

09_08/99

TIP PROJECT: U-5510

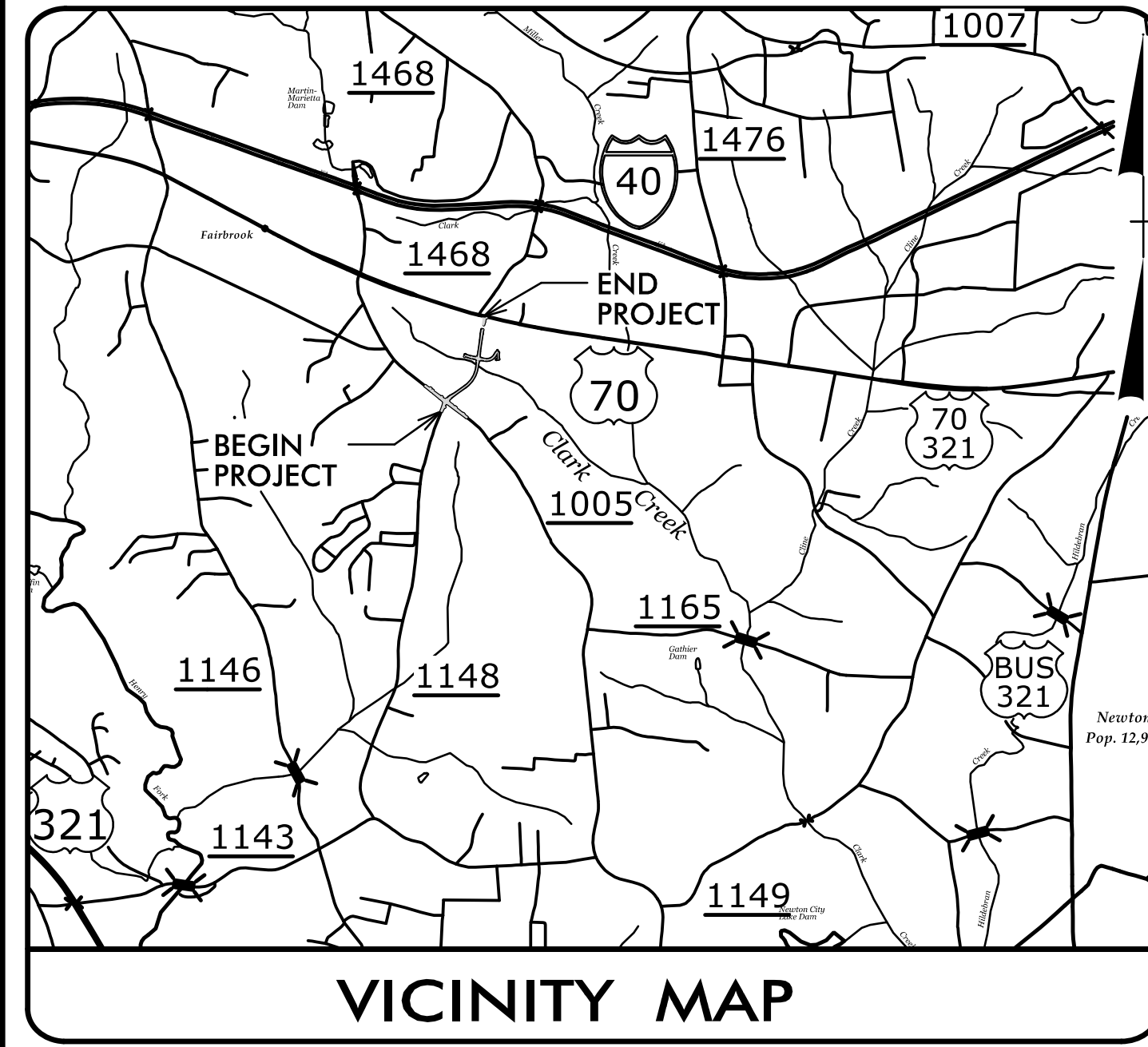
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
U-5510	UC-1

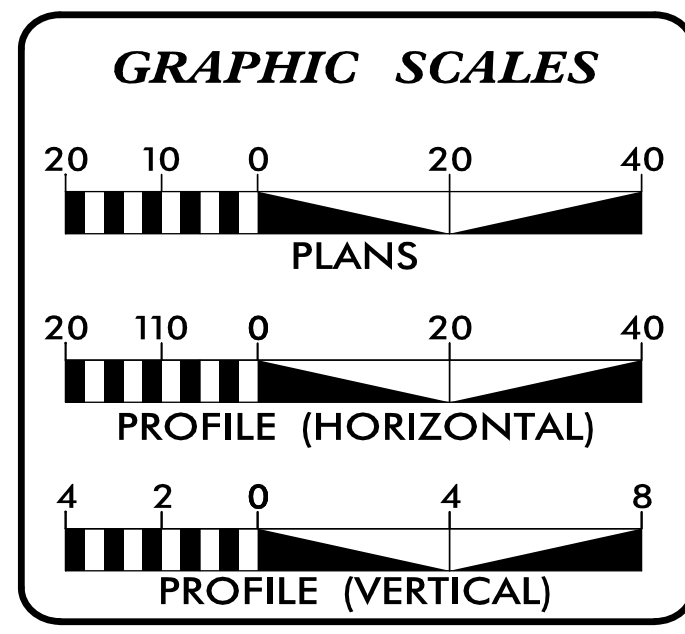
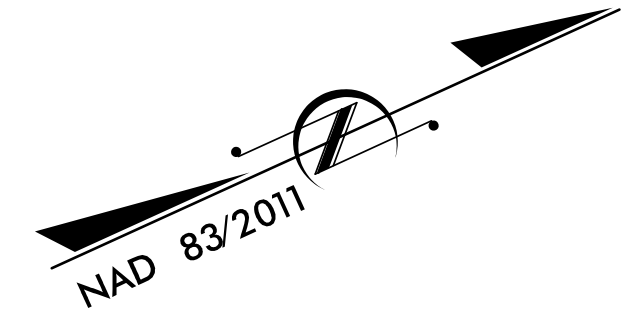
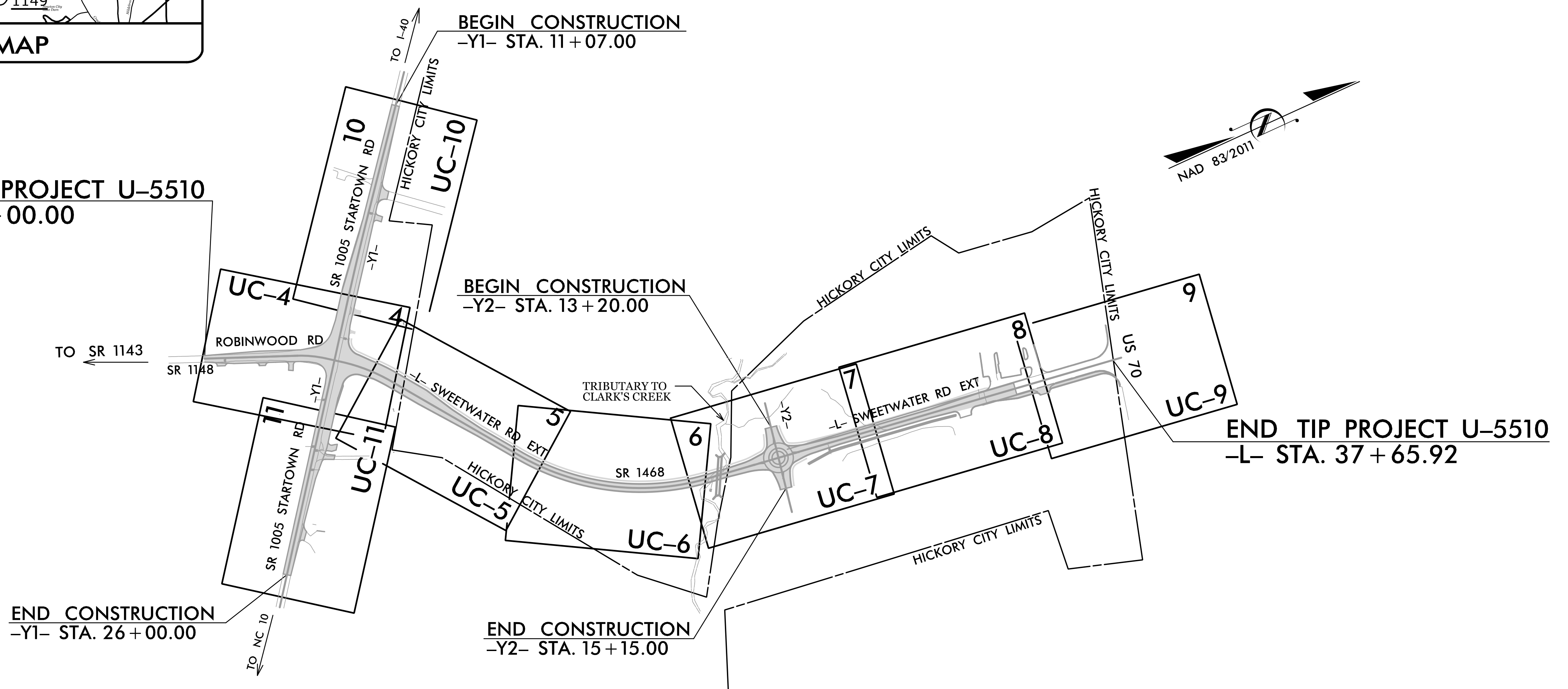
**UTILITY CONSTRUCTION PLANS
CATAWBA COUNTY**

**LOCATION: SR 1468 (SWEETWATER RD) EXTENSION
FROM US 70 TO SR 1005 (STARTOWN RD)**

TYPE OF WORK: WATER AND SEWER RELOCATION



**BEGIN TIP PROJECT U-5510
-L- STA. 8 + 00.00**



INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A TO UC-3B	DETAILS
UC-4 THRU UC-11	UTILITY CONSTRUCTION SHEETS
UC-12 THRU UC-15	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(A) WATER - CITY OF HICKORY
(B) SANITARY SEWER - CITY OF HICKORY

PREPARED IN THE OFFICE OF

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

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



**DIVISION OF HIGHWAYS
DIVISION 12**
1710 EAST MARION STREET
SHELBY, NC 28151
(980) 552-4200

BRYAN SOWELL DIVISION PROJECT ENGINEER
WARREN ANDERSON UTILITIES AREA COORDINATOR

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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	

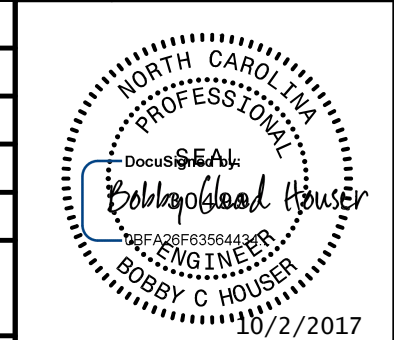
Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

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
 8/21/2012
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 REV: 2/1/2012

PROJECT REFERENCE NO. U-5510	SHEET NO. UC-3
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 12 PHONE: (980) 552-4200 FAX: (704) 480-5401	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.
2. THE EXISTING UTILITIES BELONG TO THE CITY OF HICKORY .
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 LINE 8-INCHES THROUGH 12-INCHES IN DIAMETER SHALL BE DUCTILE IRON PRESSURE CLASS 350.
2. ALL WATER LINE FITTINGS 8-INCHES THROUGH 24- 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 8-INCH GRAVITY SEWER SHALL BE SDR 35 PVC UNLESS OTHERWISE SPECIFIED .
4. ALL VALVES 12" AND UNDER SHALL BE RESILIENT WEDGE GATE VALVES.
5. ALL ENCASEMENT PIPES SHALL BE MINIMUM 1/4-INCH THICK SMOOTH WALL WELDED STEEL CONFORMING TO ASTM DESIGNATION 139, GRADE B. THE OUTSIDE OF THE PIPE SHALL BE COATED IN ACCORDANCE WITH AWWA STANDARD 203.
6. PROPOSED WATER LINES SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT FOR 10' EACH SIDE OF GAS LINE CROSSINGS AND WHERE THE WATER LINE AND GAS LINE ARE WITHIN 10 FEET OF EACH OTHER.
7. CONTRACTOR SHALL RETURN ALL REMOVED WATER METERS TO THE UTILITY OWNER.
8. PROVIDE THRUST RESTRAINT ON THE EXISTING WATER LINE WHERE TIE-INS ARE MADE AS NECESSARY.
9. 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.
10. 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.

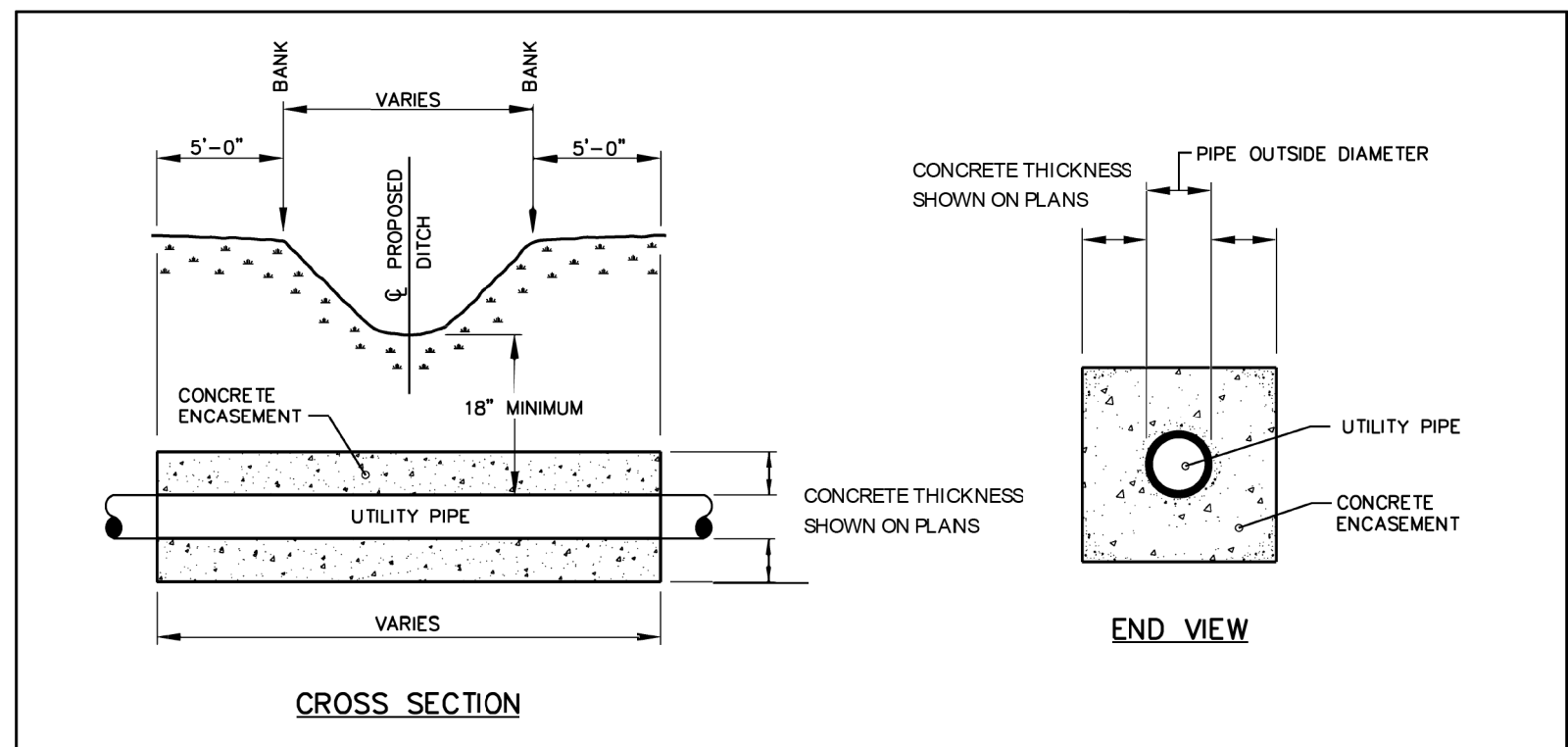
UTILITY CONSTRUCTION

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 10/2/2017
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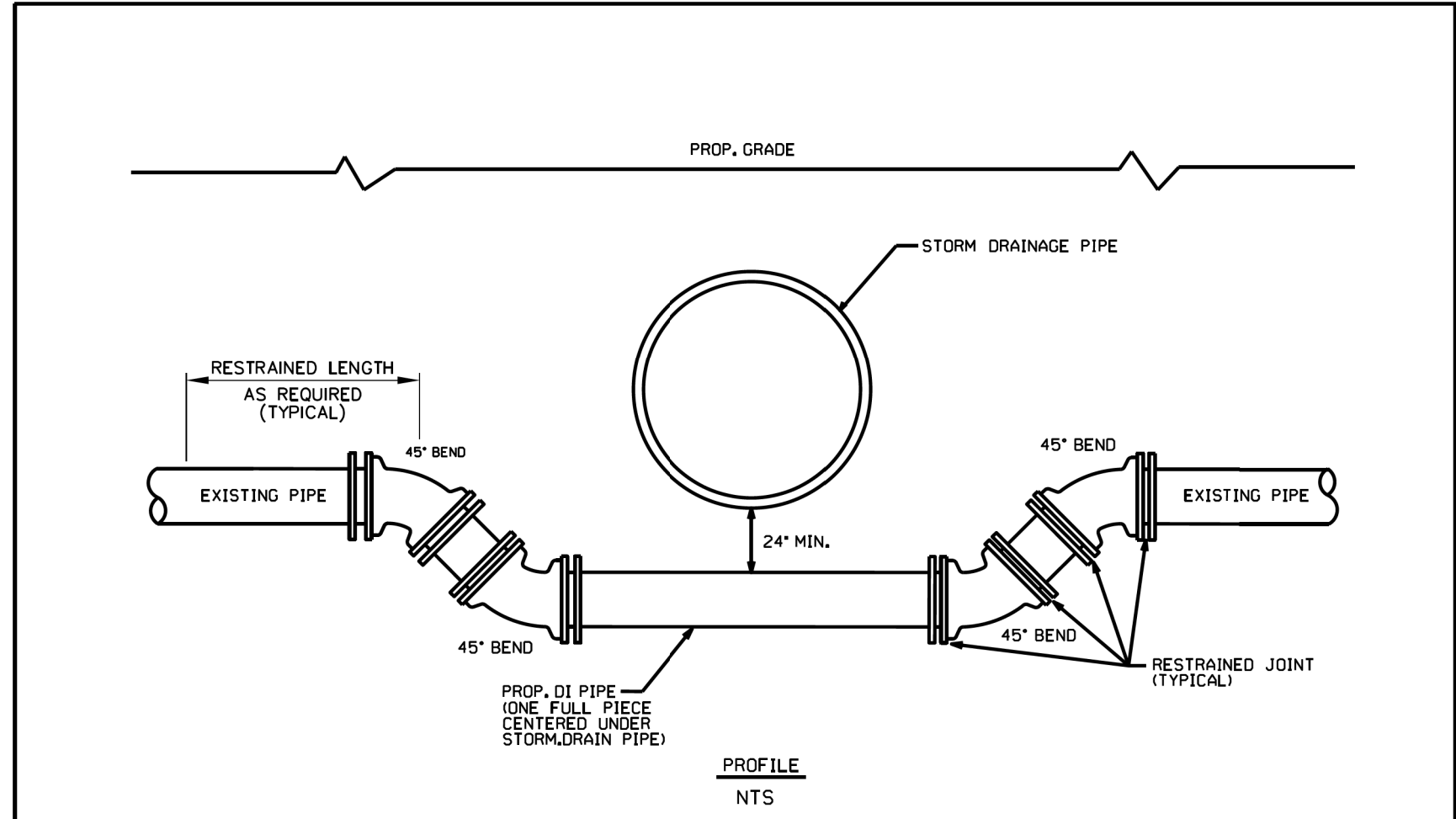
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U-5510	UC-3A
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
HIGHWAY DIVISION 12 PHONE: (980) 552-4200 FAX: (704) 480-5401	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION DETAILS



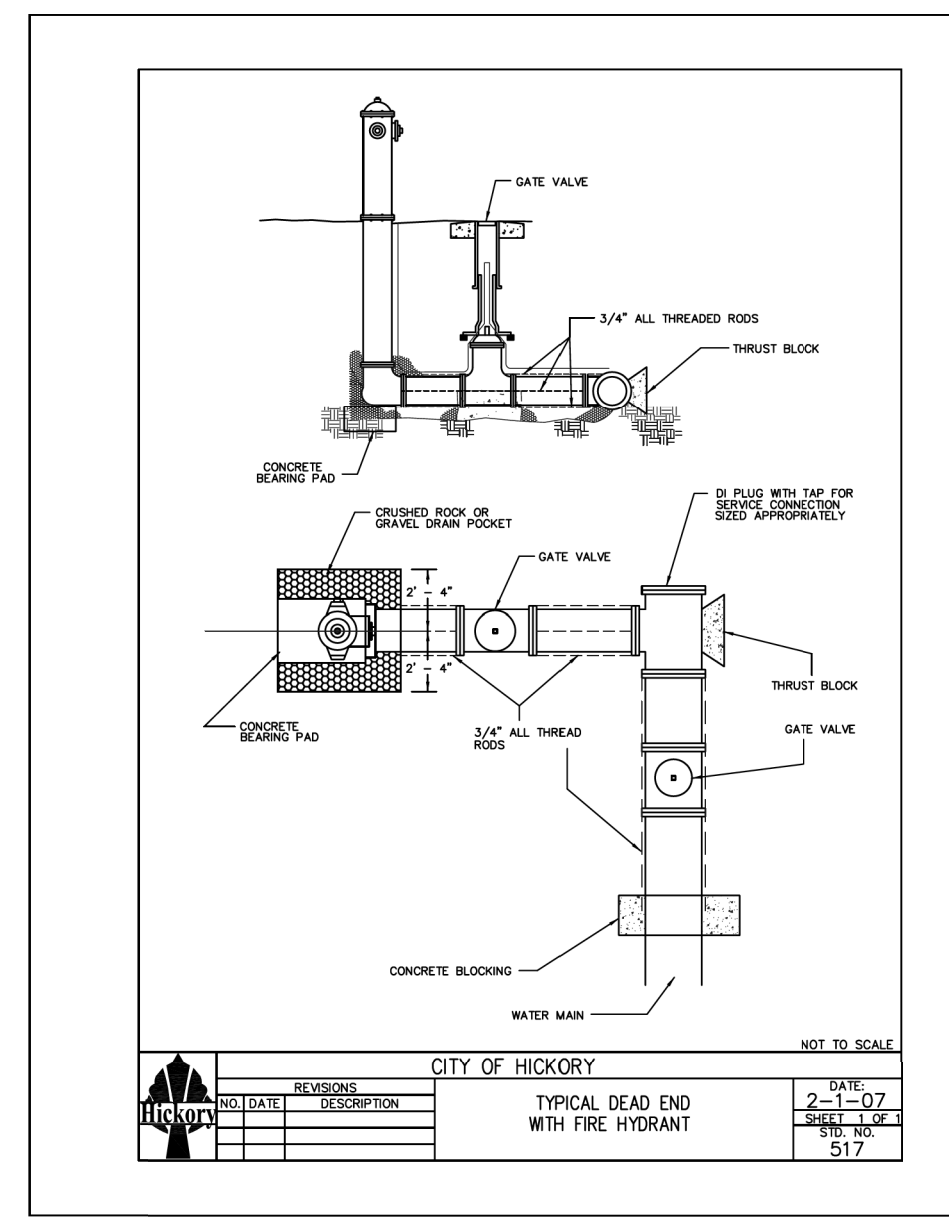
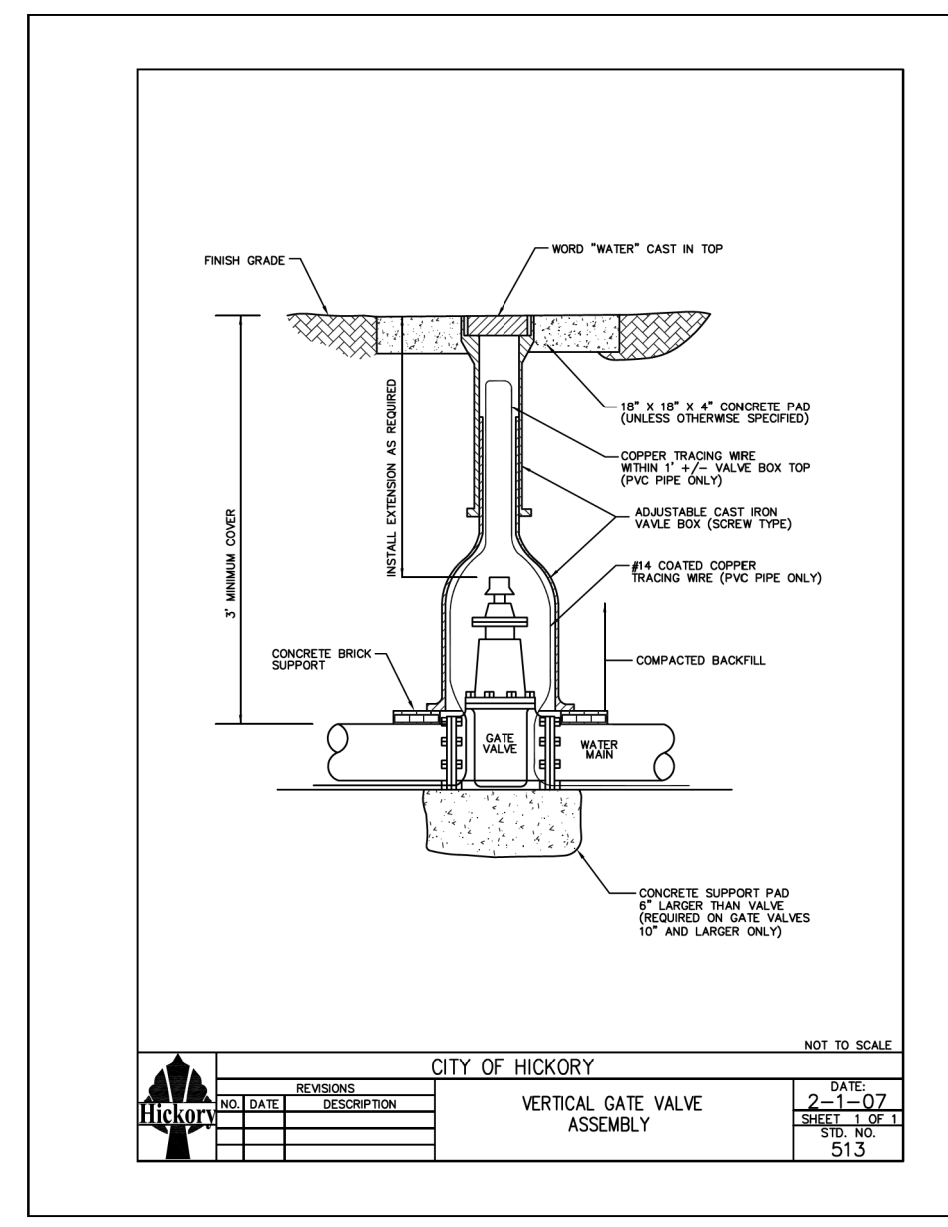
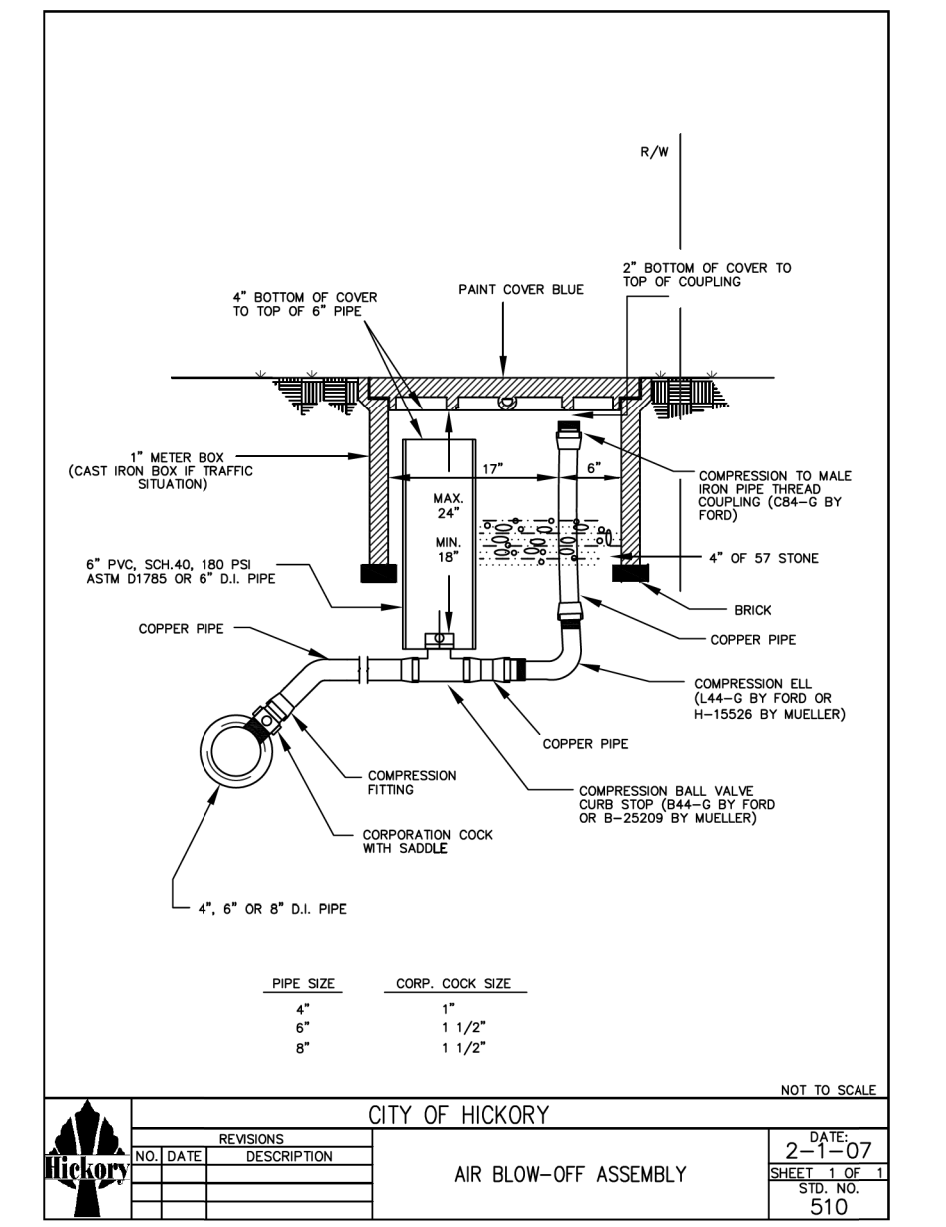
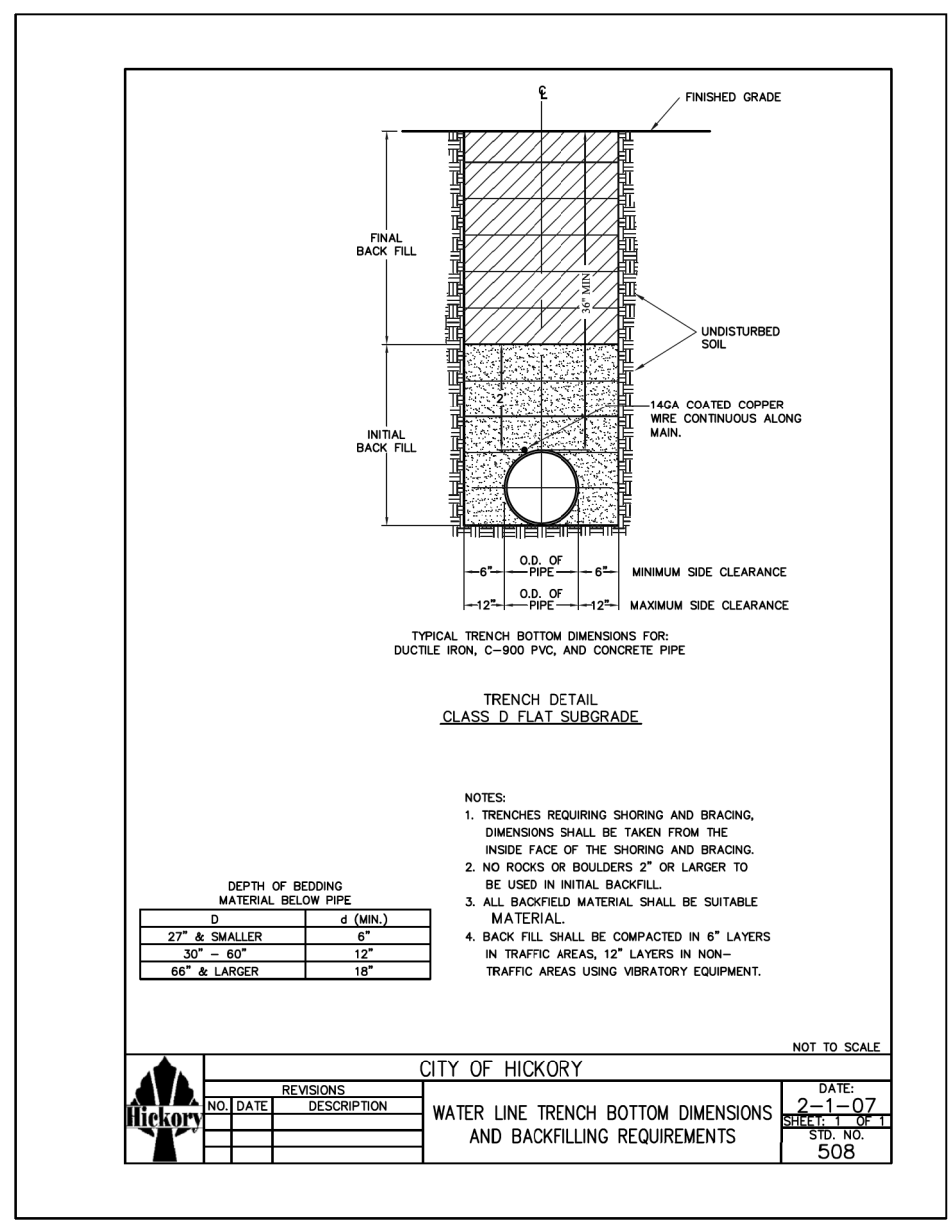
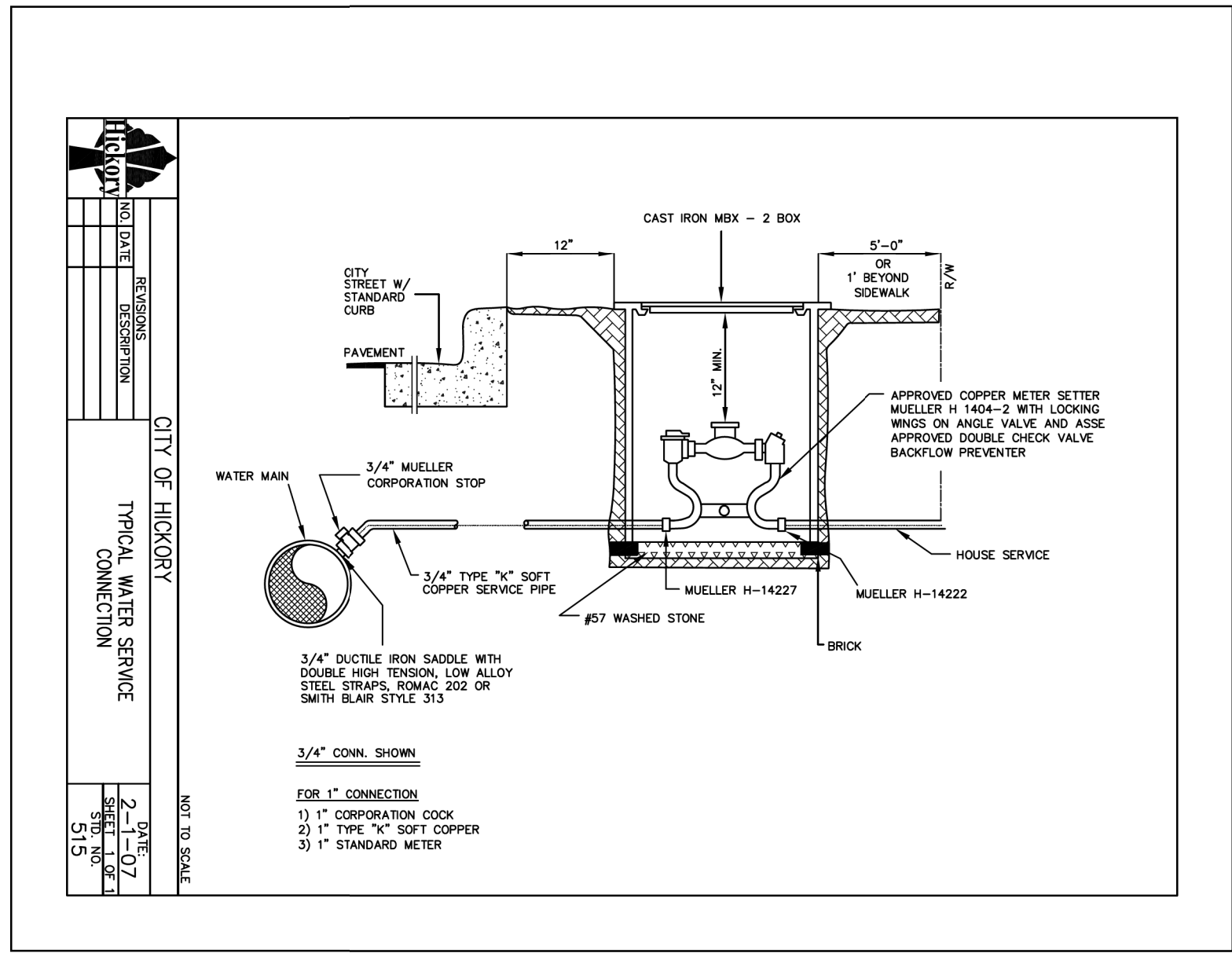
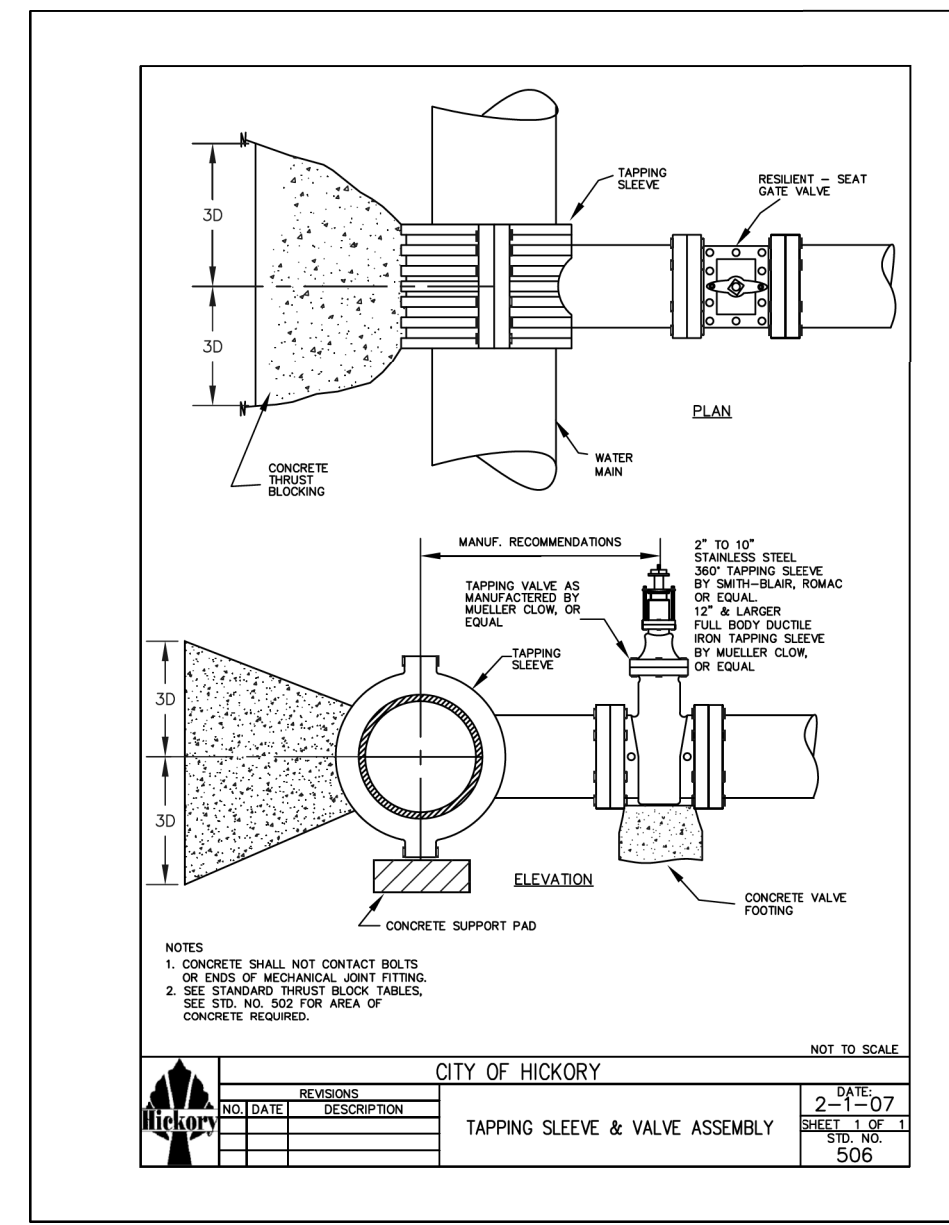
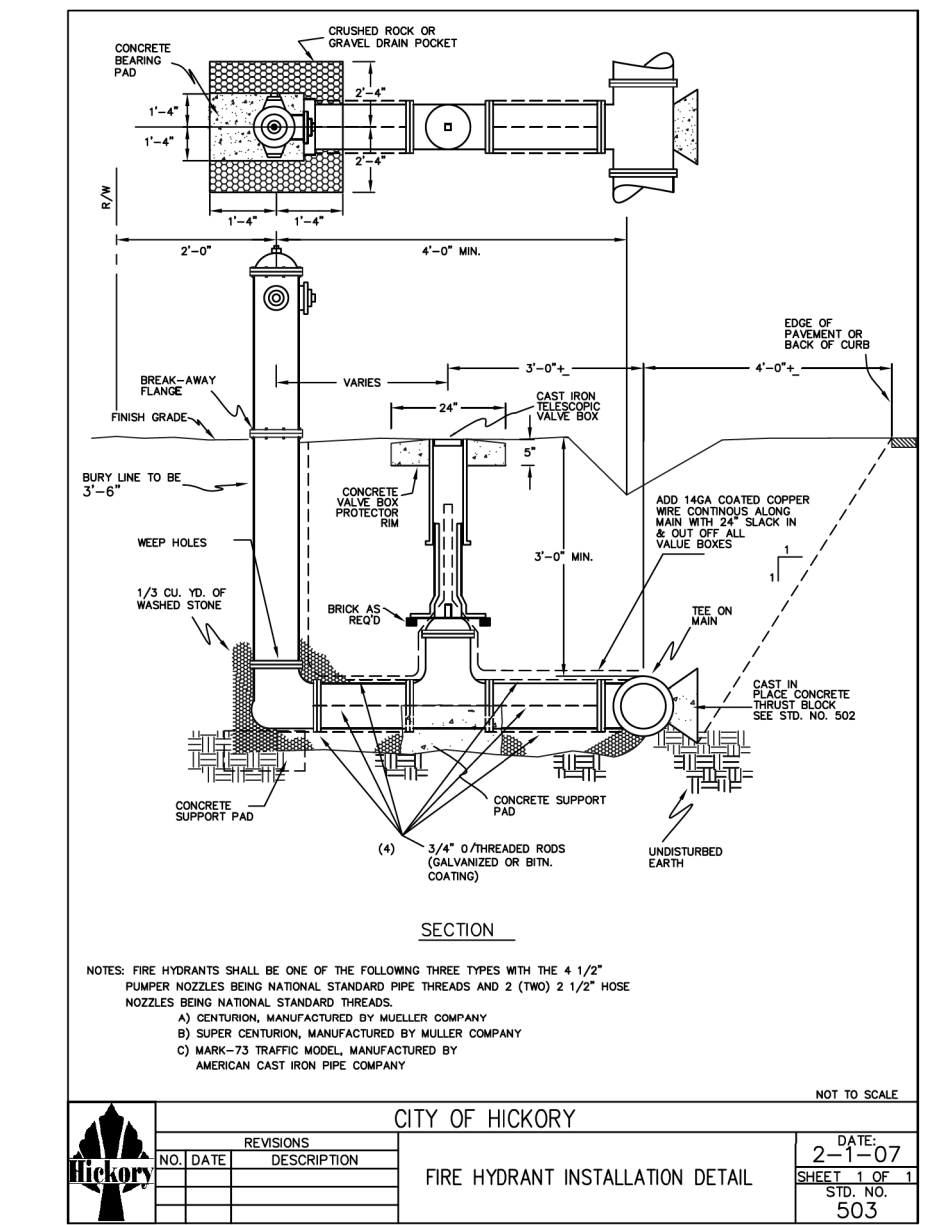
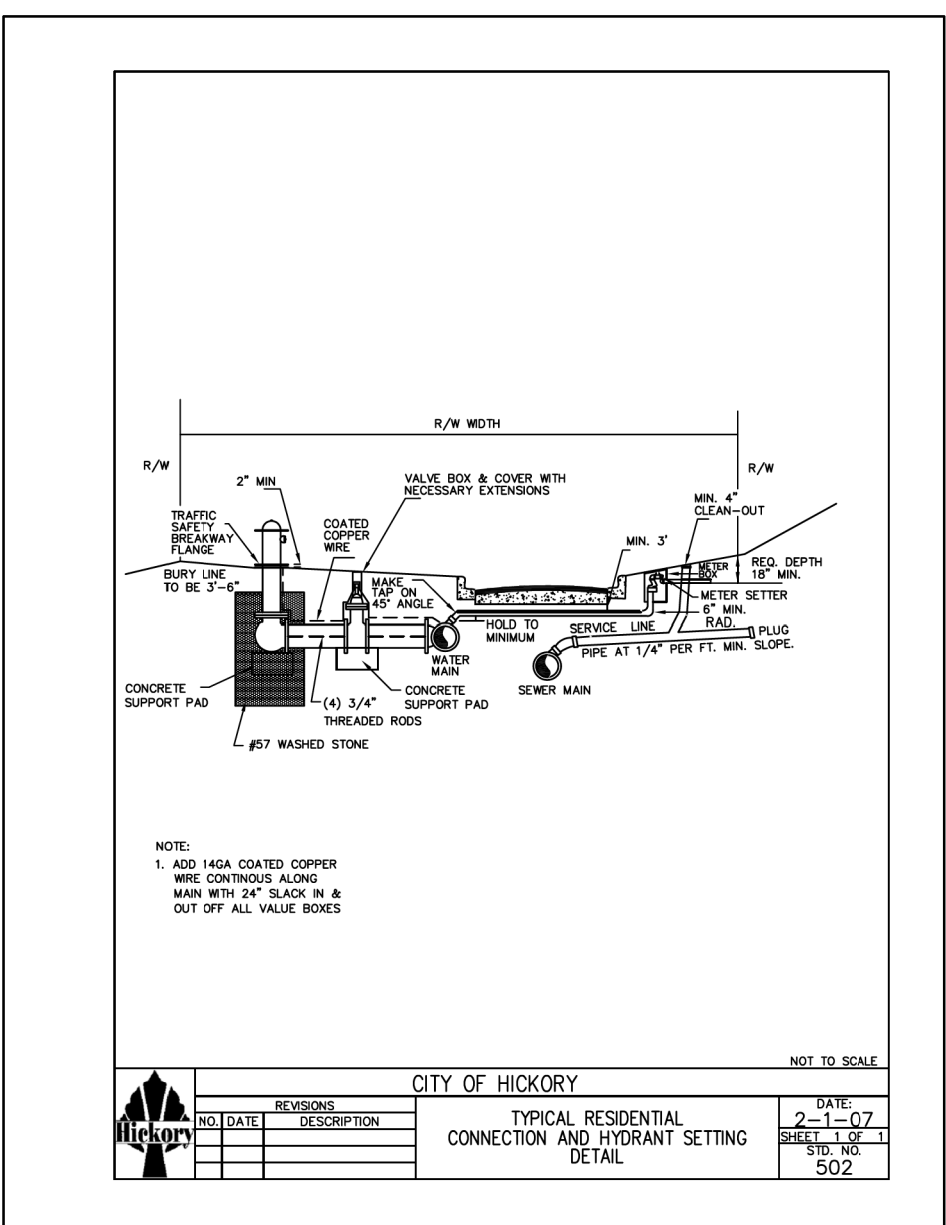
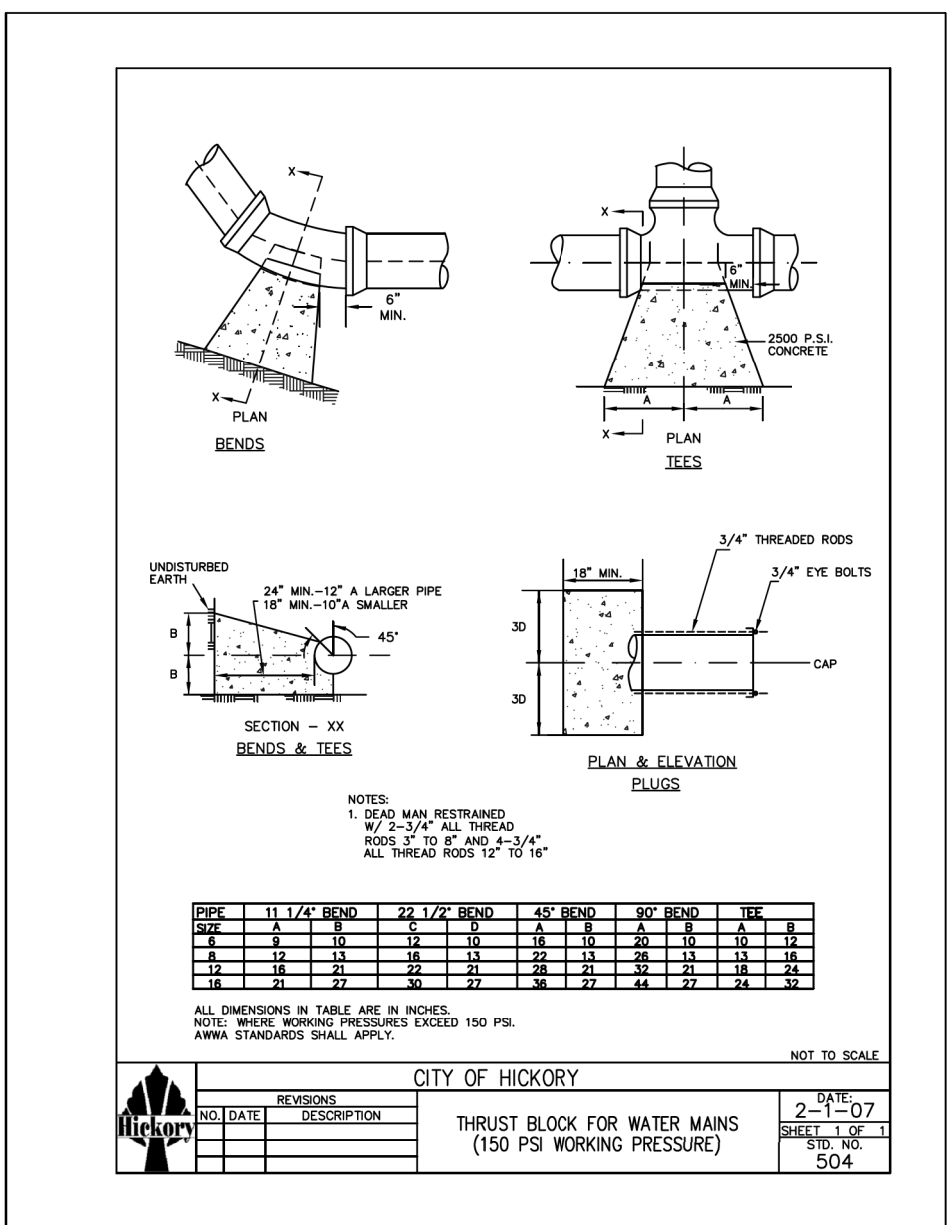
- NOTES:
1. CONCRETE SHALL BE CLASS B - 2,500 P.S.I. MIN. COMPRESSIVE STRENGTH.
 2. CONCRETE ENCASEMENT IS NOT REQUIRED WHEN PIPE IS AT LEAST THREE (3) FEET UNDER CENTERLINE OF CREEK BOTTOM.

UTILITY PIPE CONCRETE ENCASUREMENT FOR DITCH/CREEK/STORMWATER CROSSINGS



- NOTES:
1. ALL FITTINGS AND JOINTS SHALL BE RESTRAINED JOINT DESIGN.
 2. PROVIDE APPROPRIATE RESTRAINED LENGTH AS PER TABLE HEREIN.

FORCE MAIN / WATER MAIN CROSSING UNDER STORM DRAINAGE PIPE



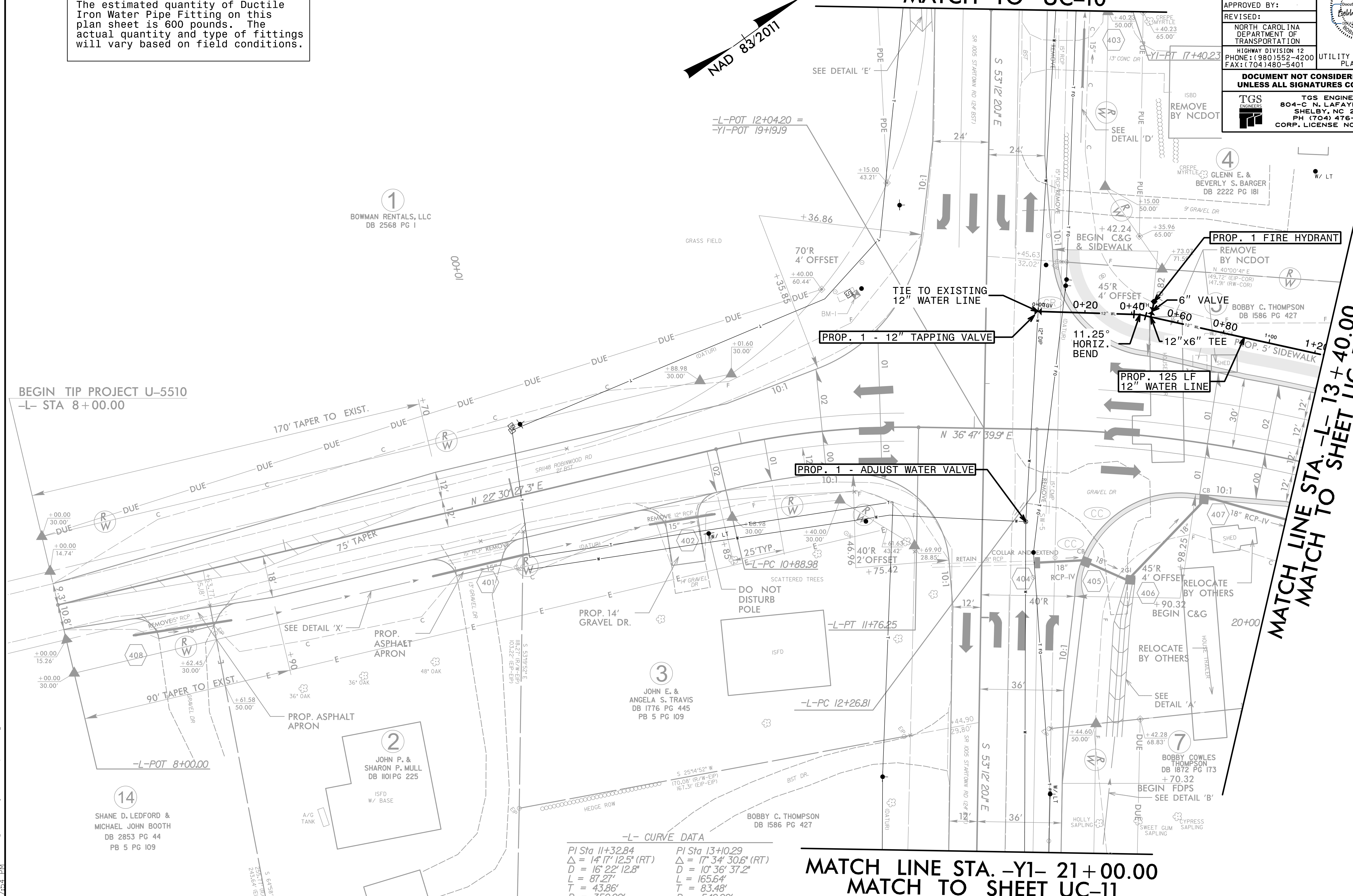
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UTILITY CONSTRUCTION

MATCH LINE STA. -Y1- 17 + 40.00
MATCH TO UC-10

The estimated quantity of Ductile Iron Water Pipe Fitting on this plan sheet is 600 pounds. The actual quantity and type of fittings will vary based on field conditions.

PROJECT REFERENCE NO. U-5510	SHEET NO. UC-4
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 12 PHONE: (980) 552-4200 FAX: (704) 480-5401
UTILITY CONSTRUCTION PLANS ONLY DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO. C-0275	



BEGIN TIP PROJECT U-5510
-L- STA 8+00.00

MATCH LINE STA. -L- 13 + 40.00
MATCH TO SHEET UC-5

MATCH LINE STA. -Y1- 21 + 00.00
MATCH TO SHEET UC-11

-L- CURVE DATA

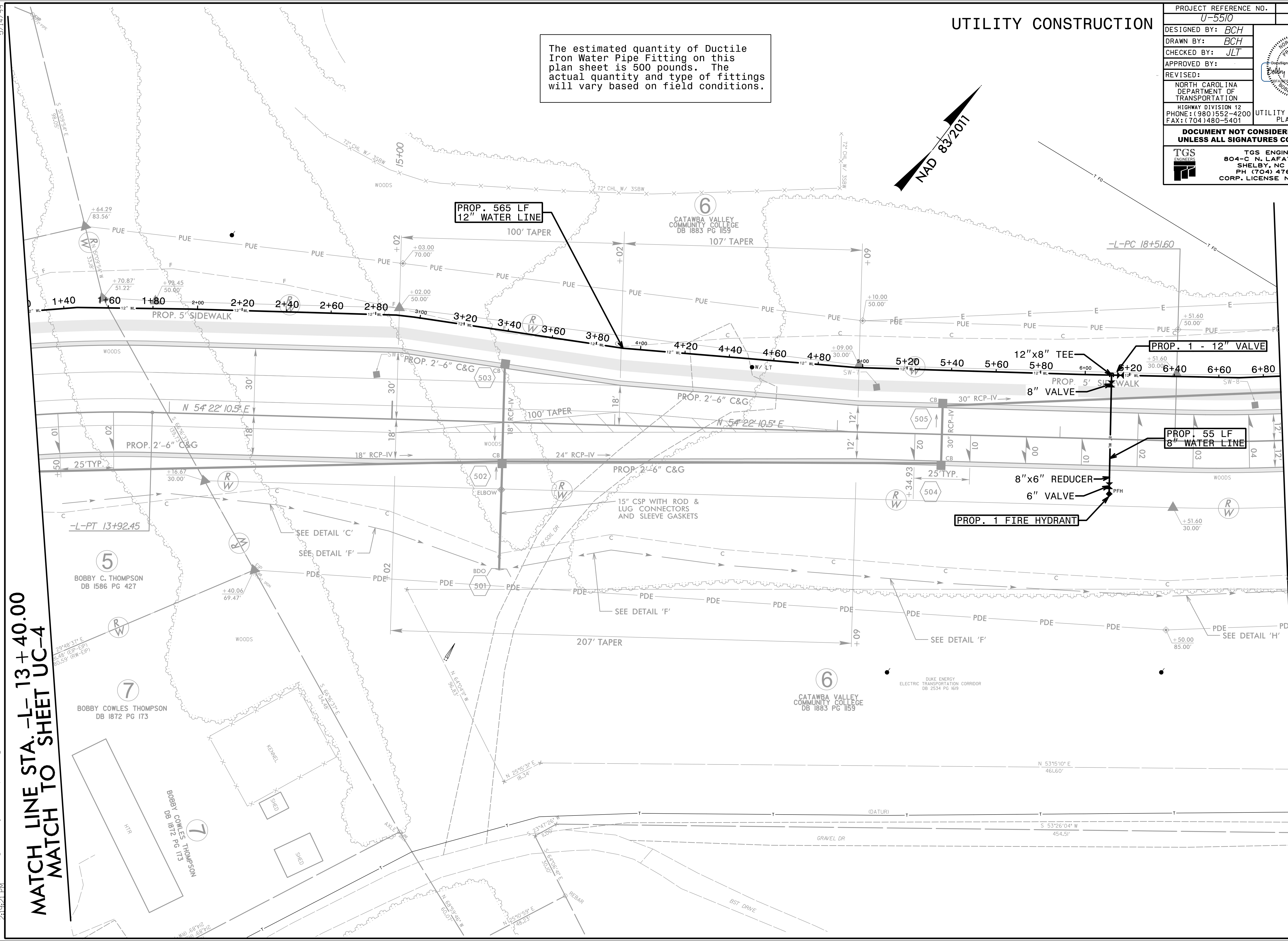
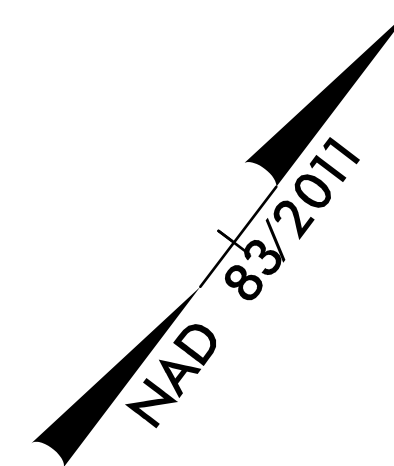
PI Sta 11+32.84	PI Sta 13+10.29
$\Delta = 14^\circ 17' 12.5''$ (RT)	$\Delta = 17^\circ 34' 30.6''$ (RT)
$D = 16^\circ 22' 12.8''$	$D = 10^\circ 36' 37.2''$
$L = 87.27'$	$L = 165.64'$
$T = 43.86'$	$T = 83.48'$
$R = 350.00'$	$R = 540.00'$
$SE = 0.01$	$SE = 0.01$

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 10/2/2017
 NCDOT \U-5510\Drawings\UC-4.dgn
 25.25' (R/W-COR)
 25.25' (R/W-COR)
 25.25' (R/W-COR)

UTILITY CONSTRUCTION

PROJECT REFERENCE NO. U-5510	SHEET NO. UC-5
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 12 PHONE: (980) 552-4200 FAX: (704) 480-5401	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO. C-0275	

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.



MATCH LINE STA. -L- 13+40.00
MATCH TO SHEET UC-4

MATCH LINE STA. -L- 19+00.00
MATCH TO SHEET UC-6

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10/12/2017
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UTILITY CONSTRUCTION

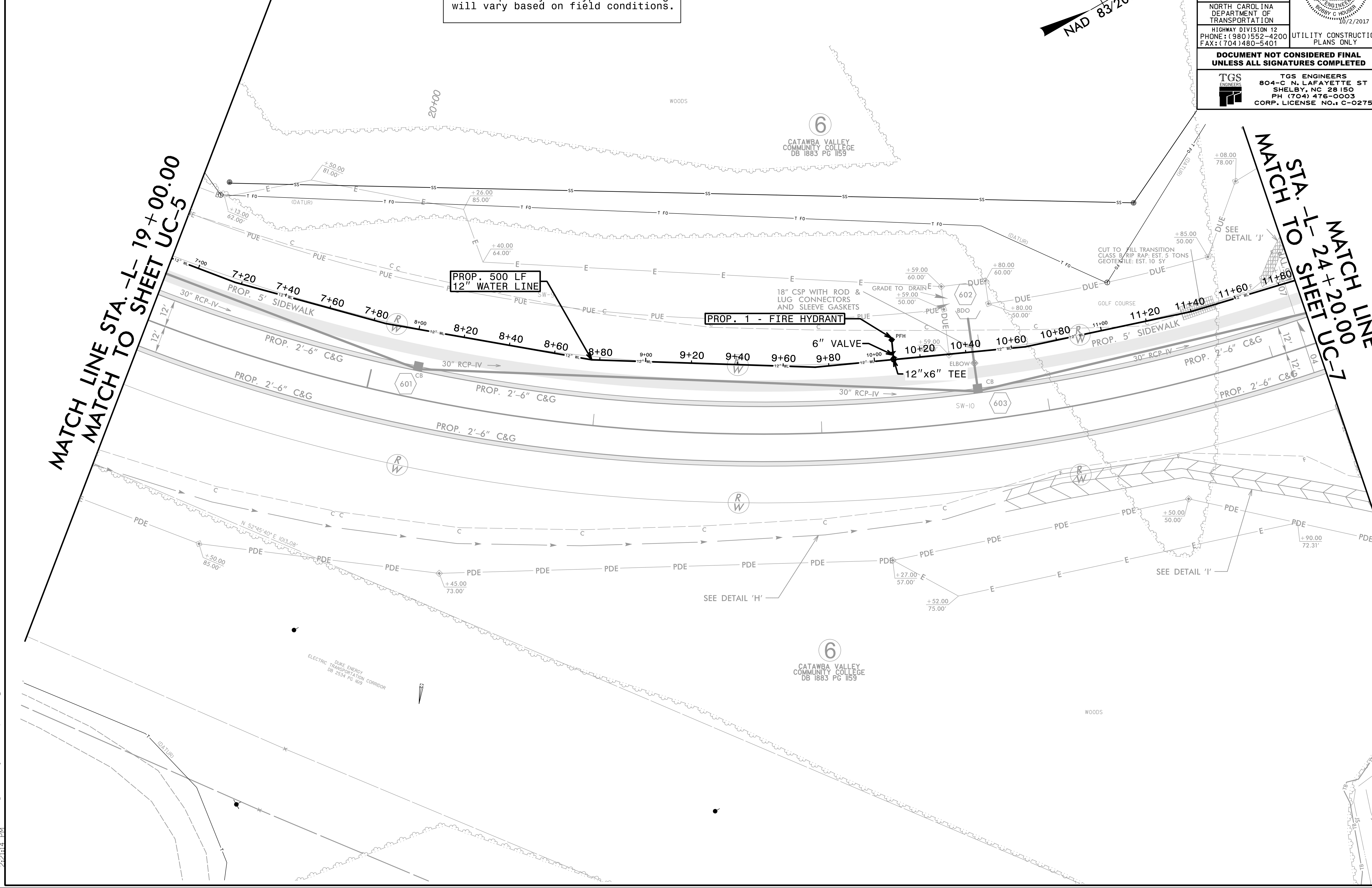
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PROJECT REFERENCE NO. <i>U-5510</i>	SHEET NO. <i>UC-6</i>
DESIGNED BY: <i>BCH</i>	
DRAWN BY: <i>BCH</i>	
CHECKED BY: <i>JLT</i>	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 12 PHONE: (980) 552-4200 FAX: (704) 480-5401	
UTILITY CONSTRUCTION PLANS ONLY DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

MATCH LINE STA. -L- 19+00.00
MATCH TO SHEET UC-5

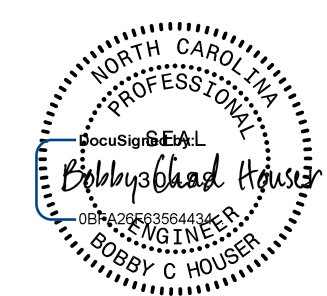

MATCH LINE STA. -L- 24+20.00
MATCH TO SHEET UC-7

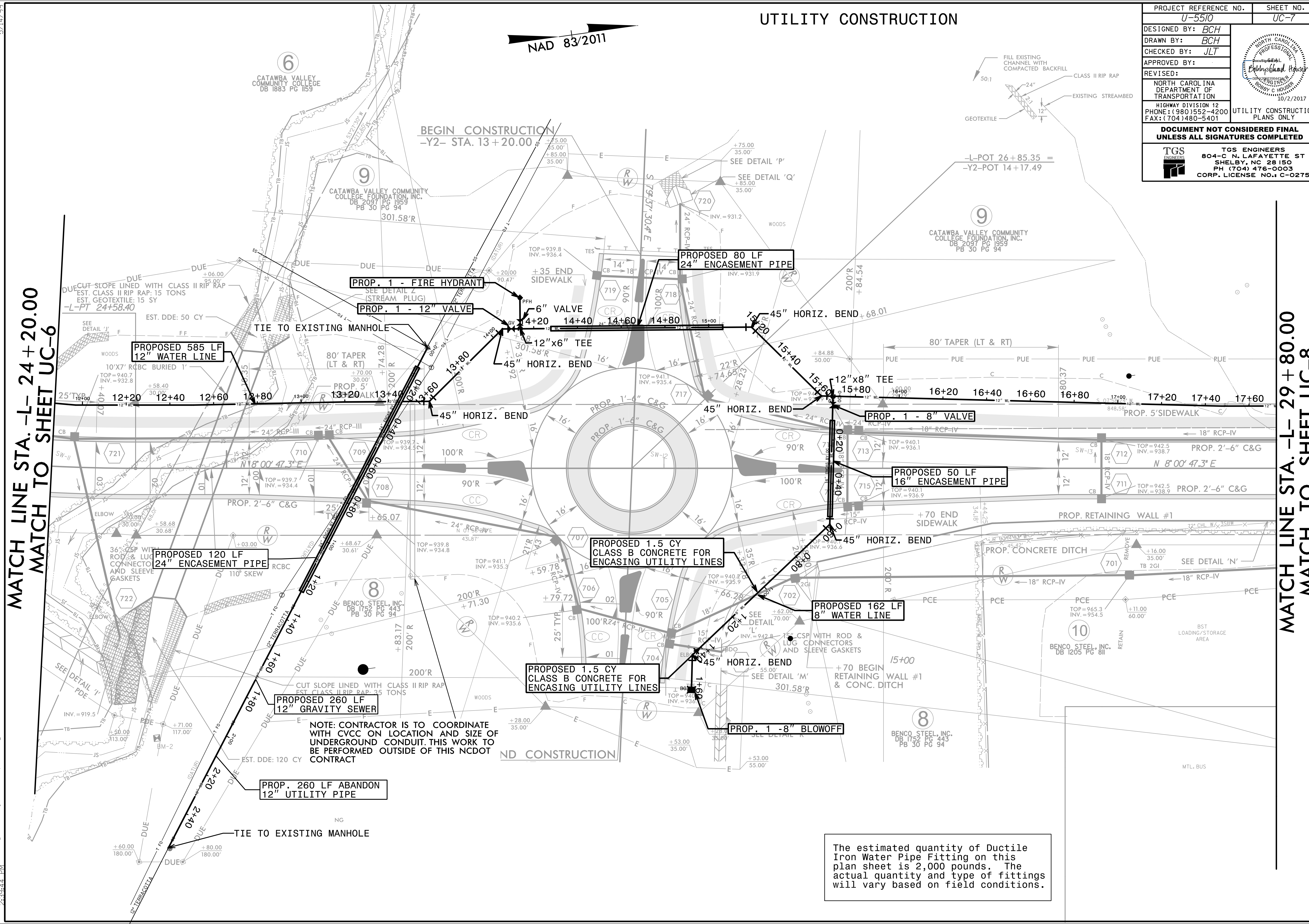


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UTILITY CONSTRUCTION

NAD 83/2011

PROJECT REFERENCE NO. U-5510	SHEET NO. UC-7
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 12 PHONE: (704) 552-4200 FAX: (704) 480-5401	
UTILITY CONSTRUCTION PLANS ONLY DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
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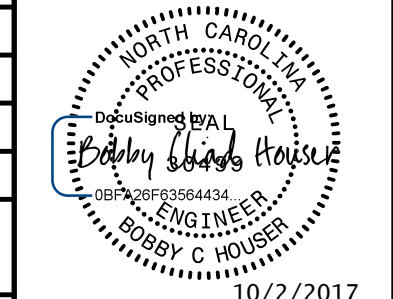
MATCH LINE STA. -L- 24+20.00
MATCH TO SHEET UC-6

MATCH LINE STA. -L- 29+80.00
MATCH TO SHEET UC-8

The estimated quantity of Ductile Iron Water Pipe Fitting on this plan sheet is 2,000 pounds. The actual quantity and type of fittings will vary based on field conditions.

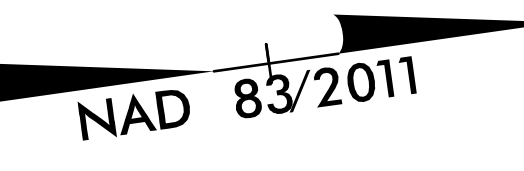
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UTILITY CONSTRUCTION

PROJECT REFERENCE NO. U-5510	SHEET NO. UC-8
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	10/2/2017
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
HIGHWAY DIVISION 12 PHONE: (980) 552-4200 FAX: (704) 480-5401	
UTILITY CONSTRUCTION PLANS ONLY	

**DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED**

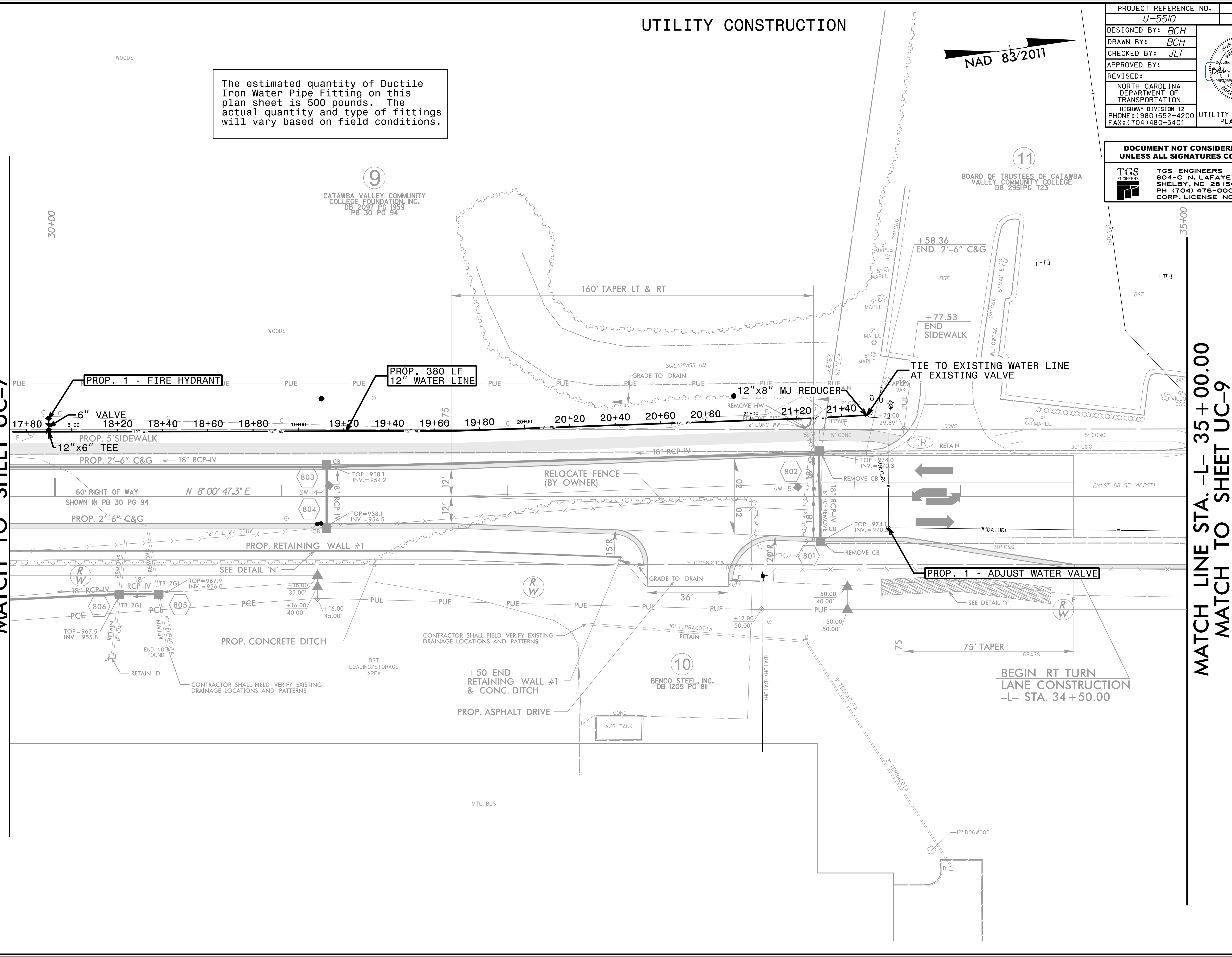
TGS ENGINEERS
 804-C N. LAFAYETTE ST
 SHELBY, NC 28150
 PH (704) 476-0003
 CORP. LICENSE NO. C-0275



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.

MATCH LINE STA. -L- 29 + 80.00
MATCH TO SHEET UC-7

MATCH LINE STA. -L- 35 + 00.00
MATCH TO SHEET UC-9

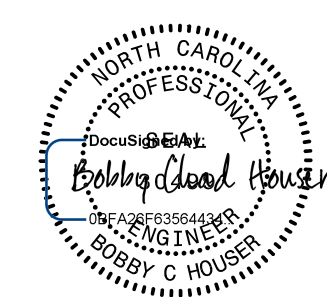



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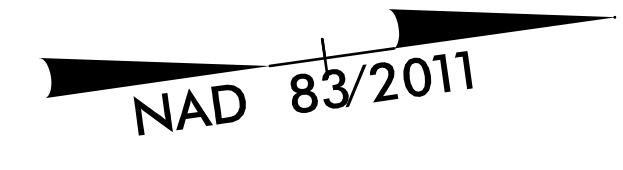
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5/14/99

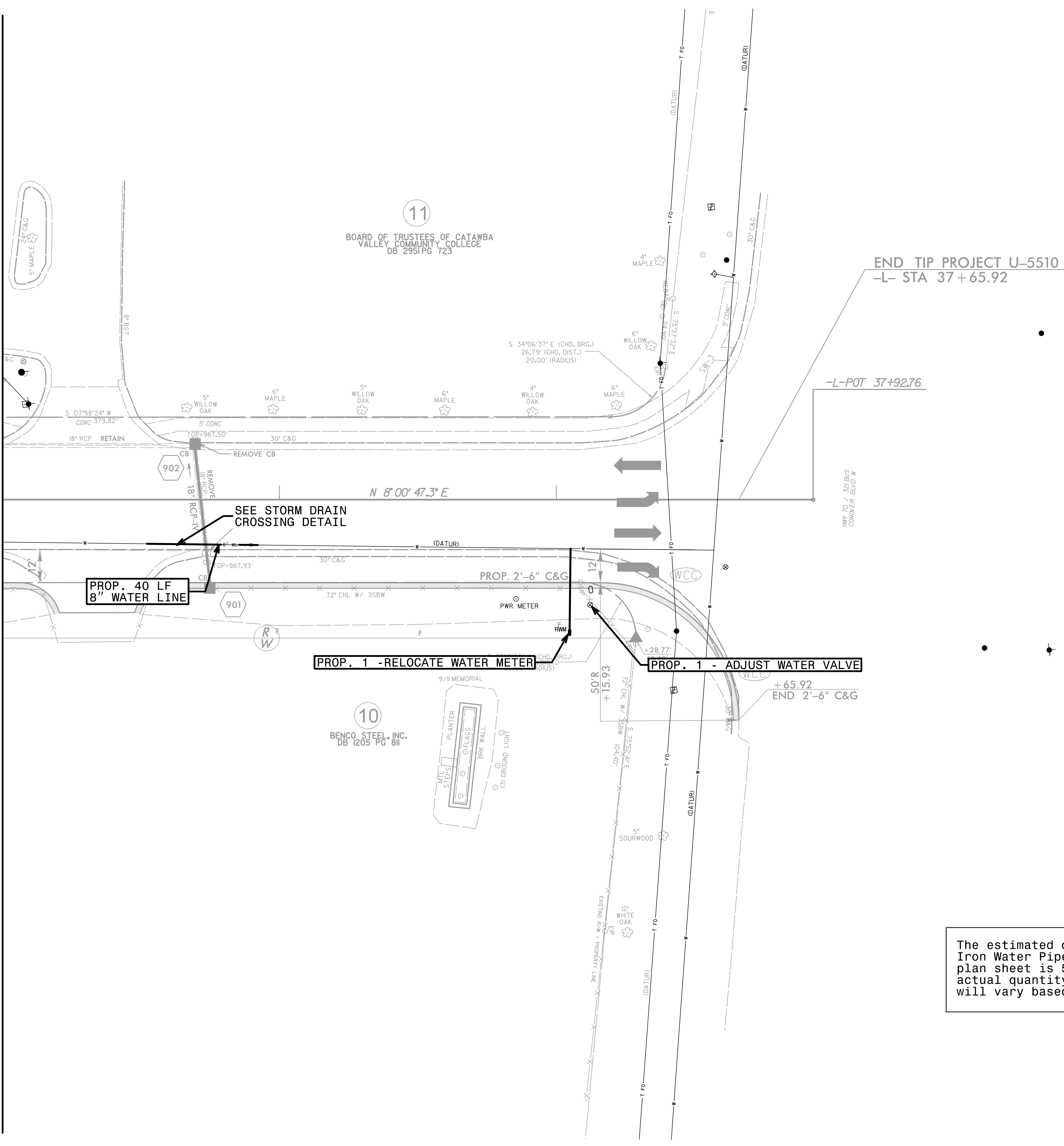
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PROJECT REFERENCE NO. U-5510	SHEET NO. UC-9
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	10/2/2017
HIGHWAY DIVISION 12 PHONE: (980) 552-4200 FAX: (704) 480-5401	UTILITY CONSTRUCTION PLANS ONLY
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
 TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

UTILITY CONSTRUCTION



**MATCH LINE STA. -L- 35 + 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.

**END TIP PROJECT U-5510
-L- STA 37+65.92**

-L-POT 37+92.76

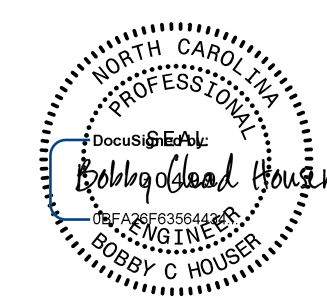
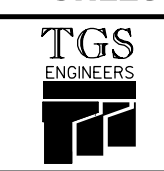
PROP. 1 - RELOCATE WATER METER

PROP. 1 - ADJUST WATER VALVE

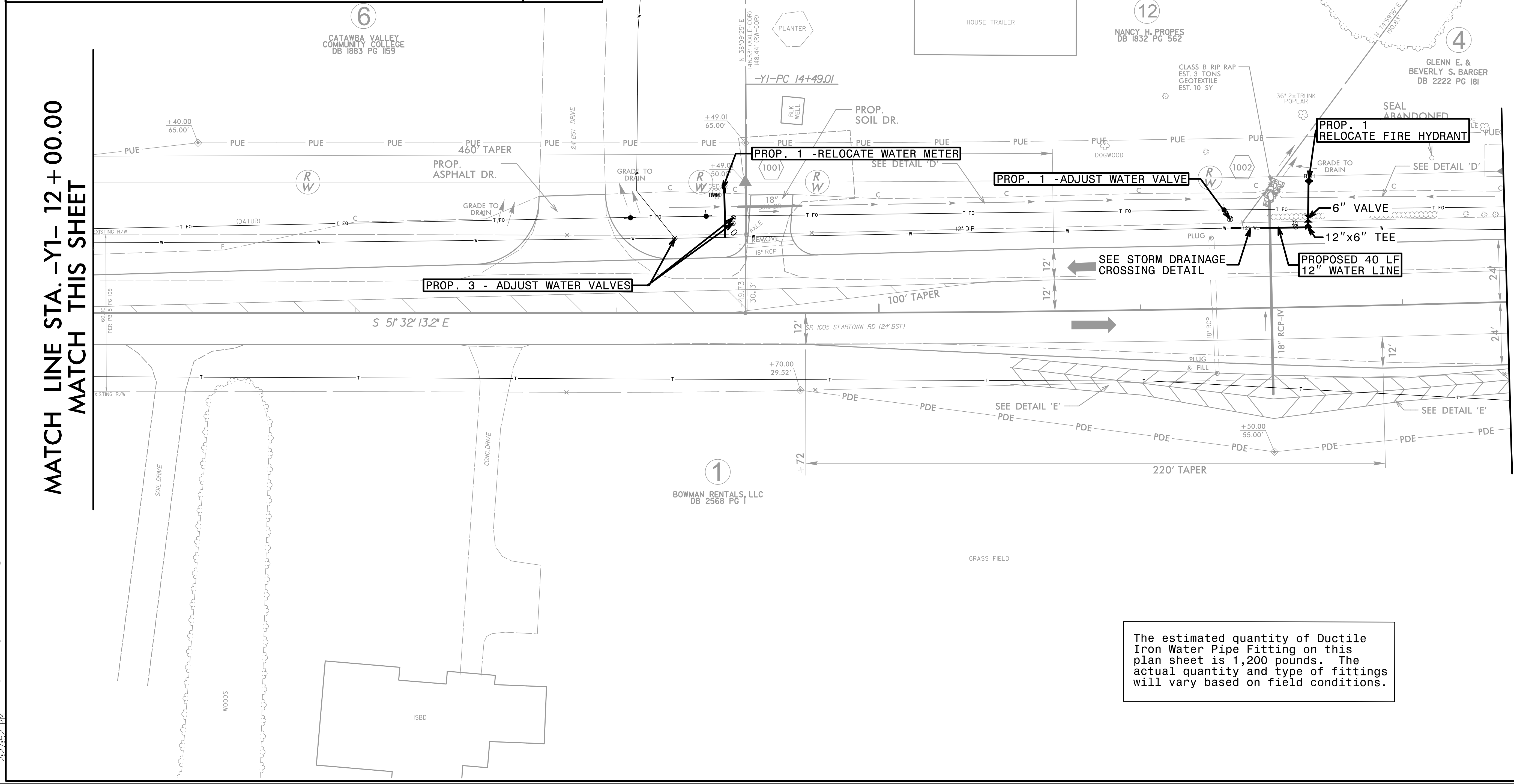
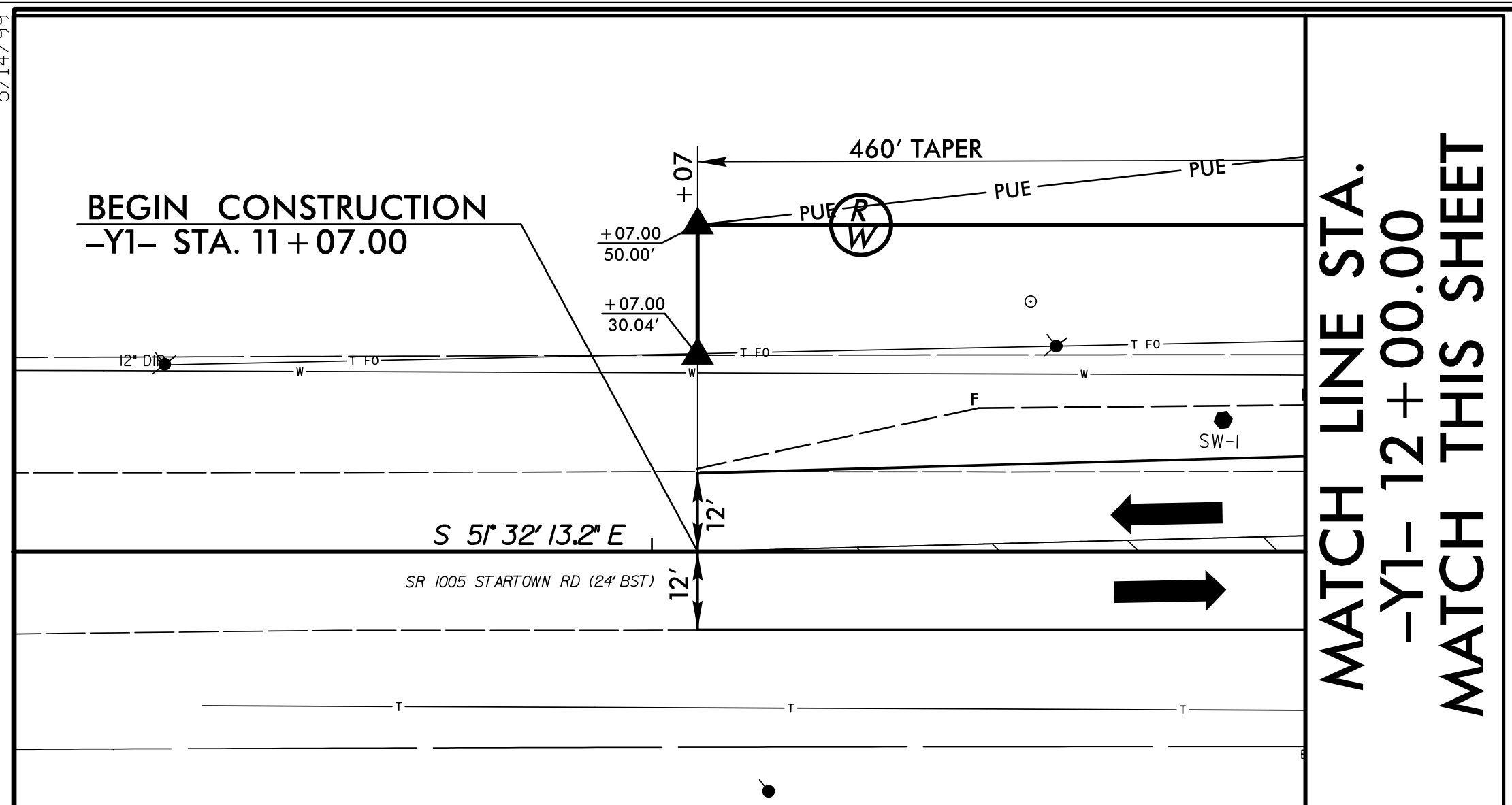
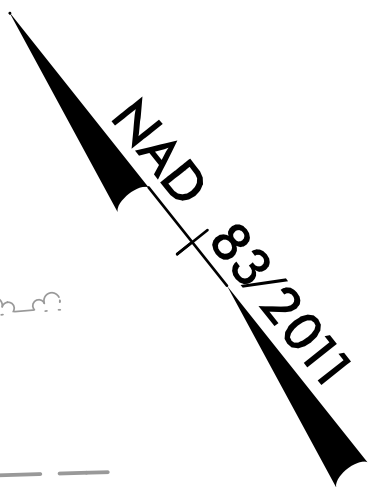
**PROP. 40 LF
8" WATER LINE**

**SEE STORM DRAIN
CROSSING DETAIL**

5/14/2017

PROJECT REFERENCE NO. U-5510	SHEET NO. UC-10
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 12 PHONE: (980) 552-4200 FAX: (704) 480-5401	
UTILITY CONSTRUCTION PLANS ONLY 10/2/2017	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	
	TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO. C-0275

-Y1- CURVE DATA
 PI Sta 15+94.63
 $\Delta = 1^{\circ}40'06.9" (LT)$
 $D = 0^{\circ}34'22.6"$
 $L = 291.22'$
 $T = 145.62'$
 $R = 10,000.00'$
 SE = EXIST.



MATCH LINE STA. -Y1- 12 + 00.00
MATCH THIS SHEET

MATCH LINE STA. -Y1- 17 + 40.00
MATCH TO SHEET NO. 4

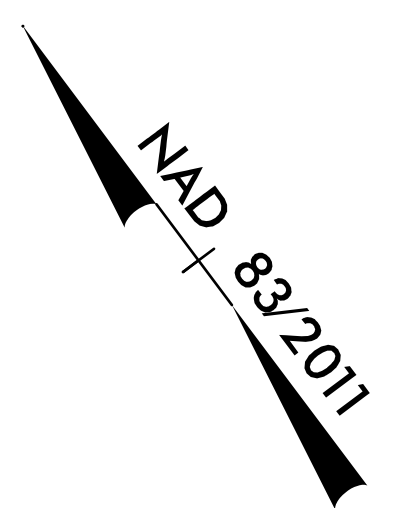
The estimated quantity of Ductile Iron Water Pipe Fitting on this plan sheet is 1,200 pounds. The actual quantity and type of fittings will vary based on field conditions.

I:\2017\10\17\101711\101711.dwg

5/14/99

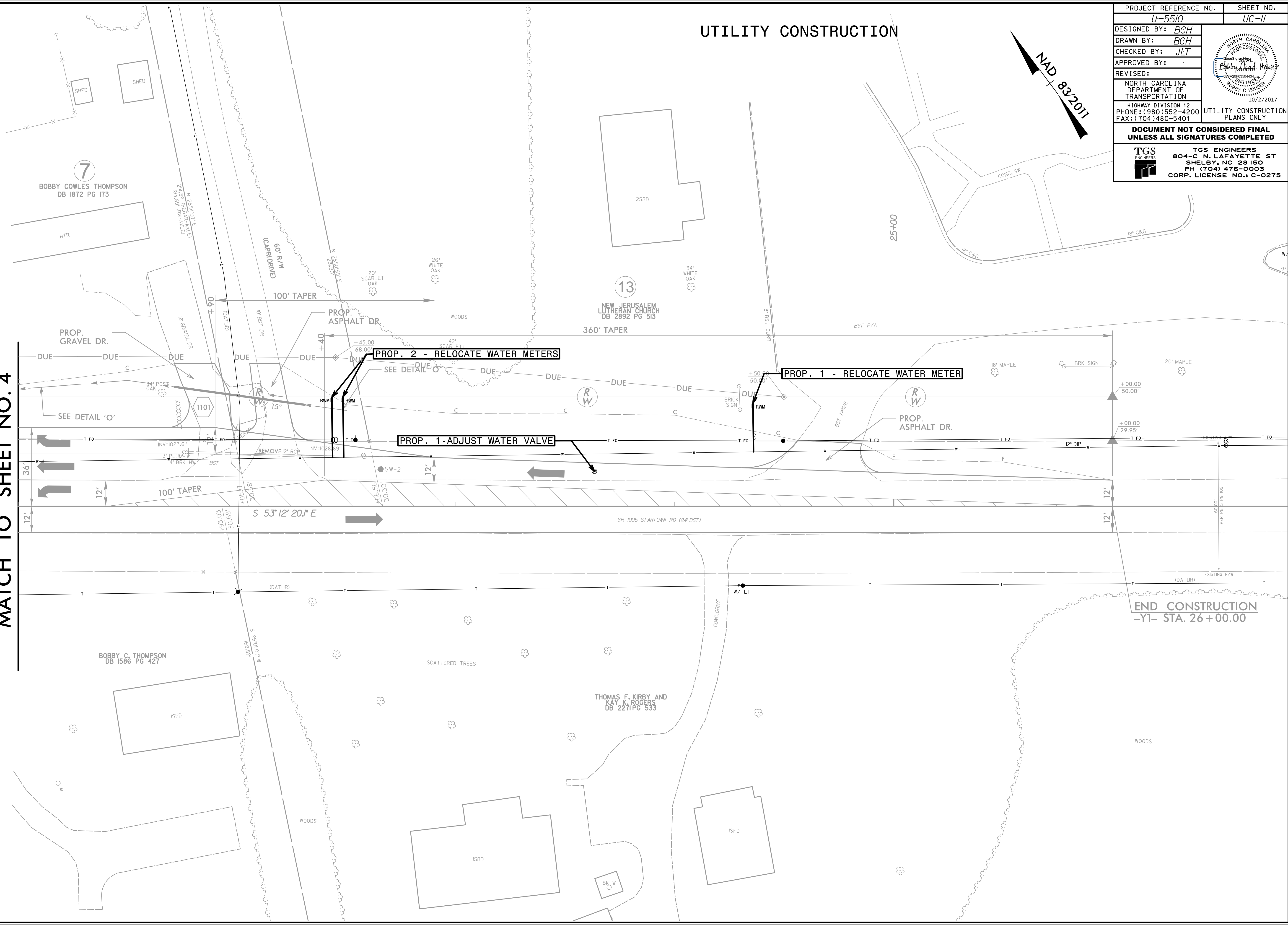
10/2/2017
D:\Projects\U-5510\Drawings\U-5510-UC.dgn

UTILITY CONSTRUCTION



PROJECT REFERENCE NO. U-5510	SHEET NO. UC-11
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY: JLT	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 12 PHONE: (980) 552-4200 FAX: (704) 480-5401	
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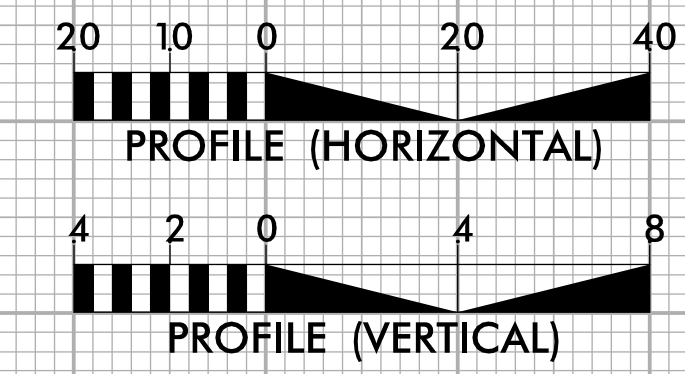
MATCH LINE STA. -Y1- 21+00.00
MATCH TO SHEET NO. 4



END CONSTRUCTION
-Y1- STA. 26+00.00

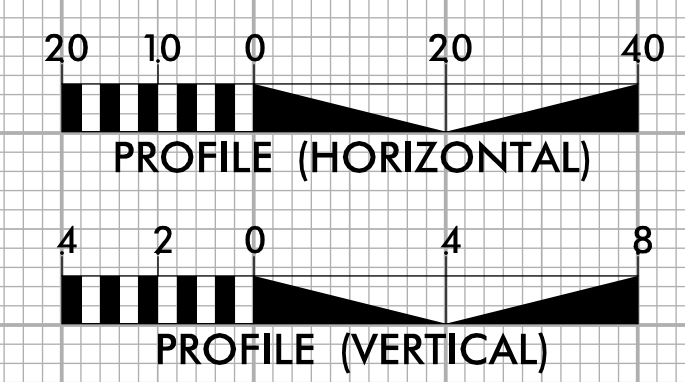
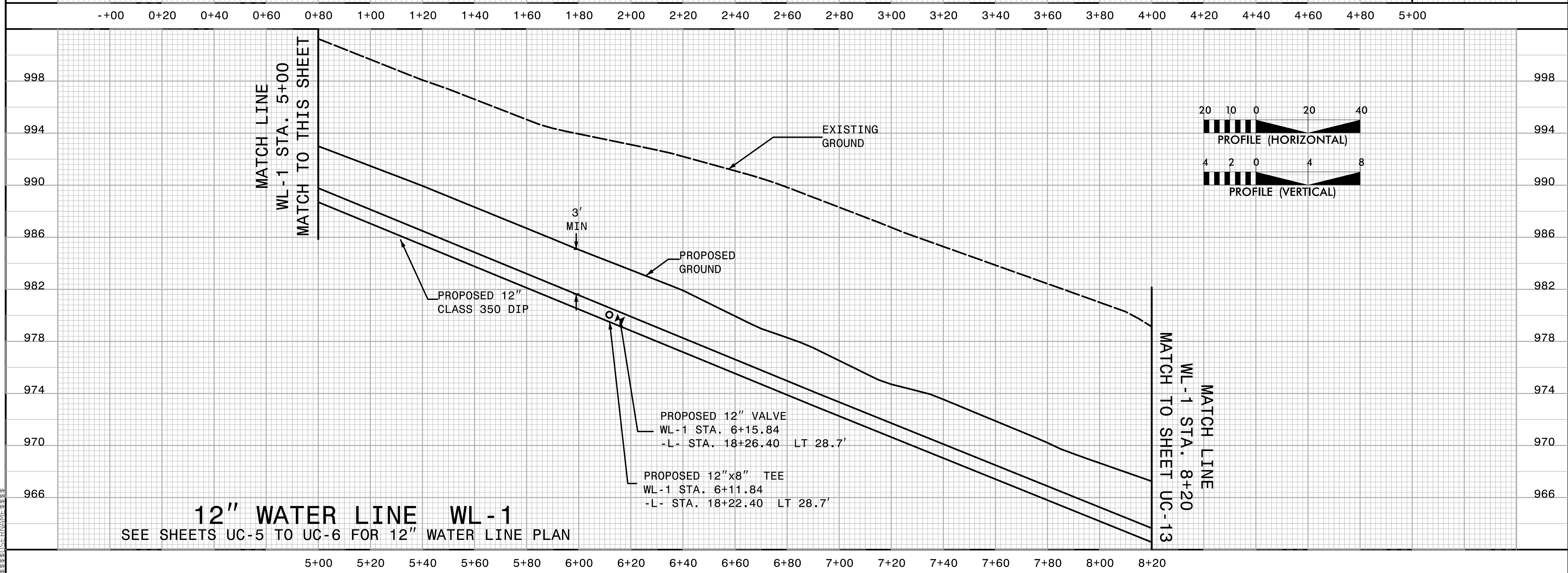
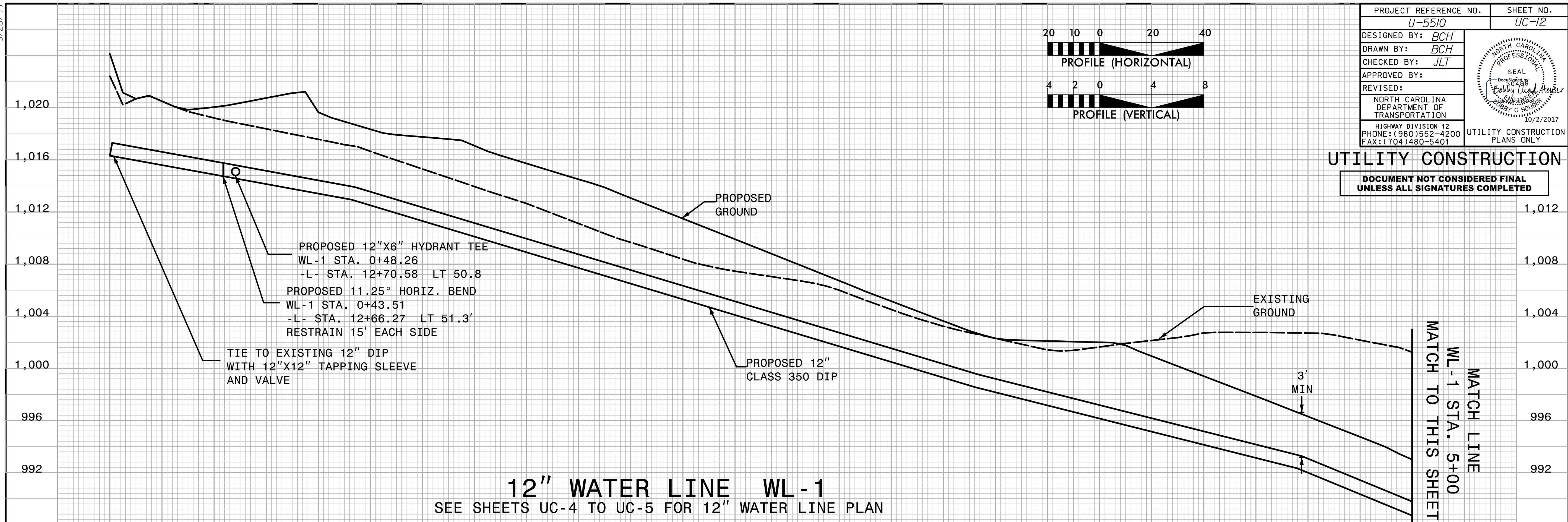
5/28/99

PROJECT REFERENCE NO. U-5510	SHEET NO. UC-12
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 12 PHONE: (980)552-4200 FAX: (704)480-5401	



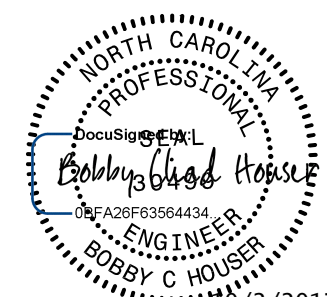
UTILITY CONSTRUCTION

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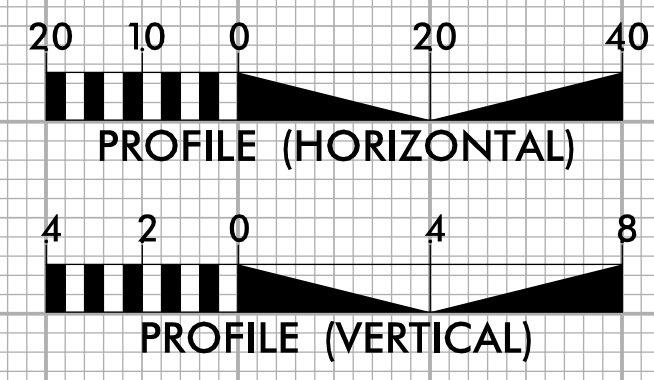
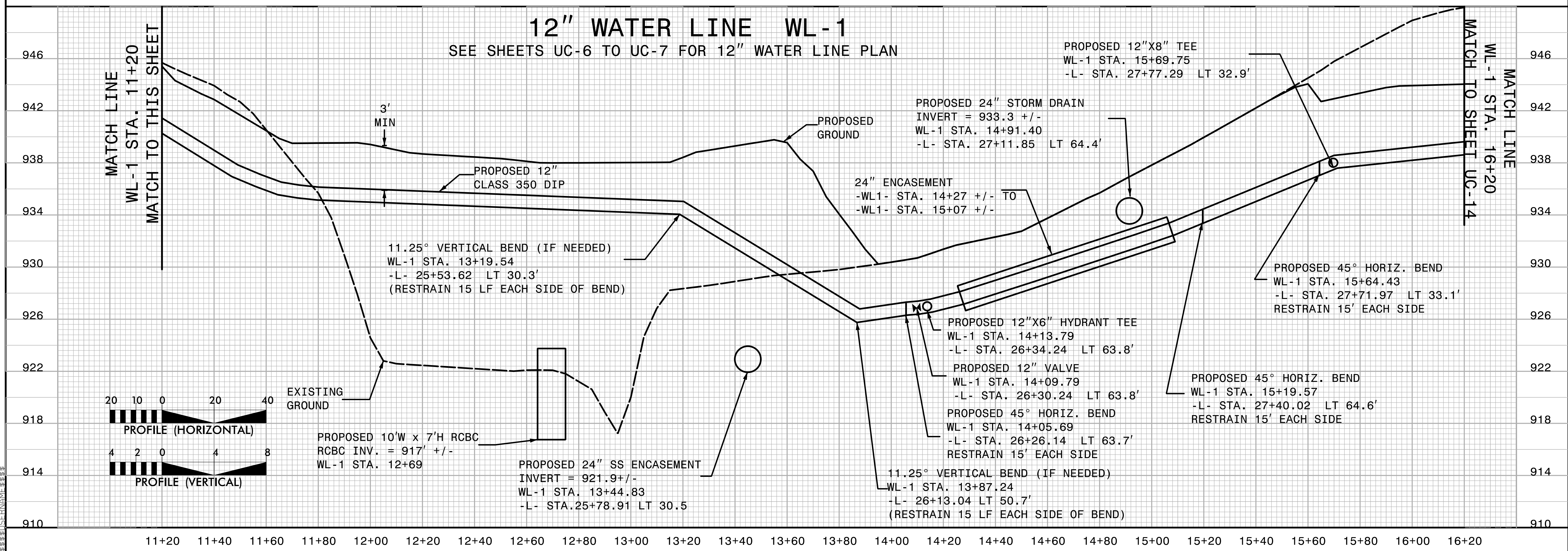
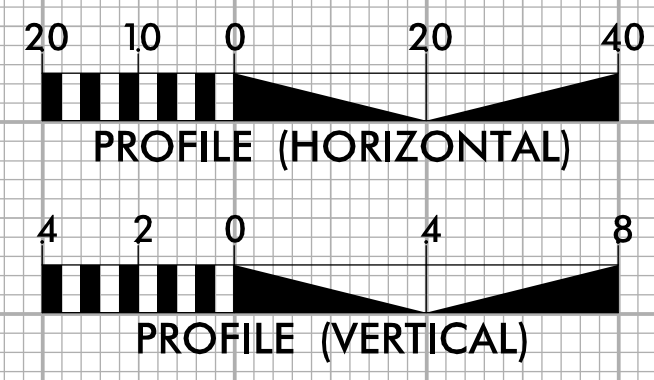
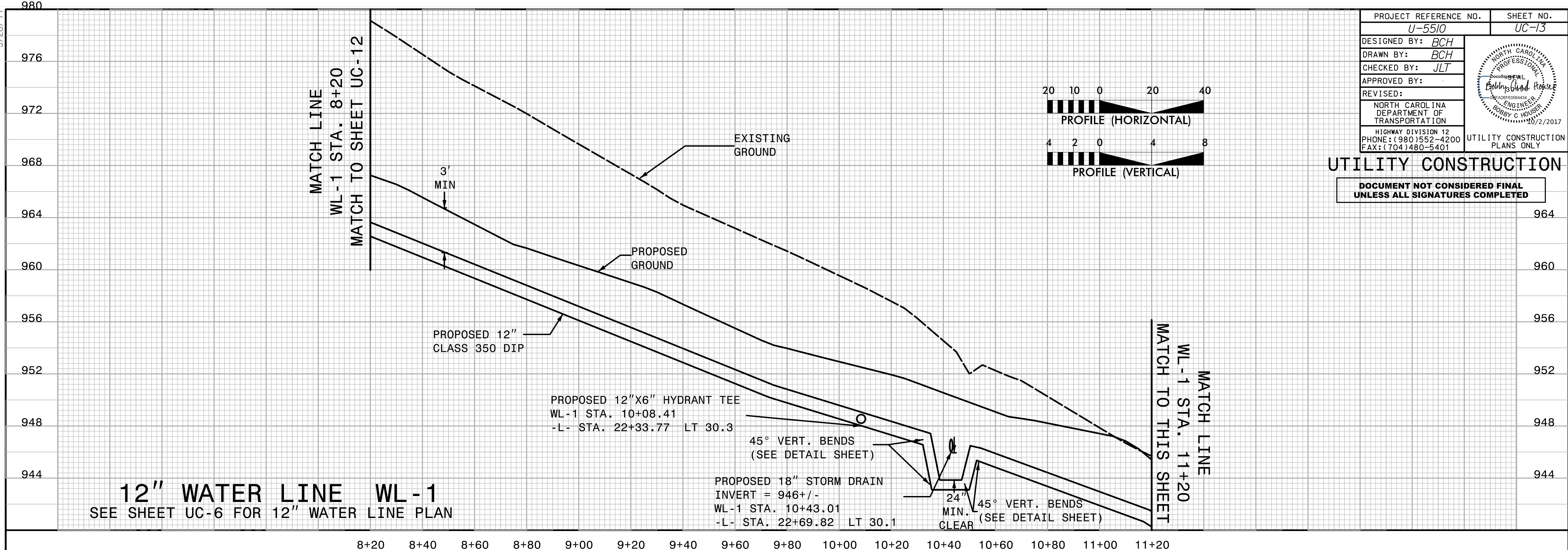
5/28/99

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PROJECT REFERENCE NO. U-5510	SHEET NO. UC-13
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
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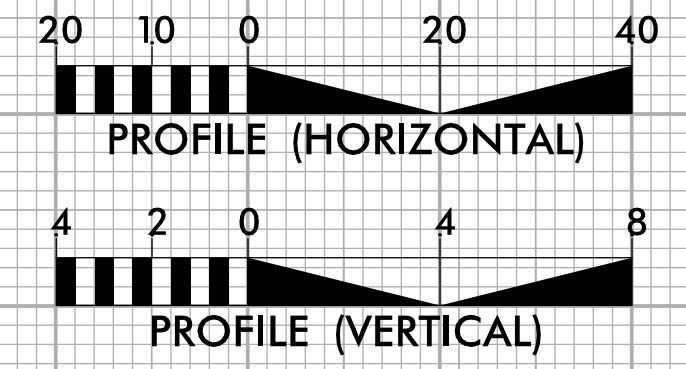
DOCUMENT NOT CONSIDERED FINAL
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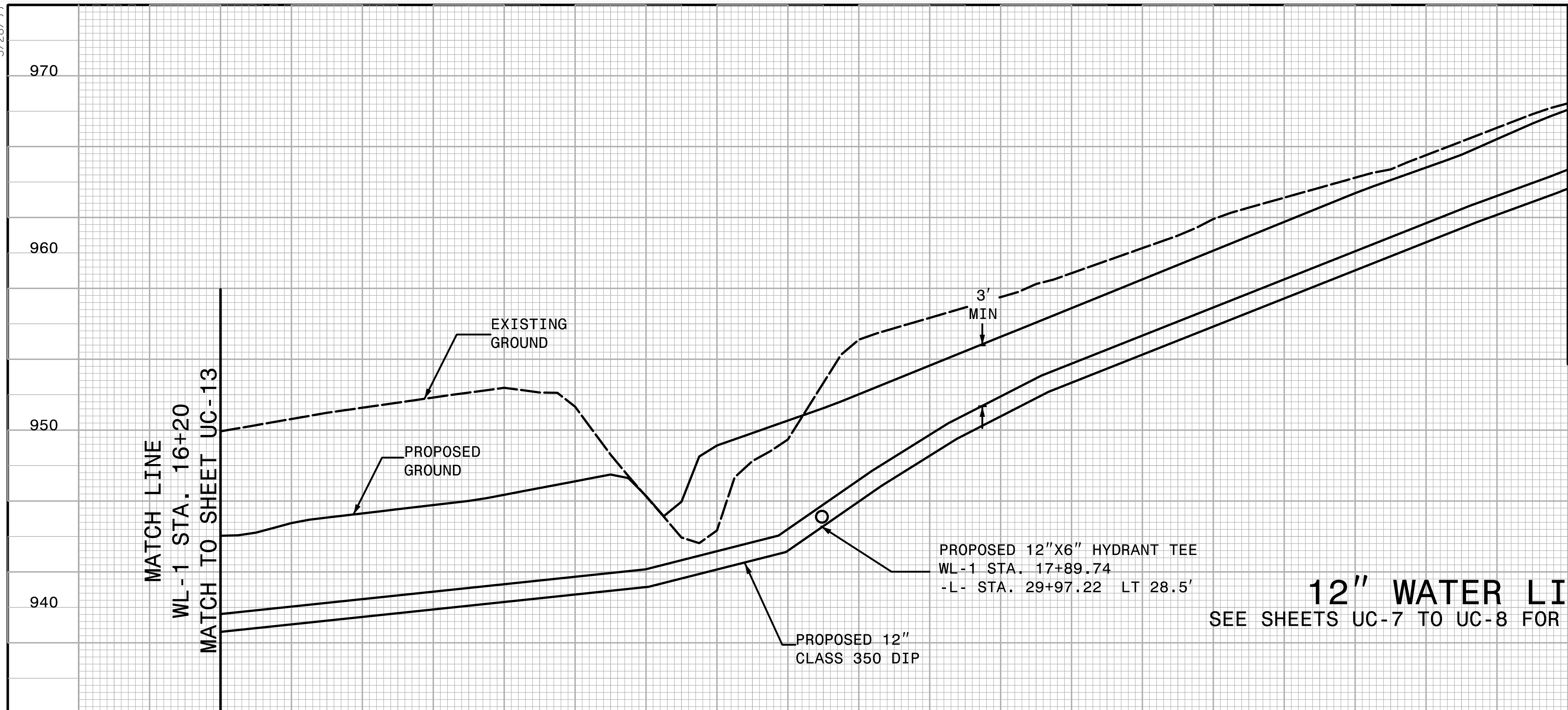
5/28/99

PROJECT REFERENCE NO. U-5510	SHEET NO. UC-14
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
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UTILITY CONSTRUCTION



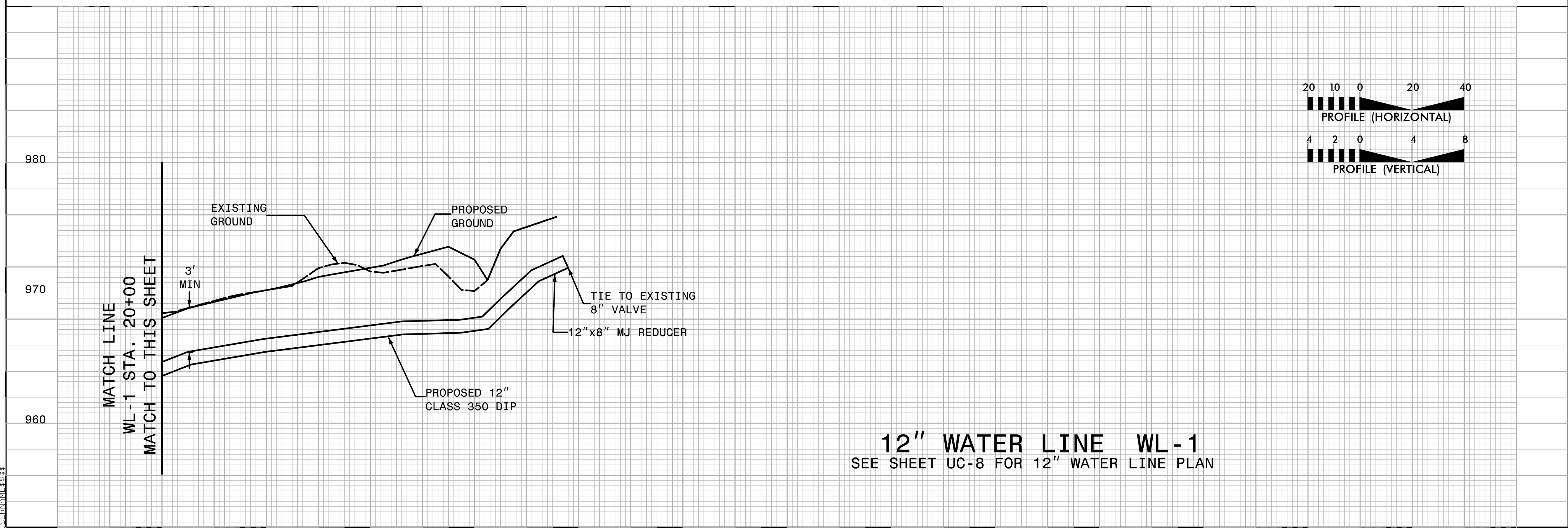
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



12" WATER LINE WL-1

SEE SHEETS UC-7 TO UC-8 FOR 12" WATER LINE PLAN

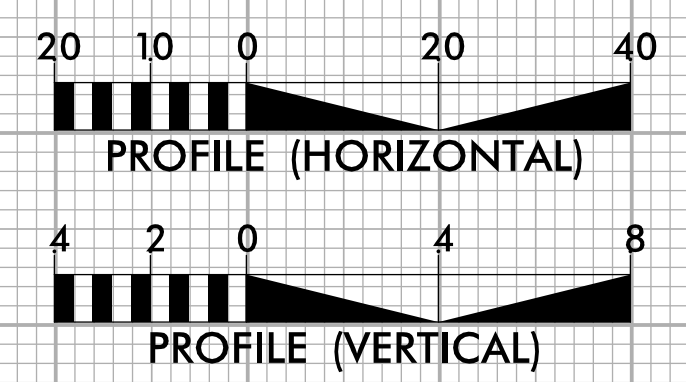
16+20 16+40 16+60 16+80 17+00 17+20 17+40 17+60 17+80 18+00 18+20 18+40 18+60 18+80 19+00 19+20 19+40 19+60 19+80 20+00



12" WATER LINE WL-1

SEE SHEET UC-8 FOR 12" WATER LINE PLAN

20+00 20+20 20+40 20+60 20+80 21+00 21+20 21+40



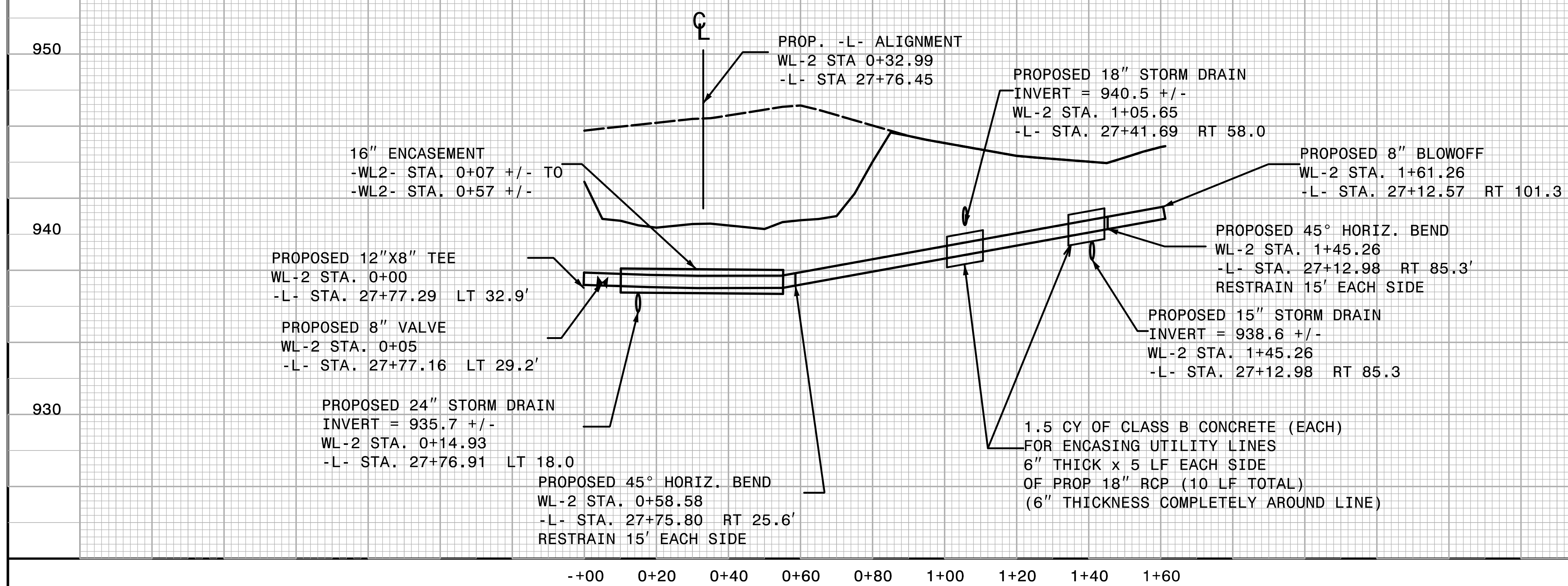
UC-14

5/28/99

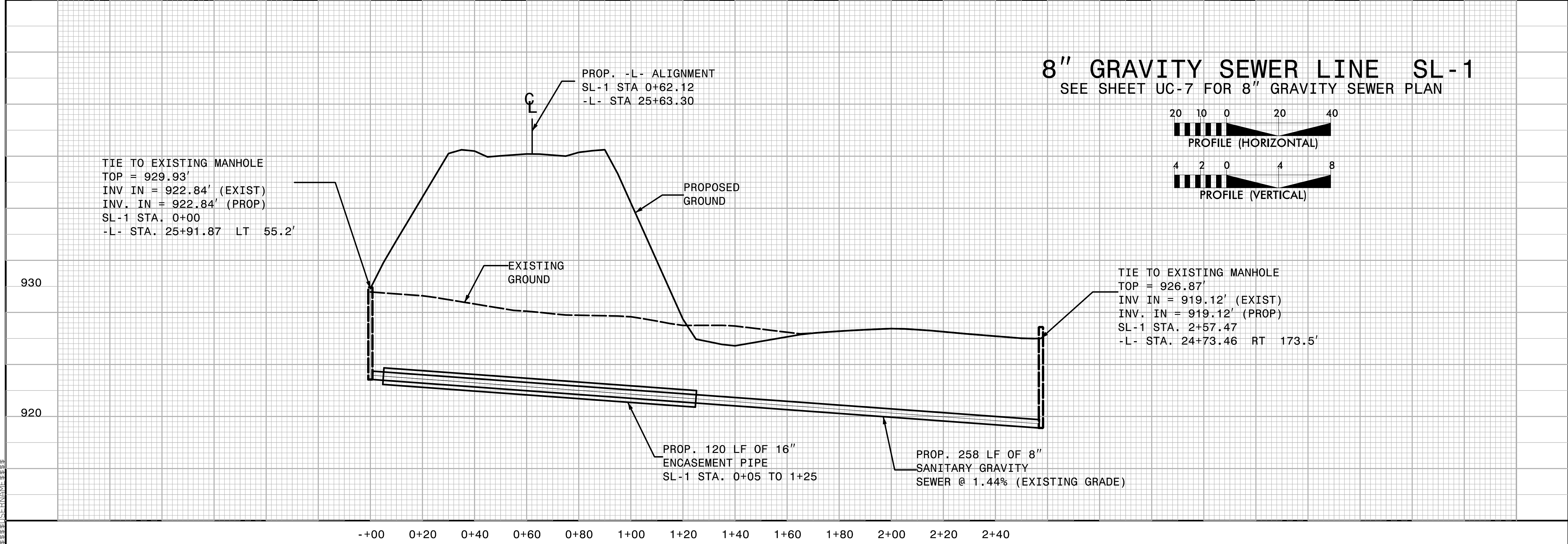
PROJECT REFERENCE NO. U-5510	SHEET NO. UC-15
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 12 PHONE: (980)552-4200 FAX: (704)480-5401	

UTILITY CONSTRUCTION

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18" WATER LINE WL-2 SEE SHEET UC-7 FOR 8" WATER LINE PLAN



8" GRAVITY SEWER LINE SL-1 SEE SHEET UC-7 FOR 8" GRAVITY SEWER PLAN

5/28/99