. SSMH-3
STA. -SS-4- 0+00.00
EX. RIM = 766.59
PROP. 8" INV. IN = 759.97
EX. 8" INV. OUT = 759.87

ABANDON 56 LF 8" UTILITY PIPE

REMOVE UTILITY MANHOLE

ABANDON 108 LF 4" UTILITY PIPE

REMOVE EXISTING INTERCEPTOR TANK AND RECONNECT SEWER SERVICE

50 25 0 50 100
PLANS

-Y30- T Sta. 10+00.00

-Y30- PC Sta. 12+20.04

-Y30- PCC Sta. 12+72.33
-Y30- PT Sta. 13+22.73

-Y30- POT Sta. 13+55.32 =
-L- POC Sta.173+52.05,OS= 35.5' LT
(SEE -Y30- PROFILE)

-Y30- POT Sta. 13+90.95 =
-L- POC Sta.173+50.11

-Y3- PC Sta. 13+89.32

-Y31- POT Sta. 15+52.77 =
-L- POC Sta.176+14.29,OS= 35.5' LT
(SEE -Y31- PROFILE)

-Y31- PT Sta. 15+57.29

-Y31- POT Sta. 15+89.39 =
-L- POC Sta.176+05.26

PROPOSED 6 LF 8" SANITARY GRAVITY SEWER

PRC Sta. 177+14.71

PROPOSED 4' DIA UTILITY MANHOLE

PROPOSED 5.1 LF UTILITY MANHOLE WALL 4' DIA

PROP. SSMH-507
STA. -SS-5- 13+53.07
PROP. RIM = 760.70
PROP. 8" INV. IN = 749.83
PROP. 8" INV. OUT = 749.63

PROPOSED 98 LF 16" ENCASEMENT PIPE
OPEN CUT INSTALLATION

REMOVE EXISTING INTERCEPTOR TANK AND RECONNECT SEWER SERVICE

ABANDON 137 LF 8" UTILITY PIPE

-Y3- POT Sta. 10+00.00 =
-L- POC Sta.177+90.62

-Y3- POT Sta. 10+35.50 =
-L- POC Sta.177+90.55,OS= 35.5' RT
(SEE -Y3- PROFILE)

-Y3- PC Sta. 10+77.07

PROPOSED 4' DIA UTILITY MANHOLE

PROPOSED 2.0 LF UTILITY MANHOLE WALL 4' DIA

PROP. SSMH-508
STA. -SS-5- 15+74.30
PROP. RIM = 763.10
PROP. 8" INV. IN = 756.79
EX. 8" INV. OUT = 755.14

PROPOSED 6 LF SEWER SERVICE LINE

RECONNECT TO EXISTING SANITARY SEWER CLEANOUT

PROPOSED 221 LF 8" SANITARY GRAVITY SEWER

PROPOSED SANITARY SEWER CLEAN-OUT

PROPOSED 30 LF SEWER SERVICE LINE

ABANDON 225 LF 4" UTILITY PIPE

7.4 SQUARE YARDS 6" CONCRETE DRIVEWAY

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NOTES:

1. CONTRACTOR TO FIELD VERIFY LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES.
2. SEE SHEET UC-7 FOR CORRESPONDING WATER LINE PAY ITEMS AND NOTES.
3. CONTRACTOR TO REMOVE EXISTING INTERCEPTOR TANK AND INSTALL/CONNECT THE SEWER SERVICE LINE AS SHOWN IN STANDARD DETAIL ON SHEET UC-3G.

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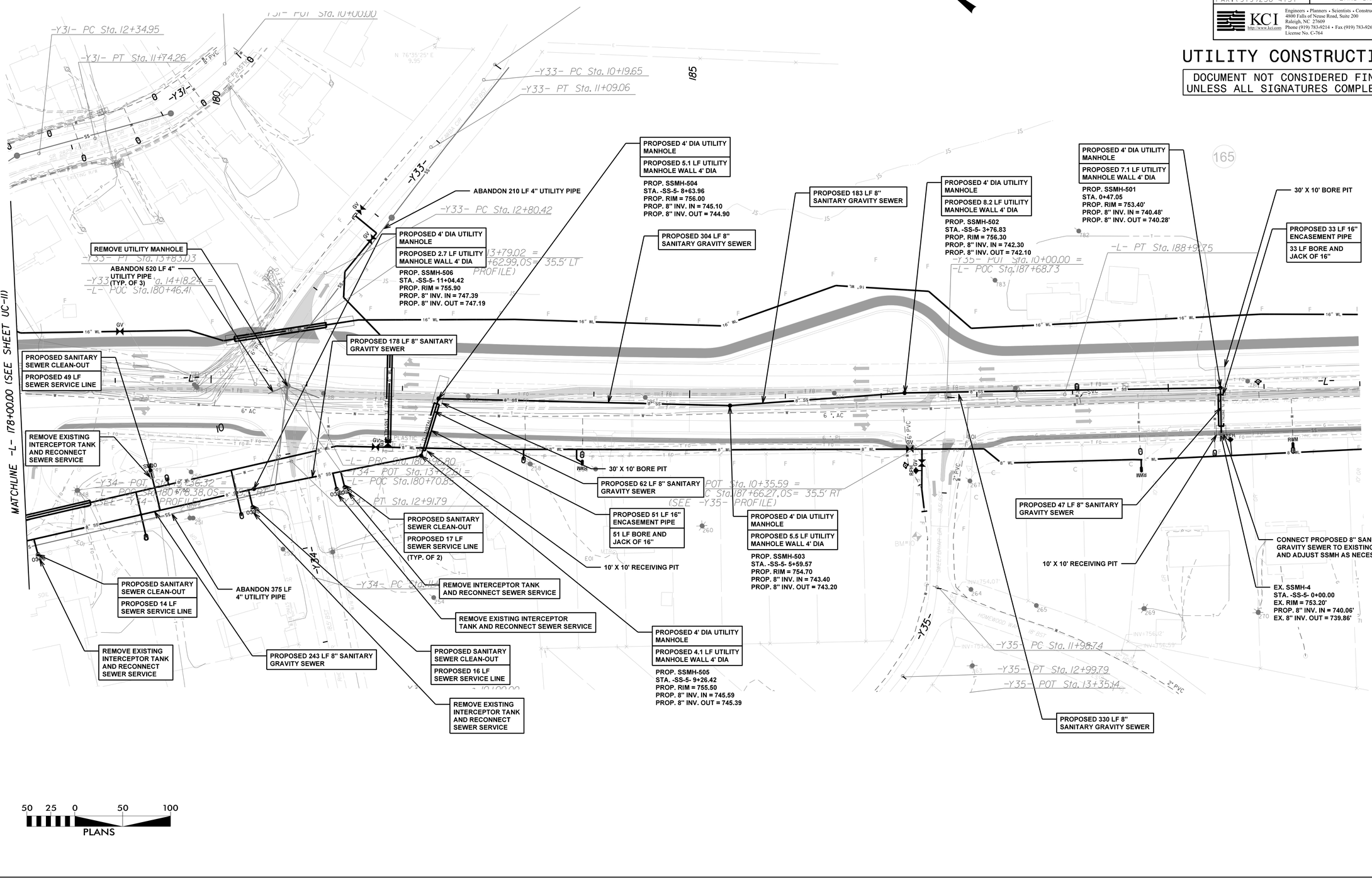
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Docusigned by: SEAL Marco Menendez
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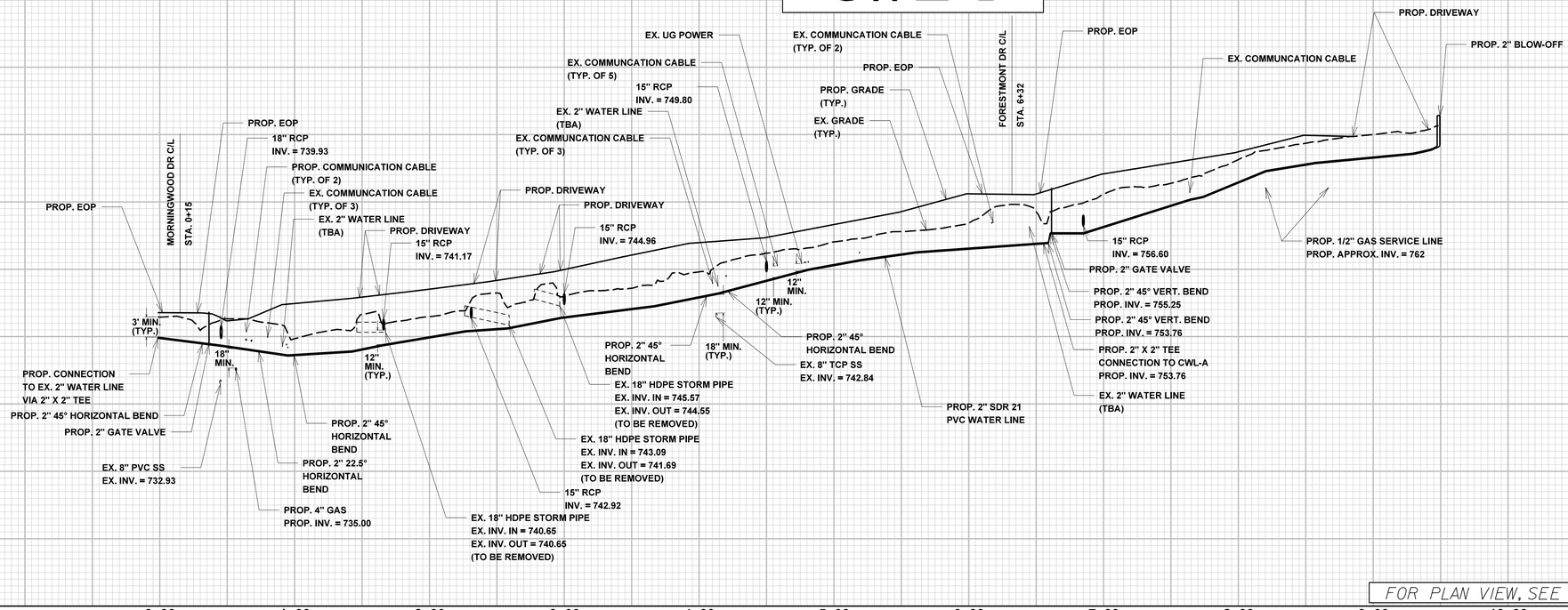
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5/28/99

NOTES:
1. CONTRACTOR TO VERIFY LOCATION, DEPTH, AND SIZE OF EXISTING UTILITIES.

-CWL-1-



FOR PLAN VIEW, SEE SHEET UC-4A & UC-4

PROJECT REFERENCE NO.	SHEET NO.
U-4714AC	UC-13
DESIGNED BY: AP	
DRAWN BY: AP	
CHECKED BY: MM	
APPROVED BY: MM	
REVISED:	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC.
PHONE:(919)707-6690
FAX:(919)250-4151

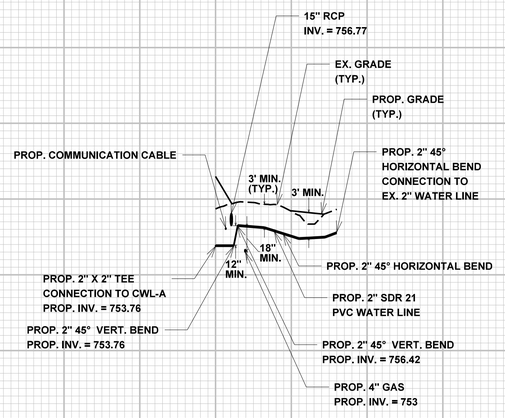
NORTH CAROLINA PROFESSIONAL SEAL 032322 ENGINEER MARCO R. MENENDEZ
6/10/2026
UTILITY CONSTRUCTION PLANS ONLY

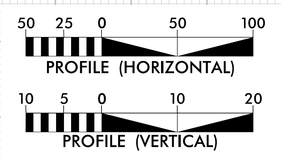
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UTILITY CONSTRUCTION

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-CWL-A-





FOR PLAN VIEW, SEE SHEET UC-4

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