

**TIP PROJECT: B-5845**

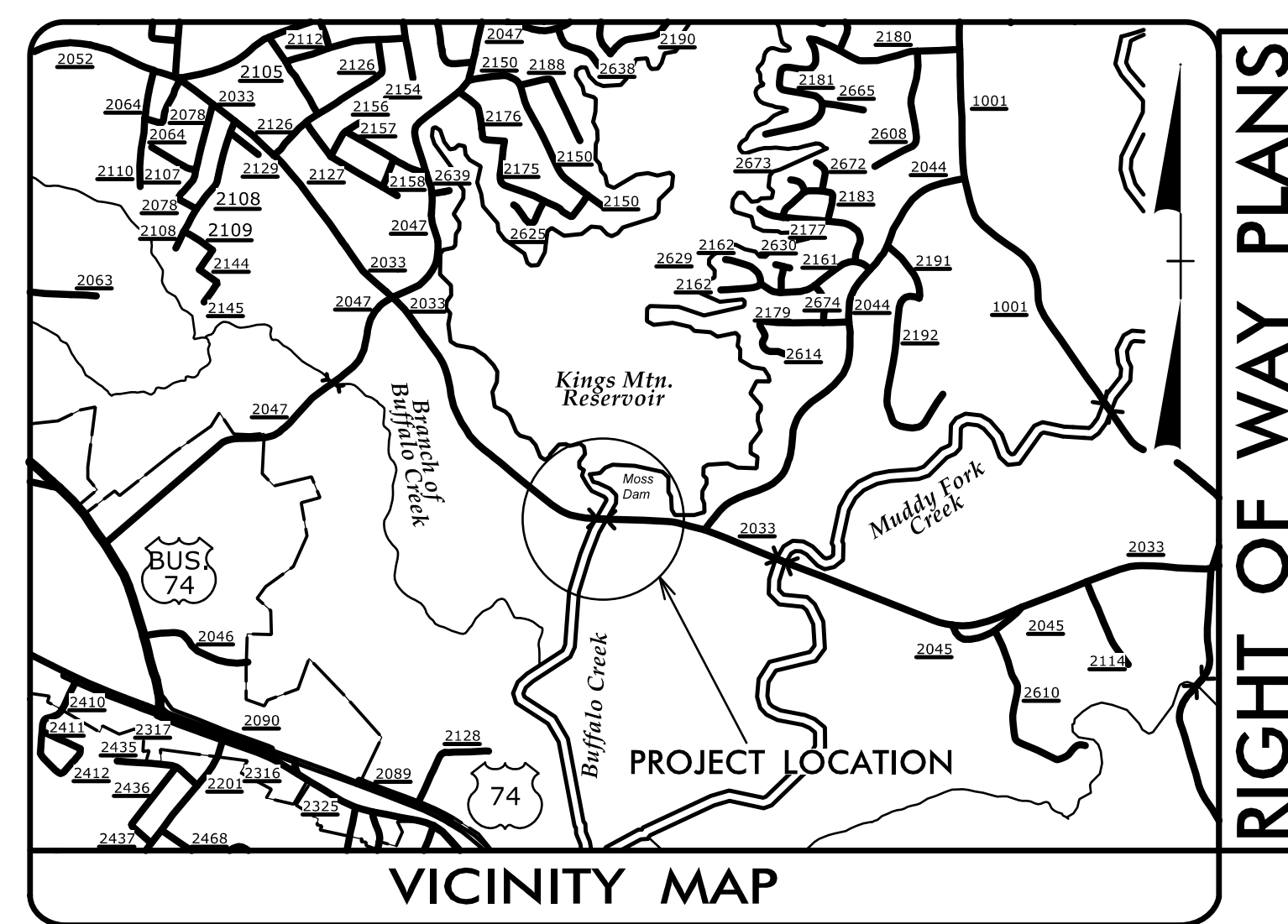
T.I.P. NO.	SHEET NO.
B-5845	UC-1

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

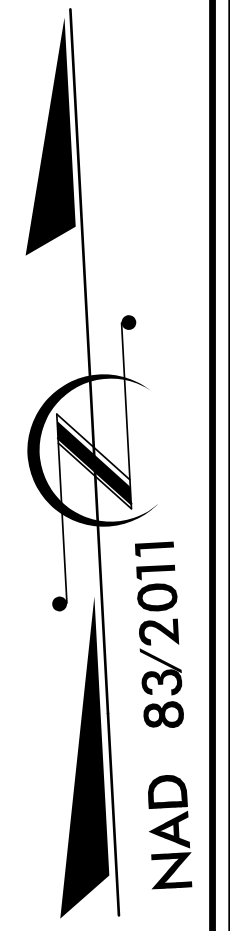
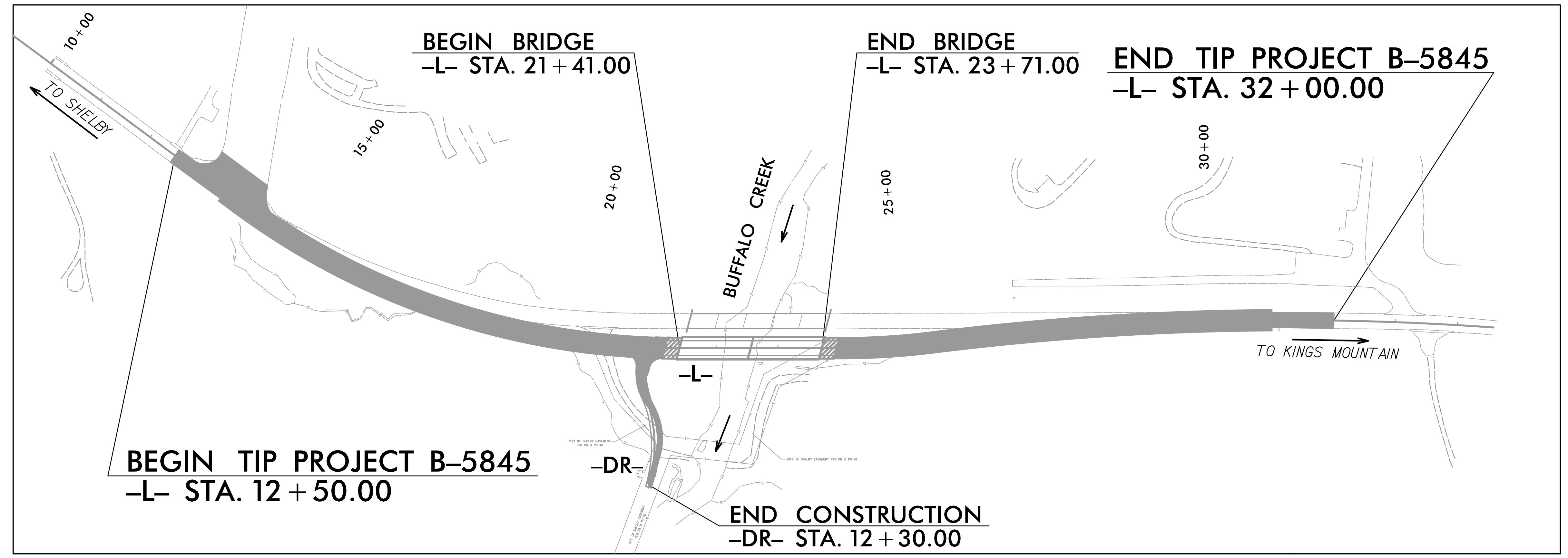
**UTILITY CONSTRUCTION PLANS  
CLEVELAND COUNTY**

**LOCATION: BRIDGE 220025 OVER BUFFALO CREEK ON SR 2033 (OAK GROVE RD)**

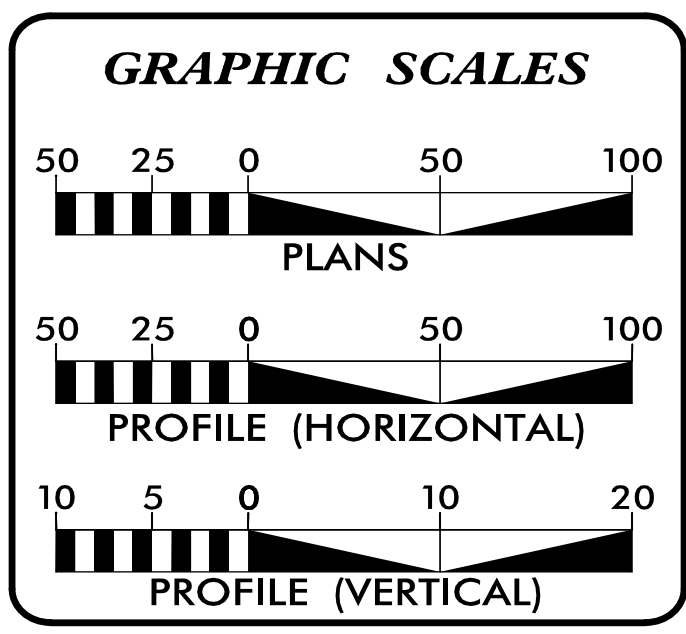
**TYPE OF WORK: WATER MAIN RELOCATION**



RIGHT OF WAY PLANS



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	DETAILS
UC-4 - 6	UTILITY CONSTRUCTION SHEETS

**WATER AND SEWER OWNERS ON PROJECT**

(A) WATER - CLEVELAND COUNTY WATER

PREPARED IN THE OFFICE OF

**TGS ENGINEERS**  
201 W. MARION ST., SUITE 200  
SHELBY, NC 28150  
PH (704) 476-0003  
CORP. LICENSE NO.: C-0275

**B. CHAD HOUSER PE** UTILITY ENGINEER  
**JIMMY TERRY, PE** PROJECT MANAGER

SEAL

11/10/2023

HIGHWAY DIVISION 12  
1710 E. Marion St.  
Shelby, NC 28151

**JOSH WHITE** DIVISION PROJECT ENGINEER  
**WARREN ANDERSON** DIVISION UTILITY COORDINATOR  
**RODNEY GANTT** DIVISION CONSTR. ENGINEER

# 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	

NOTE  
PAY ITEM

### EXISTING UTILITIES SYMBOLS

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

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

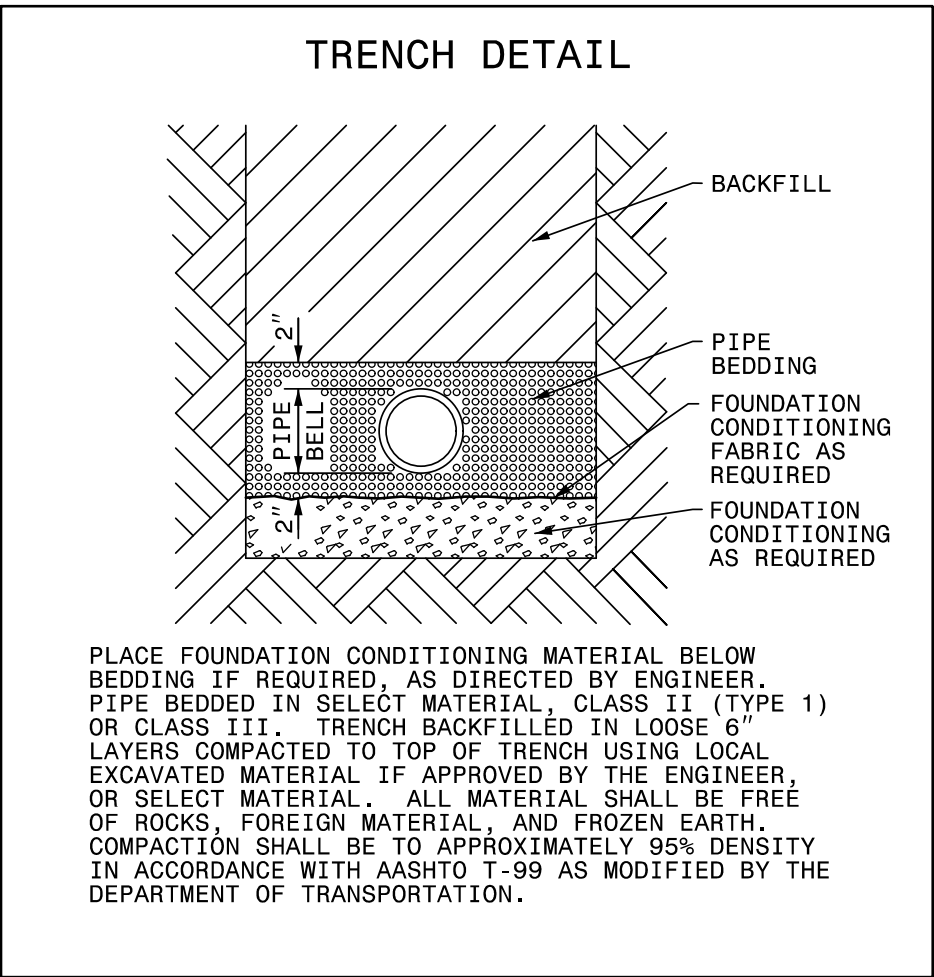


# UTILITY CONSTRUCTION

## 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 UTILITIES BELONG TO CLEVELAND COUNTY WATER .
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 4 TO 12 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 0.188 INCHES FOR 12" AND SMALLER OR 0.25 INCHES FOR LARGER THAN 12".
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 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 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.

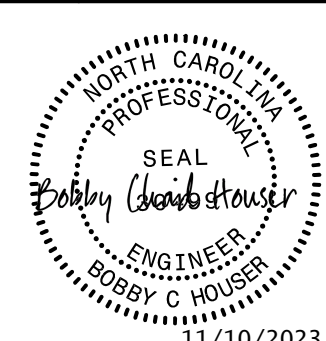
9. PROVIDE THRUST RESTRAINT ON THE EXISTING WATER LINE WHERE TIE-INS ARE MADE AS NECESSARY.
10. CONTRACTOR SHALL NOT OPERATE ANY VALVES ON THE EXISTING UTILITY SYSTEMS. CONTRACTOR SHALL CONTACT THE UTILITY OWNER TO CONDUCT STRATEGIC OPERATION OF VALVES FOR SERVICE INTERRUPTION IN ORDER TO PERFORM SPECIFIC 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.

PROJECT REFERENCE NO. <b>B-5845</b>	SHEET NO. <b>UC-3</b>
DESIGNED BY: <b>BCH</b>	
DRAWN BY: <b>KSA</b>	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 12 PHONE: (980)552-4200	

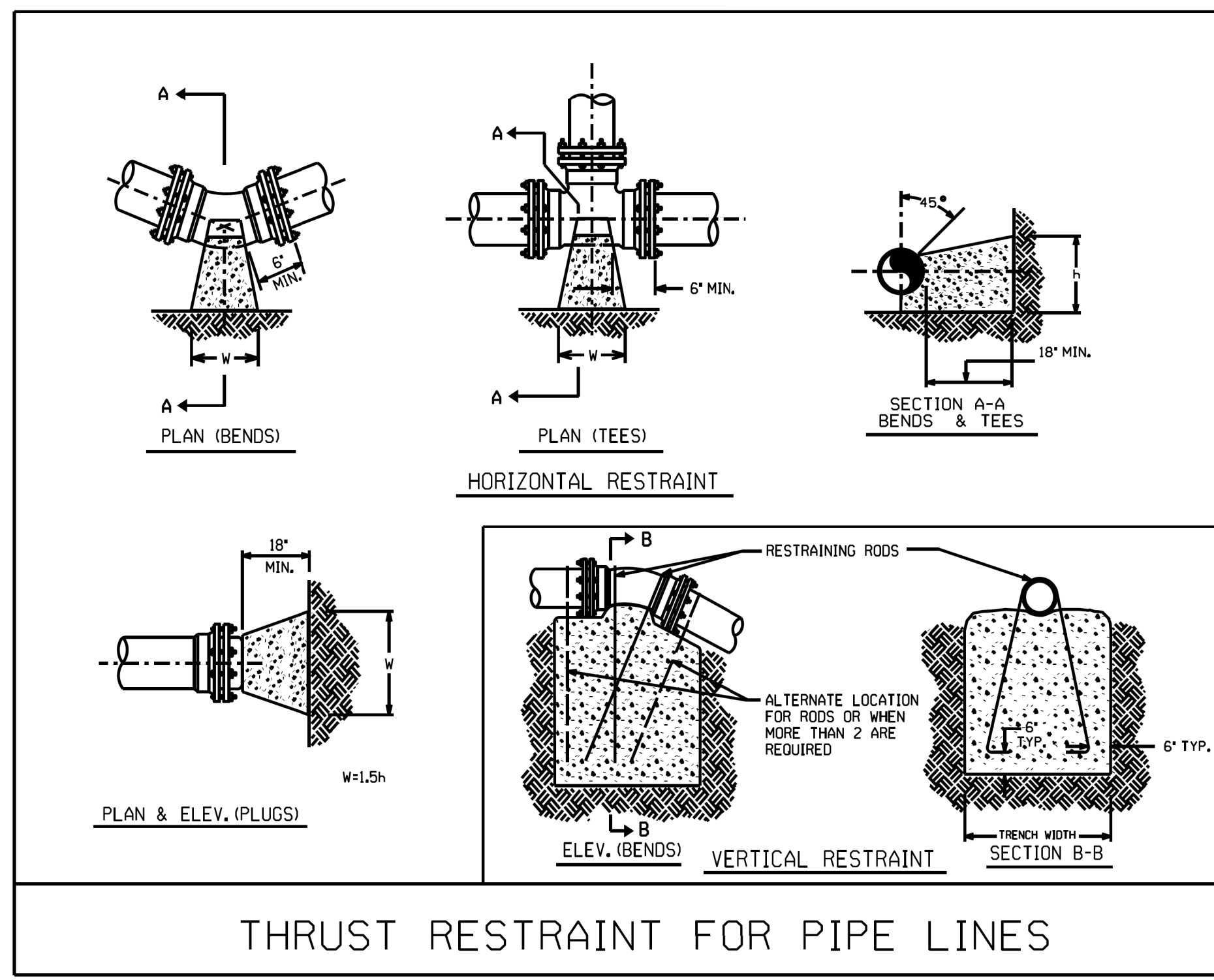
UTILITY CONSTRUCTION  
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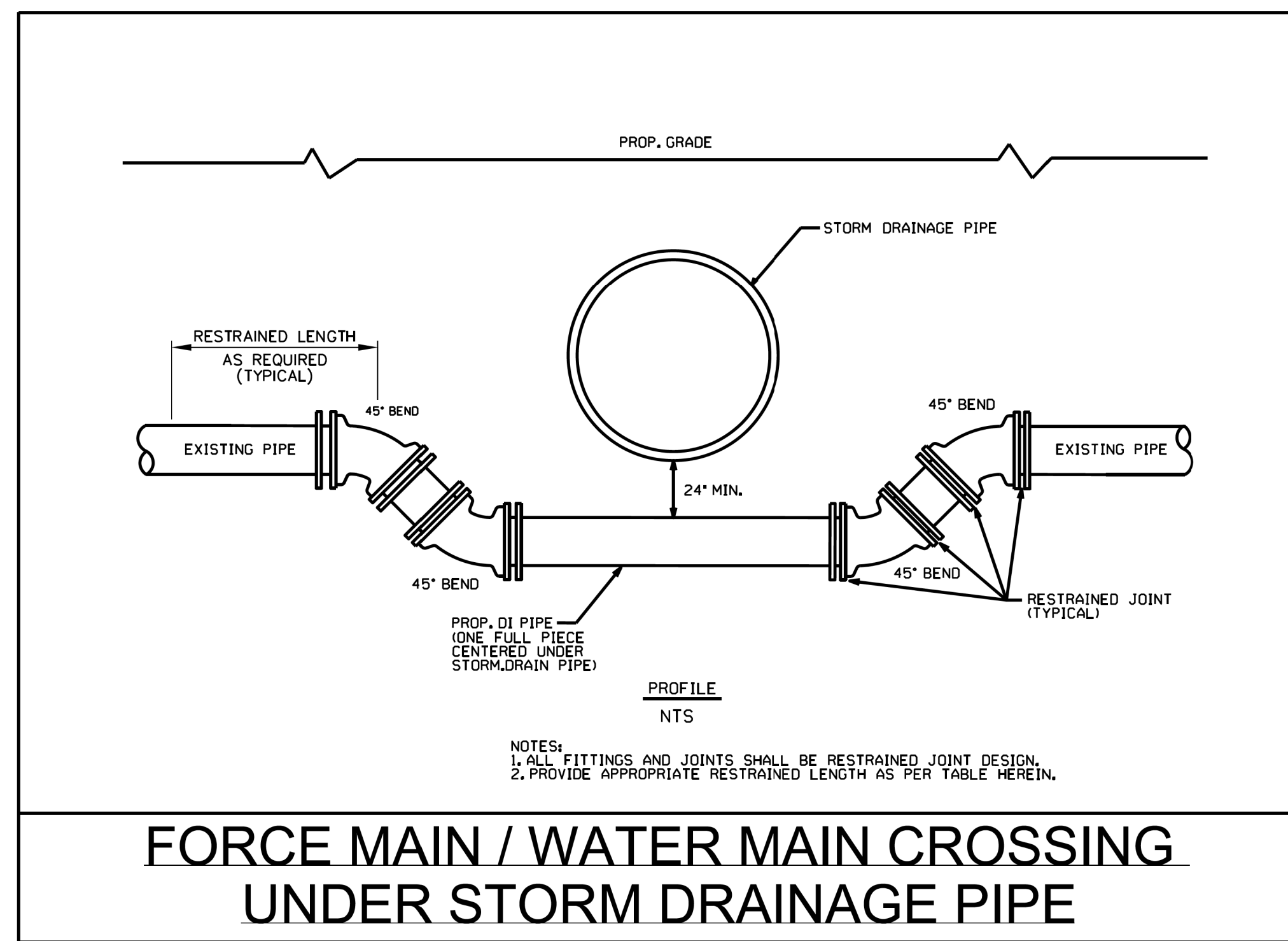
# WATER TYPICAL DETAILS

PROJECT REFERENCE NO. <b>B-5845</b>	SHEET NO. <b>UC-3A</b>
DESIGNED BY: <b>BCH</b>	
DRAWN BY: <b>KSA</b>	
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APPROVED BY:	
REVISER:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 12 PHONE: (980)552-4200
UTILITY CONSTRUCTION PLANS ONLY	

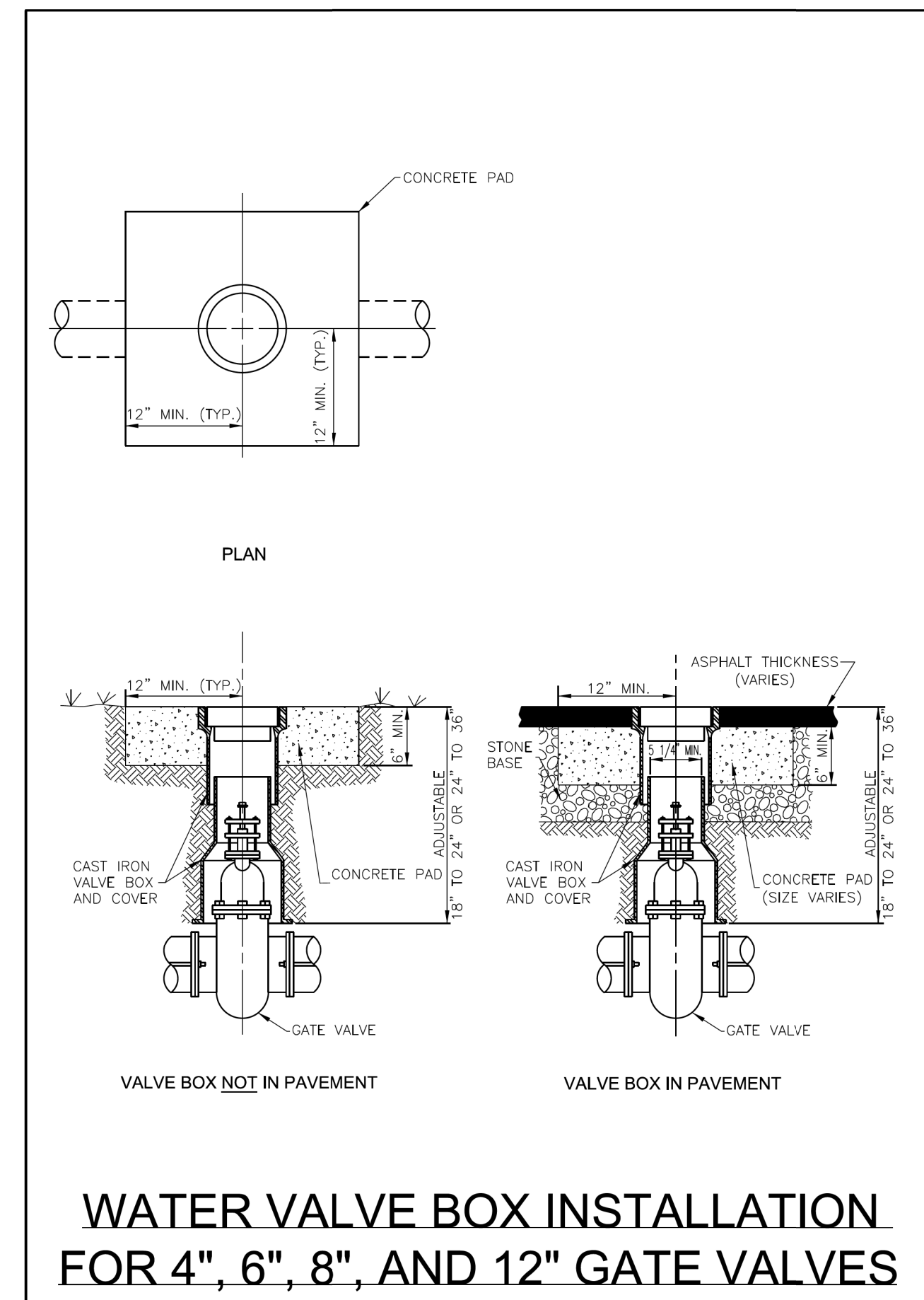
UTILITY CONSTRUCTION  
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THRUST RESTRAINT FOR PIPE LINES

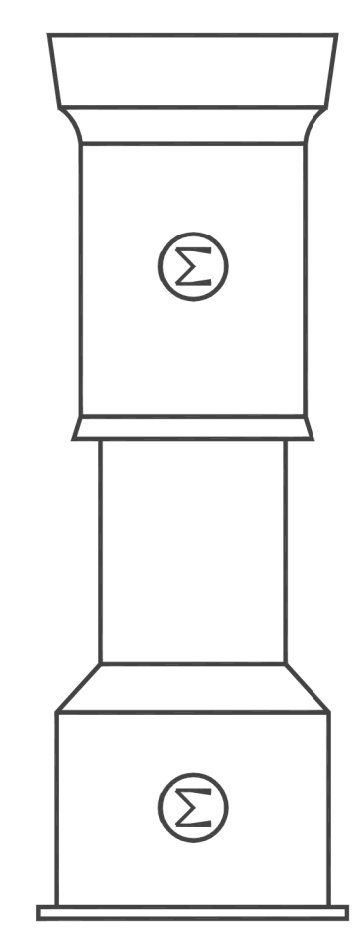


FORCE MAIN / WATER MAIN CROSSING UNDER STORM DRAINAGE PIPE

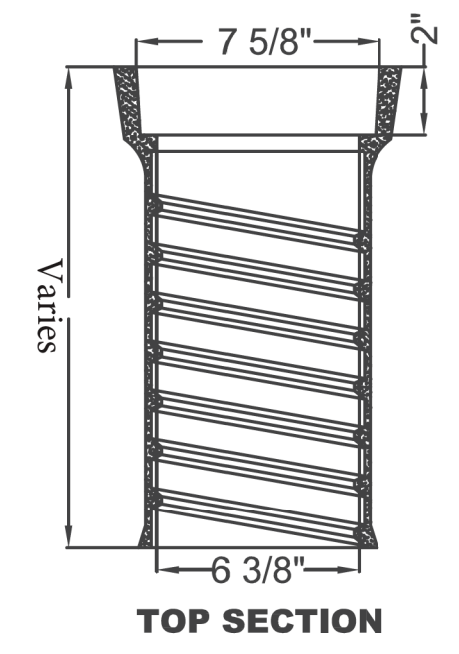


WATER VALVE BOX INSTALLATION FOR 4", 6", 8", AND 12" GATE VALVES

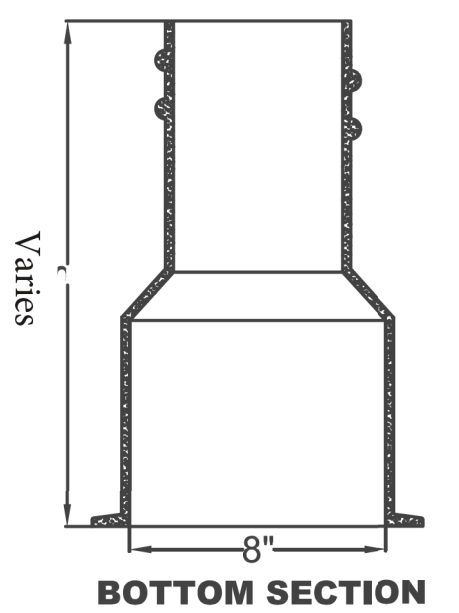
## SCREW TYPE



VALVE BOX COMPLETE



TOP SECTION



BOTTOM SECTION

## 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		
<b>HORIZONTAL BENDS</b>										
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	26	22	19	17	16	14	13	12		
8 INCH DIA - 22.5 DEG	3	3	2	2	2	2	2	2		
8 INCH DIA - 45 DEG	7	6	5	5	4	4	3	3		
12 INCH DIA - 11.25 DEG	14	12	10	9	8	8	7	7		
12 INCH DIA - 22.5 DEG	33	29	25	23	20	19	17	16		
12 INCH DIA - 45 DEG	5	4	4	3	3	3	2	2		
16 INCH DIA - 11.25 DEG	9	8	7	6	6	5	5	5		
16 INCH DIA - 22.5 DEG	20	17	15	13	12	11	10	10		
16 INCH DIA - 45 DEG	47	41	36	33	29	27	25	23		
20 INCH DIA - 11.25 DEG	6	5	5	4	4	3	3	3		
20 INCH DIA - 22.5 DEG	12	11	9	8	8	7	6	6		
20 INCH DIA - 45 DEG	25	22	19	17	16	14	13	12		
24 INCH DIA - 11.25 DEG	7	6	6	5	5	4	4	4		
24 INCH DIA - 22.5 DEG	15	13	11	10	9	9	8	7		
24 INCH DIA - 45 DEG	31	27	24	21	19	18	16	15		
30 INCH DIA - 90 DEG	74	65	57	52	47	43	40	37		
<b>VERTICAL BENDS - DOWN</b>										
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		
<b>VERTICAL BENDS - UP</b>										
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		
<b>DEAD ENDS / VALVES</b>										
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		
<b>REDUCERS</b>										
3 FT	50	45	41	38	35	33	31	29		
12 INCH X 8 INCH										
<b>TEES</b>										
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.



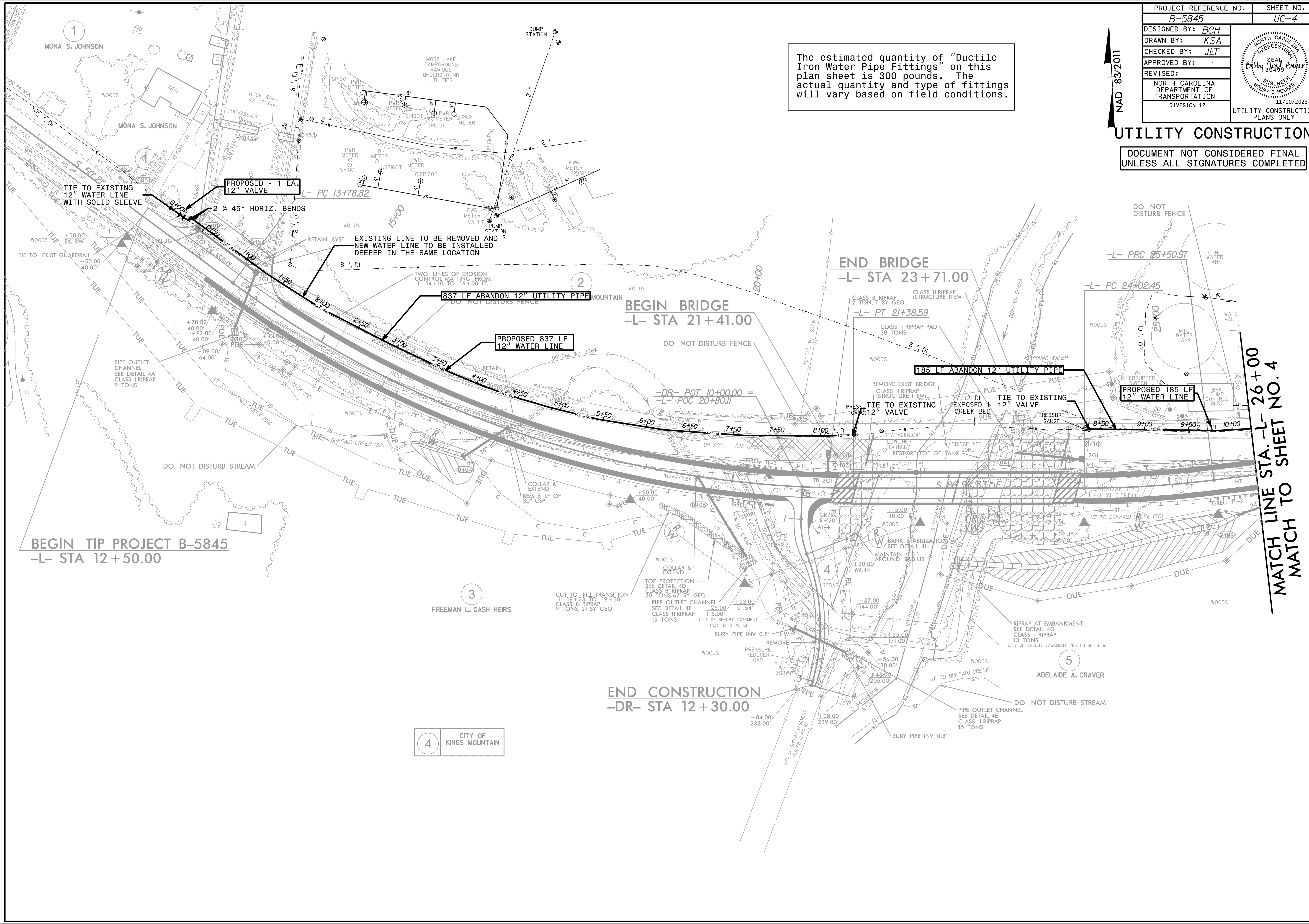
PROJECT REFERENCE NO. <b>B-5845</b>	SHEET NO. <b>UC-4</b>
DESIGNED BY: <b>BCH</b>	
DRAWN BY: <b>KSA</b>	
CHECKED BY: <b>JLT</b>	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 12 UTILITY CONSTRUCTION PLANS ONLY	

NAD 83/2011

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

### UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

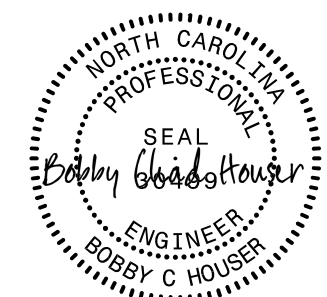


MATCH LINE STA. -L- 26+00  
MATCH TO SHEET NO. 4

4 CITY OF KINGS MOUNTAIN

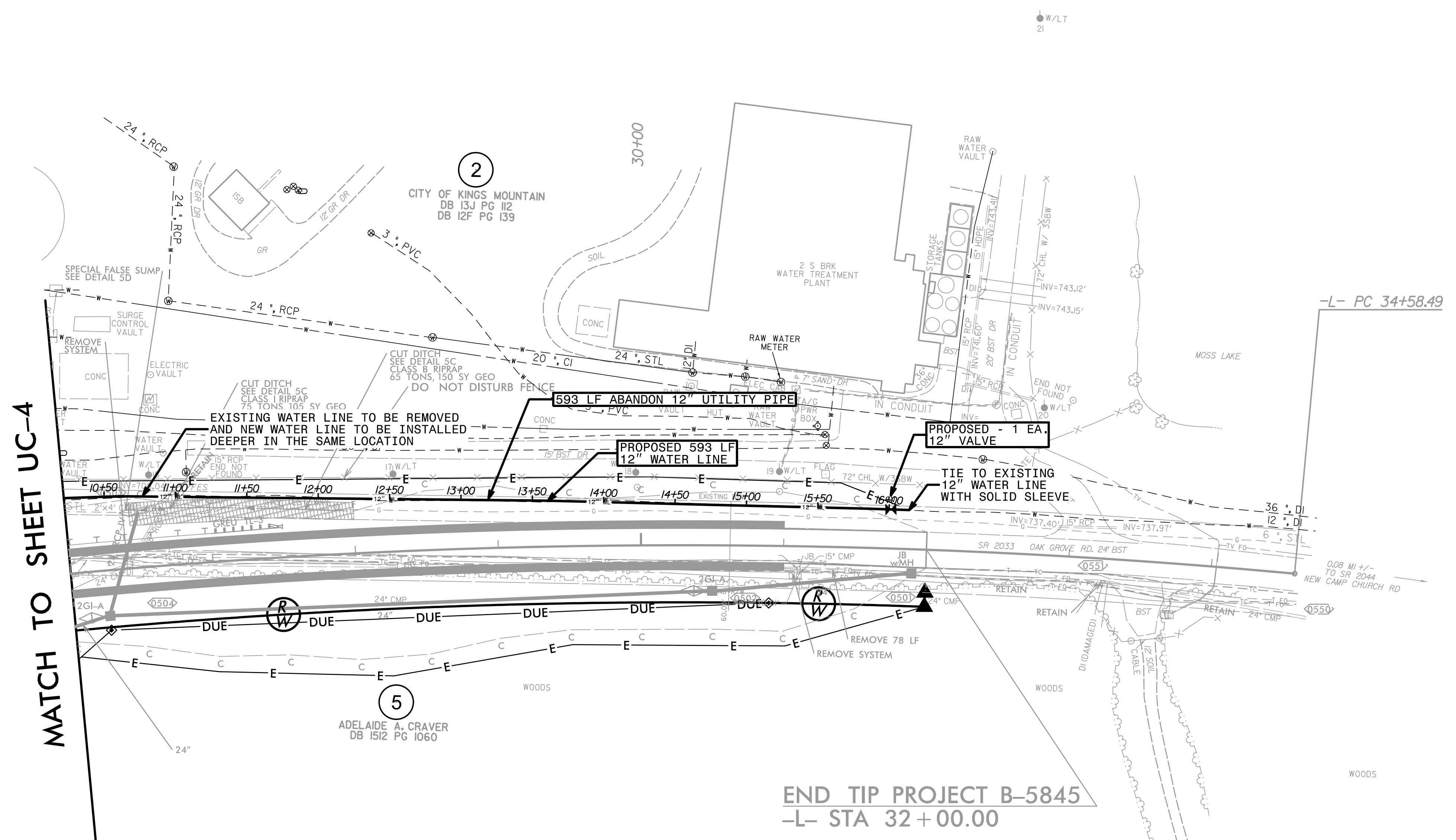
5 ADELAIDE A. CRAVER



PROJECT REFERENCE NO. <i>B-5845</i>	SHEET NO. <i>UC-5</i>
DESIGNED BY: <i>BCH</i>	
DRAWN BY: <i>KSA</i>	
CHECKED BY: <i>JLT</i>	
APPROVED BY:	
REVISER:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION 12 UTILITY CONSTRUCTION PLANS ONLY

NAD 83/2011

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



MATCH TO SHEET UC-4

END TIP PROJECT B-5845  
-L- STA 32 + 00.00

-L- PC 34+58.49

5  
ADELAIDE A. CRAVER  
DB 1512 PG 1060

2  
CITY OF KINGS MOUNTAIN  
DB 13J PG 112  
DB 12F PG 139

SPECIAL FALSE SUMP  
SEE DETAIL 5D

REMOVE SYSTEM

REMOVE SYSTEM

REMOVE SYSTEM

REMOVE SYSTEM

REMOVE SYSTEM

REMOVE SYSTEM

REMOVE SYSTEM

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REMOVE SYSTEM

EXISTING WATER LINE TO BE REMOVED  
AND NEW WATER LINE TO BE INSTALLED  
DEEPER IN THE SAME LOCATION

593 LF ABANDON 12" UTILITY PIPE

PROPOSED 593 LF  
12" WATER LINE

PROPOSED - 1 EA.  
12" VALVE

TIE TO EXISTING  
12" WATER LINE  
WITH SOLID SLEEVE

REMOVE 78 LF  
REMOVE SYSTEM

W/LT  
21

RAW WATER  
METER

RAW WATER  
VAULT

RAW WATER  
VAULT

RAW WATER  
VAULT

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VAULT

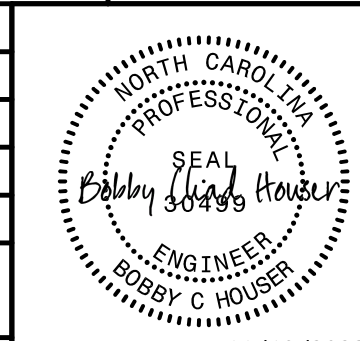
RAW WATER  
VAULT

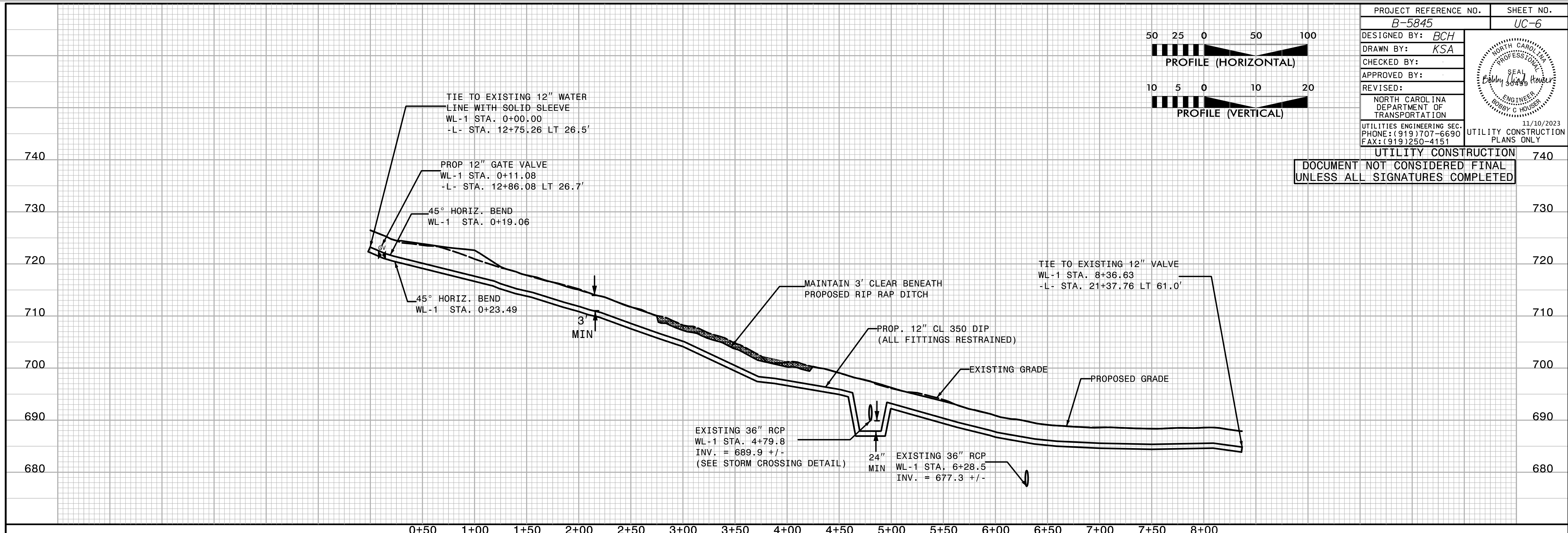
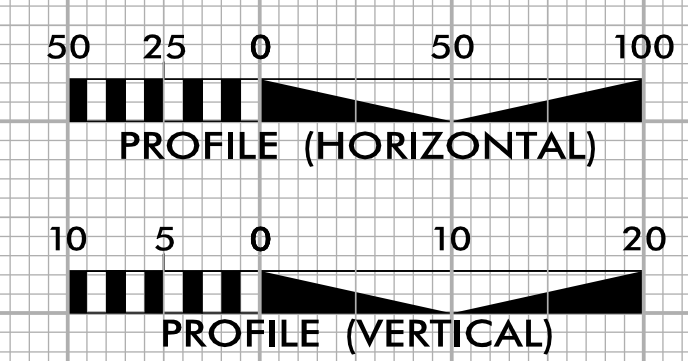
RAW WATER  
VAULT

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VAULT

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RAW WATER  
VAULT

PROJECT REFERENCE NO. <i>B-5845</i>	SHEET NO. <i>UC-6</i>
DESIGNED BY: <i>BCH</i>	
DRAWN BY: <i>KSA</i>	
CHECKED BY:	
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REVISD:	11/10/2023
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