

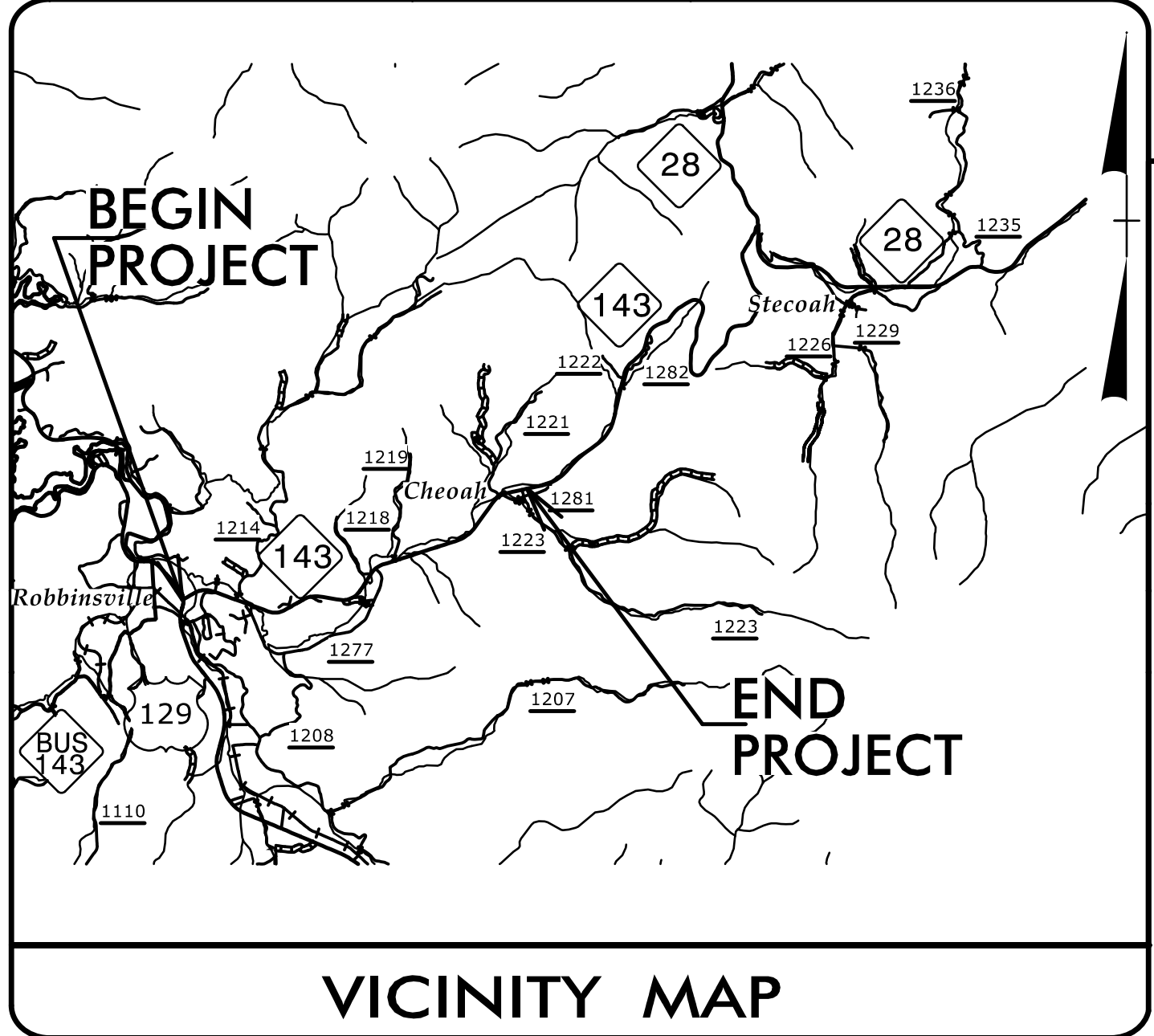
09, 02B, 299

TIP PROJECT: A-0009CA

T.I.P. NO.	SHEET NO.
A-0009CA	UC-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

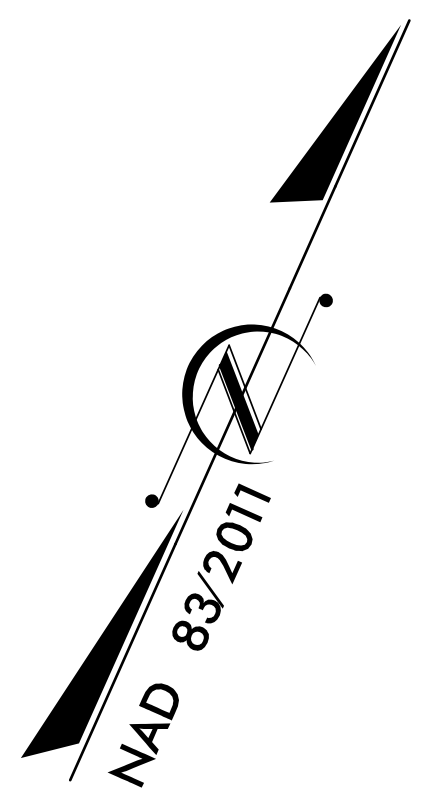
**UTILITY CONSTRUCTION PLANS
GRAHAM COUNTY**



LOCATION:

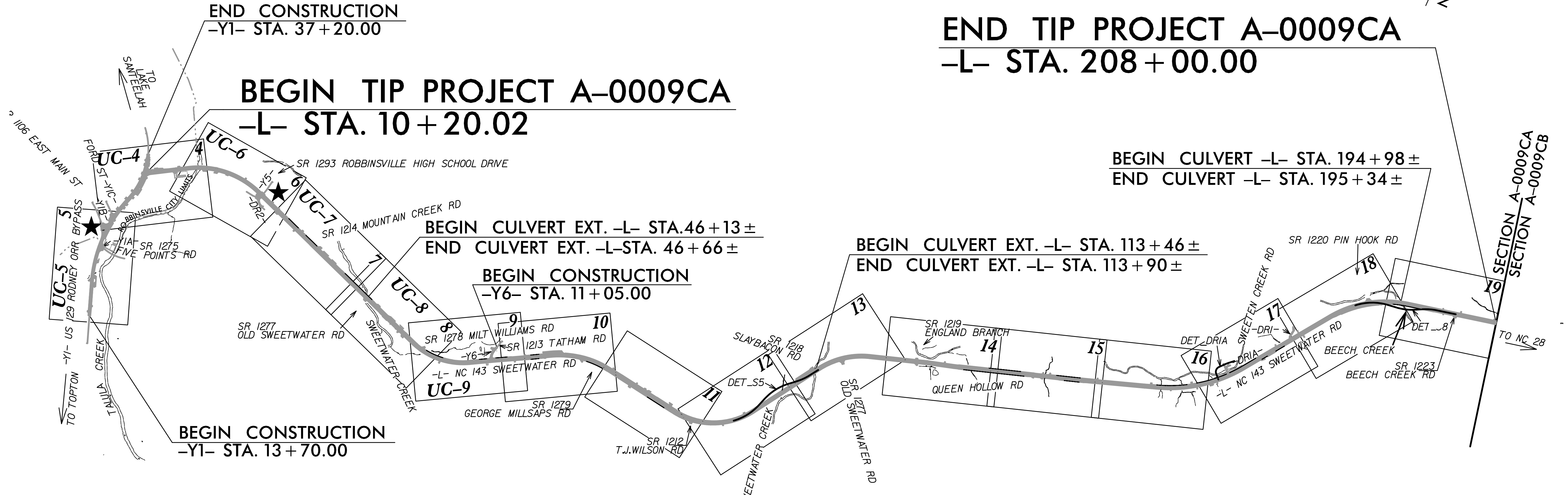
ALONG US 129 FROM SOUTH OF SR 1275 (FIVE POINTS ROAD) TO NC 143
AND ALONG NC 143 FROM US 129 TO SR 1223 (BEECH CREEK ROAD)

TYPE OF WORK: WATER LINE CONSTRUCTION



**END TIP PROJECT A-0009CA
-L- STA. 208 + 00.00**

**BEGIN TIP PROJECT A-0009CA
-L- STA. 10 + 20.02**



**BEGIN CONSTRUCTION
-Y1- STA. 13 + 70.00**

**BEGIN CULVERT EXT. -L- STA. 46 + 13 ±
END CULVERT EXT. -L- STA. 46 + 66 ±**

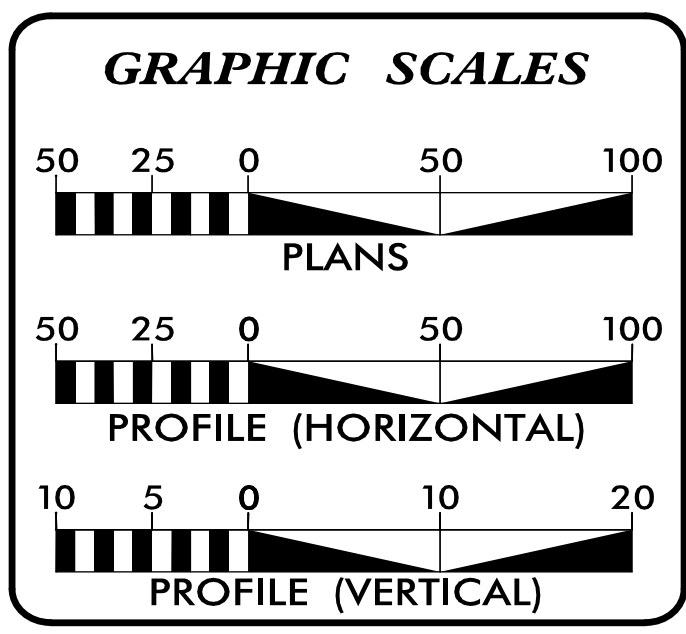
**BEGIN CONSTRUCTION
-Y6- STA. 11 + 05.00**

**BEGIN CULVERT EXT. -L- STA. 113 + 46 ±
END CULVERT EXT. -L- STA. 113 + 90 ±**

**BEGIN CULVERT -L- STA. 194 + 98 ±
END CULVERT -L- STA. 195 + 34 ±**

***NO WATER CONSTRUCTION ON SHEETS 10 TO 19**

DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A THRU UC-3B	DETAILS
UC-4 THRU UC-9	UTILITY CONSTRUCTION SHEETS
UC-10 THRU UC-13	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(A) WATER - TOWN OF ROBBINSVILLE
(B) SANITARY SEWER - TOWN OF ROBBINSVILLE

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
JIMMY TERRY, PE PROJECT MANAGER

SEAL

4/8/2022

**DIVISION OF HIGHWAYS
DIVISION 14**
252 WEBSTER RD
SYLVIA, NC 28779
PHONE (828) 586-2141

BOB GOLDING UTILITIES ENGINEER
BILL GREEN UTILITIES COORDINATOR

3/1/2022 X:\NCDD01\A-0009\Utilities\UC\A-0009CA\Proj\A-0009CA_U1-fsh_UCL.psh.dgn 3:20:44 PM

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11 1/4 Degree Bend	
22 1/2 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		*Underground Power Line	
Telephone Pole		*Underground Telephone Cable	
Joint Use Pole		*Underground Telephone Conduit	
Utility Pole		*Underground Fiber Optics Telephone Cable	
Utility Pole with Base		*Underground TV Cable	
H-Frame Pole		*Underground Fiber Optics TV Cable	
Power Transmission Line Tower		*Underground Gas Pipeline	
Water Manhole		Aboveground Gas Pipeline	
Power Manhole		*Underground Water Line	
Telephone Manhole		Aboveground Water Line	
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line	
Hand Hole for Cable		Aboveground Gravity Sanitary Sewer Line	
Power Transformer		*Underground SS Forced Main Line	
Telephone Pedestal		Underground Unknown Utility Line	
CATV Pedestal		SUE Test Hole	
Gas Valve		Water Meter	
Gas Meter		Water Valve	
Located Miscellaneous Utility Object		Fire Hydrant	
Abandoned According to Utility Records		Sanitary Sewer Cleanout	
End of Information			

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

5/14/99

5/14/2012
A-0009CA\Projects\1362012\A-0009CA\Proj\A-0009_U-t_tsh_UC1_psh.dgn
3/24/2012

5/14/22

UTILITY CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	UC-3
DESIGNED BY:	
DRAWN BY:	
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	

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 2018.
2. THE EXISTING UTILITIES BELONG TO THE TOWN OR ROBIINSVILLE.
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 ENVIRONMENT 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 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. 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 6 TO 12 INCHES IN DIAMETER, SHALL BE PRESSURE CLASS 350 DUCTILE IRON PIPE AND UTILIZE FLEXIBLE PUSH-ON JOINTS.
2. ALL WATER LINE FITTINGS 6 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.
3. ALL PROPOSED WATER LINE 2 INCHES IN DIAMETER, SHALL BE SDR 21, 200PSI PVC PIPE AND CONFORM TO ASTM D2241.
4. WATER LINE UTILIZING RESTRAINED JOINTS FITTINGS SHALL BE TYTON JOINT, HP LOK, AMERICAN "FAST GRIP", US PIPE "FIELD-LOK" OR APPROVED EQUAL.
5. ALL WATERLINE SHALL HAVE COATED TRACER WIRE NO SMALLER THAN 14 AWG SOLID COPPER.
6. ALL VALVES - 2" THROUGH 12" SHALL BE RESELIENT 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.

UTILITY CONSTRUCTION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

8. ALL VALVE BOXES SHALL BE CONSTRUCTED OF DOMESTIC OR FOREIGN 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 TOWN OF ROBINVILLE STANDARDS AND NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES FOR PROPOSED WATER LINES. IN THE EVENT OF CONFLICT BETWEEN STANDARDS, THE MORE RESTRICTIVE REQUIREMENTS SHALL APPLY.
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.

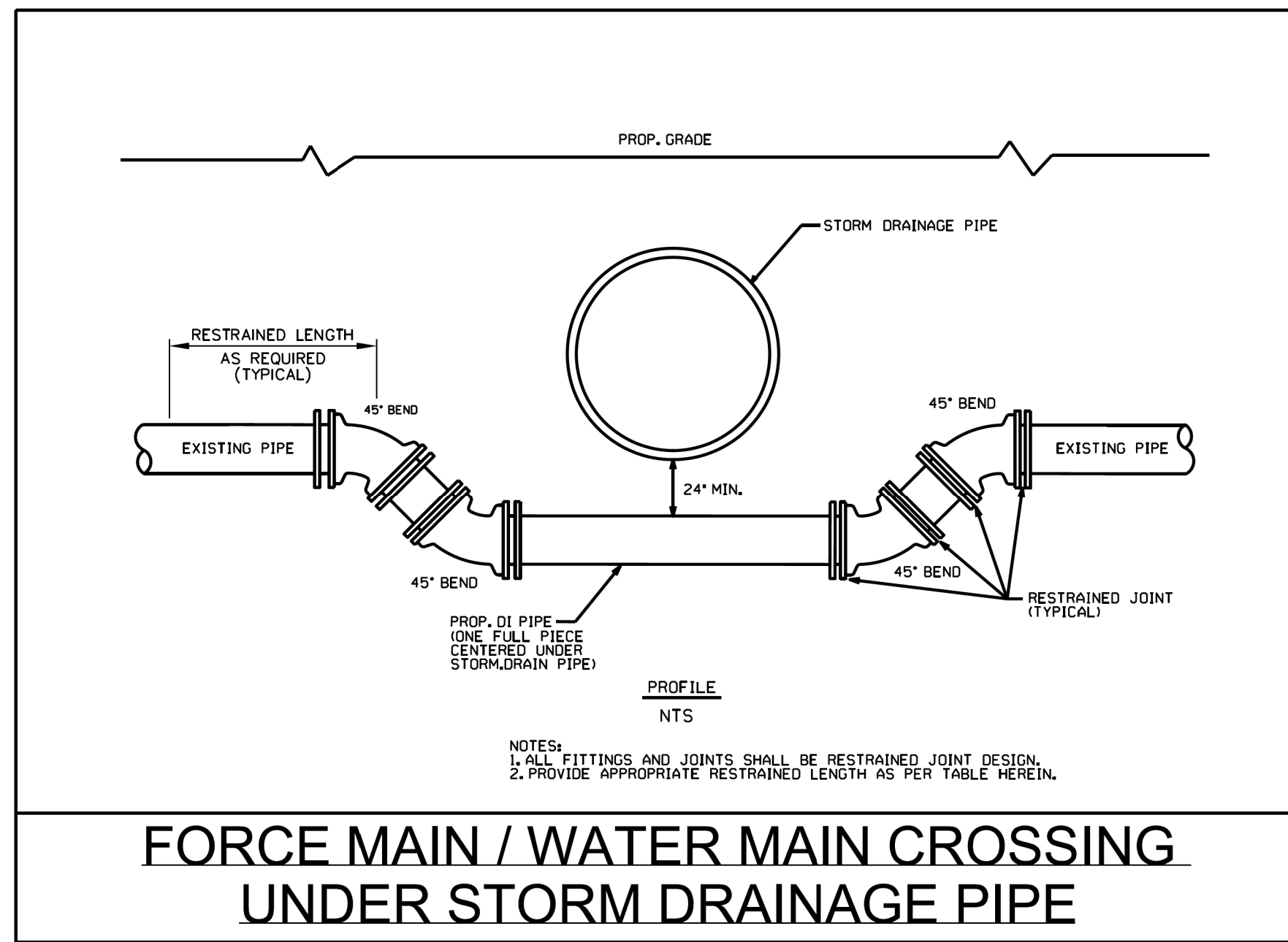
5/14/2022 11:44:32 AM 0009\Utilities\A-0009CA\Proj\A-0009_Ut_notes_UC3_psh.dgn



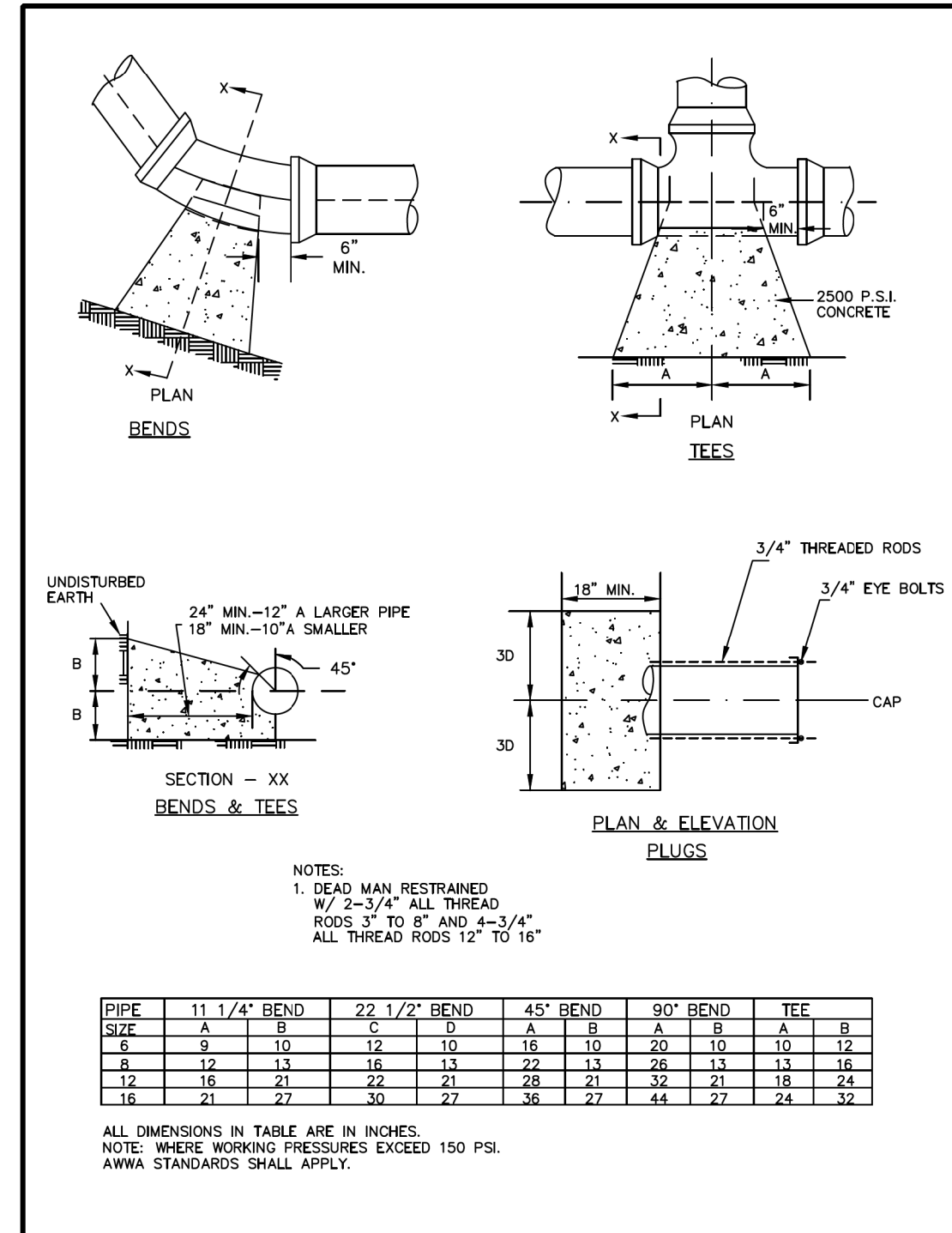
PROJECT TYPICAL DETAILS

UTILITY CONSTRUCTION

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**FORCE MAIN / WATER MAIN CROSSING
UNDER STORM DRAINAGE PIPE**



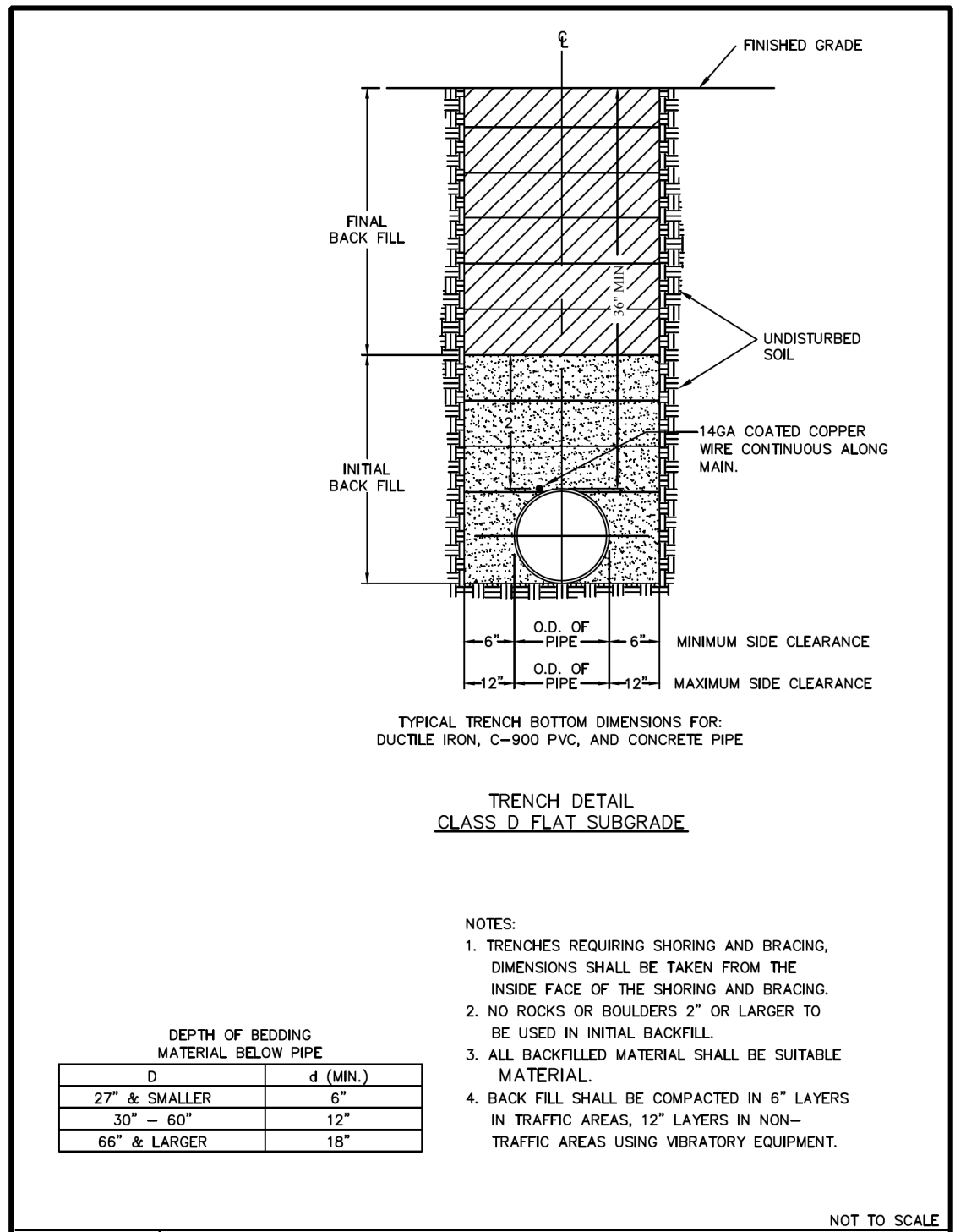
THRUST BLOCKING DETAIL

RESTRAINED JOINT DESIGN TABLE FOR DUCTILE IRON PIPE

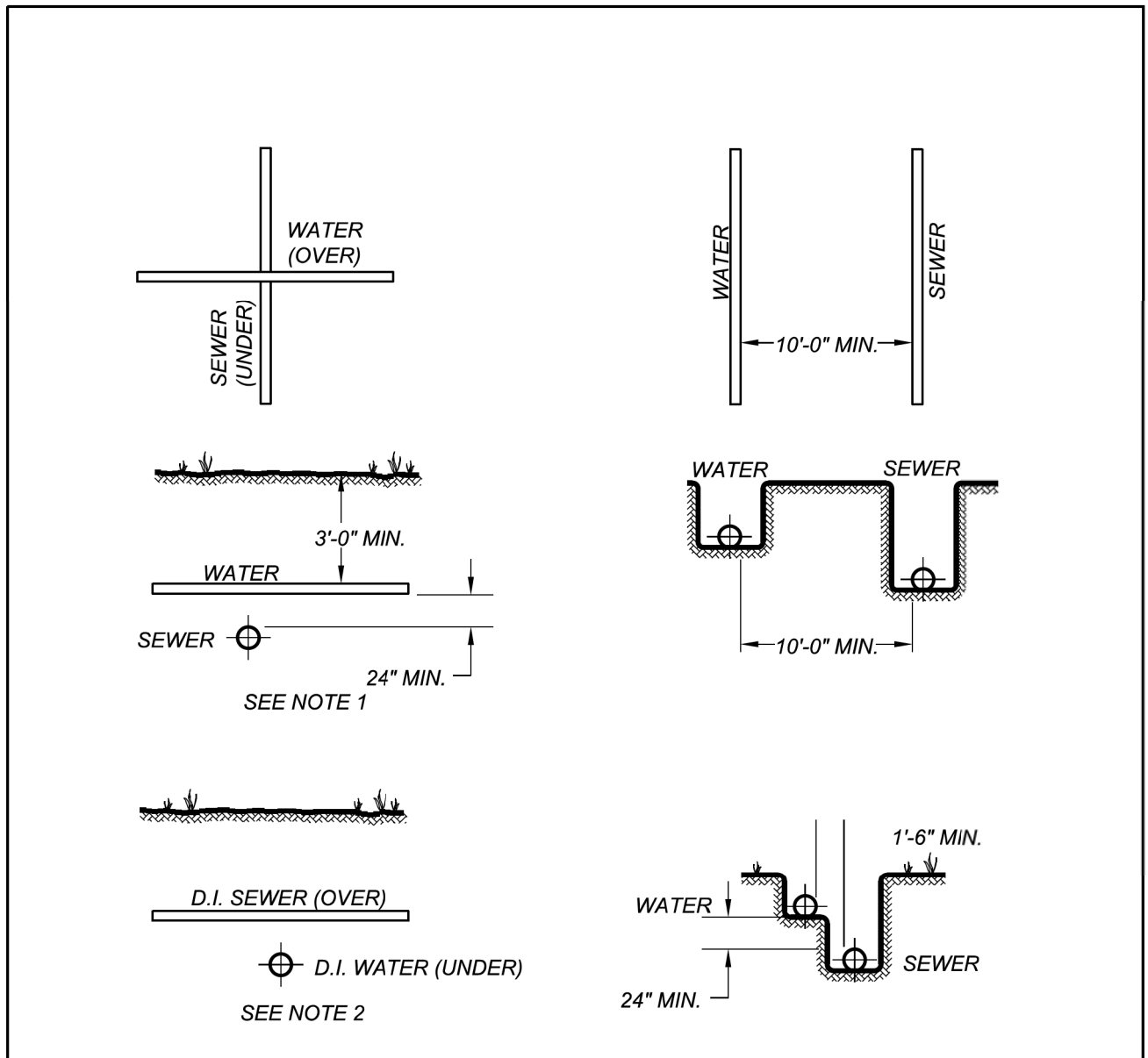
FITTING	REQUIRED RESTRAINED LENGTH (FT) OF BARE D.I. PIPE BY DEPTH OF COVER							
	3 FT	4 FT	5 FT	6 FT	7 FT	8 FT	9 FT	10 FT
HORIZONTAL BENDS								
6 INCH DIA - 11.25 DEG	3	2	2	2	2	1	1	1
6 INCH DIA - 22.5 DEG	5	4	4	3	3	3	3	2
6 INCH DIA - 45 DEG	11	9	8	7	7	6	5	5
8 INCH DIA - 90 DEG	26	22	19	17	16	14	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	2	2
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	6	5	4	4	4	3
6 INCH DIA - 22.5 DEG	15	13	11	10	9	8	8	7
6 INCH DIA - 45 DEG	31	27	23	21	19	17	16	15
8 INCH DIA - 11.25 DEG	10	8	7	6	6	5	5	5
8 INCH DIA - 22.5 DEG	19	17	15	13	12	11	10	9
8 INCH DIA - 45 DEG	40	35	30	27	25	22	21	19
12 INCH DIA - 11.25 DEG	14	12	10	9	8	8	7	7
12 INCH DIA - 22.5 DEG	28	24	21	19	17	16	14	13
12 INCH DIA - 45 DEG	57	50	44	39	35	32	30	28
16 INCH DIA - 11.25 DEG	18	15	14	12	11	10	9	9
16 INCH DIA - 22.5 DEG	36	31	27	25	22	20	19	17
16 INCH DIA - 45 DEG	74	65	57	51	46	42	39	36
20 INCH DIA - 11.25 DEG	22	19	17	15	14	12	11	11
20 INCH DIA - 22.5 DEG	44	38	34	30	27	25	23	21
20 INCH DIA - 45 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
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
12 INCH DIA - 11.25 DEG	5	4	4	3	3	3	2	2
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
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
DEAD ENDS / VALVES								
6 INCH DIA	50	45	41	38	35	33	31	29
8 INCH DIA	65	59	54	50	46	43	40	38
10 INCH DIA	80	72	66	61	56	52	49	46
12 INCH DIA	94	85	78	72	66	62	58	54
16 INCH DIA	123	111	102	94	87	81	76	71
20 INCH DIA	151	137	125	115	107	100	93	88
REDUCERS								
3 FT	3	4	5	6	7	8	9	10
12 INCH X 8 INCH	50	45	41	38	35	33	31	29
TEES								
3 FT	3	4	5	6	7	8	9	10
8" RUN X 8" BRANCH : RL = 1 FT	64	58	53	48	44	41	38	36
8" RUN X 8" BRANCH : RL = 5 FT	59	52	47	42	39	35	32	30
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.



TRENCH DETAIL

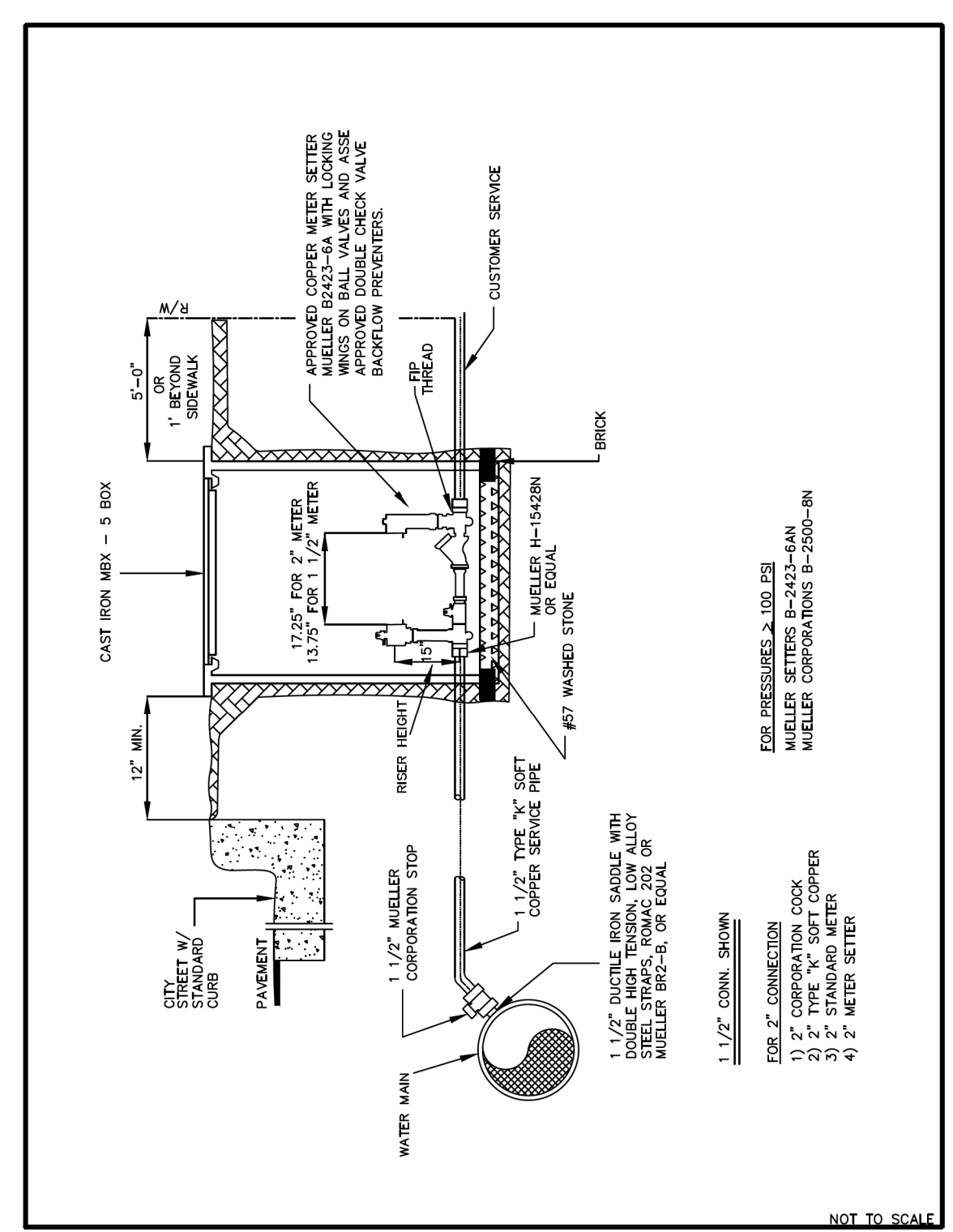


**TYPICAL PIPE CROSSING AND
PARALLELS
NTS WS - 1**

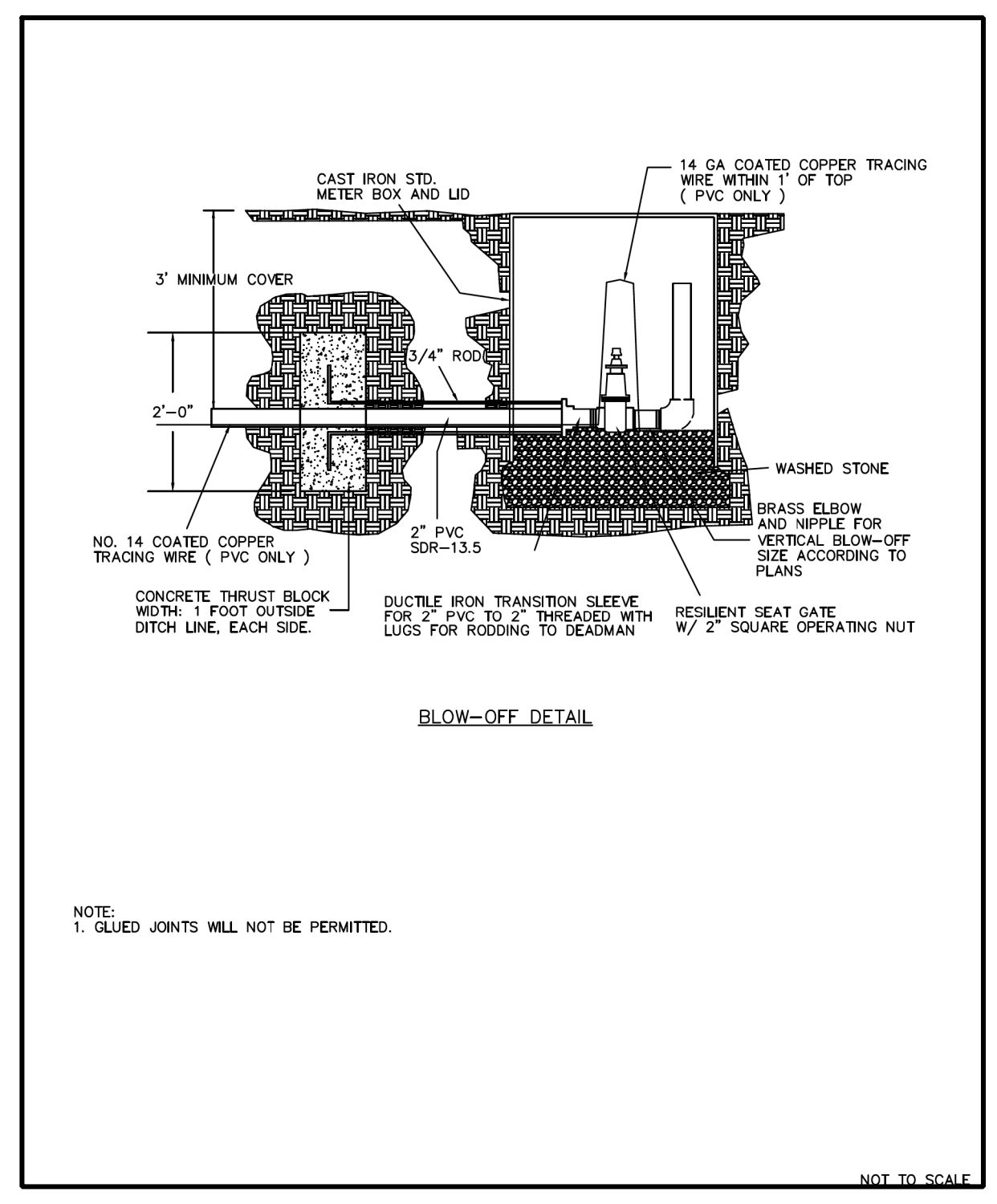
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UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	UC-3B
DESIGNED BY: BCH	
DRAWN BY:	
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	

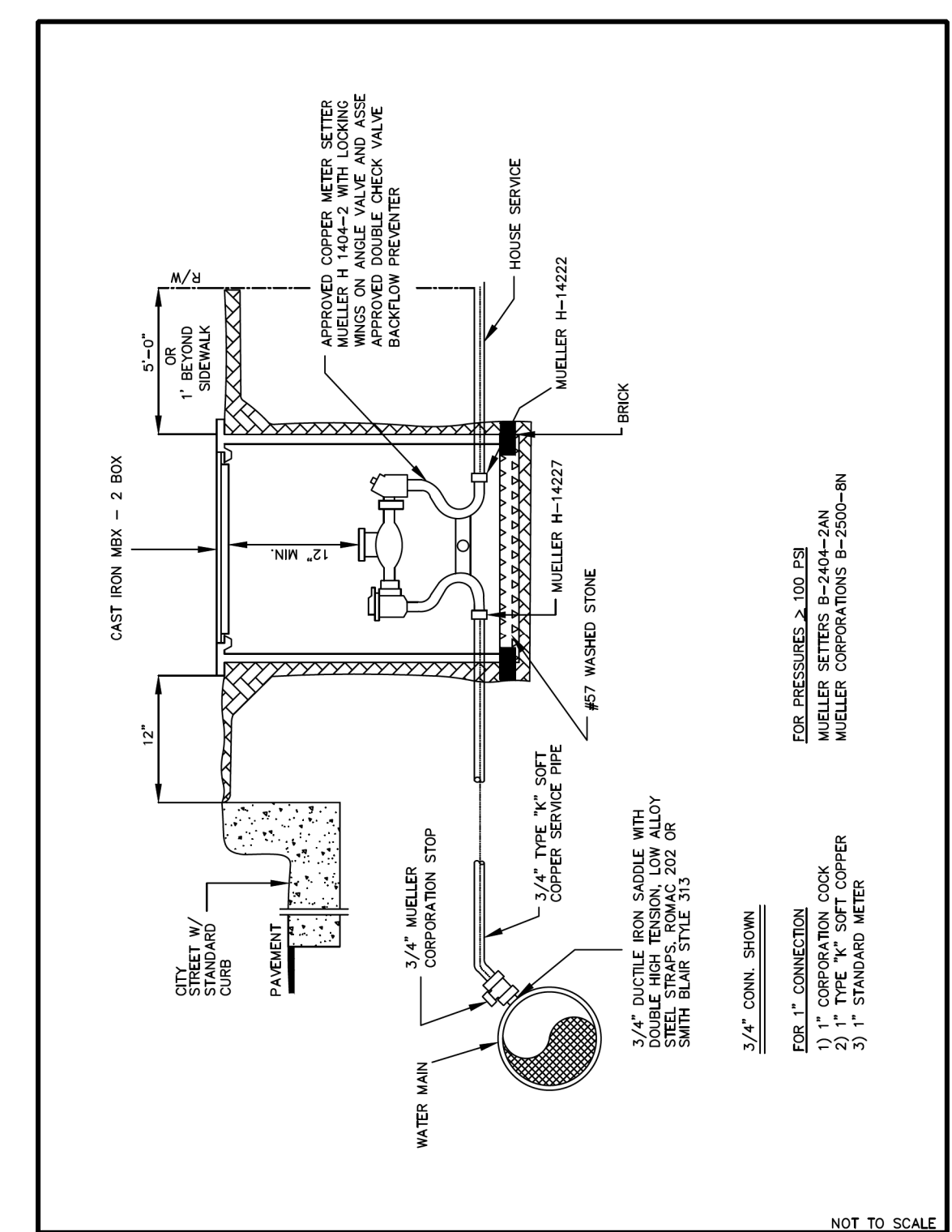
PROJECT TYPICAL DETAILS



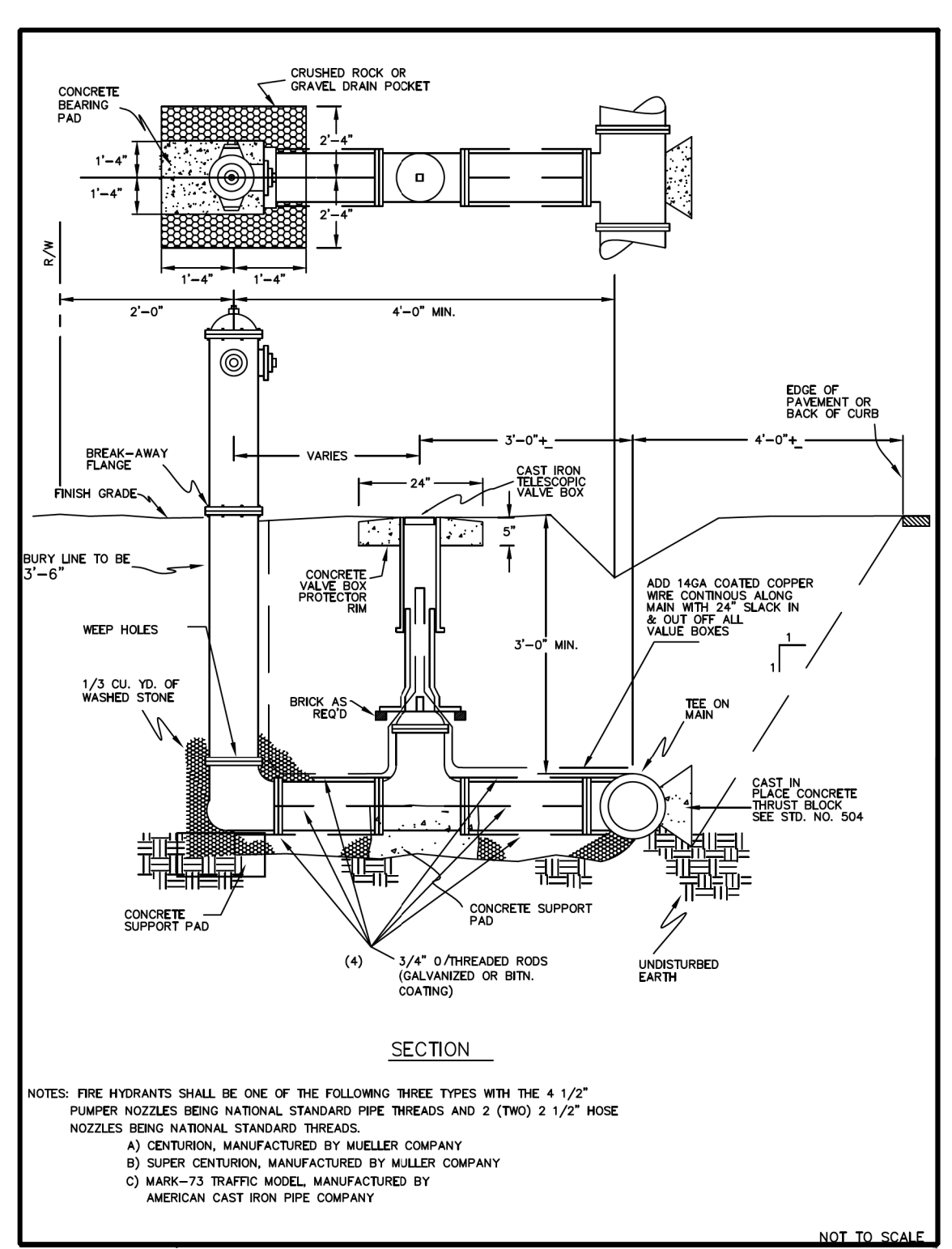
TYPICAL WATER SERVICE CONNECTION (1-1/2" AND 2")



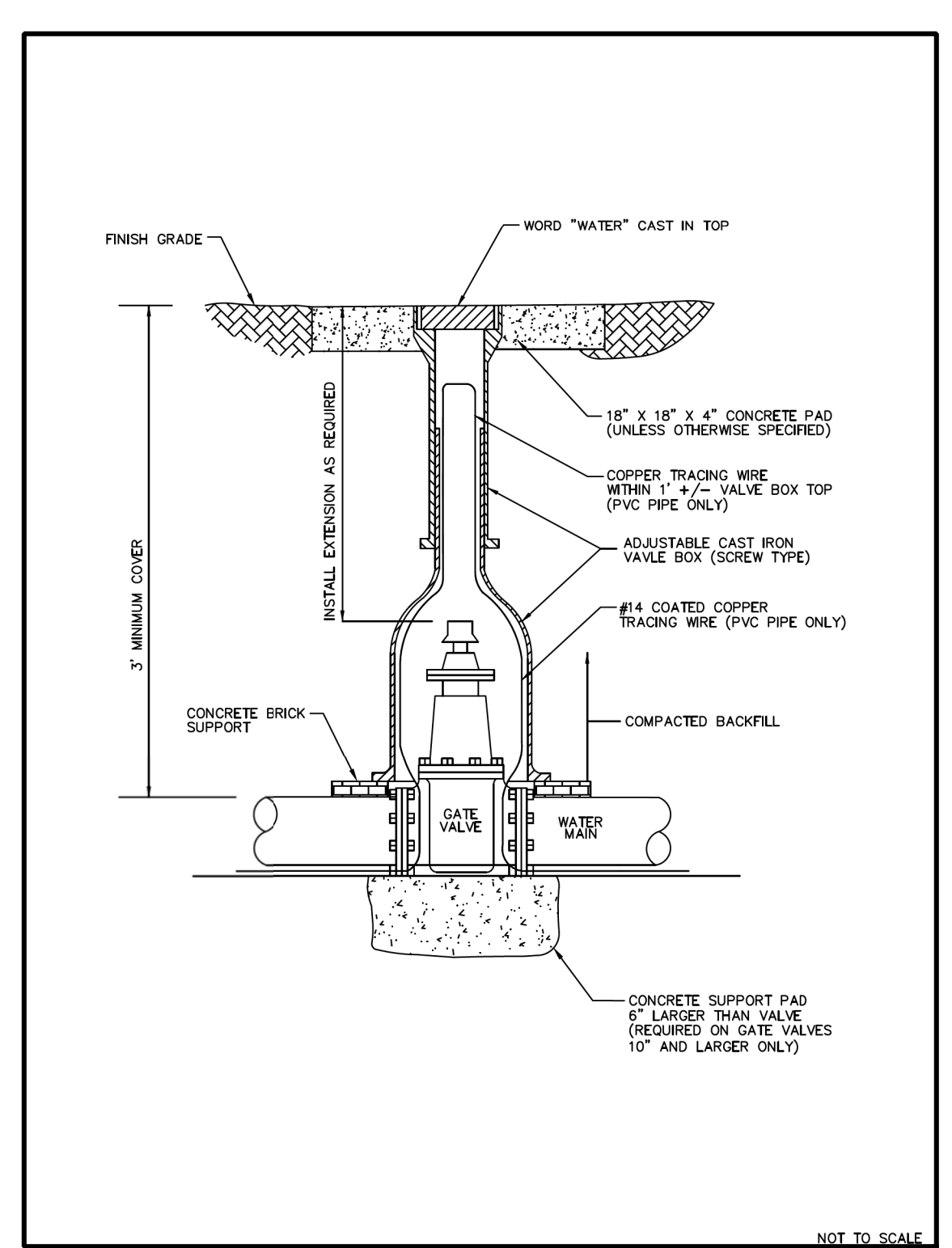
BLOW-OFF DETAIL



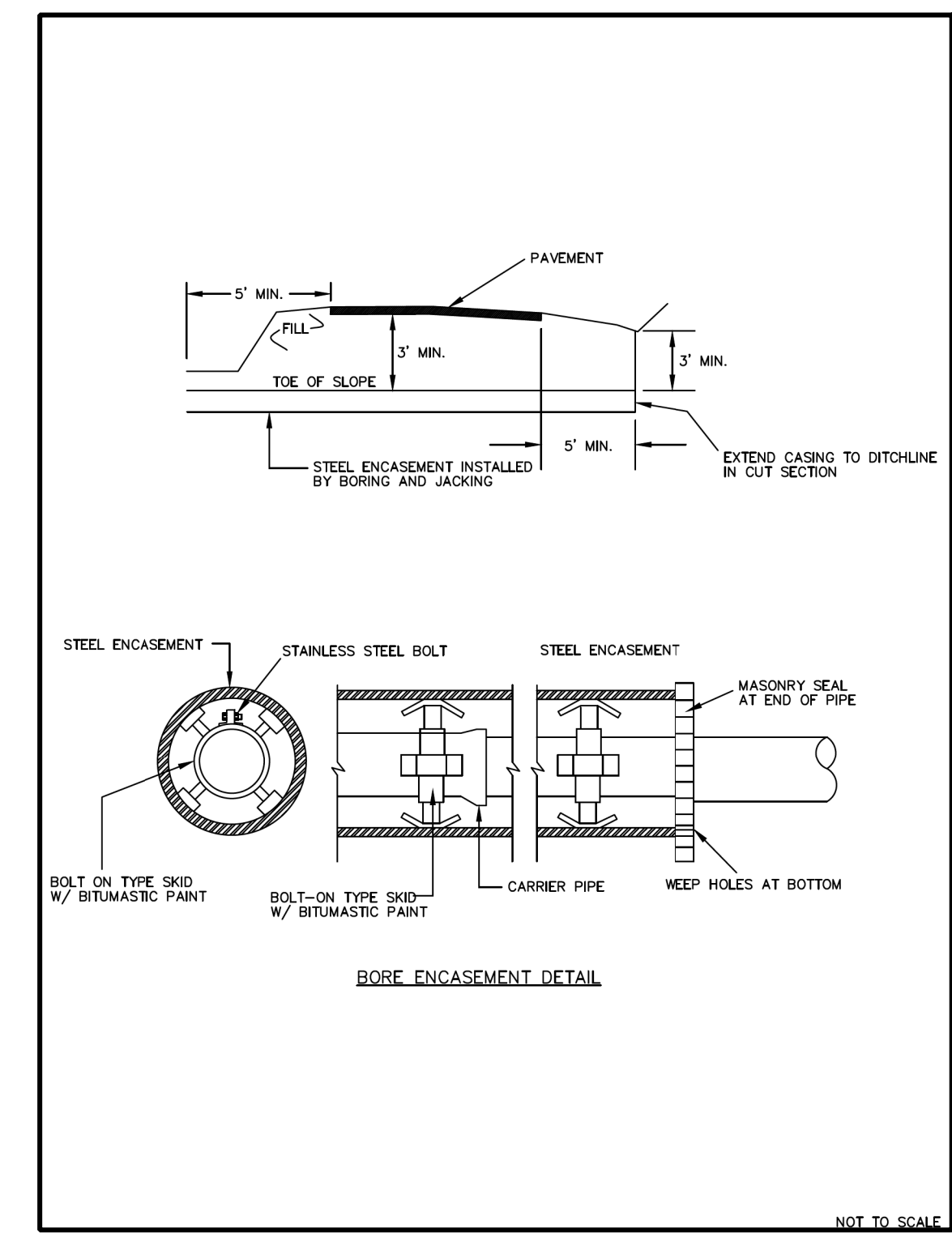
TYPICAL WATER SERVICE CONNECTION (3/4" AND 1")



FIRE HYDRANT INSTALLATION DETAIL



GATE VALVE ASSEMBLY



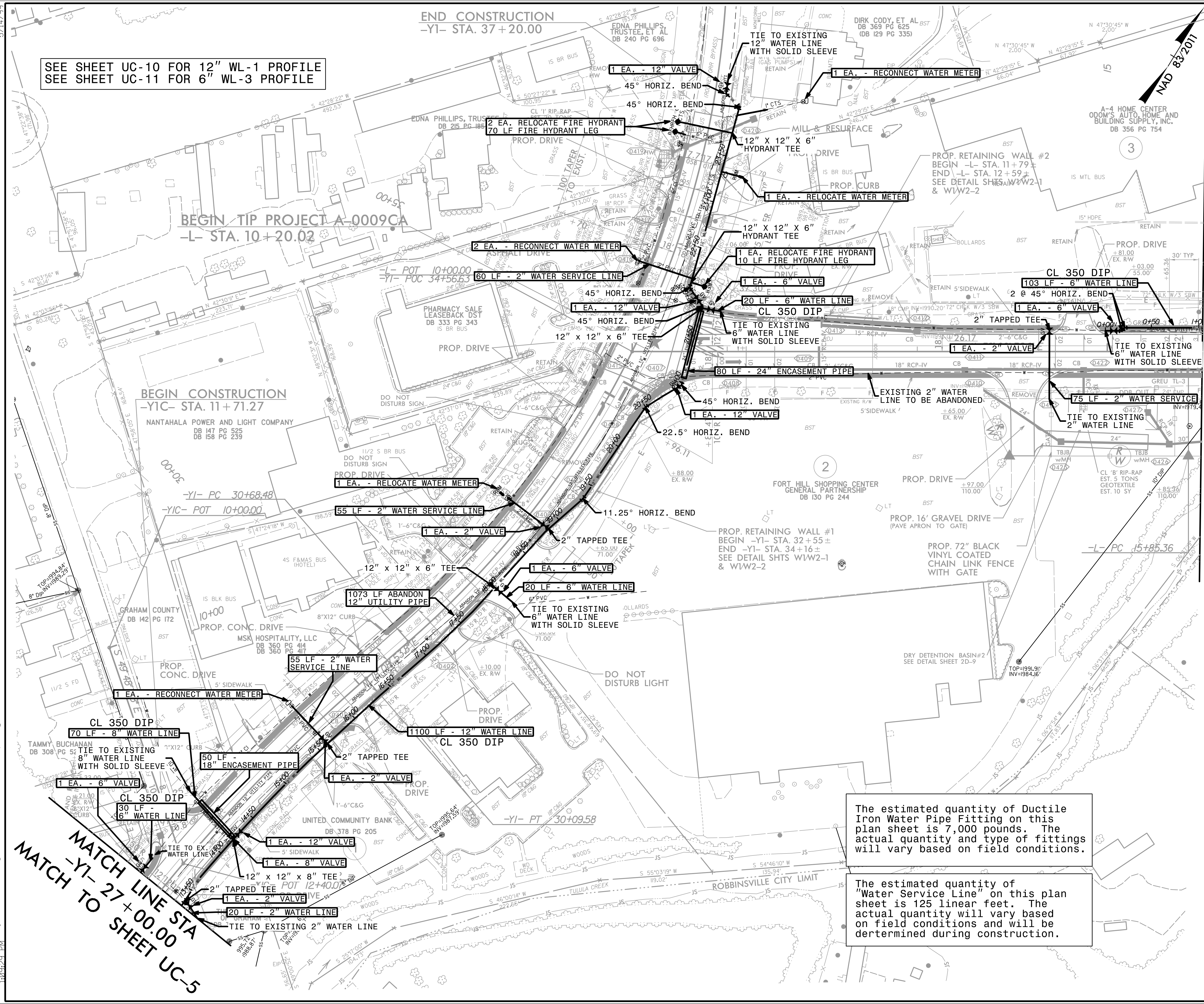
BORE ENCASEMENT DETAIL

3/1/2022 Utility\Utility\0009CA\Proj\A-0009CA-Ut.notes_UC3_psh.dgn

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	UC-4
DESIGNED BY: BCH	
DRAWN BY:	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
DIVISION 14 UTILITY CONSTRUCTION PLANS ONLY	
PHONE: (828) 586-2141	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



SEE SHEET UC-10 FOR 12" WL-1 PROFILE
SEE SHEET UC-11 FOR 6" WL-3 PROFILE

BEGIN TIP PROJECT A-0009CA
-L- STA. 10+20.02

BEGIN CONSTRUCTION
-YIC- STA. 11+71.27

MATCH LINE STA
-YI- 27+00.00
MATCH TO SHEET UC-5

MATCH LINE STA -L- 16+00.00
MATCH TO SHEET UC-6

The estimated quantity of Ductile Iron Water Pipe Fitting on this plan sheet is 7,000 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 125 linear feet. The actual quantity will vary based on field conditions and will be determined during construction.

5/16/2022 UC-A-0009-UC-4-UC-11-UC-12-UC-13-UC-14-UC-15-UC-16-UC-17-UC-18-UC-19-UC-20-UC-21-UC-22-UC-23-UC-24-UC-25-UC-26-UC-27-UC-28-UC-29-UC-30-UC-31-UC-32-UC-33-UC-34-UC-35-UC-36-UC-37-UC-38-UC-39-UC-40-UC-41-UC-42-UC-43-UC-44-UC-45-UC-46-UC-47-UC-48-UC-49-UC-50-UC-51-UC-52-UC-53-UC-54-UC-55-UC-56-UC-57-UC-58-UC-59-UC-60-UC-61-UC-62-UC-63-UC-64-UC-65-UC-66-UC-67-UC-68-UC-69-UC-70-UC-71-UC-72-UC-73-UC-74-UC-75-UC-76-UC-77-UC-78-UC-79-UC-80-UC-81-UC-82-UC-83-UC-84-UC-85-UC-86-UC-87-UC-88-UC-89-UC-90-UC-91-UC-92-UC-93-UC-94-UC-95-UC-96-UC-97-UC-98-UC-99-UC-100

5/14/99

SEE SHEET UC-12 FOR 6" WL-3 PROFILE

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	UC-7
DESIGNED BY: BCH	
DRAWN BY:	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
DIVISION 14	
PHONE: (828) 586-2141	UTILITY CONSTRUCTION PLANS ONLY

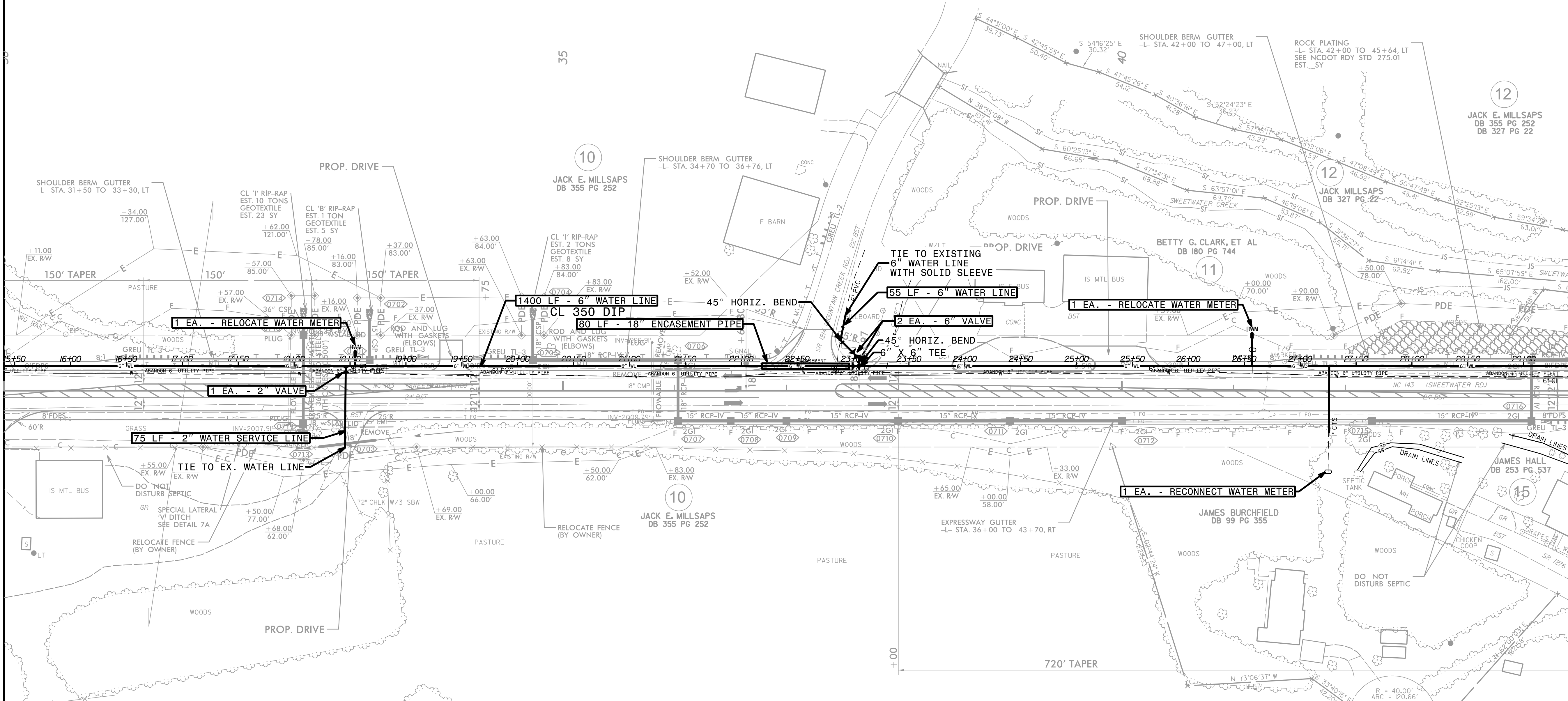


UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCH LINE STA -L- 30 + 00.00
MATCH TO SHEET UC-6

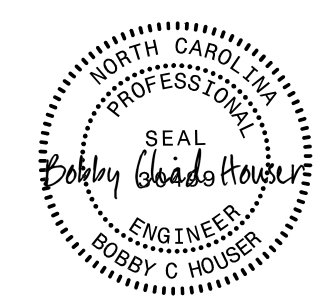
MATCH LINE STA -L- 44 + 00.00
MATCH TO SHEET UC-8



The estimated quantity of Ductile Iron Water Pipe Fitting on this plan sheet is 500 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 100 linear feet. The actual quantity will vary based on field conditions and will be determined during construction.

7/1/2022 UC-A-0009CA-Proj\A-0009_Ut_r-dy_sht7_UC\utl_const_Sht7_psh.dgn

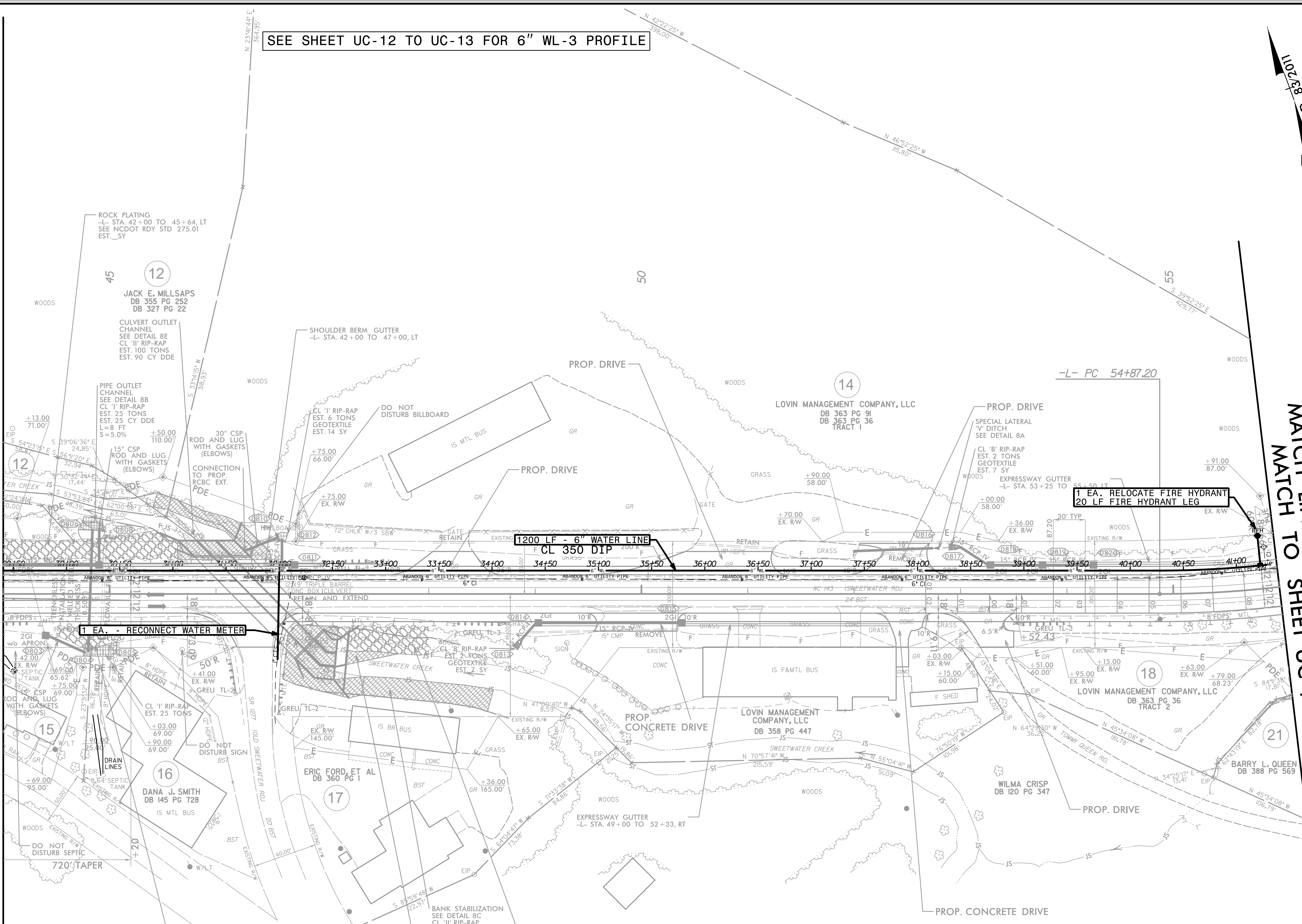
PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	UC-8
DESIGNED BY: BCH	
DRAWN BY:	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
DIVISION 14	
PHONE: (828)586-2141	UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION
DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

SEE SHEET UC-12 TO UC-13 FOR 6" WL-3 PROFILE

MATCH LINE STA -L- 44 + 00.00
MATCH TO SHEET UC-7

MATCH LINE STA -L- 56 + 00.00
MATCH TO SHEET UC-9



The estimated quantity of Ductile Iron Water Pipe Fitting on this plan sheet is 200 pounds. The actual quantity and type of fittings will vary based on field conditions.

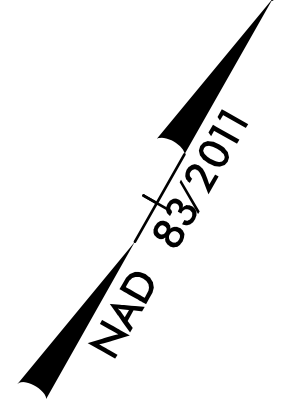
The estimated quantity of "Water Service Line" on this plan sheet is 80 linear feet. The actual quantity will vary based on field conditions and will be determined during construction.

5/14/2022 10:23:08 AM
C:\Users\UC-A-0009CA\OneDrive\Projects\14-00009_Ut_rdy_sht8_uc12.dgn
3/21/2022 10:23:08 AM
C:\Users\UC-A-0009CA\OneDrive\Projects\14-00009_Ut_rdy_sht8_uc12.dgn

5/14/99

SEE SHEET UC-13 FOR 6" WL-3 PROFILE

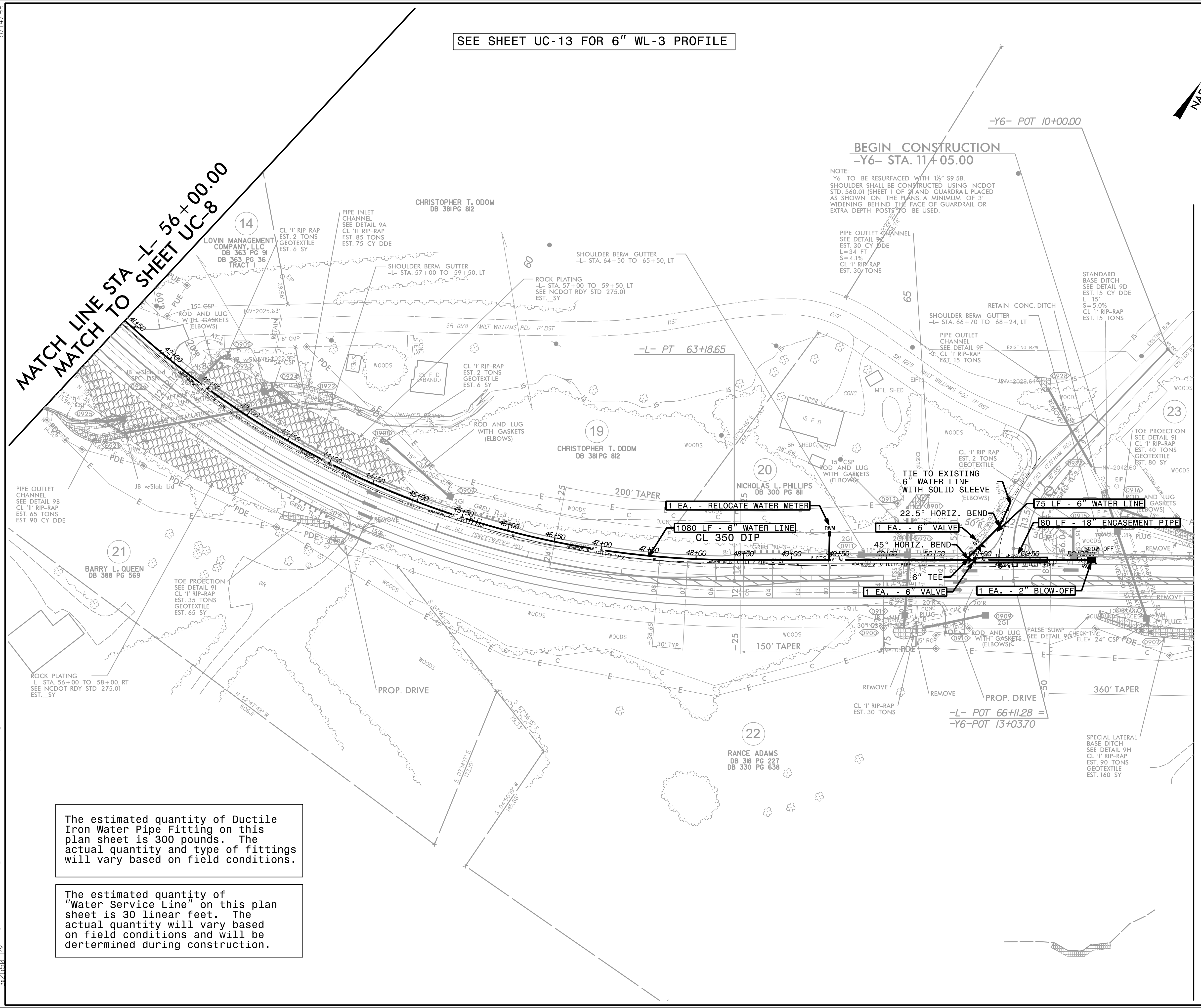
PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	UC-9
DESIGNED BY: BCH	
DRAWN BY:	
CHECKED BY: JLT	
APPROVED BY:	
REVISIONS:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
DIVISION 14	
PHONE: (828) 586-2141	UTILITY CONSTRUCTION PLANS ONLY



UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCH LINE STA L- 56+00.00
MATCH TO SHEET UC-8



BEGIN CONSTRUCTION
-Y6- STA. 11+05.00

NOTE:
-Y6- TO BE RESURFACED WITH 1 1/2" S9.5B. SHOULDER SHALL BE CONSTRUCTED USING NCDOT STD. 560.01 (SHEET 1 OF 2) AND GUARDRAIL PLACED AS SHOWN ON THE PLANS. A MINIMUM OF 3' WIDENING BEHIND THE FACE OF GUARDRAIL OR EXTRA DEPTH POSTS TO BE USED.

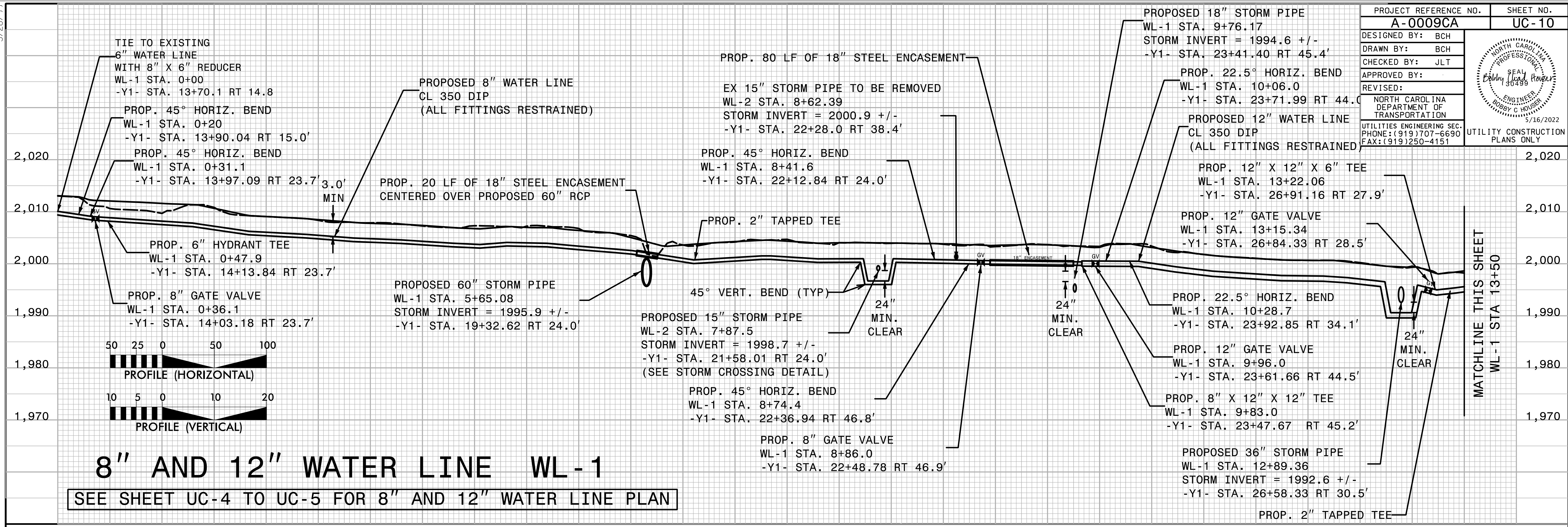
The estimated quantity of Ductile Iron Water Pipe Fitting on this plan sheet is 300 pounds. The actual quantity and type of fittings will vary based on field conditions.

The estimated quantity of "Water Service Line" on this plan sheet is 30 linear feet. The actual quantity will vary based on field conditions and will be determined during construction.

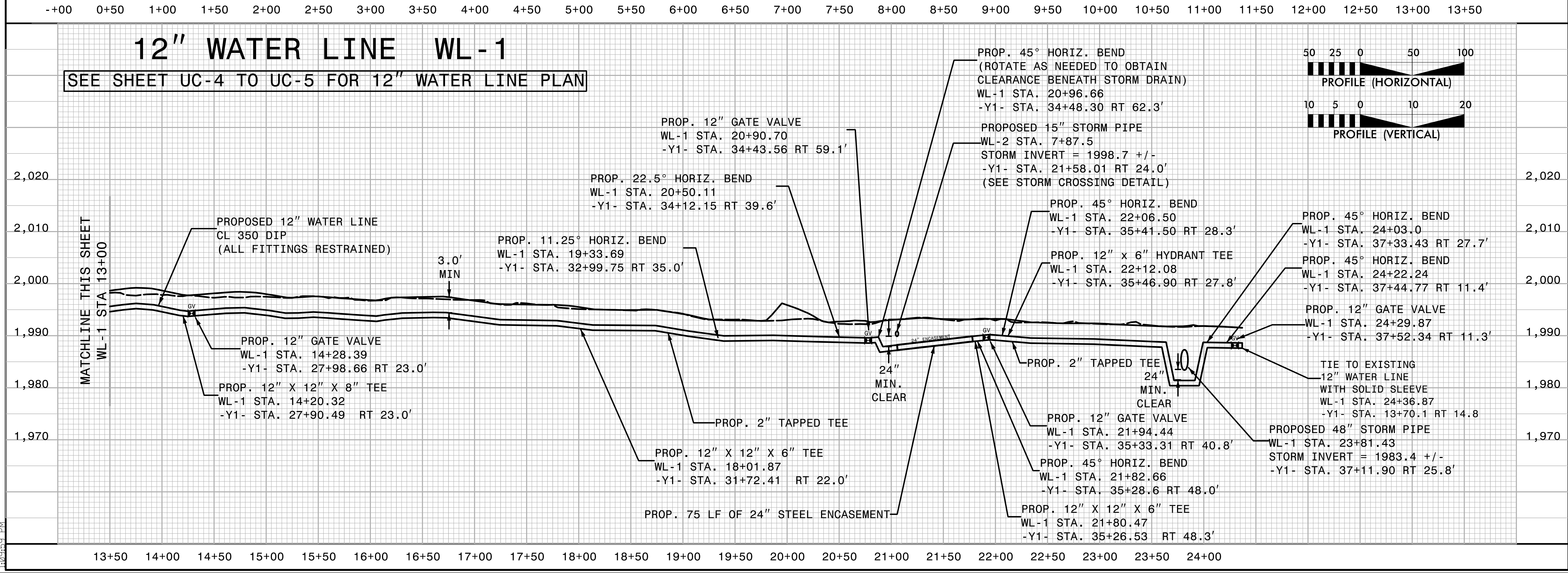
5/14/2022 UC-A-0009CA-Proj\A-0009_Ut.-rdy_sht9)_UC\utl_const_Sht9)_psh.dgn

5/28/22

PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	UC-10
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	



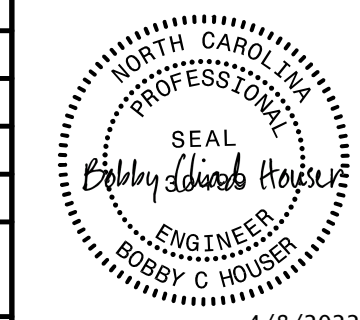
8" AND 12" WATER LINE WL-1
 SEE SHEET UC-4 TO UC-5 FOR 8" AND 12" WATER LINE PLAN

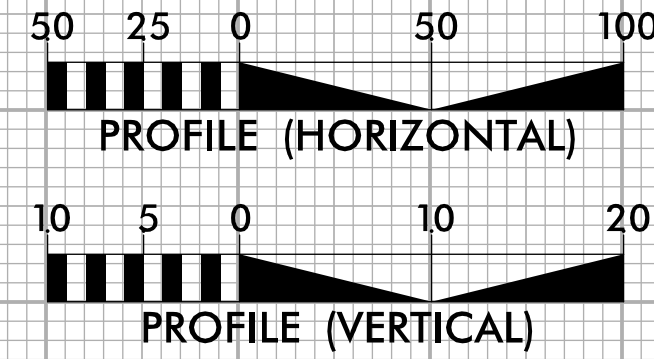
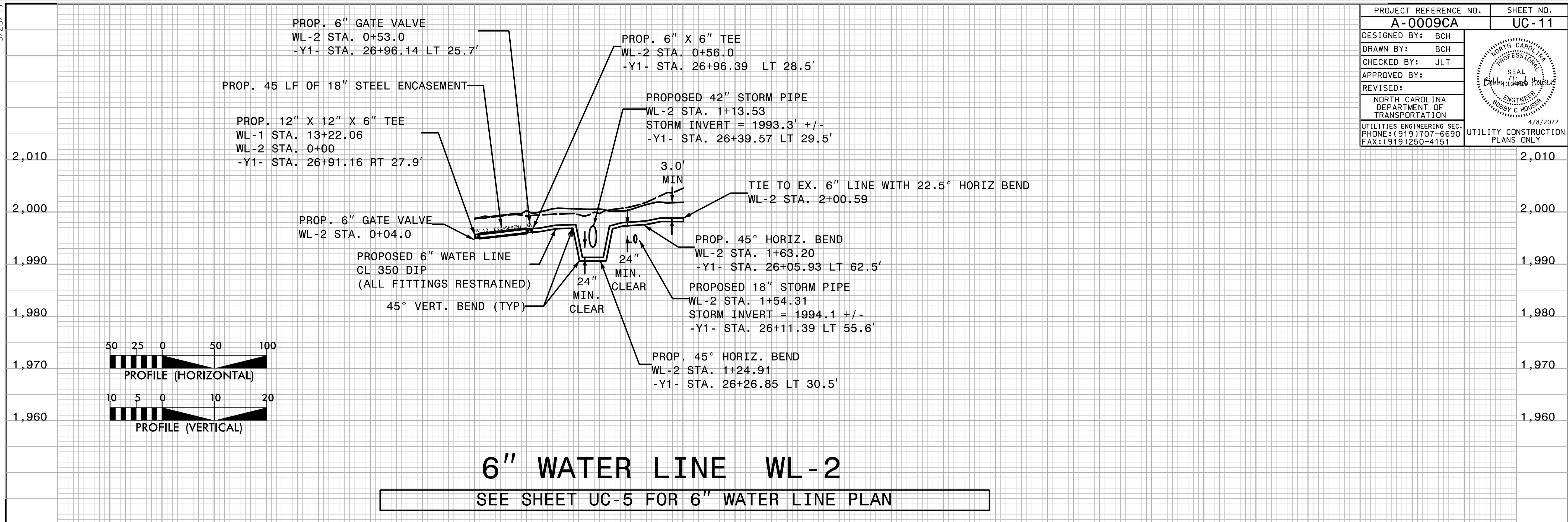


12" WATER LINE WL-1
 SEE SHEET UC-4 TO UC-5 FOR 12" WATER LINE PLAN

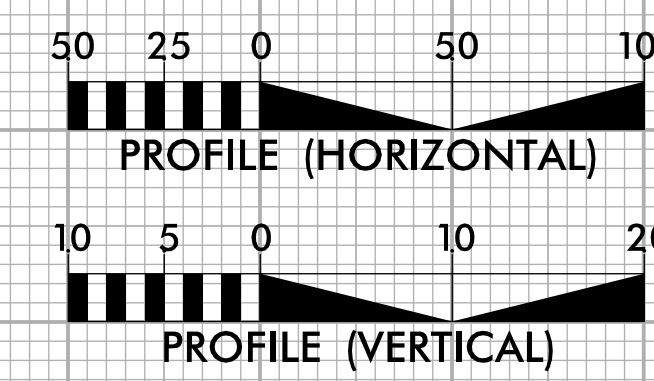
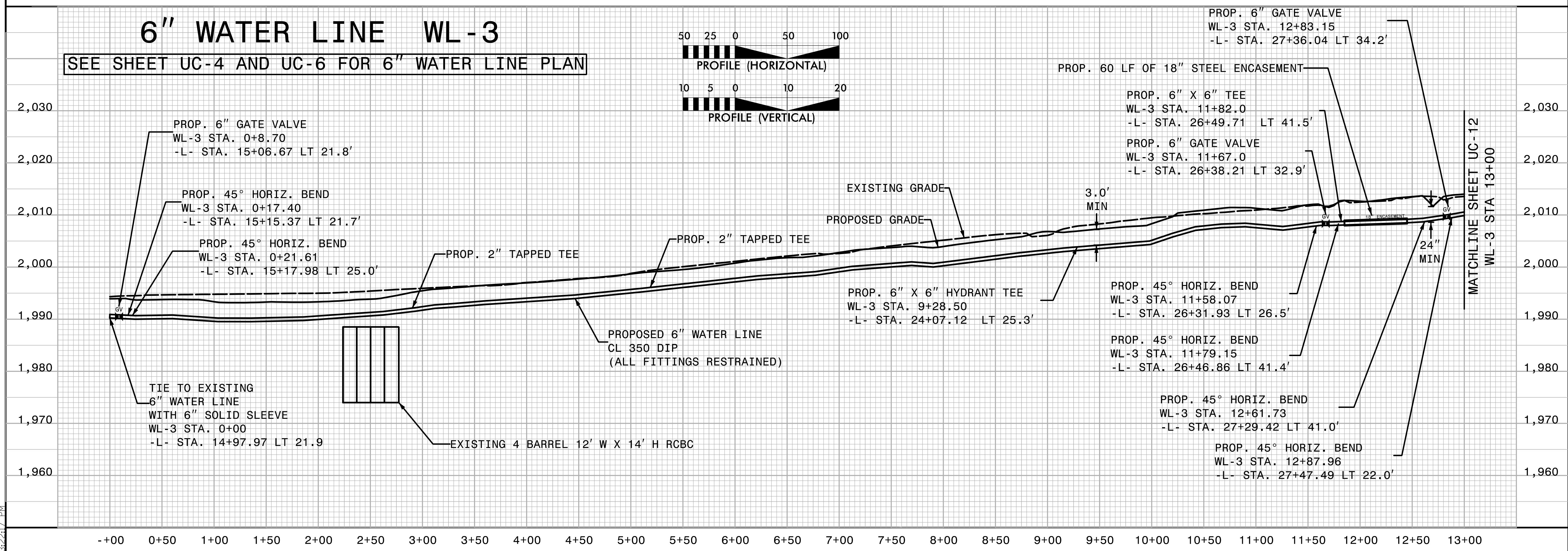
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5/28/2022

PROJECT REFERENCE NO. A-0009CA	SHEET NO. UC-11
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY



-+00 0+50 1+00 1+50 2+00



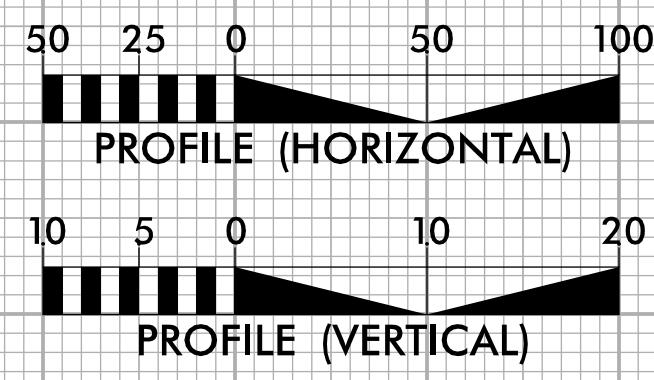
-+00 0+50 1+00 1+50 2+00 2+50 3+00 3+50 4+00 4+50 5+00 5+50 6+00 6+50 7+00 7+50 8+00 8+50 9+00 9+50 10+00 10+50 11+00 11+50 12+00 12+50 13+00

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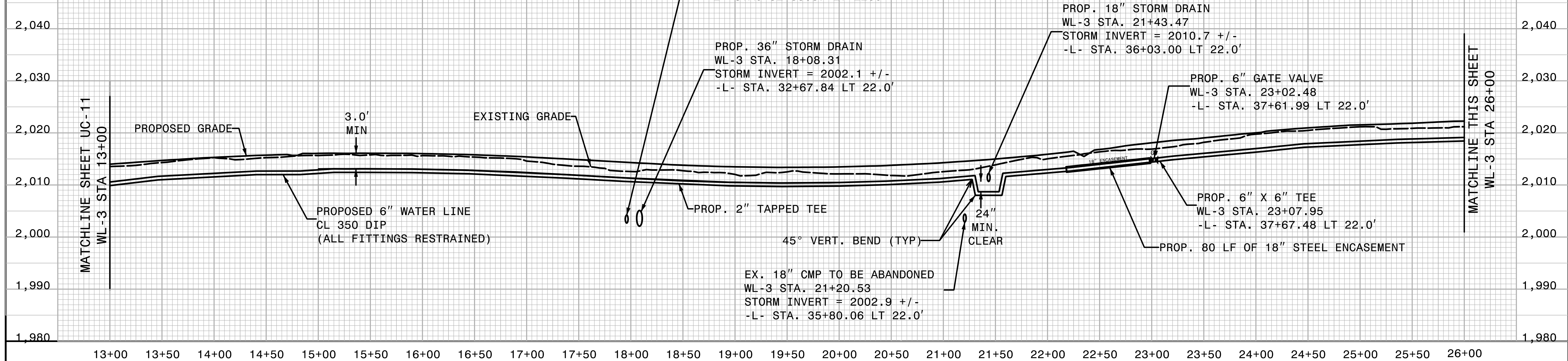
5/28/2022

6" WATER LINE WL-3

SEE SHEET UC-6 TO UC-7 FOR 6" WATER LINE PLAN

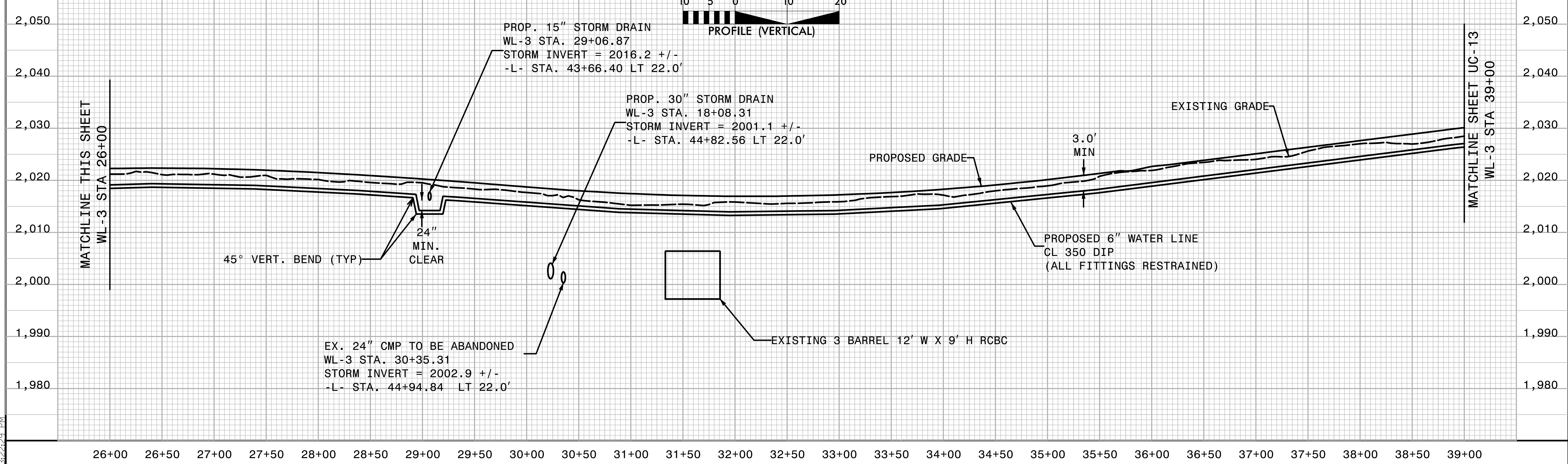
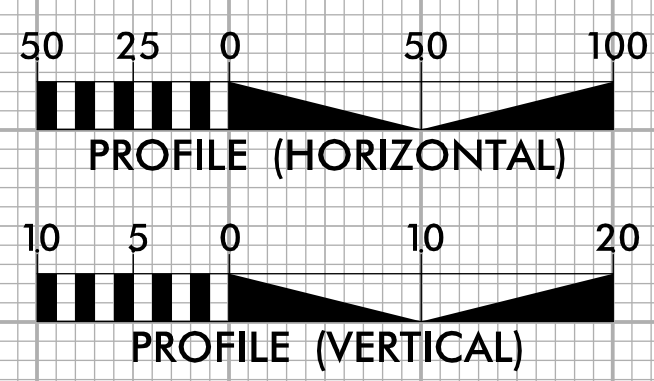


PROJECT REFERENCE NO. A-0009CA	SHEET NO. UC-12
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	



6" WATER LINE WL-3

SEE SHEET UC-7 TO UC-8 FOR 6" WATER LINE PLAN

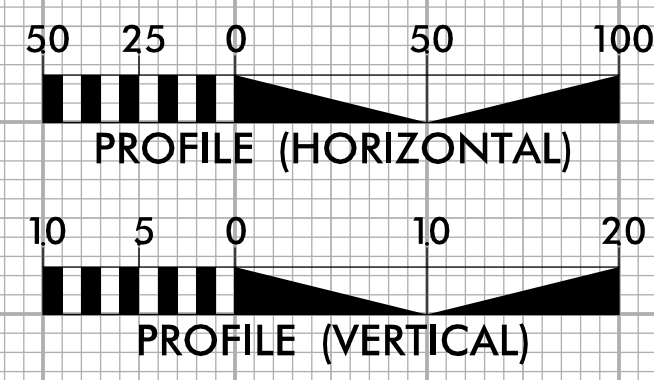


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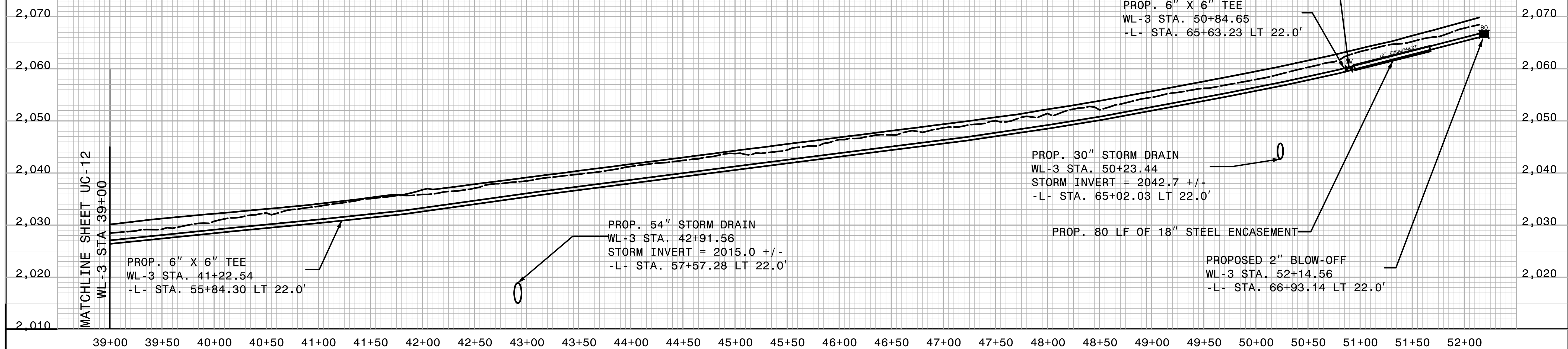
5/28/22

6" WATER LINE WL-3

SEE SHEET UC-8 TO UC-9 FOR 6" WATER LINE PLAN



PROJECT REFERENCE NO.	SHEET NO.
A-0009CA	UC-13
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
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3/1/2022 3:22:40 PM \\N\Utilities\UC\A-0009CA\Proj\A-0009_Ut_UC\Util Const Sheet#.pfl.psh.dgn