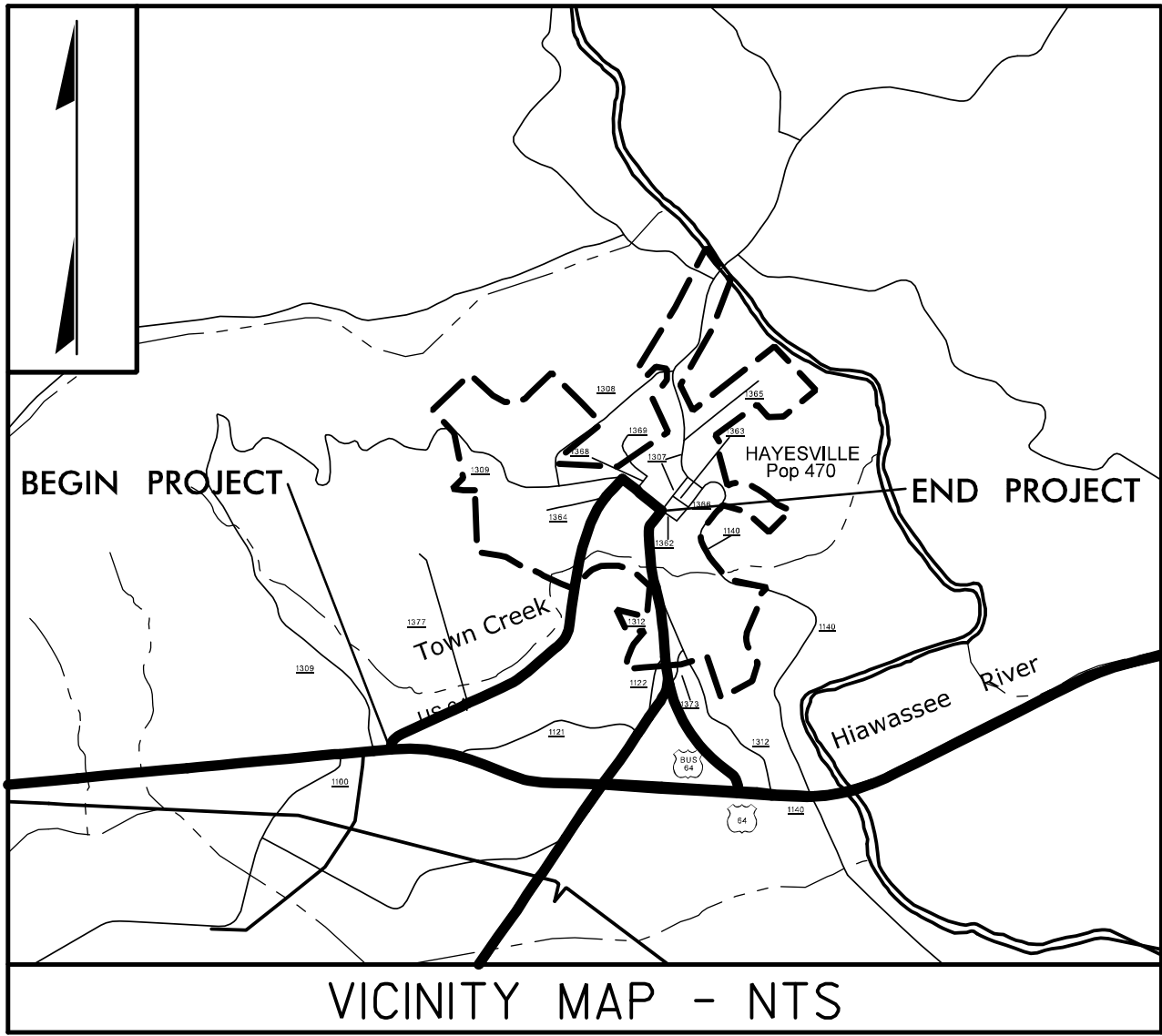


TIP PROJECT: R-5863



VICINITY MAP - NTS

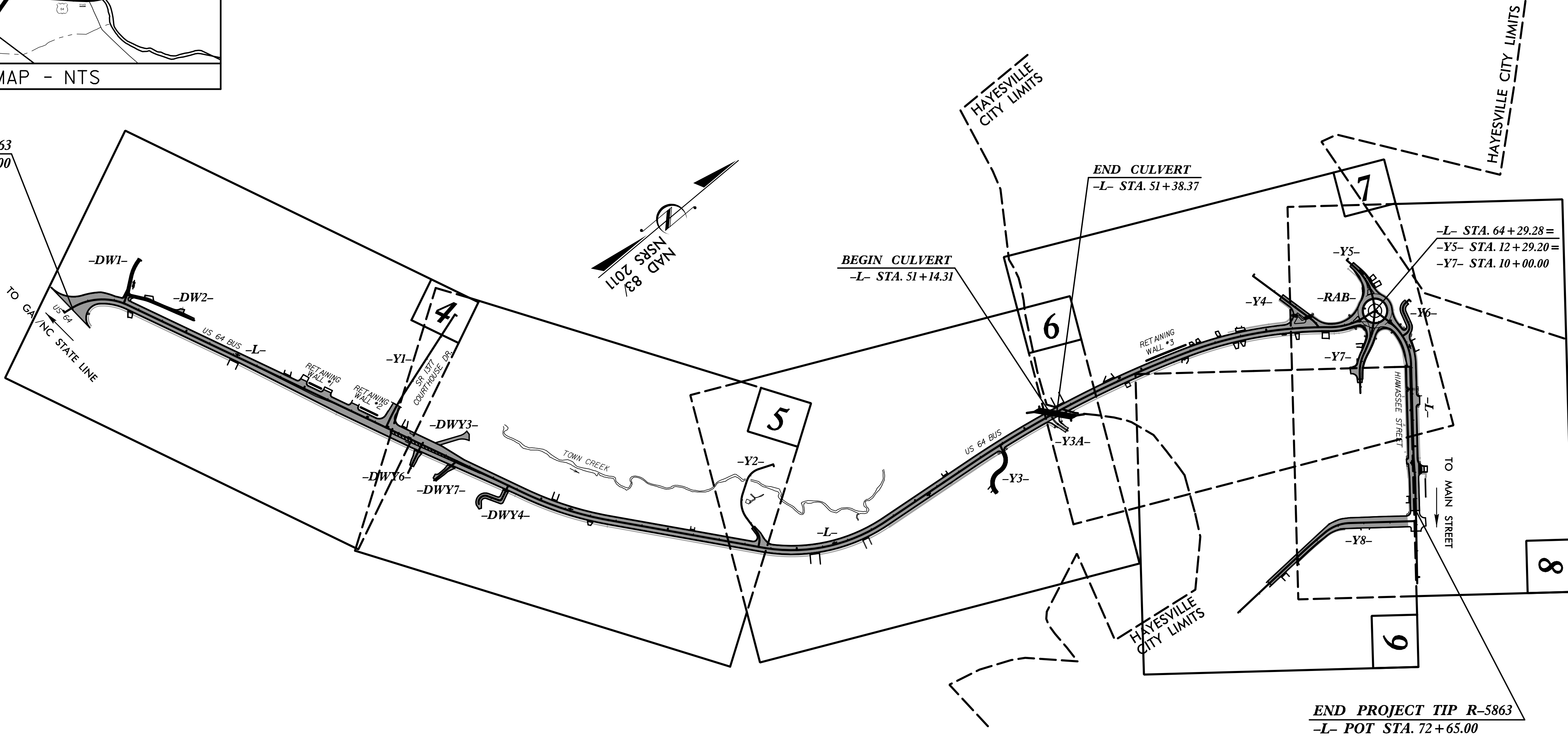
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
CLAY COUNTY

LOCATION: US 64 BUSINESS FROM US 64 BYPASS TO MAIN STREET
TYPE OF WORK: WATER AND SEWER LINE CONSTRUCTION

T.I.P. NO.	SHEET NO.
R-5863	UC-1

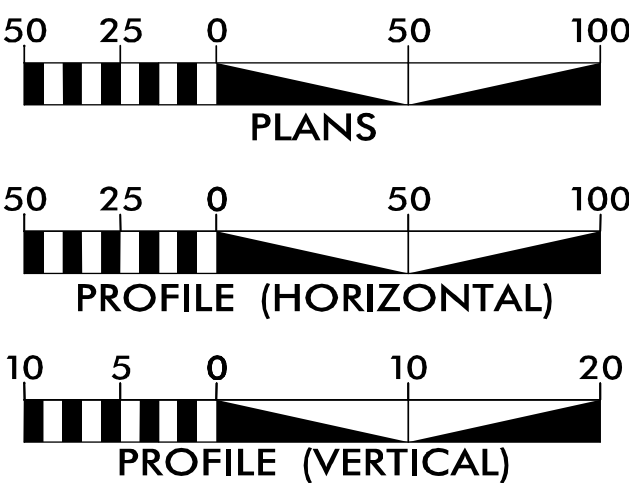
BEGIN PROJECT TIP R-5863
-L- POT STA. 10+30.00



END PROJECT TIP R-5863
-L- POT STA. 72+65.00

DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED

GRAPHIC SCALES



INDEX OF SHEETS

SHEET NO.:

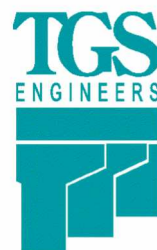
DESCRIPTION:

UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A THRU UC-3C	DETAILS
UC-4 THRU UC-9	UTILITY CONSTRUCTION SHEETS
UC-10 THRU UC-14	PROFILE SHEETS

WATER AND SEWER
OWNERS ON PROJECT

- (A) WATER - CLAY COUNTY
(B) SEWER - CLAY COUNTY

PREPARED IN THE OFFICE OF



TGS ENGINEERS
804-C N. LAFAYETTE ST
SHELBY, NC 28150
PH (704) 476-0003
CORP. LICENSE NO.: C-0275

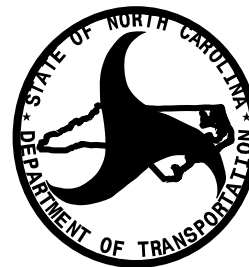
CHAD HOUSER PE,PLS

UTILITY DESIGN ENGINEER

SEAL



4/23/2025



HIGHWAY DIVISION 14

253 Webster Road
Sylva, NC 28779
(828) 586-2141

BOB GOLDING

DIVISION UTILITY ENGINEER

5/14/99

3/12/2025
R-5863\Utilities\Engineering\UC\Proj\R-5863_UT_syn_UC2.dgn
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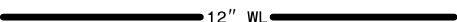
REV: 2/1/2012

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

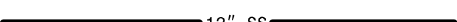
UTILITIES PLAN SHEET SYMBOLS

PROJECT REFERENCE NO.	SHEET NO.
R-5863	UC-2

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	
Water Meter	
Relocate Water Meter	
Remove Water Meter	
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	

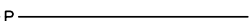
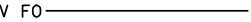
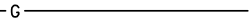
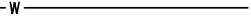
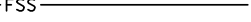
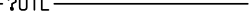
PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

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	

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	
End of Information	

*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	
*Underground Water Line	
Aboveground Water Line	
*Underground Gravity Sanitary Sewer Line	
Aboveground Gravity Sanitary Sewer Line	
*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)	

UTILITY CONSTRUCTION NOTES

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 UTILITIES BELONG TO THE CLAY COUNTY WATER & SEWER DISTRICT CONTACT: PUBLIC WORKS DIRECTOR DUSTY BEAL (828-389-1361), dbeal@ClayNC.us

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, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, 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 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. 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. ALL PROPOSED WATER LINE 4 TO 16 INCHES IN DIAMETER, SHALL BE DUCTILE IRON PIPE - PRESSURE CLASS 350 AND UTILIZE FLEXIBLE PUSH-ON RESTRAINED JOINTS.

2. ALL PROPOSED STEEL ENCASEMENTS SHALL BE SMOOTH WALL WITH A MINIMUM THICKNESS OF 0.25 INCHES.

3. ALL WATER LINE FITTINGS 4 TO 12 INCHES IN DIAMETER, SHALL BE PRESSURE CLASS 350 DUCTILE IRON RESTRAINED JOINT IN ACCORDANCE WITH ANSI A21.10 / AWWA C110 AND ANSI A21.4 / AWWA C104.

4. WATER LINE UTILIZING RESTRAINED JOINTS SHALL APPROVED BY THE UTILITY OWNER.

5. ALL WATERLINE SHALL HAVE COATED TRACER WIRE NO SMALLER THAN 12 AWG SOLID COPPER.

6. ALL VALVES - 2" THROUGH 12" SHALL BE RESILIENT WEDGE GATE, CAST IRON BODY, CONFORMING TO AWWA C509, LATEST VERSION. SEALING MECHANISM SHALL PROVIDE ZERO LEAKAGE AT THE WATER WORKING PRESSURE AGAINST THE LINE FLOW FROM EITHER DIRECTION AND BE DESIGNED SUCH THAT NO EXPOSED METAL SEAMS, EDGES, SCREWS, ETC. ARE WITHIN THE WATERWAY IN THE CLOSED POSITION. THE GATE SHALL NOT BE WEDGED INTO A POCKET NOR SLIDE ACROSS THE SEATING SURFACE TO OBTAIN TIGHT CLOSURE. ALL INTERNAL AND EXTERNAL FERROUS SURFACES OF THE VALVE, INCLUDING THE INTERIOR OF THE GATE, SHALL BE COATED WITH A PROTECTIVE COATING CONFORMING TO AWWA C550, LATEST VERSION. COATING SHALL BE APPLIED TO CASTINGS PRIOR TO ASSEMBLY TO ASSURE ALL EXPOSED AREAS WILL BE COVERED. VALVES SHALL BE RATED AT 200 PSI WORKING PRESSURE. UNLESS OTHERWISE NOTED, UNDERGROUND VALVES SHALL HAVE AN OPERATING NUT AND EXPOSED VALVES SHALL HAVE A HAND WHEEL OPERATOR. OPERATING NUT SHALL BE 2"x2", OPEN LEFT.

7. EACH VALVE BURIED IN THE GROUND SHALL BE PROVIDED WITH AN APPROVED TYPE OF VALVE BOX AND COVER. THE BOXES SHALL BE ADJUSTABLE SCREW TYPE 24-INCH OR 36-INCH.

8. ALL VALVE BOXES SHALL BE CONSTRUCTED OF CAST IRON THAT COMPLIES WITH THE REQUIREMENTS OF ASTM A48. VALVE BOXES SHALL BE THE APPROPRIATE RANGE OF ADJUSTMENT FOR THE SITE AND CONTRACTOR SHOULD MINIMIZE THE USE OF EXTENSIONS.

9. PROVIDE THRUST RESTRAINT ON THE EXISTING WATER LINE WHERE TIE-INS ARE MADE AS NECESSARY.

10. CONTRACTOR SHALL NOT OPERATE ANY VALVES ON THE EXISTING UTILITY SYSTEMS. CONTRACTOR SHALL CONTACT THE UTILITY OWNER TO CONDUCT STRATEGIC OPERATION OF VALVES FOR SERVICE INTERRUPTION IN ORDER TO PERFORM SPECIFIC WORK.

11. ANY BENDS OF PVC WATER PIPE NOT SPECIFICALLY CALLED OUT WITH A 90, 45, 22.5, OR 11.25 DEGREE BEND FITTING, SHALL BE CONSTRUCTED BY A RADIAL BEND OF THE PIPE AS NOTED ON THE PLANS OR IN ACCORDANCE WITH PIPE MANUFACTURER'S SPECIFICATIONS (WHICHEVER IS MORE STRINGENT) - OR A COMBINATION OF BEND FITTINGS AND A RADIAL BEND OF THE PIPE. DEFLECTION OF THE PIPE JOINTS ON PVC PIPE MATERIAL IS NOT AN ACCEPTABLE METHOD OF PIPE BENDING.

12. ALL MATERIALS, EQUIPMENT, LABOR, AND WORKSMANSHIP SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

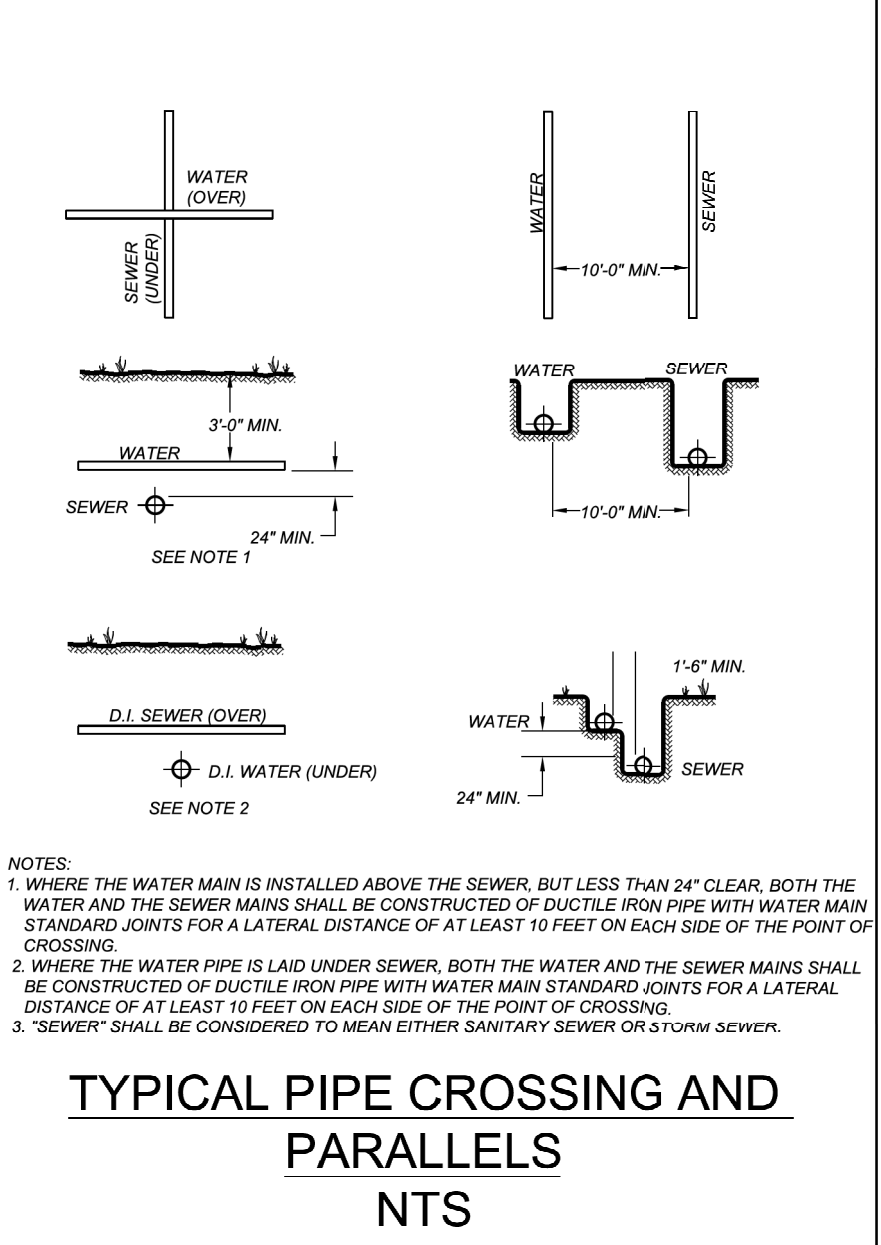
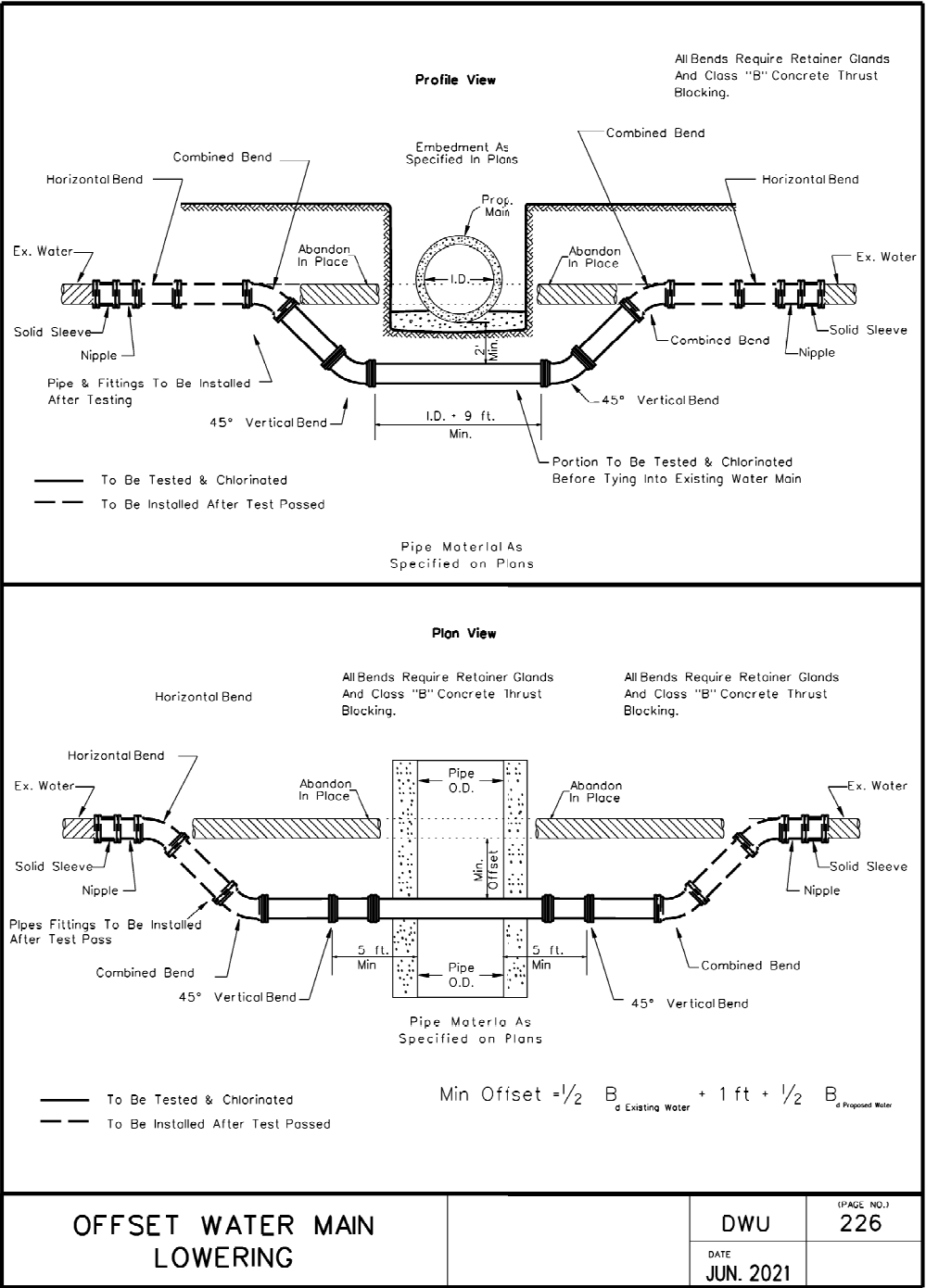
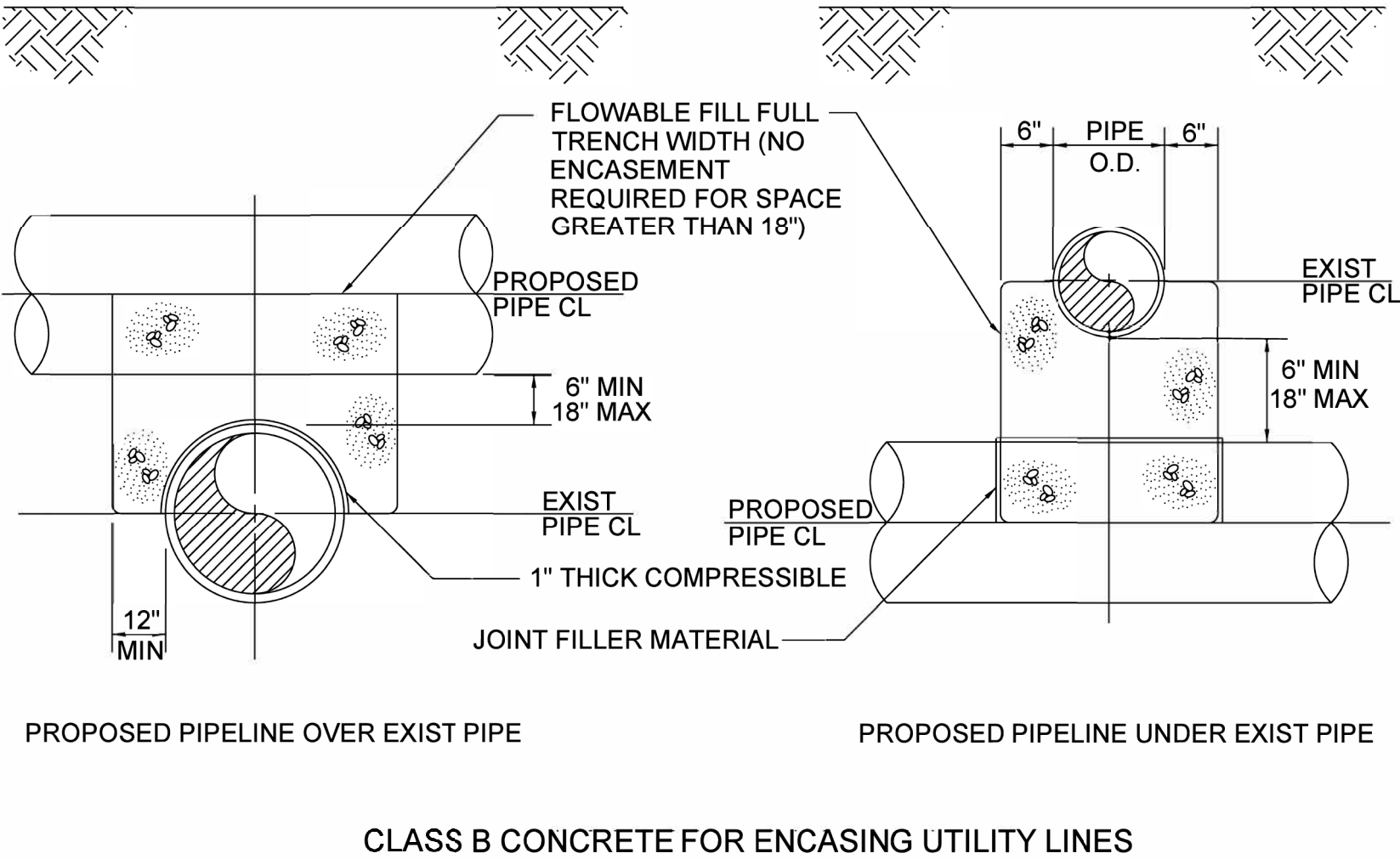
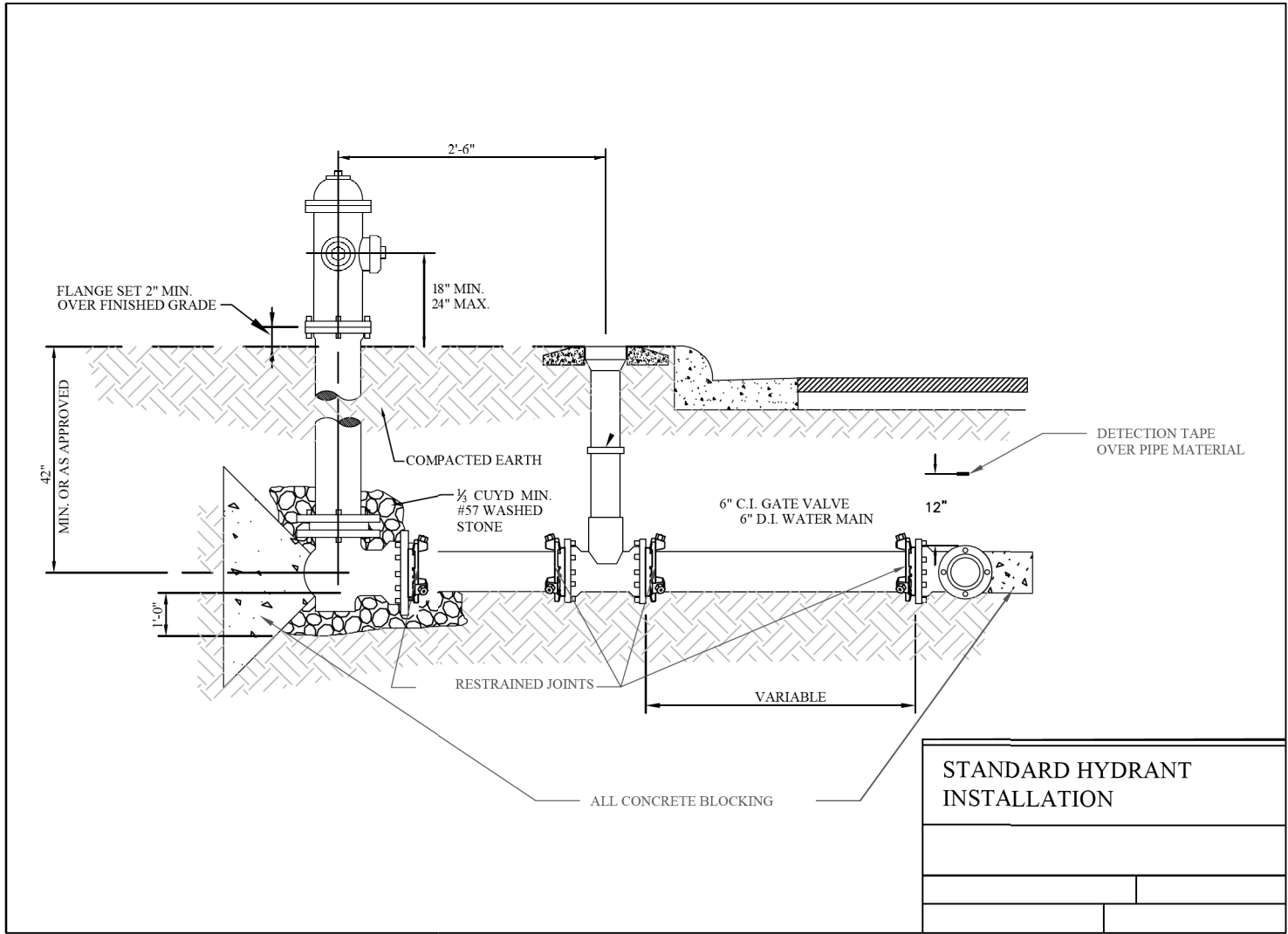
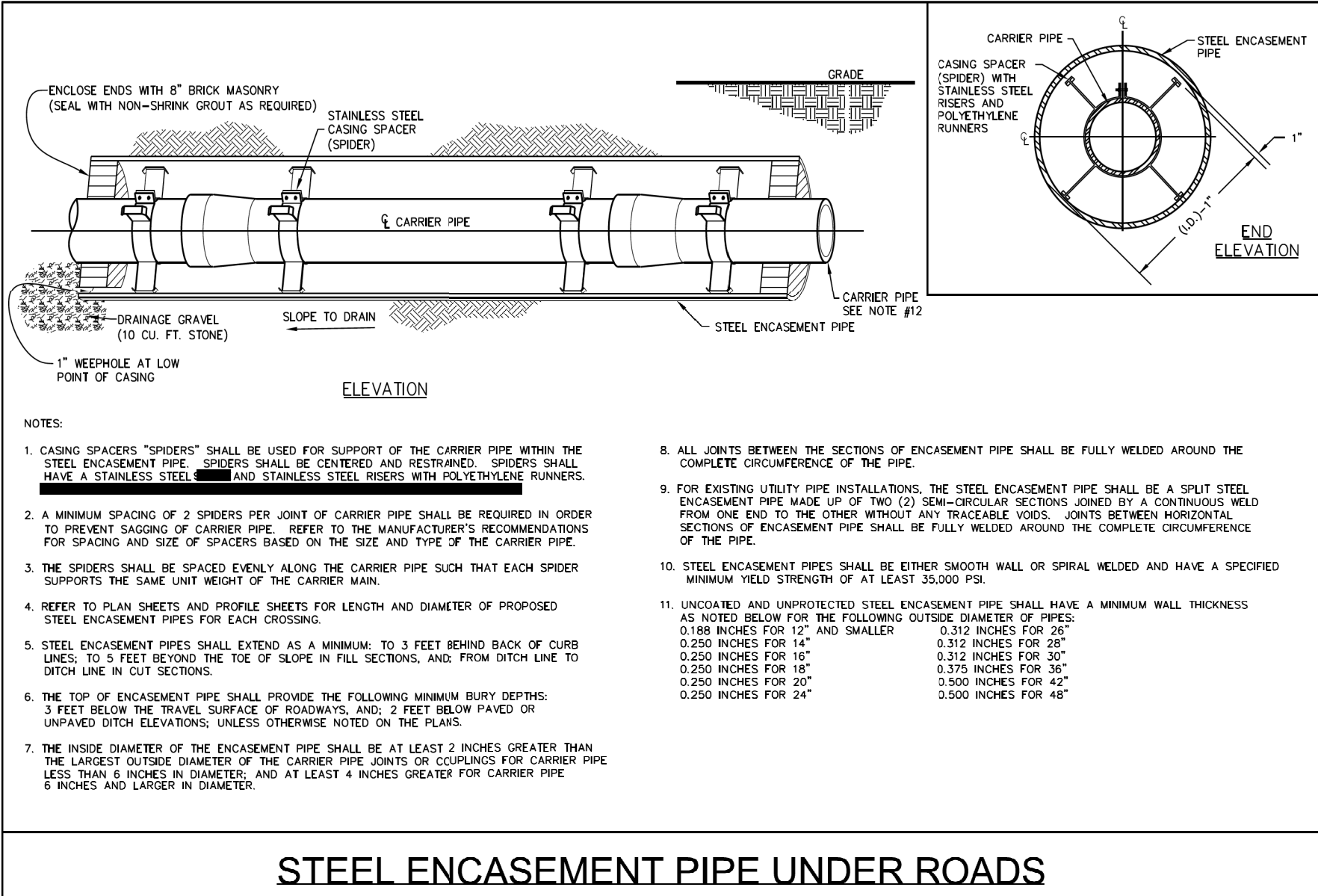
13. UTILITY OWNER MUST BE PRESENT FOR ANY TESTING OR CONNECTIONS TO THE EXISTING SYSTEM INCLUDING, BUT NOT LIMITED TO, ALL TAPS AND TEMPORARY CONSTRUCTION CONNECTIONS. A NOTICE OF 72 HOURS MUST BE PROVIDED.

14. ALL PROPOSED GRAVITY SEWER SHALL BE DUCTILE IRON PIPE - PRESSURE CLASS 350.

15. IF IT IS DETERMINED THAT TYING TO AN EXISTING MANHOLE SHALL CAUSE SIGNIFICANT DAMAGE OR THAT THE STRUCTURAL INTEGRITY OF A GIVEN MANHOLE IS IN QUESTION, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER IMMEDIATELY.

PROJECT REFERENCE NO.		SHEET NO.	
R-5863		UC-3	
DESIGNED BY: BCH			
DRAWN BY: ADC			
CHECKED BY:			
APPROVED BY:			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			
UTILITY CONSTRUCTION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

WATER TYPICAL DETAILS



MAXIMUM TRENCH WIDTH AT TOP OF PIPE	
NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
4	28
6	30
8	32
10	34
12	36
14	38
16	40
18	42
20	44
24	48
30	54
36	60
42	66
48	72
54	78

PROJECT REFERENCE NO. **R-5863**

SHEET NO. **UC-3A**

DESIGNED BY: **BCH**

DRAWN BY: **KSA**

CHECKED BY:

APPROVED BY:

REVISED:

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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

UTILITY CONSTRUCTION PLANS ONLY

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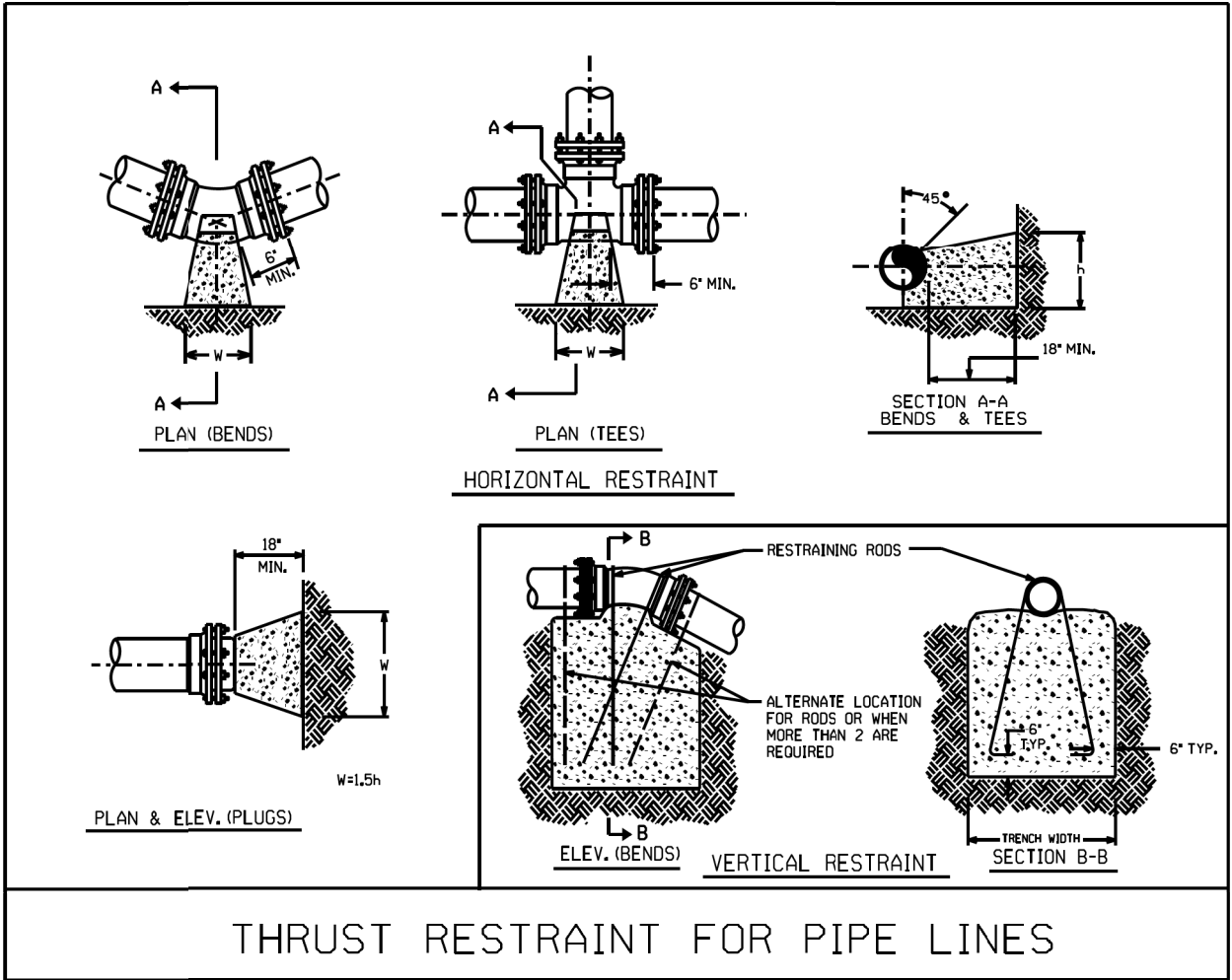
4/23/2025

RESTRAINED JOINT DESIGN TABLE FOR DUCTILE IRON PIPE

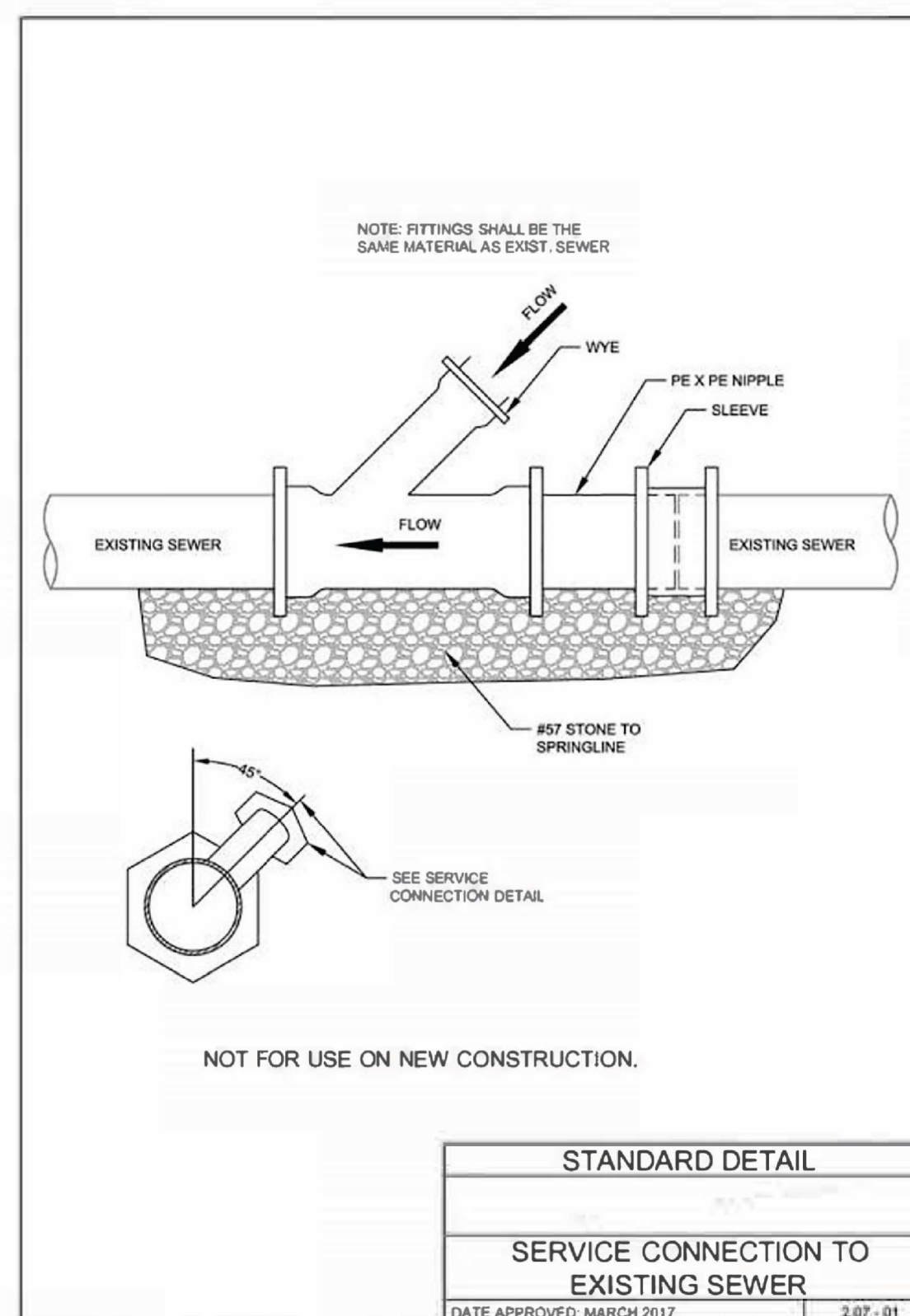
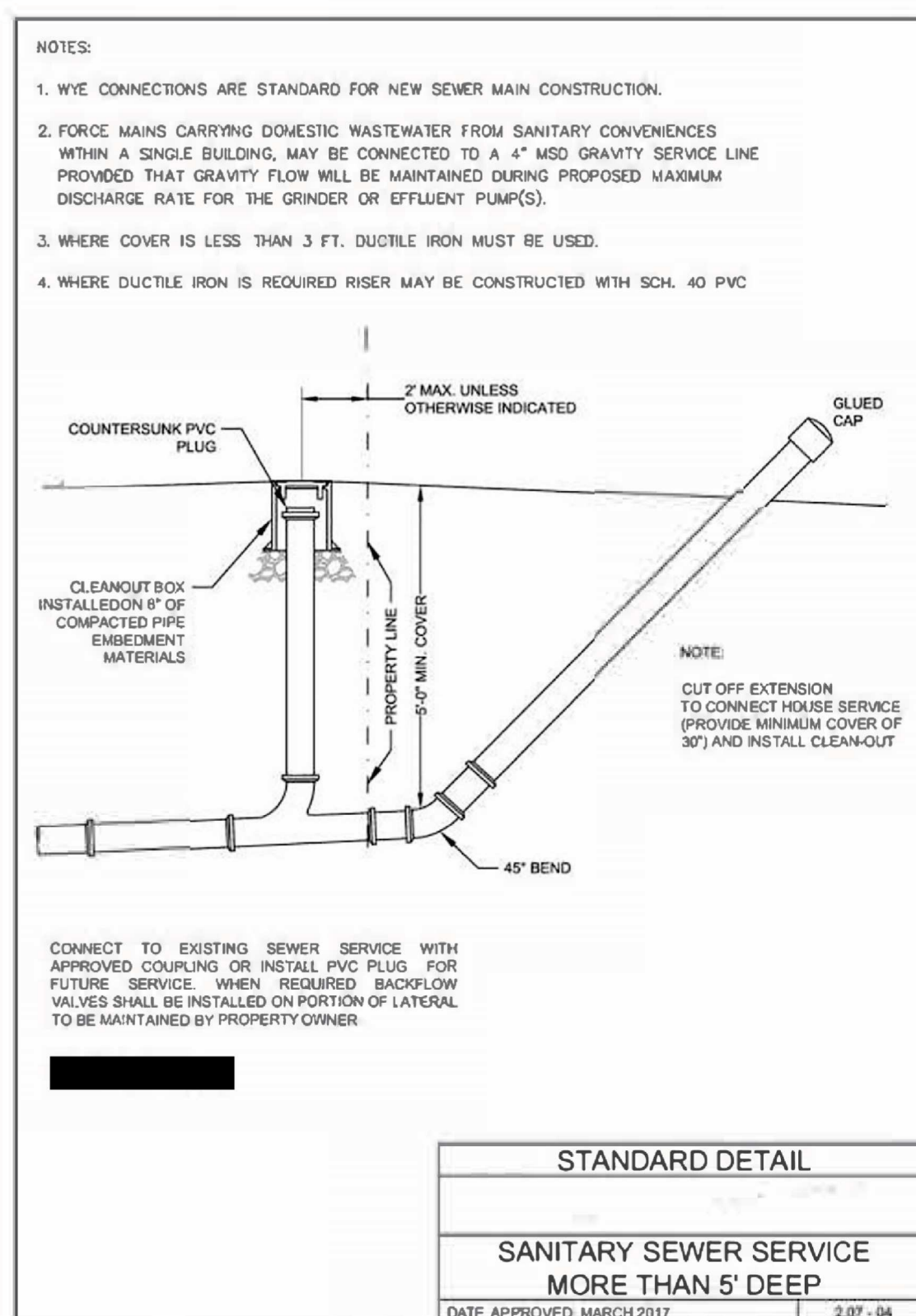
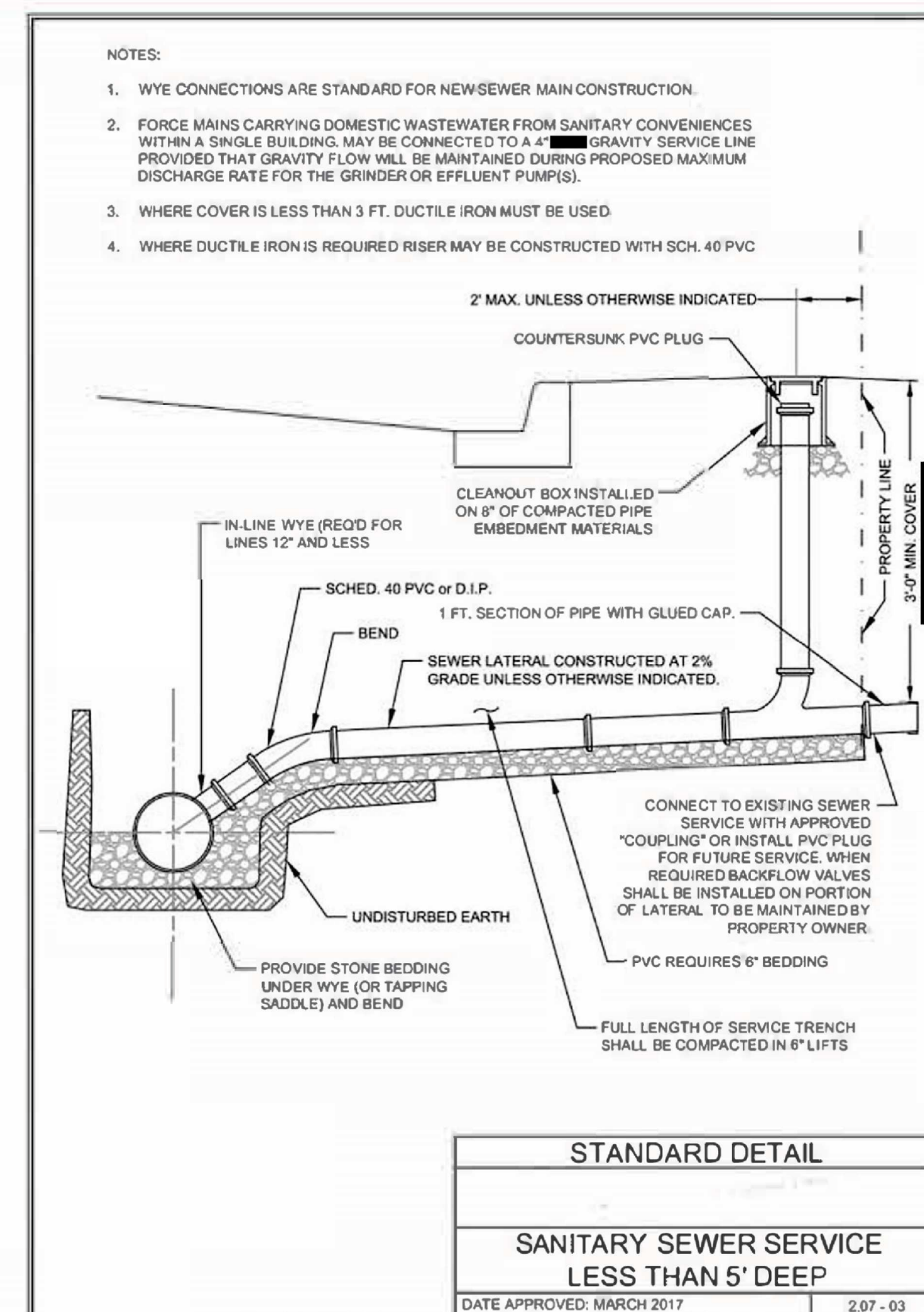
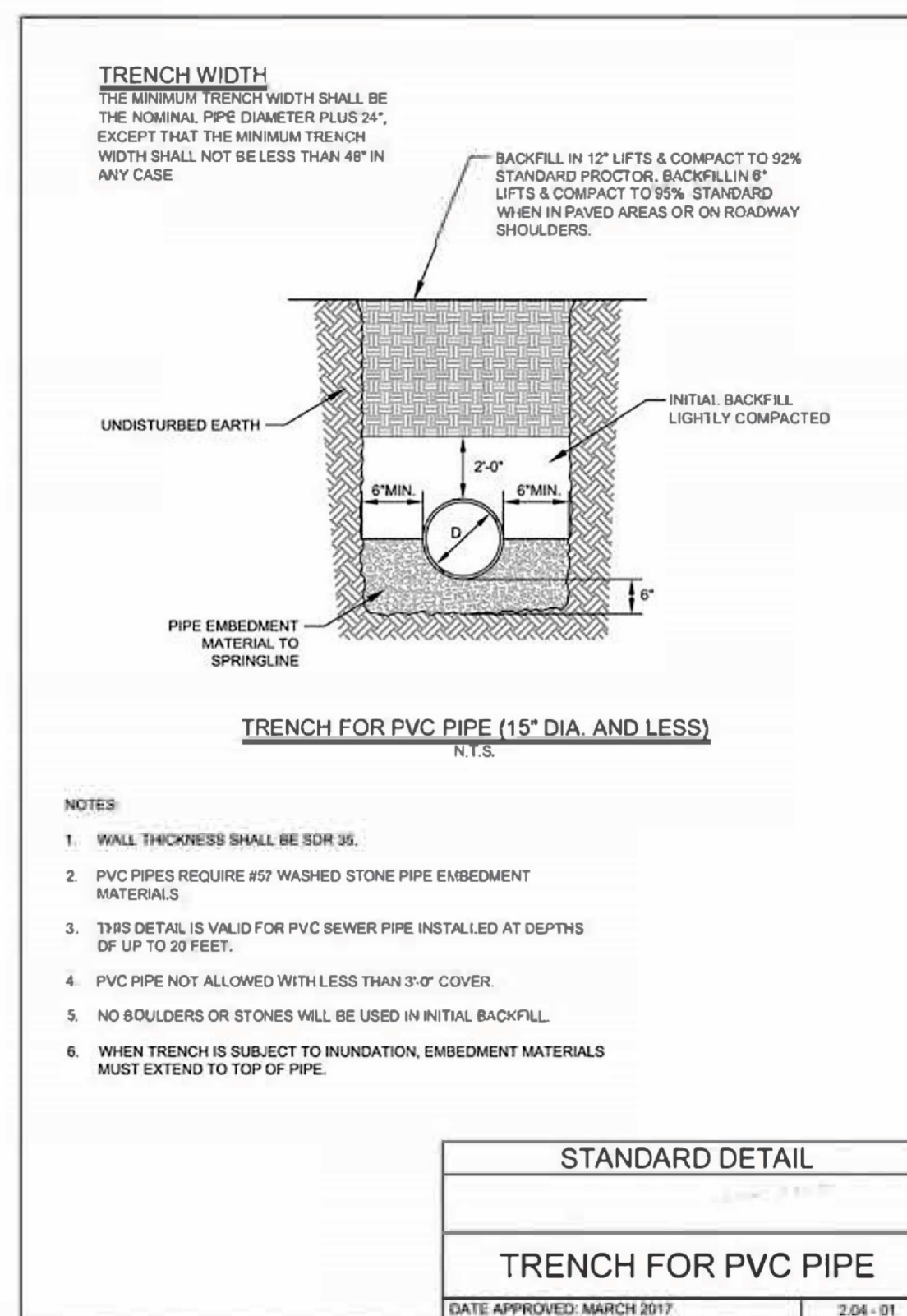
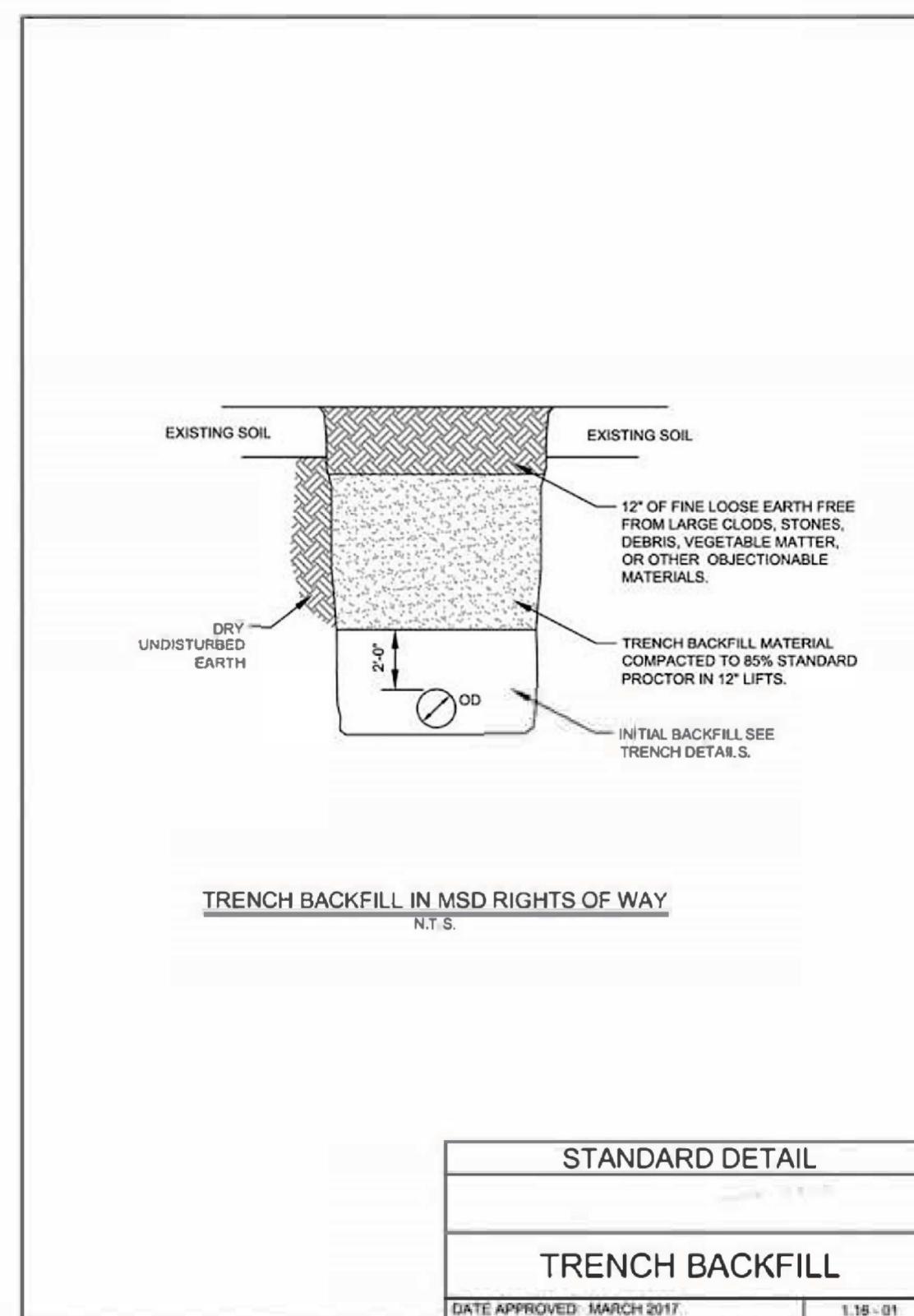
FITTING	REQUIRED RESTRAINED LENGTH (FT) OF BARE D.I. PIPE BY DEPTH OF COVER							
	3 FT	4 FT	5 FT	6 FT	7 FT	8 FT	9 FT	10 FT
HORIZONTAL BENDS								
6 INCH DIA - 11.25 DEG	3	2	2	2	2	1	1	1
6 INCH DIA - 22.5 DEG	5	4	4	3	3	3	3	2
6 INCH DIA - 45 DEG	11	9	8	3	2	2	2	2
6 INCH DIA - 90 DEG	26	22	19	17	16	14	13	12
8 INCH DIA - 11.25 DEG	3	3	2	2	2	2	2	2
8 INCH DIA - 22.5 DEG	7	6	5	5	4	4	3	3
8 INCH DIA - 45 DEG	14	12	10	9	8	8	7	7
8 INCH DIA - 90 DEG	33	29	25	23	20	19	17	16
12 INCH DIA - 11.25 DEG	5	4	4	3	3	3	3	3
12 INCH DIA - 22.5 DEG	9	8	7	6	6	5	5	5
12 INCH DIA - 45 DEG	20	17	15	13	12	11	10	10
12 INCH DIA - 90 DEG	47	41	36	33	29	27	25	23
16 INCH DIA - 11.25 DEG	6	5	5	4	4	3	3	3
16 INCH DIA - 22.5 DEG	12	11	9	8	8	7	6	6
16 INCH DIA - 45 DEG	25	22	19	17	16	14	13	12
20 INCH DIA - 11.25 DEG	7	6	6	5	5	4	4	4
20 INCH DIA - 22.5 DEG	15	13	11	10	9	9	8	7
20 INCH DIA - 45 DEG	31	27	24	21	19	18	16	15
20 INCH DIA - 90 DEG	74	65	57	52	47	43	40	37
VERTICAL BENDS - DOWN								
6 INCH DIA - 11.25 DEG	7	6	5	5	4	4	4	3
6 INCH DIA - 22.5 DEG	15	13	11	10	9	8	7	7
6 INCH DIA - 45 DEG	31	27	23	21	19	17	16	15
6 INCH DIA - 90 DEG	10	8	7	6	6	5	5	5
8 INCH DIA - 11.25 DEG	19	17	15	13	12	11	10	9
8 INCH DIA - 22.5 DEG	40	35	30	27	25	22	21	19
8 INCH DIA - 45 DEG	14	12	10	9	8	8	7	7
8 INCH DIA - 90 DEG	28	24	21	17	16	14	13	13
12 INCH DIA - 11.25 DEG	57	50	44	39	35	32	30	28
12 INCH DIA - 22.5 DEG	19	16	14	12	11	10	9	9
12 INCH DIA - 45 DEG	36	31	27	25	22	20	19	17
16 INCH DIA - 11.25 DEG	74	65	57	51	46	42	39	36
16 INCH DIA - 22.5 DEG	22	19	17	15	14	12	11	11
16 INCH DIA - 45 DEG	44	38	34	30	27	25	23	21
20 INCH DIA - 11.25 DEG	91	79	70	63	57	52	48	44
VERTICAL BENDS - UP								
6 INCH DIA - 11.25 DEG	3	2	2	2	2	1	1	1
6 INCH DIA - 22.5 DEG	5	4	4	3	3	3	3	2
6 INCH DIA - 45 DEG	11	9	8	7	7	6	5	5
6 INCH DIA - 90 DEG	3	3	2	2	2	2	2	2
8 INCH DIA - 11.25 DEG	7	6	5	4	4	4	3	3
8 INCH DIA - 22.5 DEG	14	12	10	9	8	8	7	7
8 INCH DIA - 45 DEG	5	4	4	3	3	3	2	2
8 INCH DIA - 90 DEG	9	8	7	6	6	5	5	5
12 INCH DIA - 11.25 DEG	20	17	15	13	12	11	10	10
12 INCH DIA - 22.5 DEG	6	5	5	4	4	3	3	3
12 INCH DIA - 45 DEG	12	11	9	8	8	7	6	6
16 INCH DIA - 11.25 DEG	25	22	19	17	16	14	13	12
16 INCH DIA - 22.5 DEG	7	6	6	5	5	4	4	4
16 INCH DIA - 45 DEG	15	13	11	10	9	9	8	7
20 INCH DIA - 11.25 DEG	31	27	24	21	19	18	16	15
DEAD ENDS / VALVES								
6 INCH DIA	3	2	2	2	2	1	1	1
8 INCH DIA	50	45	38	35	32	31	29	27
10 INCH DIA	65	59	54	50	46	43	40	38
12 INCH DIA	80	72	66	61	56	52	49	46
14 INCH DIA	94	85	78	72	66	62	58	54
16 INCH DIA	111	102	94	87	81	76	71	67
20 INCH DIA	151	137	125	115	107	100	93	88
REDUCERS								
12 INCH X 8 INCH	3	2	2	2	2	1	1	1
10 INCH X 8 INCH	50	45	41	38	35	33	31	29
TEES								
8" RUN X 8" BRANCH - RL = 1 FT	64	58	53	48	44	41	38	36
8" RUN X 6" BRANCH - RL = 5 FT	39	32	27	24	21	19	17	16
12" RUN X 12" BRANCH - RL = 1 FT	93	84	77	70	65	60	56	53
12" RUN X 12" BRANCH - RL = 5 FT	88	79	71	65	59	54	50	47

ASSUMPTIONS
LAYING CONDITION = TYPE 4
SOIL DESIGNATION = COHESIVE-GRANULAR
DESIGN PRESSURE = 200 PSI (TEST PRESSURE)
SAFETY FACTOR = 1.5

NOTES
1. RESTRAINED LENGTH IS MEASURED AS FOLLOWS:
A. HORIZONTAL/VERTICAL BENDS: ALONG EACH SIDE OF BEND.
B. HORIZONTAL/VERTICAL BENDS - OFFSET: ALONG THE OUTER SIDE OF EACH BEND.
ALL PIPE BETWEEN THE TWO BENDS SHALL BE RESTRAINED JOINT.
2. WHEN IT IS NOT POSSIBLE TO INSTALL THE RESTRAINED LENGTHS AS NOTED BY THIS TABLE, CONTRACTOR SHALL INSTALL THE APPROPRIATE CONCRETE THRUST RESTRAINTS AS PER THE DETAILS HEREIN.



PROJECT REFERENCE NO.		SHEET NO.	
R-5863		UC-3B	
DESIGNED BY: BCH			
DRAWN BY: KSA			
CHECKED BY:			
APPROVED BY:			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		4/23/2025	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 9250-4151		UTILITY CONSTRUCTION PLANS ONLY	
UTILITY CONSTRUCTION			
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			



SEWER TYPICAL DETAILS

PROJECT REFERENCE NO.
R-5863

SHEET NO.
UC-3C

DESIGNED BY: **BCH**

DRAWN BY: **KSA**

CHECKED BY:

APPROVED BY:

REVISED:

NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION

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

UTILITY CONSTRUCTION
PLANS ONLY

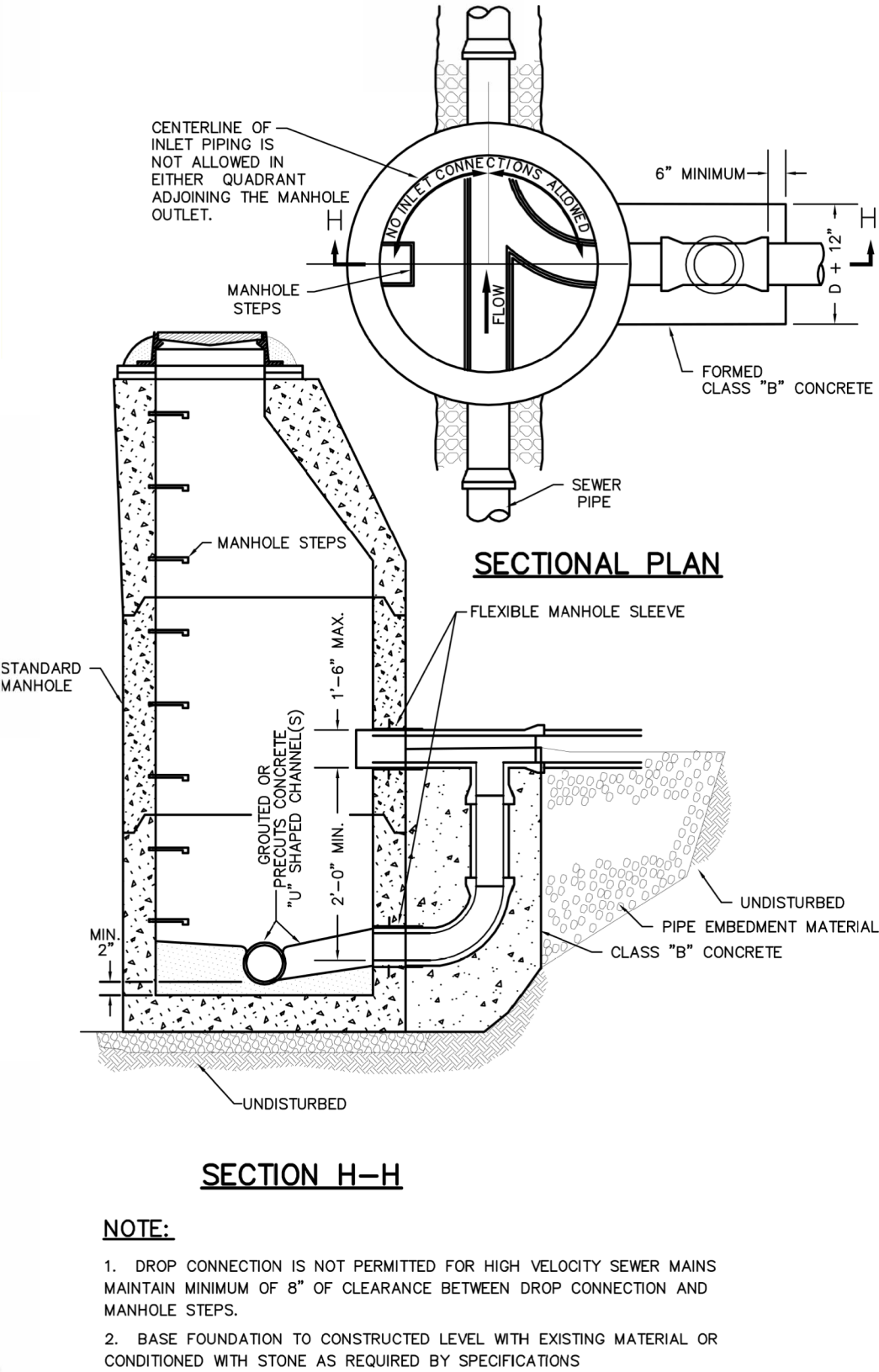
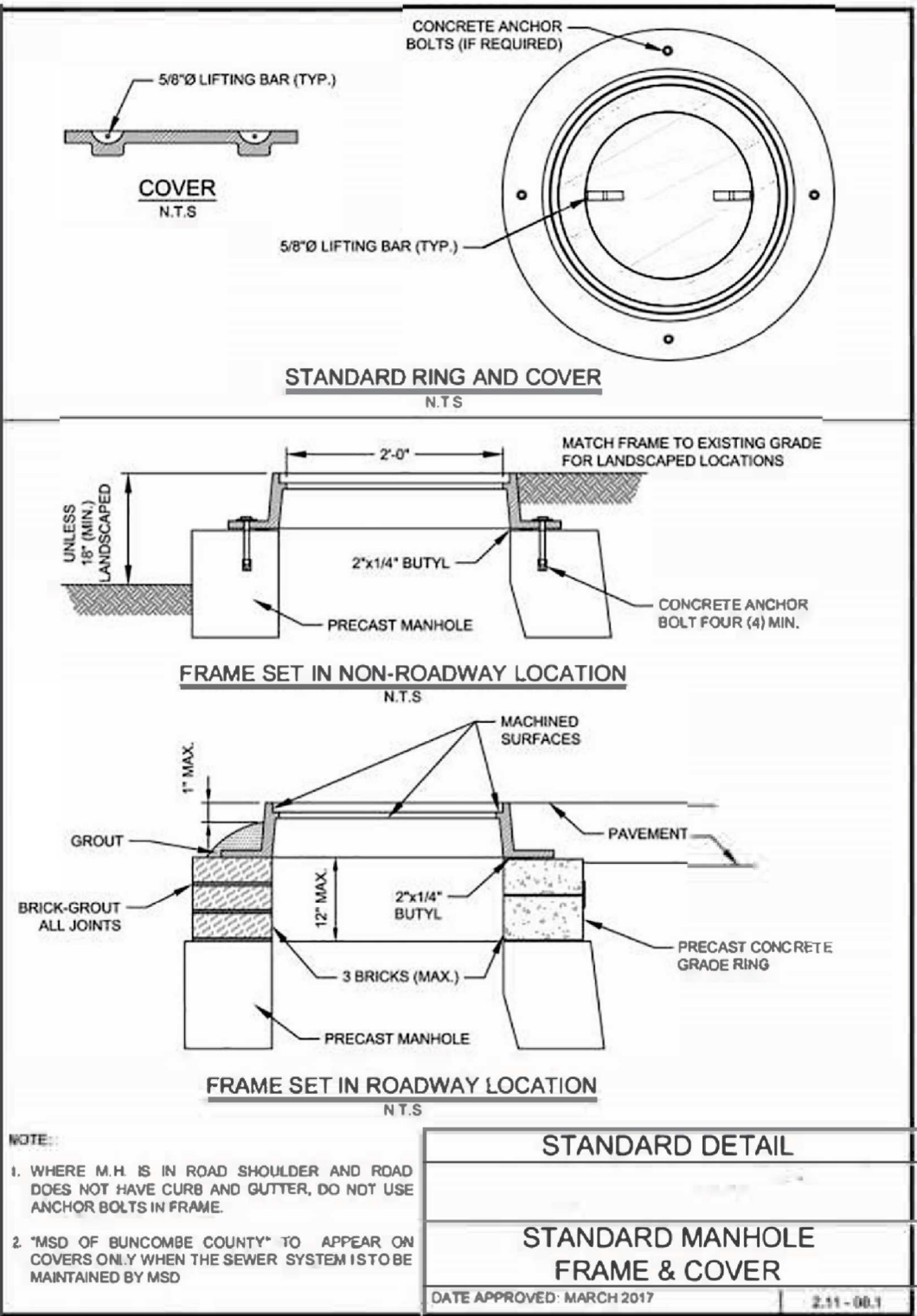
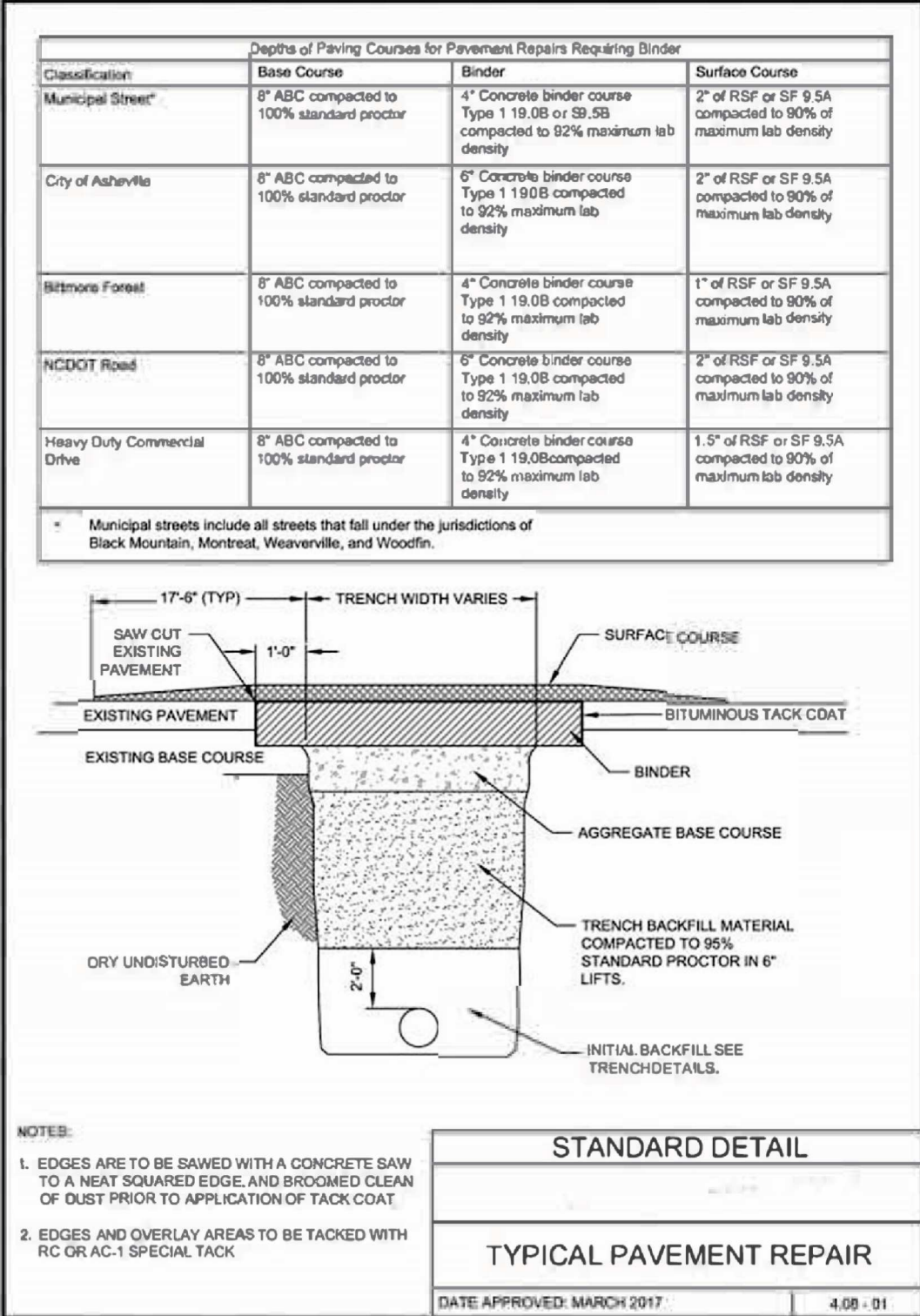
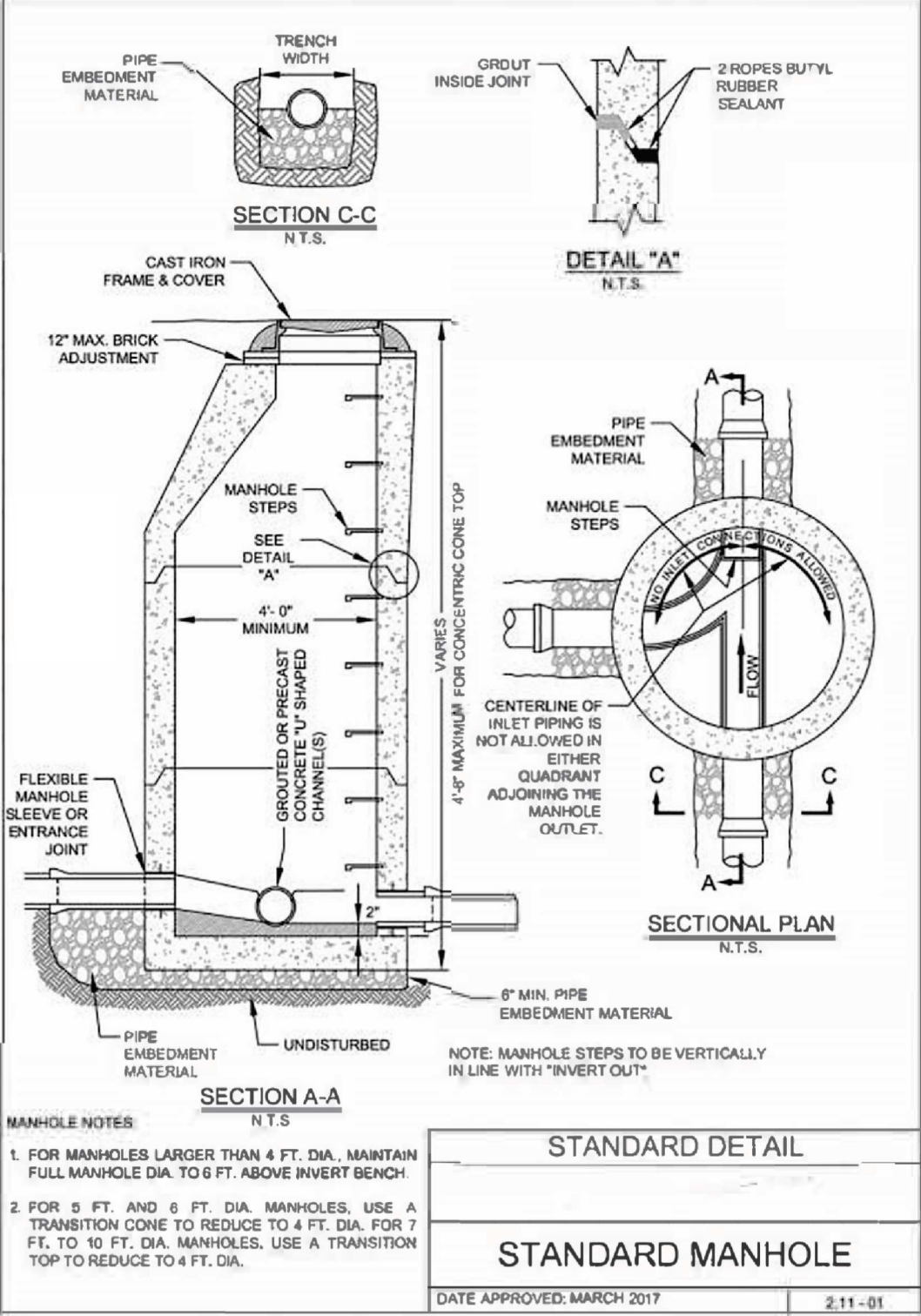
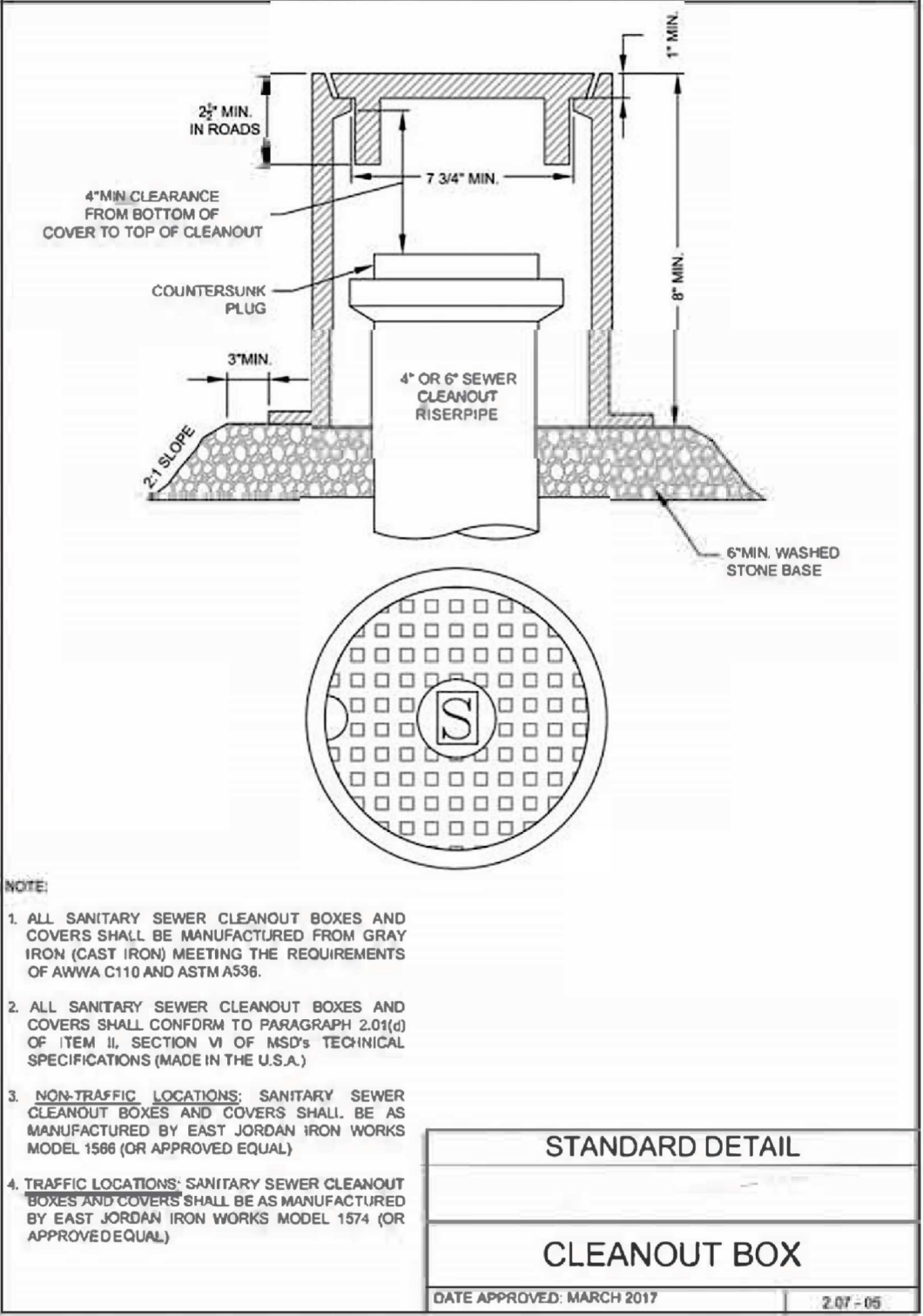
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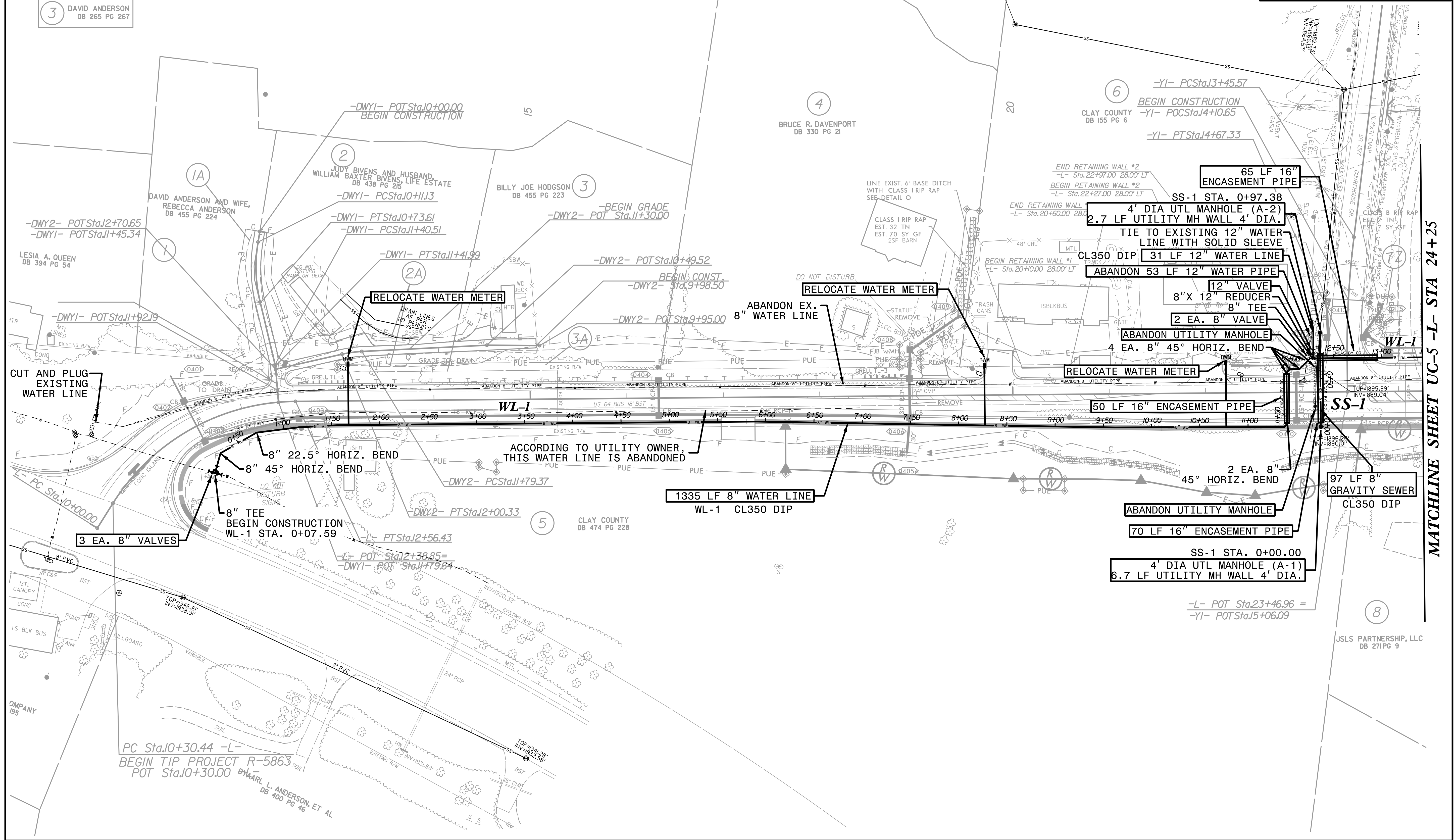
NORTH CAROLINA
PROFESSIONAL
ENGINEER
BOBBY C. HOUSE
4/23/2025

SEAL

SEWER TYPICAL DETAILS

UC-3C







A circular professional engineer seal for the State of North Carolina. The outer ring contains the text "NORTH CAROLINA" at the top and "ENGINEER" at the bottom. The inner ring contains the text "PROFESSIONAL". In the center, the word "SEAL" is printed above the handwritten signature "Bobby Lead House". Below the signature, the number "30499" is printed.

5/14/99

The estimated quantity of Ductile Iron Water Pipe Fittings on this plan sheet is 765 pounds. The actual quantity and type of fittings will vary based on field conditions.

The estimated quantity of "Water Service Line" on this plan sheet is 83 linear feet. The actual quantity will vary based on field conditions and will be determined during construction.

- 18

HAYESVILLE MARKETING AND STAFFING, LLC
DB 437 PG 93
- 19

DOROTHY MOORE, widow
DB 53 PG 67

13Z
RICHARD E. OSBORN
DB 297 PG 250

19
RANDALL MOORE and HOLLY ROLLINS
DB 433 PG 24

KAREN VOLK
DB 250 PG 124

EDWIN B. GARRISON
DB 332 PG 104
DB 255 PG 279

15
EDWIN B. GARRISON
DB 332 PG 104
DB 255 PG 279

PROJECT REFERENCE NO.
R-5863

SHEET NO.
UC-6

DESIGNED BY: BCH

DRAWN BY: ADC

CHECKED BY: LAK

APPROVED BY:

REVISED:

NORTH CAROLINA PROFESSIONAL SEAL
6/18/2025
ENGINEER
BOBBY C. HOUSE

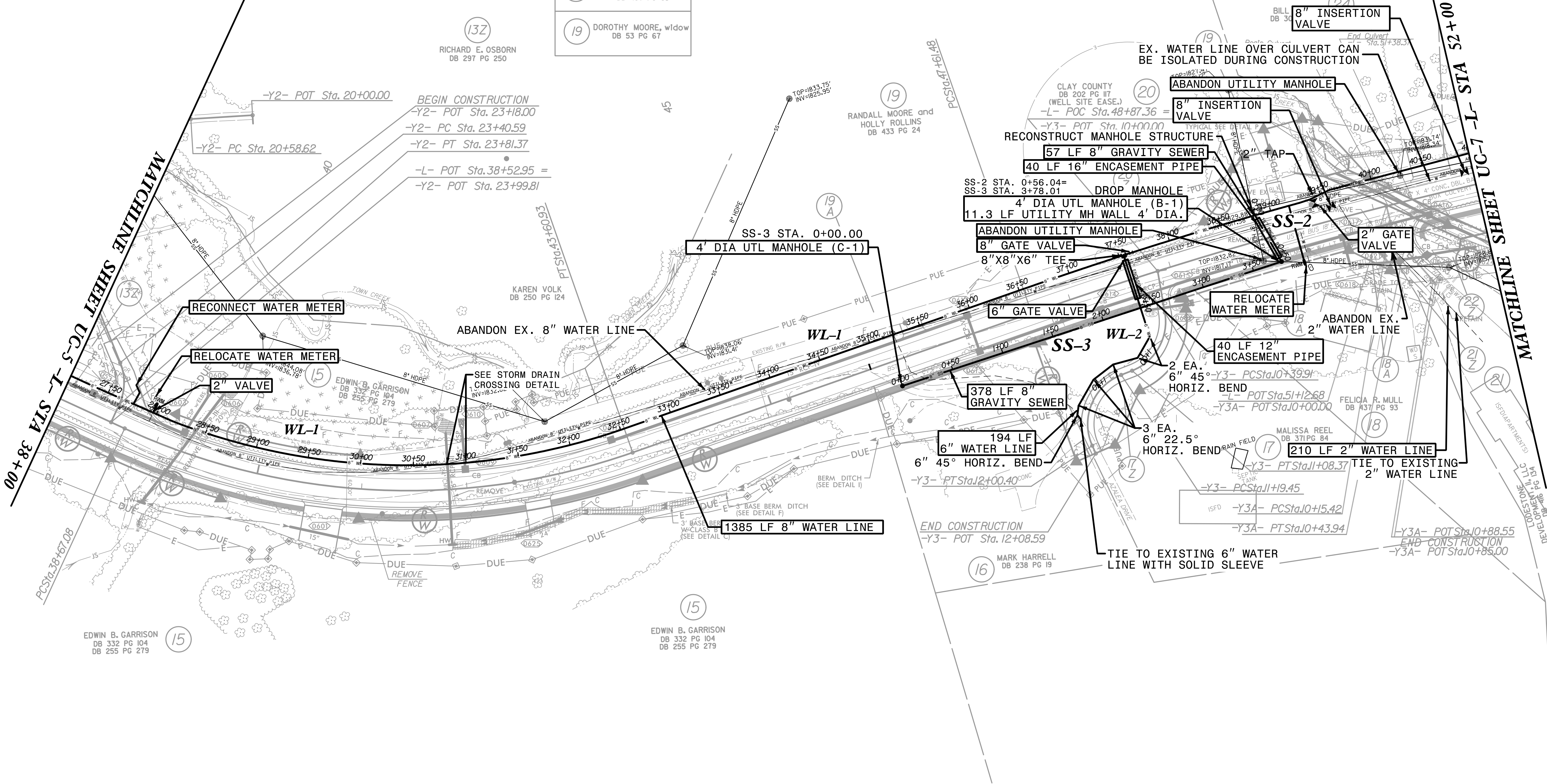
UTILITY CONSTRUCTION PLANS ONLY

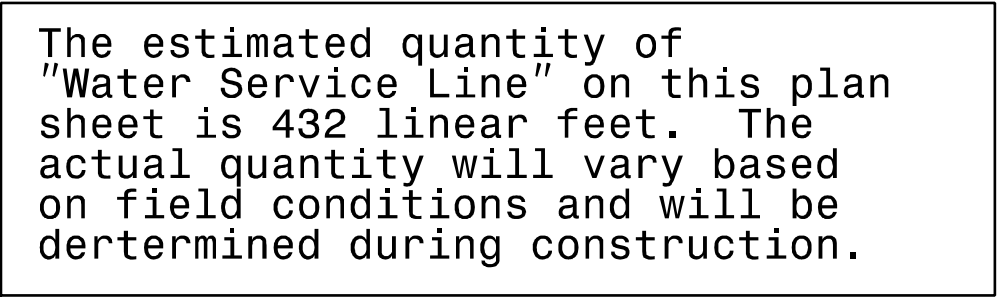
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690
FAX: (919) 250-4151

UTILITY CONSTRUCTION PLANS ONLY

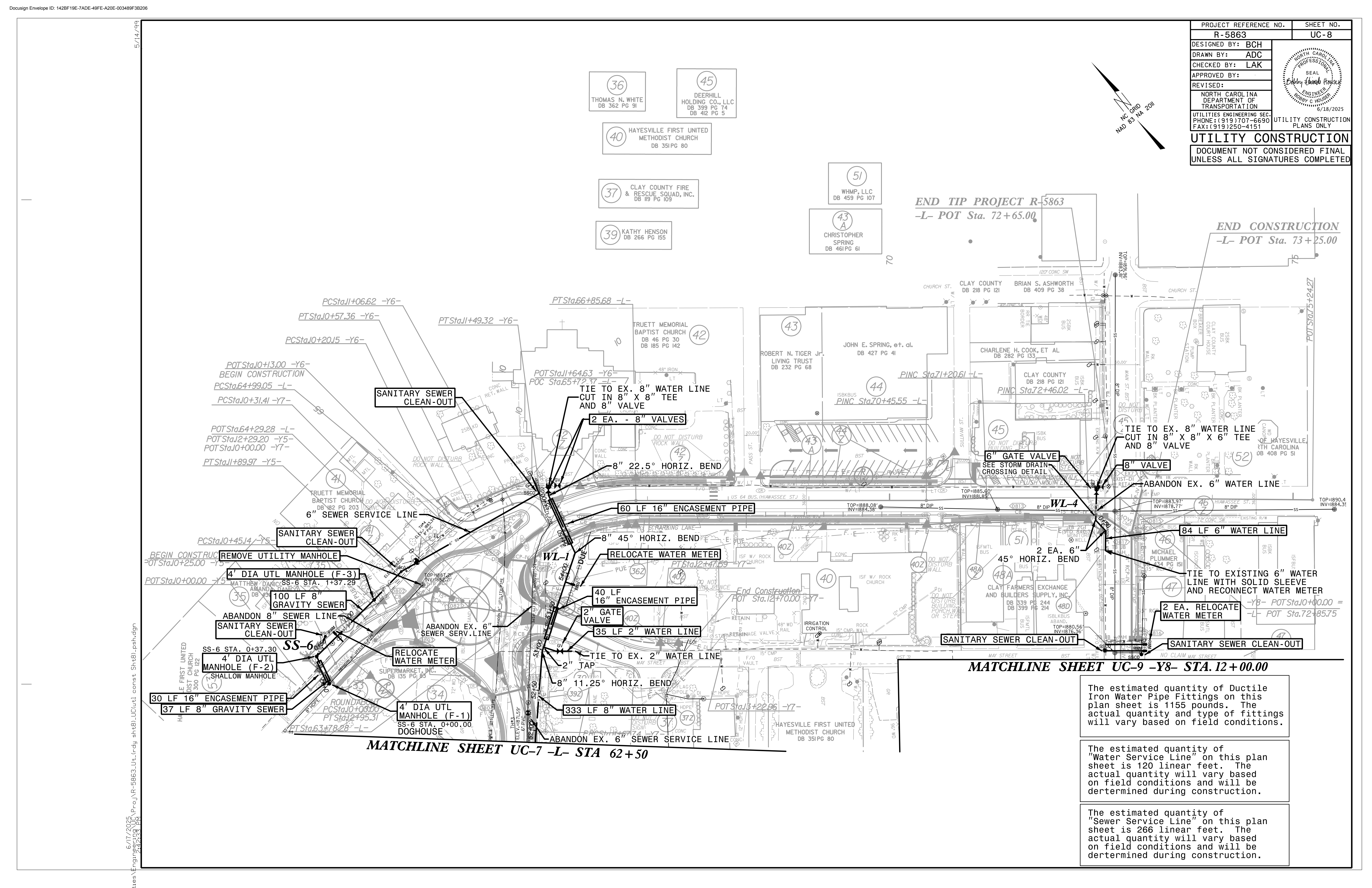
UTILITY CONSTRUCTION

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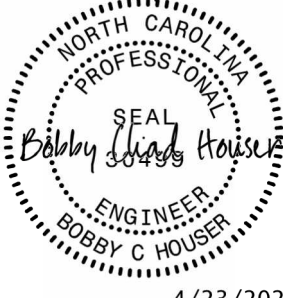


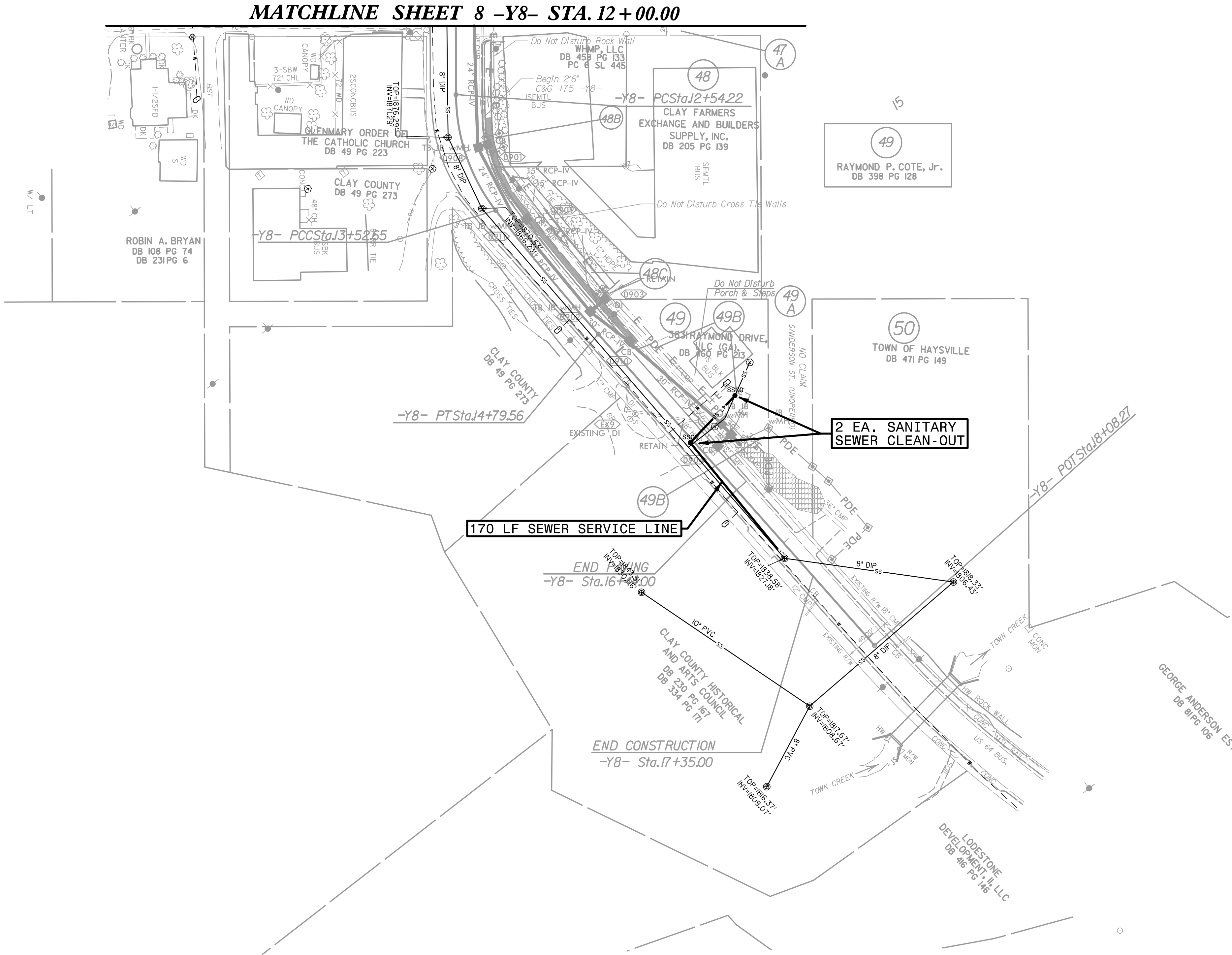
PROJECT REFERENCE NO.		SHEET NO.	
R-5863		UC-7	
DESIGNED BY: BCH			
DRAWN BY: ADC			
CHECKED BY: LAK			
APPROVED BY:			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		4/23/2025	
UTILITIES ENGINEERING SEC. PHONE: (919) 2107-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	
UTILITY CONSTRUCTION			
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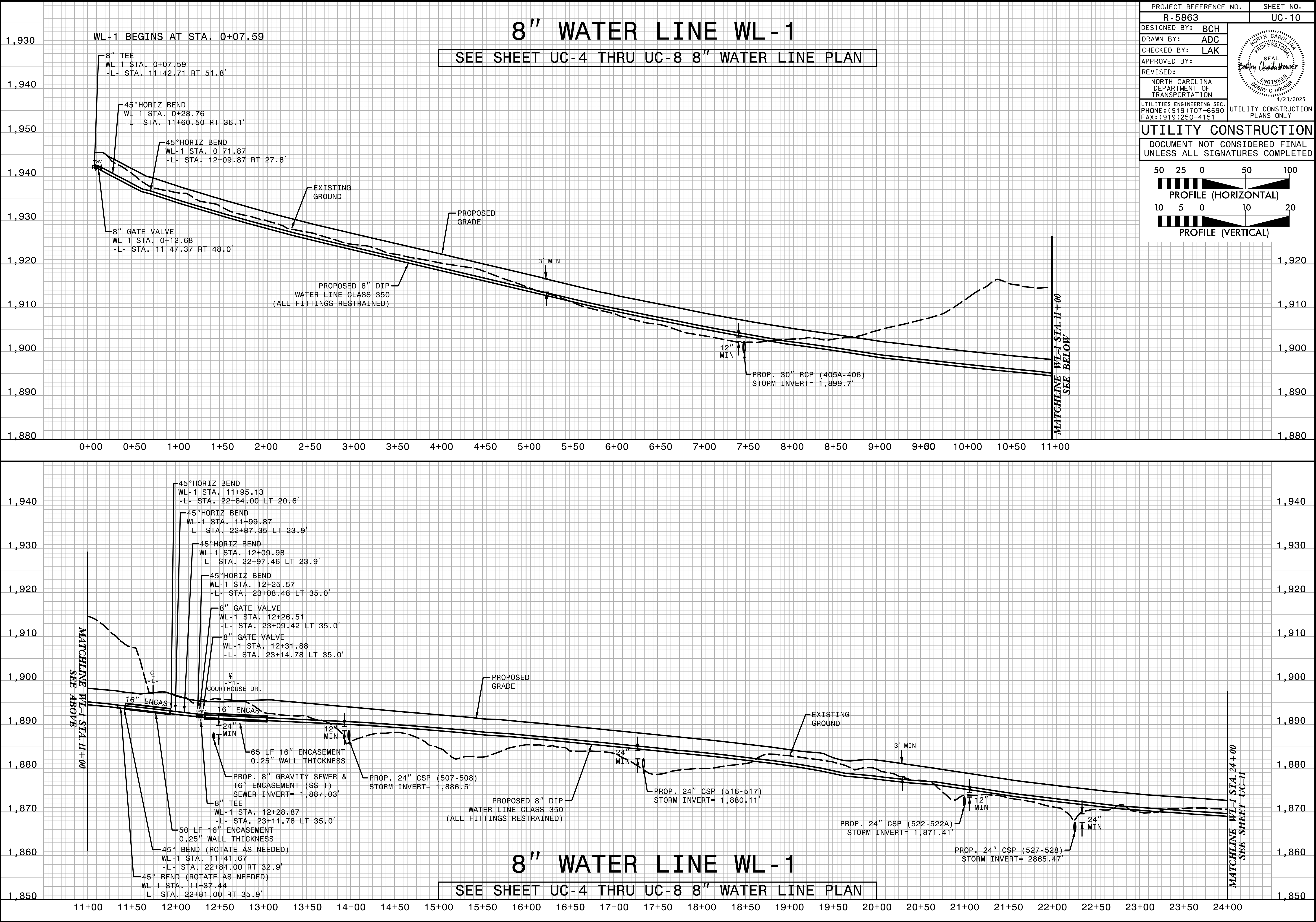


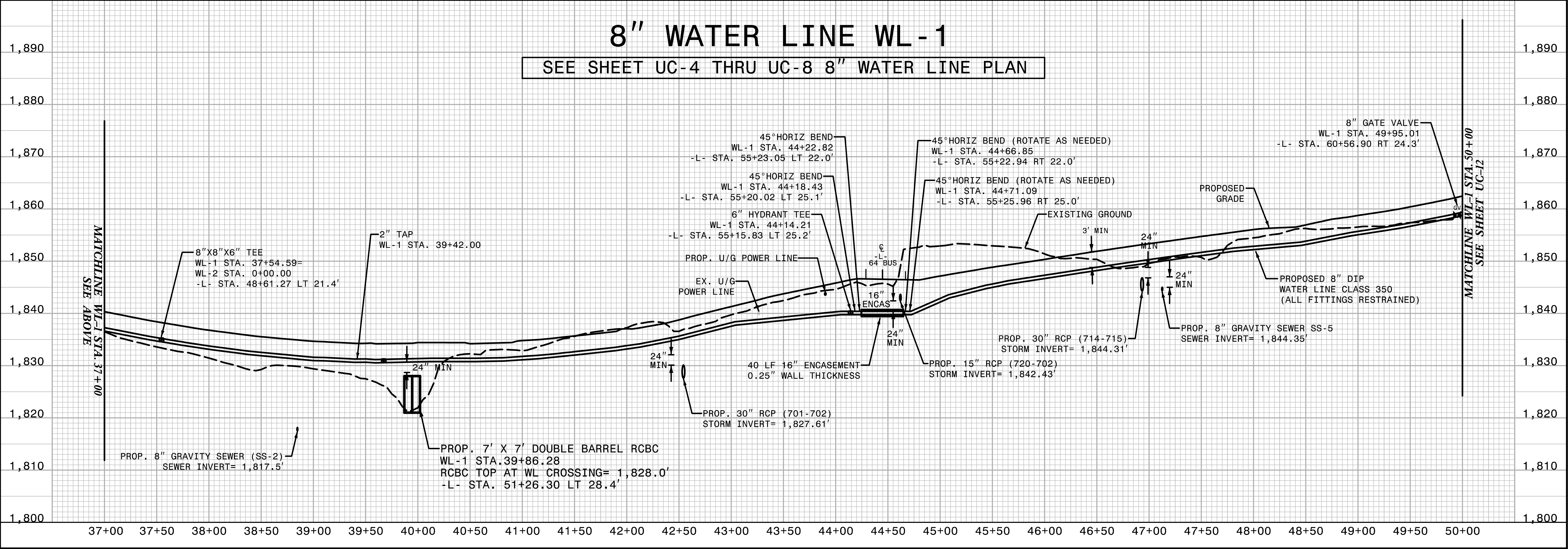
5/14/99

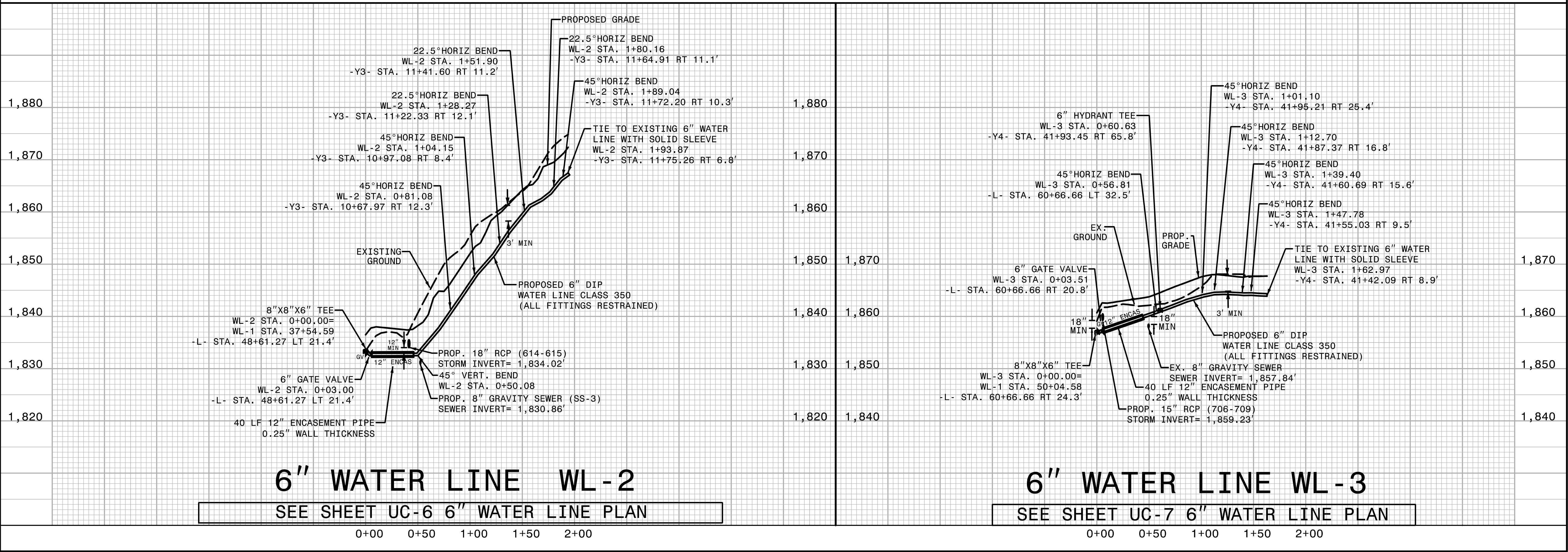
3/12/2025
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3/12/2025
Project: R-5863_Ut.(r.dj sht9)_UC(ut1 const Sht9)_psh.dgn

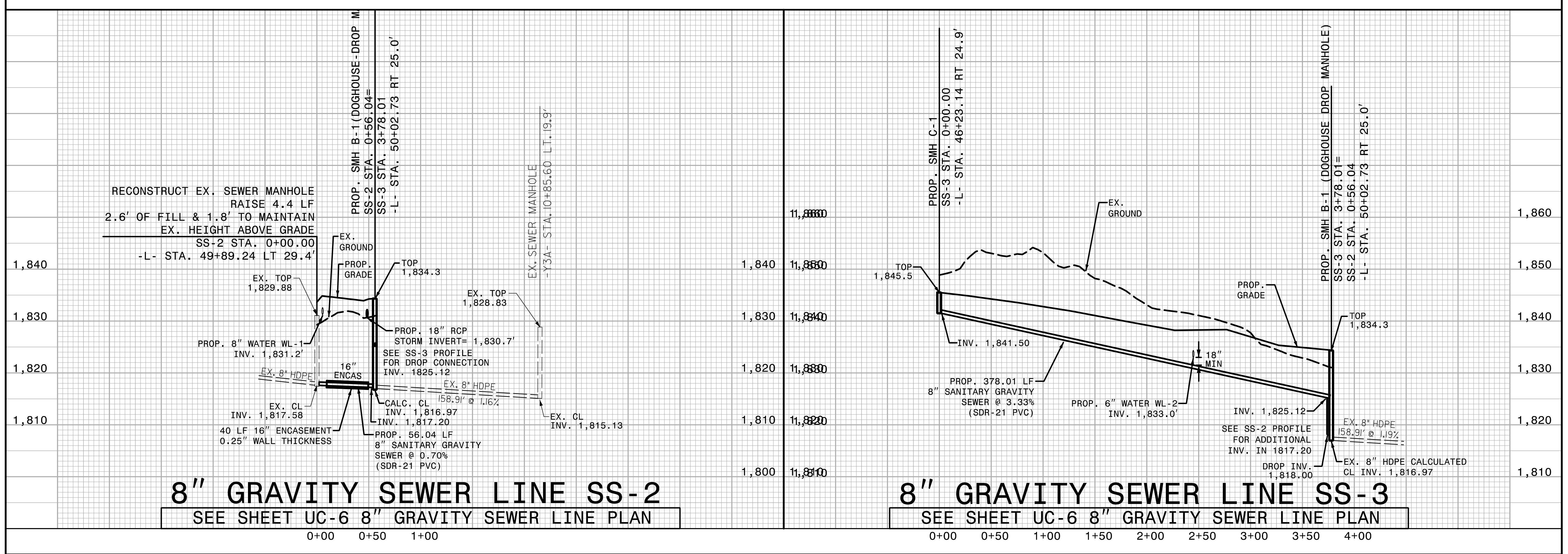
PROJECT REFERENCE NO.		SHEET NO.	
R-5863		UC-9	
DESIGNED BY: BCH			
DRAWN BY: ADC			
CHECKED BY: LAK			
APPROVED BY:			
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	
UTILITY CONSTRUCTION			
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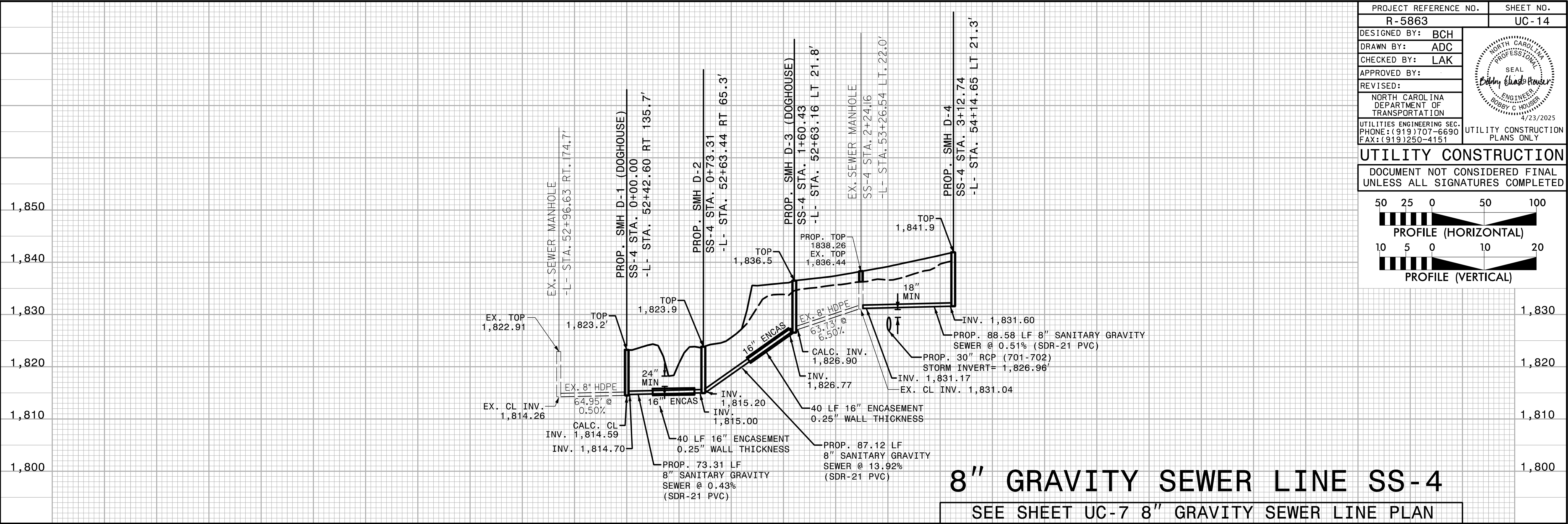


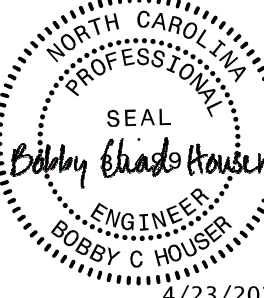










PROJECT REFERENCE NO.		SHEET NO.	
R-5863		UC-14	
DESIGNED BY:	BCH		
DRAWN BY:	ADC		
CHECKED BY:	LAK		
APPROVED BY:			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			

UTILITY CONSTRUCTION

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